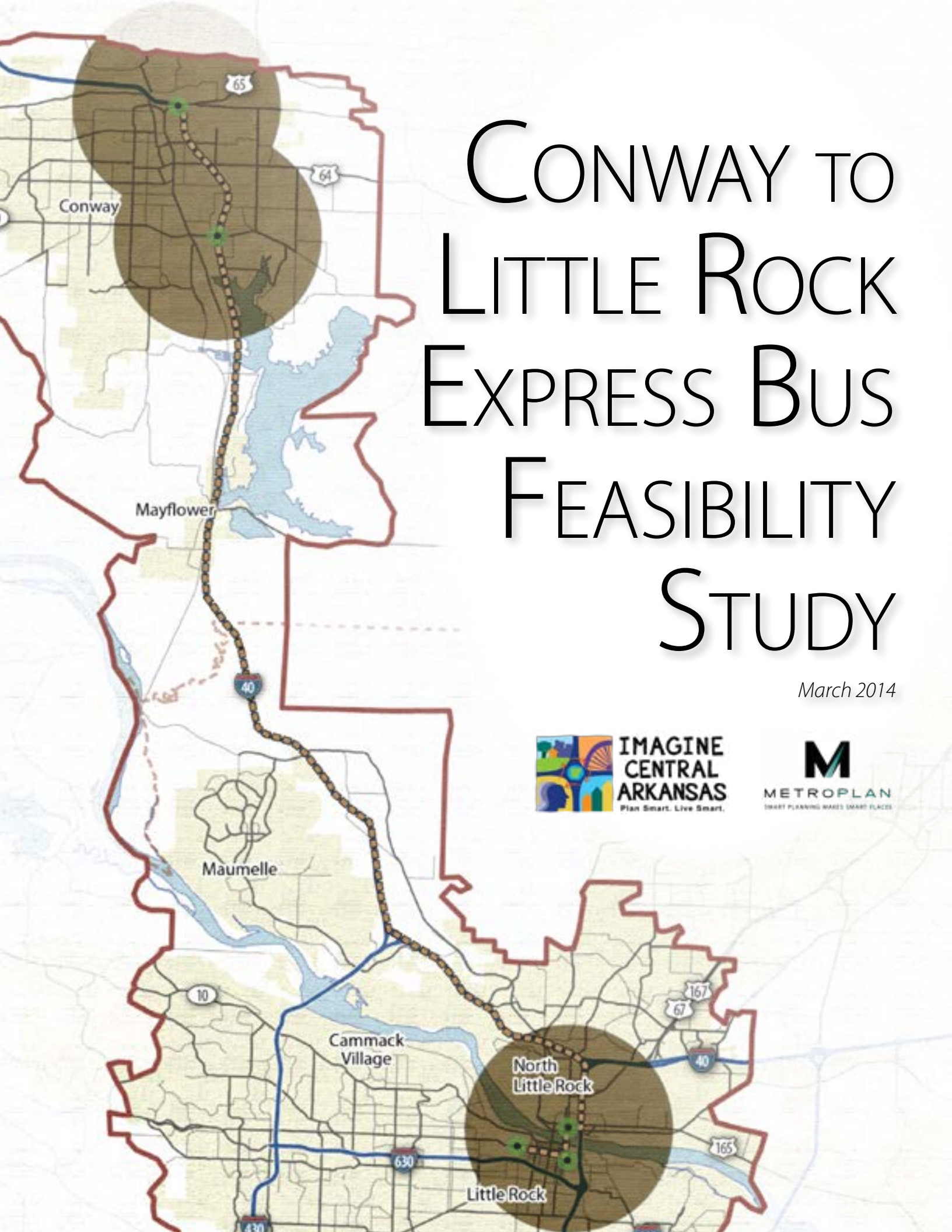
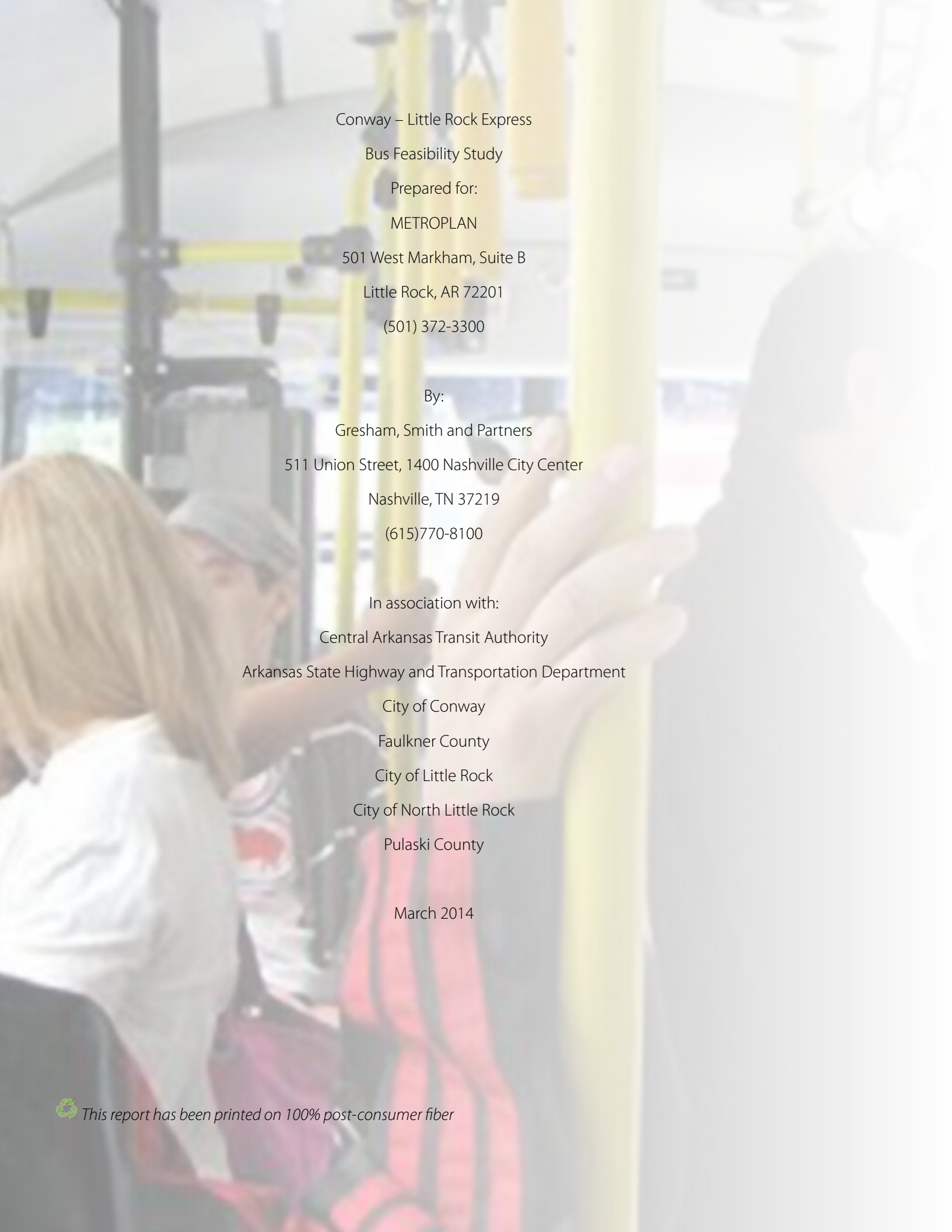


Conway to Little Rock Express Bus Feasibility Study

March 2014

IMAGINE CENTRAL ARKANSAS
Plan Smart. Live Smart.

METROPLAN
SMART PLANNING MAKES SMART PLACES



Conway – Little Rock Express

Bus Feasibility Study

Prepared for:

METROPLAN

501 West Markham, Suite B

Little Rock, AR 72201

(501) 372-3300

By:

Gresham, Smith and Partners

511 Union Street, 1400 Nashville City Center

Nashville, TN 37219

(615)770-8100

In association with:

Central Arkansas Transit Authority

Arkansas State Highway and Transportation Department

City of Conway

Faulkner County

City of Little Rock

City of North Little Rock

Pulaski County

March 2014

This report has been printed on 100% post-consumer fiber

Table of Contents

Tables

Figures

CONWAY-LITTLE ROCK EXPRESS BUS FEASIBILITY STUDY

Executive Summary

ES. 1 Study Overview

The Conway – Little Rock Express Bus Feasibility Study was initiated in August 2013 by Metroplan, the designated Metropolitan Planning Organization responsible for the transportation planning process in central Arkansas, along with Central Arkansas Transit Authority (CATA), the cities of Conway, Little Rock and North Little Rock and Faulkner and Pulaski Counties, to determine the feasibility of providing an express bus service between the cities of Conway, Little Rock and North Little Rock during peak travel hours. The service is intended to link the fast growing City of Conway in Faulkner County to regional destinations in Little Rock, and introduce express bus transit service in the I-40 corridor to meet travel demand across regional activity and employment centers. It is ultimately the responsibility of the local jurisdictions, principally the City of Conway and Faulkner County, together with their state-level, regional, and local planning partners to determine if the service will be implemented and if so how to fund this service.

In order to capture market area destinations and trip making potential, the study area is an area defined as the portion of Faulkner and Pulaski Counties that lie within four (4) miles in either direction of the centerline of I-40, I-30, I-630 and I-430. In Conway, the study area encompasses a larger area to the west of the I-40 centerline, to capture the majority of the city limits.

The total population of the study area is about 305,000 (2010). The study area hosts some of the region's largest employers, including Acxiom Corporation, Entergy Arkansas, Arkansas Children's Hospital, the State of Arkansas, St. Vincent's Health System, Conway Regional Medical Center, Southwestern Energy Company, Dillard's Inc. Department Store Headquarters and Arkansas Blue Cross and Blue Shield Insurance. The number of jobs in the study area is estimated at 234,450 (2010).

Table ES-1. Characteristics of the Recommended Express Bus Service

Factor		Amount
Route length in miles (round-trip)		64
Travel Time (min.)		
	One way - AM peak	70
	One way - PM peak	48
	Round trip - AM peak	120
	Round trip - PM peak	103
Daily Departures (morning and afternoon, each)		
	30 min frequency	6
	60 min frequency	3
Vehicle Requirement (does not include a spare vehicle)		
	30 min frequency	4
	60 min frequency	2
Stop Characteristics		
	AM Total stops	4
	PM Total stops	4
	Park and ride stops	3
Vehicle Revenue Hours		
	Daily @ 30 min frequency	22
	Daily @ 60 min frequency	11
	Annual @ 30 min frequency	5,800
	Annual @ 60 min frequency	2,900

ES. 2 What is Express Bus Service and Who is the Target Market?

Unlike a traditional local bus service that has several stops along a route resulting in a longer travel time, express bus service is characterized by limited pick-up and drop-off locations emphasizing faster trips. Express bus service is often used to carry passengers from a major origination point (possibly a park-and-ride lot) to a major destination point (typically, a major employment center), and is designed to use the fastest route between the two points, usually routed on expressways to satisfy this desire.

Express bus service presents a more affordable transportation alternative to those who do not want to drive long distances, often in congested conditions. For the proposed express bus service to be effective, the service must target and attract "choice riders" who will use the bus to commute between Conway to Little Rock and North Little Rock. Choice riders are those who own cars and could drive to work or other destinations but choose public transportation. The most significant motivations for choice riders to use the service are the ability to receive an economic benefit (money savings) in using transit versus driving, or a time savings or increased productivity during commute times (riding the bus vs. being able to work, read, rest, etc. during commute periods).

ES. 3 Recommended Route

Two alternative route alignments were initially considered for express bus service:

Route Alignment 1: Operating along I-40 from Conway and then into west Little Rock via I-430 and downtown Little Rock via I-630 .

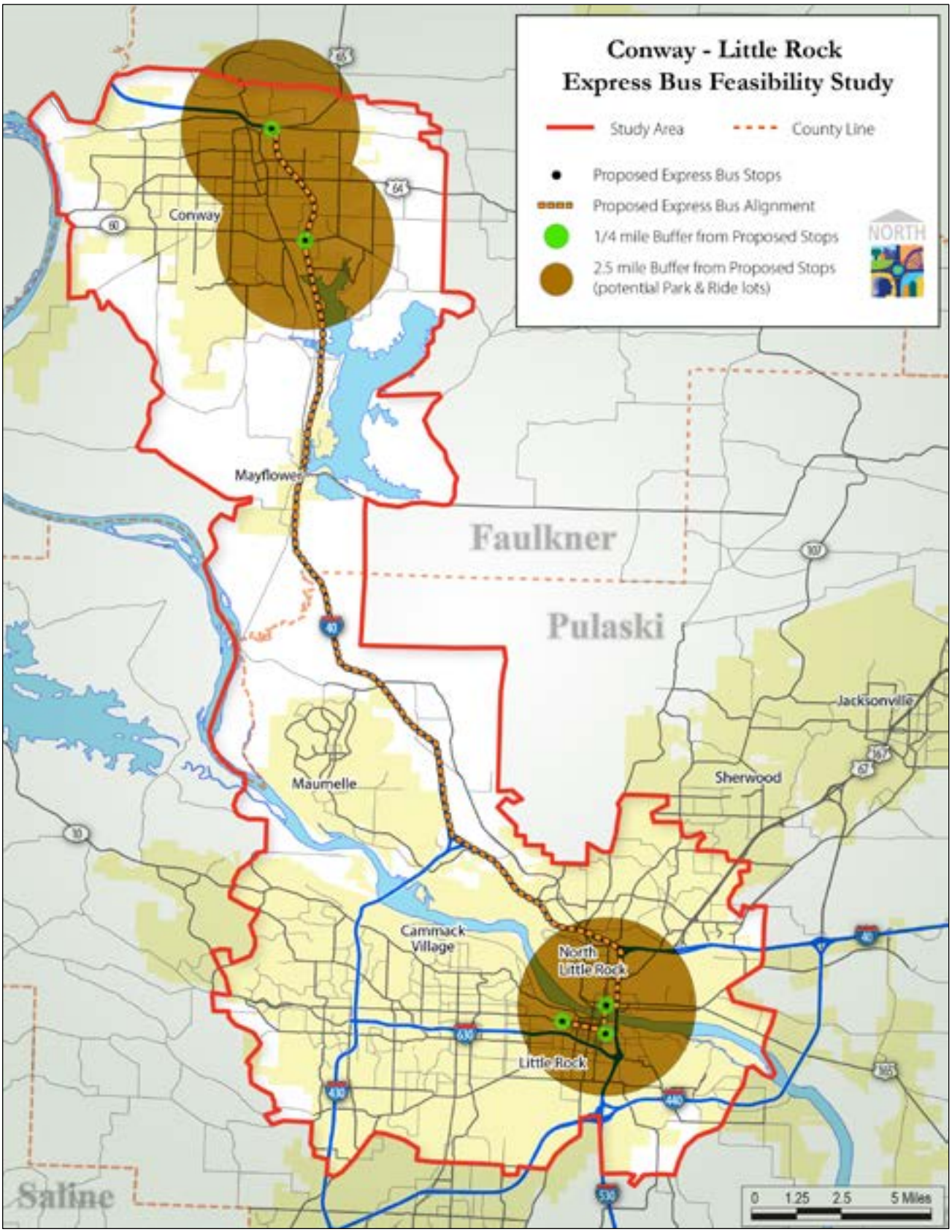
Route Alignment 2: Operating along I-40 from Conway and then into North Little Rock and downtown Little Rock via I-30. The second route alignment, with modifications, was ultimately selected because it provides the best balance between travel time and destinations served. Future routes and/or route modifications may serve the I-430/I-630 corridors.

The recommended I-40 / I-30 route is intended to provide express bus service along the 32-mile route between Conway, North Little Rock and Little Rock. The southbound portion of the route would begin with two stops in Conway (a northern stop at I-40/ Skyline Drive interchange and a stop at the I-40/ Dave Ward Drive/ Industrial Blvd interchange). It would then run south along I-40 and I-30, and exit I-30 at the West Broadway interchange in North Little Rock. The route would continue west on West Broadway, turn south on Maple Street, travel across the Main Street Bridge, and continue on Main Street/ Scott Street, turning left onto Fourth Street to make a stop at the River Cities Travel Center. Next, it would leave the River Cities Travel Center and travel on Fourth Street, turning right onto Scott Street, then an immediate left onto Third Street, traveling on Third Street to the State Capitol Complex for a stop at Third Street and Bishop Street.

The northbound portion of the alignment would leave the stop at the State Capitol Complex and would travel on Third Street, then travel across the Broadway Bridge to a stop in North Little Rock on Main Street (between East Broadway and Washington Avenue). The route would then return north via I-30 and I-40 back to the originating two park-and-ride stops in Conway. Existing CATA bus routes would serve as feeder bus routes for the express bus service at the stops in North Little Rock, the River Cities Travel Center and the State Capitol Complex.

A reverse commute from Little Rock or North Little Rock to Conway is currently not feasible based on the fact that Conway lacks a local transit system to provide access to final destinations. A local transit service would be very valuable to provide a direct transfer connection from the park-and-ride lots to major employment centers, activity centers and colleges in downtown Conway and would be an important factor in potential riders deciding to use the service for their reverse commute trip.

Figure ES-1. Recommended Route



ES. 4 Phasing Strategy

To align system investments and ridership demand, the express bus service should be implemented in two phases, a start-up phase (years 1-4) and a build-out phase (year 5 and beyond). The phasing approach to the service will depend on ridership trends, the extent to which the express bus service can be integrated into local transit routes, the overall performance and productivity of the service and the availability of local capital and operating revenue sources.

- Start-Up Phase (Years 1-4): will establish the service with buses running a total of 11 revenue vehicle hours, requiring two vehicles operating between 6:00 AM to 9:00 AM and between 3:30 PM to 6:30 PM at 60 minute frequencies on weekdays.
- Build-Out Phase (Year 5 and beyond): will increase the express bus service frequency between Conway and downtown Little Rock to 30-minute headways as transit ridership demand increases, which would require a total of four vehicles to operate. This improved service might also include an additional stop off I-40 in Conway at the future Gold Creek interchange, expanded express bus service to the I-630 Medical District and new local bus feeder service in Conway.

ES. 5 Management and Operating Scenarios

The study examines three management and operating scenarios available to deliver the proposed express bus service. In addition, the study details the advantages and disadvantages of the operating scenarios and includes the detailed costs for each of them.

Private Operator: The service would be provided exclusively by a private operator (or private service provider). The vehicles would be based on the fleet availability and preference of the private operator. Additionally, the private operator would be responsible for all administration and maintenance, including schedules and maintenance facilities. Funding and financial issues would be under their control.

City of Conway and Faulkner County acting as a Joint Power Agency: The City of Conway and Faulkner County would own, manage and operate the transit service as an independent agency. Thus, the City and County would become a joint power agency through a county-city agreement and would have complete control over the service levels, schedules and vehicles. The City and County would purchase the vehicles based on size, need and preference, and would hire staff to handle administration and maintenance duties. Initially, this joint power agency could contract with a private service operator or CATA to deliver the service, and then the agency would serve in a management role only. Should the agency provide sufficient capacity in the future, it could assume control of all management and operations.

Central Arkansas Transit Authority (CATA) as Operator: The service would be managed and operated by the Central Arkansas Transit Authority, a public sector transit entity that is federally subsidized. Their fixed route transit service is currently limited to Pulaski County.

ES. 6 Ridership Estimates

The number of commuters who will use the express bus service is difficult to predict. However, based on results of the on-board survey and actual ridership observed in other areas in the U.S. with similar characteristics, ridership is expected to be between 75 and 90 riders per day during the start-up phase. The higher number represents expected ridership if better-appointed motorcoach vehicles are used. Ridership could increase to 150 to 200 riders per day in the build-out phase, when frequency of service is increased to every 30 minutes.

ES. 7 Farebox Revenues

Fare box revenue forecasts for the proposed express bus service are based on ridership estimates (which were based on a peer system review) and assump-

Table ES-2. Estimated Farebox Revenue and Recovery Ratio

	Start-Up Phase			Build-Out Phase		
	Private Operator	Conway/ Faulkner County	CATA	Private Operator	Conway/ Faulkner County	CATA
Annual O&M Cost	$261,000	$267,000	$218,000	$511,000	$496,000	$435,000
• Average Daily Ridership	75 to 90 Passengers			150 to 200 Passengers		
• 5 days a week for 50 weeks	250 Days			250 Days		
• Cost of Round-trip Fare	$6.00 Standard Bus $8.00 Motor Coach Bus			$6.00 Standard Bus $8.00 Motor Coach Bus		
• Cost of Monthly Pass	$50.00 Standard Bus $60.00 Motor Coach Bus			$50.00 Standard Bus $60.00 Motor Coach Bus		
• Annual Ridership	18,750 - 22,500 Passengers			37,500 to 50,000 Passengers		
• 35% of Riders Paying $6 Round-Trip Fare	$39,375 to $63,000			$78,750 to $140,000		
• 65% of Riders Paying $50 Monthly Fare	$50,781 to $73,000			$101,563 to 163,000		
Annual Farebox Revenue	**$90,156 to $136,000**			**$180,313 to $303,000**		
Farebox Recovery Ratio	35% to 52%	34% to 51%	41% to 62%	35% to 59%	36% to 61%	41% to 70%

tions regarding fare levels. In order to justify the cost of operating the express bus service, the fare must be set at a level that optimizes ridership and farebox recovery rate. In the case of the Private Operator scenario, in which no public revenue is assumed, the farebox recovery should exceed the operating expenses for the service to make financial sense.

ES. 8 Summary of the Financial Costs

The total capital cost for the proposed express bus service ranges from $635,000 to $1,385,000 in the start-up phase and $600,000 to $900,000 in the build-out phase. The estimated annual operating and maintenance costs of standard buses range from $218,000 to $267,000 during the start-up phase

Table ES-3. Summary of Operating and Capital Costs (in 2013 dollars)

	Start-Up Phase (years 1-4)			Build-Out Phase (Years 5 and Beyond)		
	Private Operator	Conway/ Faulkner County	CATA	Private Operator	Conway/ Faulkner County	CATA
Total Capital Cost (low end of the range is for standard buses and high end is for motor coach buses)	$635,000 to $935,000	$935,000 to $1,385,000	$635,000 to $935,000	$600,000 to $900,000	$600,000 to $900,000	$600,000 to $900,000
				(excluding costs of building new park-and-ride lots and the cost of new bus shelters)		
Annual Operating and Maintenance Cost	$261,000	$267,000	$218,000	$511,000	$496,000	$435,000
	(excluding costs of short-term parking facilities and marketing materials)			(excluding costs of long-term parking facilities and marketing materials)		

Note: The total capital cost assumes two vehicles in operation. The Conway/Faulkner County scenario also includes cost to purchase a spare vehicle. The total capital cost also assumes that bus storage and maintenance can be accommodated as part of existing fleet operations by the operator.

and from $435,000 to $511,000 during the build-out phase. The costs are preliminary, and as the cost estimates are refined in the next phase of project development then participating jurisdictions will be able to better understand the fiscal implications for their respective communities and potential revenue sources.

ES. 9 Funding

Federal programs can help fund the up-front capital investments and also support annual operating and maintenance costs, especially during the start-up phase. Over time, however, local and regional sources must play a greater role in funding the service. The Federal Transit Administration (FTA) provides financial assistance to states, local governments, transit operators, and others for transit capital and operating assistance, depending on the type of geographic area where the project is located and eligible transit program activities.

Funding under FTA's Urbanized Area Formula Program (Section 5307) has been apportioned in FY 2014 for use by the Conway Urbanized Area in the amount of $910,000, which may be used for capital, operating or a combination of both (see Table ES-4). None of the funds are currently allocated for use in Conway.

Table ES-4. Federal Cost Sharing (FTA 5307)

	Maximum Federal Share	Local Share
Capital Cost	80%	20%
Operating Cost	50%	50%
Conway's FTA Section 5307 Appropriation	2014: $910,000 2013: $460,000 (unused)	

Conway's FTA 5307 funds may be used in part for the proposed express bus service. However, it remains to be seen whether these funds may be used to fund the route in its entirety, as much of the route passes through the Little Rock UZA. Initial guidance from FTA suggests that only the pro rata share of the route operating within the Conway UZA may be funded with Conway's FTA funds.

ES. 10 Service Implementation and Next Steps

Overall, the financial commitment to implement the express bus service will be the most significant key to implementation. Two key questions remain in the consideration of the proposed service implementation. The first is whether CATA or Conway / Faulkner County are willing to become the project sponsor, and thus willing to assume responsibility for the proposed service, or whether there is a viable private transportation service operator that is willing to operate the service based solely on service revenues.

Secondly, if the service is not likely to be implemented completely by private funds, then is there acceptance of a publicly subsidized service using available federal transit funds, such as FTA Section 5307 funds. If so, then other local or state resources must be determined. In summary, the cost of the express bus service will not pay for itself through farebox revenues, thus, the implementation of the service will be dependent on local, state and federal subsides, and the willingness of the project sponsor and/or partnering organizations to pursue funding for the new transit service.

A timetable for implementation activities should also be agreed upon by the project sponsor and partnering organizations. Ultimately, it is the responsibility of the local jurisdictions, most especially the City of Conway and Faulkner County, together with their state-level, regional, and local planning partners to determine whether the proposed service should be implemented or not.

Table ES-5. Major Implementation Steps for the Recommended Express Bus Service

Institutional

- **Obtain** concurrence on the proposed manager and operator of the service.
- **Confirm** the manager and operator of the service.
- **Develop** an organizational chart and responsibility areas for all transit-related activities.
- If the operator is a Joint Powers Agency, **negotiate** and **finalize** the Joint Power Agreement to carry out the project.

Service Planning

- **Refine** the Service Plan, including service policies, operating schedules, stop locations, fare and pass policies, etc.
- **Develop** marketing, promotion, and branding for the service.

Funding

- If there is a desire to pursue **FTA funding**, confirm service funding strategy with FTA Regional Office (i.e cost-sharing between Conway and Little Rock UZAs).
- If applicable, initiate open **discussion** with Little Rock UZA via Metroplan and CATA on proposed project.
- If applicable, **complete** FTA Section 5307 **grant** application and Certifications and Assurances packages.
- Complete **environmental** document to cover proposed new transit service and minor facility improvements.

Capital and Operating Facilities

- **Inventory** existing facility needs for accommodating new service.
- **Identify** refined needs and costs for shelters, transit rider information, signs, lighting, curbside stops, and other needed facilities for the service.
- **Initiate** conversations with property owners near proposed stops in North Little Rock for shared-use parking.
- Initiate **conversations** with AHDT on potential use of I-40 interchange areas for transit stop amenities at park-and-ride lots.
- **Install** shelters, signs, etc. at park and ride lots consistent with local government ordinances, building codes, and ADA requirements.
- **Identify** funding sources for capital improvements from transit and/or highway/park and ride facility resources.
- Identify and **fund** maintenance and operating facility for the service.

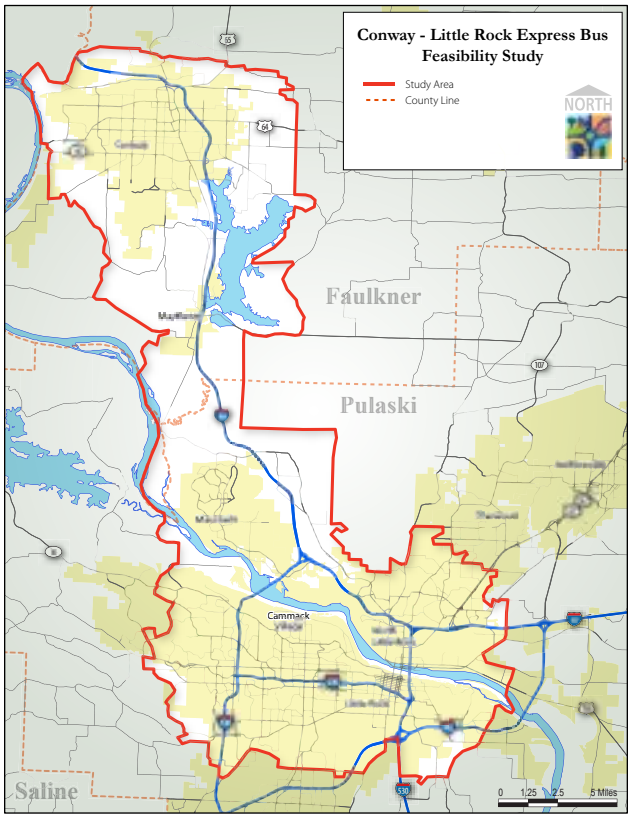
Human Resources

- **Identify** staffing needs, knowledge, skills, and abilities, reporting requirements, etc.
- **Develop** training program and/or resources for any new staff.

Chapter 1: Introduction

1.1 Purpose of the Study

The Conway – Little Rock Express Bus Feasibility Study was initiated in August 2013 by Metroplan, the designated Metropolitan Planning Organization (MPO) responsible for the transportation planning process in central Arkansas, along with Central Arkansas Transit Authority (CATA), the cities of Conway, Little Rock and North Little Rock and Faulkner and Pulaski Counties to determine the feasibility of providing an express bus service between the cities of Conway, Little Rock and North Little Rock during peak travel hours.



Providing more transit options was one of the top ranked themes in the Imagine Central Arkansas (ICA) effort during 2012 and 2013. Pulaski County is home to about three-quarters (75 percent) of the central Arkansas region's employment. More than 13,600 residents of Faulkner County commute to jobs in Pulaski County, representing about one of every four commuters.

Based on the analysis of travel data and the creation of an initial service plan for a recommended express bus service route, the study is intended to describe the nature of the potential ridership, costs, revenues, and other public benefits of the proposed service.

1.2 What is Express Bus Service?

Unlike a traditional local bus service that has several stops along a route resulting in a longer travel time, express bus service is characterized by limited pick-up and drop-off locations emphasizing faster trips. Express bus service is often used to carry passengers from a major origination point (possibly a park-n-ride lot) to a major destination point (usually a major employment center), and is designed to use the fastest route between the two points and typically routed on expressways to satisfy this desire.

Express bus service provides passengers with a more affordable transportation alternative and a viable option to driving in congested conditions.

1.3 Steering Committee

A Steering Committee was formed to provide overall guidance to the study process. The Steering Committee was made up of representatives from Metroplan, CATA, the CATA Board, Arkansas State Highway and Transportation Department and officials from the City of Conway, the City of North Little Rock, the City of Little Rock, Faulkner County and Pulaski County. Table 1-1- shows the dates that the Steering Committee met throughout the course of the study.

1.4 Report Organization

This summary report is organized as follows:

Chapter 1: Introduction

Chapter 2: Review of Prior and On-Going Plans and Studies

Chapter 2 presents the review of relevant plans and studies that address travel patterns and needs between Conway and Little Rock, which will be used to develop an analysis of transit demand between the two destinations and supportive transit services at either end of the express bus system.

Chapter 3: Identification of Transit Markets

Chapter 3 presents data and information on the study area's population and employment densities, development patterns, major employment and activity centers, transit dependent populations, commuting patterns, and estimates of intra-and inter- district trips from the region's travel demand model, which provide the context for the development of two initial alternative alignments for express bus service. A summary of the online survey for the study is presented that describes the public attitudes about potential express bus service linking Conway, Little Rock and North Little Rock.

Chapter 4: Alternatives Evaluation and Institutional Issues

Chapter 4 presents the two initial alternative alignments proposed by the project team and considered by the Steering Committee, the evaluation criteria, the refined alignments for the two alternatives, and the findings that lead to the recommended alignment.

Chapter 5: Transit Service Plan

Chapter 5 presents the transit service plan for the recommended route alternative, and describes the proposed route segments and stop locations, potential park and ride lot locations, vehicle requirements, operating characteristics, capital costs, funding and cost sharing options, and includes an evaluation of three concepts for operating and managing the service.

Table 1-1. Overview of Steering Committee Meetings

Meeting Date	Type of Meeting	Location	# of Participants
Aug. 21, 2013	Kickoff Meeting to review scope of work, data needs, schedule and major milestones	Metroplan office	10
Oct. 29, 2013	Discuss key findings for the identification of transit markets and review/discuss the preliminary evaluation of two route alignments	Metroplan office	15

Chapter 2: Review of Ongoing Plans and Studies

2.1 Existing Plans

Presented below are relevant plans and studies that address travel patterns and needs between Conway and Little Rock, particularly along travel corridors between the two cities.

Metro 2030.2 - The Long-Range Transportation Plan for Central Arkansas (March 2010)

Building upon *A Regional Transit Vision for Central Arkansas*, Metroplan recommends an express bus service along the Northwest Corridor in lieu of rail service. Express Bus Route #31 would link Conway and Mayflower to Downtown Little Rock.

As stated in *Metro 2030.2*, "Route 31 is proposed to link the Cities of Conway and Mayflower with Little Rock. Southbound, the route is proposed to originate adjacent to the University of Central Arkansas Campus, travel through downtown Conway, then via Oak Street to I-40 south. The route would serve Mayflower via stops along Highways 89 & 365, before continuing nonstop to downtown Little Rock. Three morning and three afternoon roundtrips are proposed. The Conway/Mayflower service would provide competitive travel options for current motorists, allow for reverse commute travel for Little Rock residents to reach downtown Conway, the University of Central Arkansas area, and the City of Mayflower." (page 10/50)

Table 2-1.
Proposed service in METRO 2030.2

	AM Peak	Midday	PM Peak
Headways	30	--	30
Vehicle Requirements	3	--	3
Roundtrip Running Time	150	--	150

Imagine Central Arkansas (Draft October 2013)

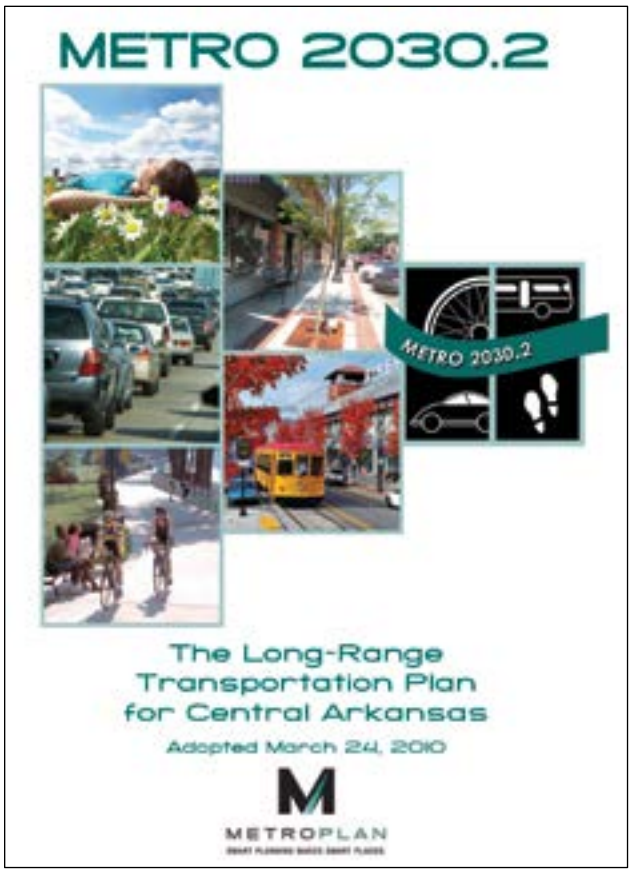
Imagine Central Arkansas represents the current incarnation of the Long Range Metropolitan Transportation Plan and has a year 2040 planning horizon. Thus, while Imagine Central Arkansas is a broad visioning and strategic planning effort, it also includes a very focused set of elements, including the identification of transportation projects, forecast of available revenue and prioritization of projects based on available revenue. The desire for increased transportation options, specifically transit, was repeatedly voiced as a major need/desire throughout all of the rounds of outreach.

During the first phase of outreach, the ideas from the "Ideascale" campaign were placed into 12 broad categories based on all the ideas that had at least a vote count of zero. The top category with the most vote counts was "more mass transit trains and buses," which received 27 percent of all votes. In particular, there were 39 mentions for ideas that involved public

transit between Conway and Little Rock. Using keyword tagging, the top themes from the "I Imagine Central Arkansas…" writing exercise were placed into 10 broad categories. Again, the top category with the most mentions was "better mass transit."

The backbone of the second phase of outreach was "Choose Your Future", an engaging, interactive online game where participants identified their top priorities for central Arkansas and then saw how their responses to various future scenarios impacted those priorities. Overwhelmingly, participants chose alternative modes of transportation, including transit, walking and cycling over road building as strategies for tackling future mobility challenges. Twenty-seven percent of the Faulkner County residents that participated in "Choose Your Future" chose building light rail transit or bus rapid transit as a priority strategy to increase mobility, and 73 percent picked light rail transit or bus rapid transit as a priority strategy to address rush hour congestion.

The "Are We There Yet?" interactive online activity or "infoGame" was the focal point of the third phase of public outreach. The tool featured an interactive, multi-step wizard in which residents of central Arkansas chose from a range of options impacted how and when a shared recommended Vision for the region is achieved. The Imagine Central Arkansas Vision includes investments in a robust local transit network, a regional transit system, walking and cycling and improving our freeway and road network. Sixty-six percent of all participants support a half-cent sales tax increase for establishing or expanding local transit service and bicycle and pedestrian facilities. Residents of Faulkner and Pulaski Counties identified the highest level of support (71 percent each). In order to build a regional transit system, 74 percent of all participants support an increase in sales tax by either a half-cent (37 percent) or a full cent (37 percent). Residents of Faulkner County identified the highest level of support (82 percent favor either a half-cent or full cent).



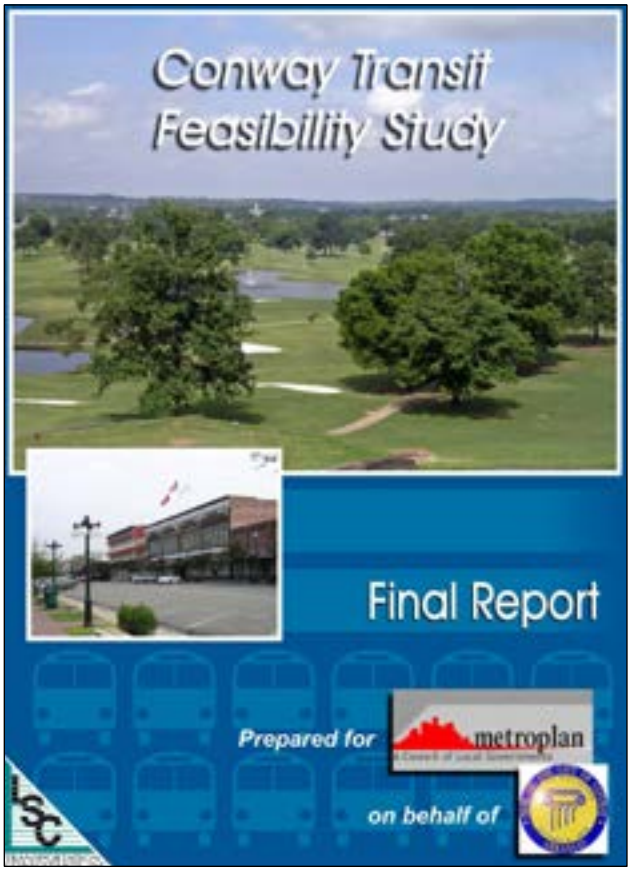
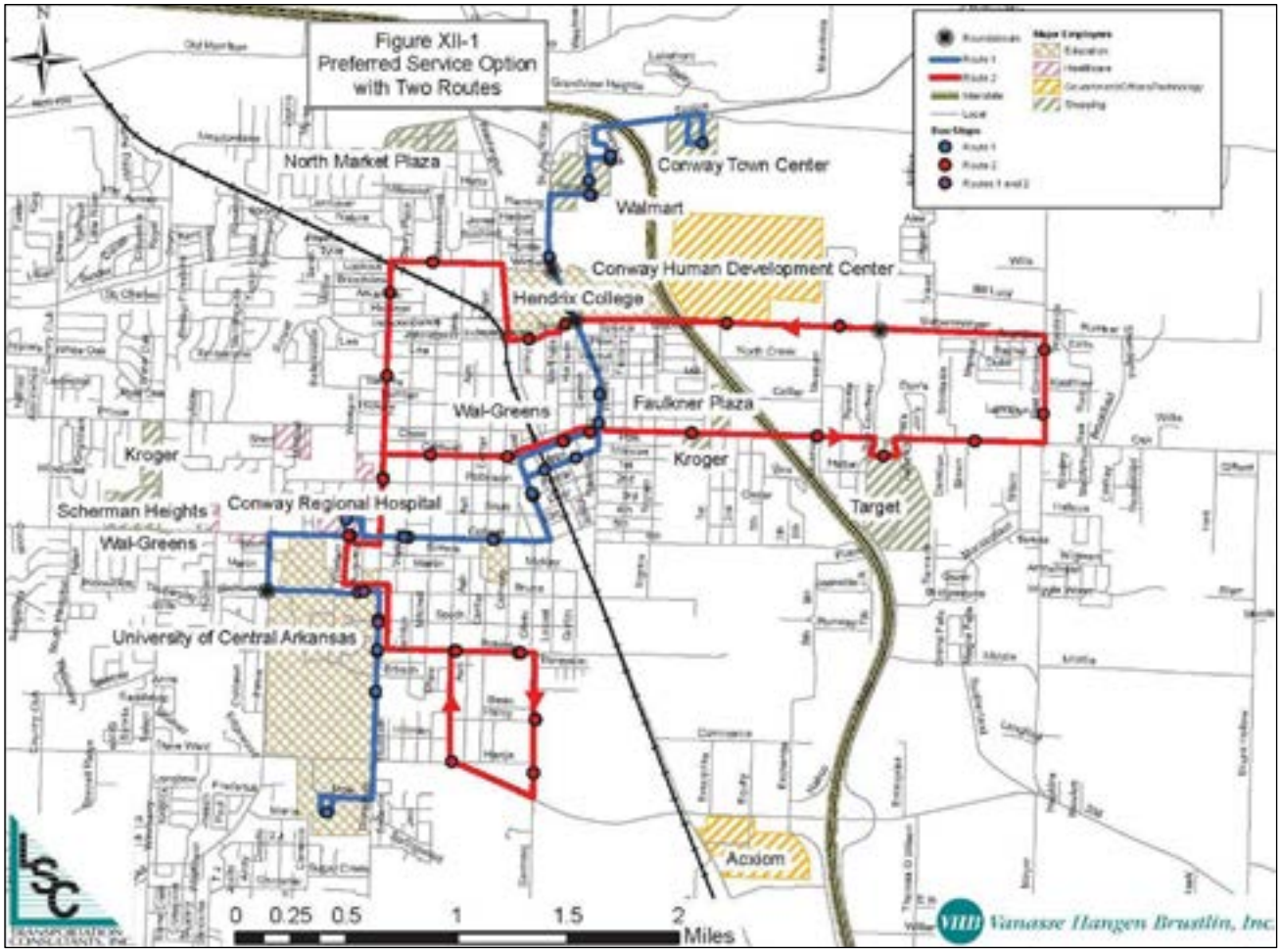


Figure 2-1. Conway Transit Feasibility Study: Preferred Service Option with Two Routes



Conway Transit Feasibility Study – Final Report (March 2010)

The 2010 *Conway Transit Feasibility Study* recommended the implementation of a two-route system, with each route running at 30-minute headways and requiring approximately 9,200 revenue-hours of service annually. The Blue Route is designed to provide more direct service to the University of Central Arkansas (UCA) campus, Conway Regional Hospital, downtown, Hendrix College and the Conway Town Center. The Red Route serves more of the eastern and northern portions of Conway and is intended to serve such destinations as the Conway Human Development Center, Faulkner Plaza, Kroger and Target.

The study notes several major employers that are located along or in close proximity to I-40 in Conway. (See Figure II-10, page II-14)

According to the study, "The average commute time for persons working in Conway was 19.5 minutes. Considering the size of Conway, this time seems to indicate that a number of people are traveling beyond the city for work. Conway's proximity to Little Rock (approximately 30 minutes) could be contributing to this higher average commute time." (page II-17)

Two large developments are proposed for Conway: a 900-unit multi-family housing development and golf course southwest of the city, and a technical support facility for HP that will employ about 1,300 people, located in south Conway along the western side of I-40. There is also a new major retail center planned near I-40 and Industrial Boulevard. This information indicates that the southwestern and eastern areas of Conway are where new growth and development is occurring. (page II-23)

Conway Taxi provides 12,000 trips annually within Conway and to Little Rock. (See Table III-1, page III-2)

Those determined to have the greatest need for transit in Conway live just west of the I-40 corridor in Conway. (See Figure IV-3, page IV-7)

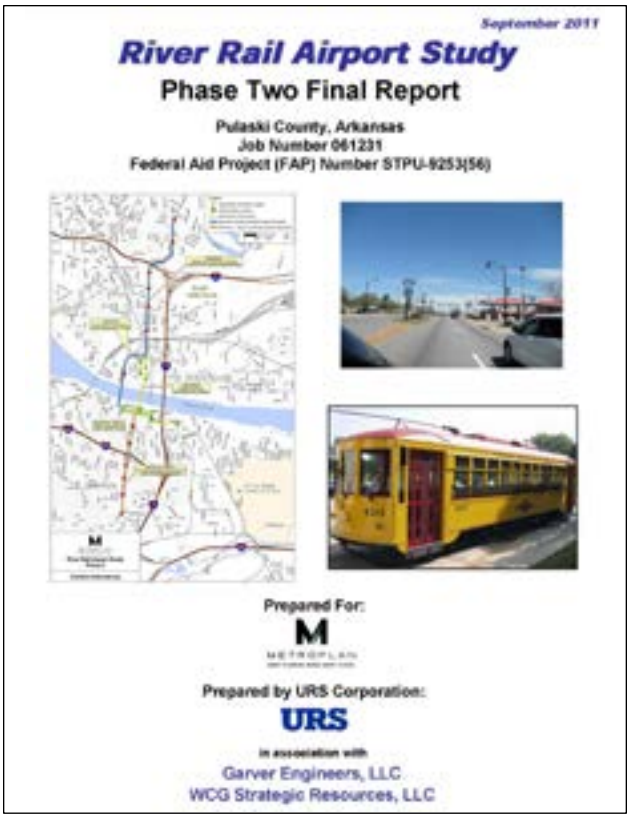
Of the 160 people who indicated that they would like to have bus service available for use near their home, 11 percent said that they would like to be able to get on the bus in Little Rock. (See Appendix D: Community Survey Results, question 19a.)

I-630 Fixed Guideway Alignment Study

Metroplan conducted the *I-630 Fixed Guideway Study* to identify and preserve a transit right-of-way in the I-630 corridor so that a fixed guideway transit line can be built in the future.

The study references the Transit Vision Plan in Metro 2030, which is similar to the transit vision in Metro 2030.2, which includes the need for a fixed transit route between Conway and Little Rock. (page 20)

The "Selected Conceptual Alignment" is a primary transit line along I-630, with considerations for extensions; one of these extensions would be a northwest line to Conway. (page 35)



Transportation Improvement Program (TIP)

The City of Conway recently passed the 50,000 urbanized area population threshold to become a recipient of Federal Transit Administration (FTA) Section 5307 funds. This amount is $910,000 in FY 2014 and is estimated to total about $17.6 million by 2040. The money can be used on eligible transit capital or operating expenses. However, there must be a local match of 20 percent for capital and 50 percent for operating expenditures. Currently the funds are reallocated to other areas within the state.

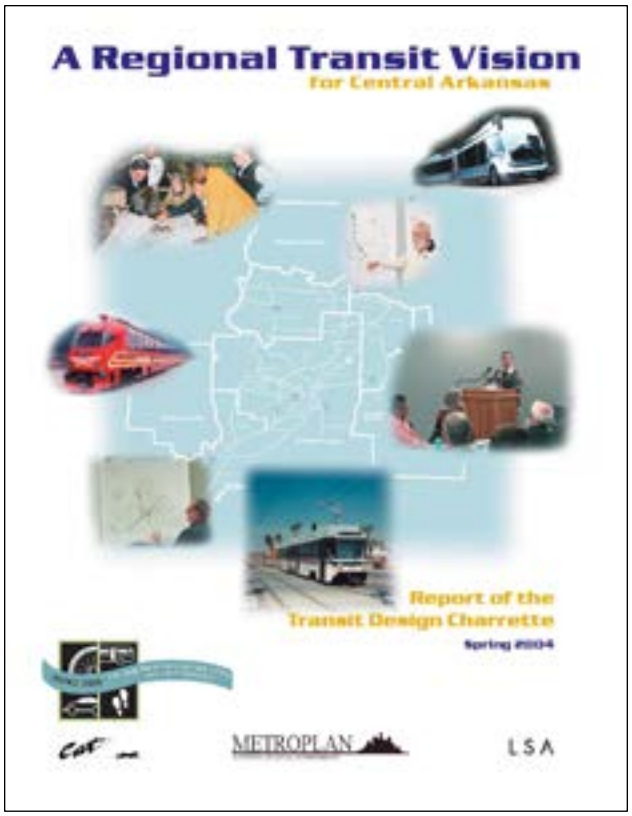
River Rail Airport Study (Phase Two Final Report)

Phase Two of the *River Rail Airport Study* was completed in September 2011 and evaluated other viable options for connecting streetcar service to the Little Rock Airport, primarily along the Main Street corridors in Little Rock and North Little Rock. The study makes recommendations on a preferred alignment to link the airport with the two cities. The study recommended that the cities and CATA develop implementation strategies for two streetcar extensions and to take steps to build them in logical phases or minimal operable segments (MOS).

The first extension would consist of a double-track streetcar line on Main Street (North Little Rock) and is described as beginning at the existing River Rail Streetcar loop at 7th Street and continues north of I-40 along John F. Kennedy Boulevard to H Avenue, where the line would change to a single-track loop along H Avenue and Lookout Road encircling the Lakehill Shopping Center. The other extension would run along Main Street (Little Rock) and would extend from the existing River Rail Streetcar line in the Little Rock CBD, cross I-630 and extend to Roosevelt Road.

A Regional Transit Vision for Central Arkansas – Report of the Transit Design Charrette (Spring 2004)

A public charrette produced recommendations for development of primary transit corridors, including a Northwest Corridor (Rail) along I-40/Union Pacific Railroad from Conway to Downtown Little Rock. This commuter rail line would utilize either the Union



Pacific Railroad right-of-way or Little Rock Western track that runs south of the river.

2.2 Major Developments in the Pipeline

2.2.1 I-40 Widening

All projects associated with the widening of I-40 to six lanes between North Little Rock and Conway should be let by the middle of 2014. Metroplan does not have an exact timeline for completion, but based upon previous projects it is assume to take several years. Widening is a simple addition of a single lane in the median to make for three through lanes per direction.

The section north of the City of Mayflower is nearing completion. From Mayflower to Morgan (Hwy 100), the widening has just begun. A date for the widening from I-430 to Hwy 100 has yet to be set but is expected sometime in 2014. Bridges on this section are already done so the project should move more quickly.

2.2.2 Proposed Developments

The City of Conway has several projects along the interstate "in the pipeline" that may be major trip producers. The proposed Baptist Medical Facility is located immediately west of I-40 and is expected to employ several hundred workers and have a large number of beds.

Immediately to the east of I-40, off of Conway's first exit, the City has been approached by developers that want to use the land for commercial development. That area is expected to have major retail in the future.

Further down the I-40, Dennis F. Cantrell Field, Conway's current airport, will be relocated and the airport land has been proposed to be a large scale mixed-use development including retail, office-space, and residential. This will be connected to the existing development on the east side of I-40 by a city constructed overpass. If developed to the

standard that the City expects, the old airport land could become a huge activity center.

2.3 Land Use Plans/Zoning

The City of Conway Zoning Ordinance includes a Planned Unit Development District. This district requires, among other criteria, a sidewalk system for pedestrian access and the incorporation of common spaces for people to gather (plazas, courtyards, etc.). The Planned Unit Development district is designed to "accommodate developments that might otherwise be impractical or impossible to implement through traditional zoning." This implies a higher density of single-family uses, in excess of what is normally allowed in single-family residential zones; or the integration of mixed uses, such as single and/or multi-family residential and commercial or small office developments. Such development would be well-suited to accommodate a transit station for the express bus service in Conway. There are small tracts of undeveloped land zoned for PUD scattered throughout the City of Conway, particularly toward the central city area.

The City of Conway also has a Transitional/Mixed Land Use District. This district is designed to accommodate a mix of intense land uses, including multi-family residential, professional offices, and limited commercial use. Land in this district is typically located along major roadway corridors. The combination of mixed land uses and proximity to major highways would also make these areas well-suited to the inclusion of a transit station.

The *2011 Master Plan for the University of Central Arkansas* has a series of Guiding Principles that were developed based on identified needs and a vision for the campus. Guiding Principle # 8 of the plan is to "Limit vehicle circulation and parking within the core of the campus, in order to promote a safe, welcoming pedestrian environment." There are approximately 70 separate parking lots scattered across the campus, many in the core area; the University has a long-term goal to consolidate these into satellite lots at the periphery of campus. The lots at the periphery of campus, particularly those on the east side, could present an opportunity to co-locate a transit station. Alternately, the campus may choose to provide a shuttle bus from the express transit station to the campus, allowing students from the Little Rock, Maumelle, and Mayflower areas to use the express bus service to reach the University.

Figure 2-2. Proposed Redevelopment of the Cantrell Field

Chapter 3: Identification of Transit Markets

3.1 Study Area Population and Employment

In order to capture market area destinations and trip making potential, the study area for the Conway-Little Rock Express Bus Study is an area defined as the portion of Faulkner and Pulaski Counties that lie within four (4) miles in either direction of the centerline of I-40, I-30, I-630 and I-430. In Conway, the study area will encompass a larger area to the west of the I-40 centerline, to capture the majority of the city limits. The study area boundary coincides with the boundaries of traffic analysis zones (TAZs) used in the Central Arkansas Regional Transportation Study (CARTS) travel demand model. Based on the population estimates in the travel demand model, the population in the study area in 2010 was approximately 304,700 people. This estimate includes the Pulaski County portion of the study area (231,800 total population), and the Faulkner County portion of the study area (72,800 total population).

Based on the population projections in the travel demand model, the population for the study area is expected to grow to roughly 386,800 people in 2040. This includes 125,900 people in the Faulkner County and portion of the study area and 260,900 people in the Pulaski County portion of the study area. Overall population growth within the study area is projected at 20 percent between 2010 and 2040.

The study area can be further broken down into eight districts, which are illustrated in Figure 3-1. The population and employment projections for each of the districts are listed in Table 3-1.

Population and employment are projected to increase rapidly in the districts located in Faulkner County, as well as in the Maumelle/Northwestern Pulaski County District. The Mayflower/Southern Faulkner County District is projected to see a population increases of over 162 percent between 2010 and 2040. Employment growth over 70 percent is anticipated in the Conway/Central Faulkner County, Maumelle/Northwestern Pulaski County and Mayflower/Southern Faulkner County Districts. While the I-630 Medical District/Cammack Village District is expected to only grow in population by 1.6 percent, it is expected to see a 18.9 percent increase in employment between 2010 and 2040.

Population density is considered a key metric for viable transit service (see Table 3-2 and Figure 3-2). In the base year 2010, only the I-630 Medical District/Cammack Village District has a population density of at least four people per acre, considered a bare minimum threshold for transit service. By 2040, all of the districts drop below four people per acre except for the I-630 Medical District/Cammack Village District. Higher population densities approaching a denser population are found in the UALR/Southwest Little Rock and North Little Rock Districts.

An employment density of approximately 2,500 jobs per square mile (or roughly four jobs per acre) is considered a threshold for viable transit service. Employment density in 2010 and 2040 is highest within the I-630 Medical District/Cammack Village District. The employment density in the Downtown/Central Little Rock District is also above the employment threshold (see Figure 3-3).

3.2 Major Employment and Activity Centers

Four distinct areas in the study area host some of the region's largest employers. Major employers with more than 1,000 employees include: University of Arkansas for Medical Services (UAMS), Baptist Health Medical Services, Central Arkansas Veterans Healthcare System, St. Vincent's Health System in the I-630 Medical District/Cammack Village District; Union Pacific, Baptist Medical Center, US Veterans Medical Center in the North Little Rock District; Dassalt Falcon Jet Corporation, Arkansas Children's Hospital Medical Services, Arkansas Blue Cross and Blue Shield, Entergy Arkansas Inc., Centerpoint Energy Arkansas and Southwest Airlines Call Center in the Downtown/Central Little Rock District;

Table 3-1. Population and Employment Projections for Districts

Location	2010		2040		Percentage Change	
	Population	Employment	Population	Employment	Population	Employment
Faulkner County						
Conway/Central Faulkner County	67,202	30,337	111,104	57,034	65.3%	88.0%
Mayflower/Southern Faulkner County	5,643	1,181	14,835	2,013	162.9%	70.4%
Faulkner County Total	72,845	31,518	125,939	59,047	72.9%	87.3%
Pulaski County						
Downtown/Central Little Rock	18,994	54,827	21,070	66,605	10.9%	21.5%
I-630 Medical District/Cammack Village	55,136	53,471	56,042	63,600	1.6%	18.9%
Maumelle/Northwestern Pulaski County	26,273	9,214	42,106	16,434	60.3%	78.4%
North Little Rock	62,633	40,333	66,556	52,285	6.3%	29.6%
UALR/Southwest Little Rock	26,384	15,277	27,998	19,769	6.1%	29.4%
West Little Rock/Western Pulaski County	42,413	29,813	47,081	39,613	11.0%	32.9%
Pulaski County Total	231,833	202,935	260,853	258,306	12.5%	27.3%
STUDY AREA TOTAL	304,678	234,453	386,792	317,353	27.0%	35.4%

Source: CARTS Travel Demand Model

Table 3-2. Population and Employment Densities

Location	Area (acres)	2010		2040	
		Population per Acre	Employment per Acre	Population per Acre	Employment per Acre
Faulkner County					
Conway/Central Faulkner County	53,205	1.26	0.57	2.09	1.07
Mayflower/Southern Faulkner County	26,047	0.22	0.05	0.57	0.08
Faulkner County Total	79,252	0.92	0.40	1.59	0.75
Pulaski County					
Downtown/Central Little Rock	13,064	1.45	4.20	1.61	5.10
I-630 Medical District/Cammack Village	12,412	4.44	4.31	4.52	5.12
Maumelle/Northwestern Pulaski County	29,987	0.88	0.31	1.40	0.55
North Little Rock	24,022	2.61	1.68	2.77	2.18
UALR/Southwest Little Rock	9,843	2.68	1.55	2.84	2.01
West Little Rock/Western Pulaski County	17,582	2.41	1.70	2.68	2.25
Pulaski County Total	106,910	2.17	1.90	2.25	2.42
STUDY AREA TOTAL	186,162	1.64	1.26	1.97	1.70

Source: CARTS Travel Demand Model

Figure 3-1. Districts

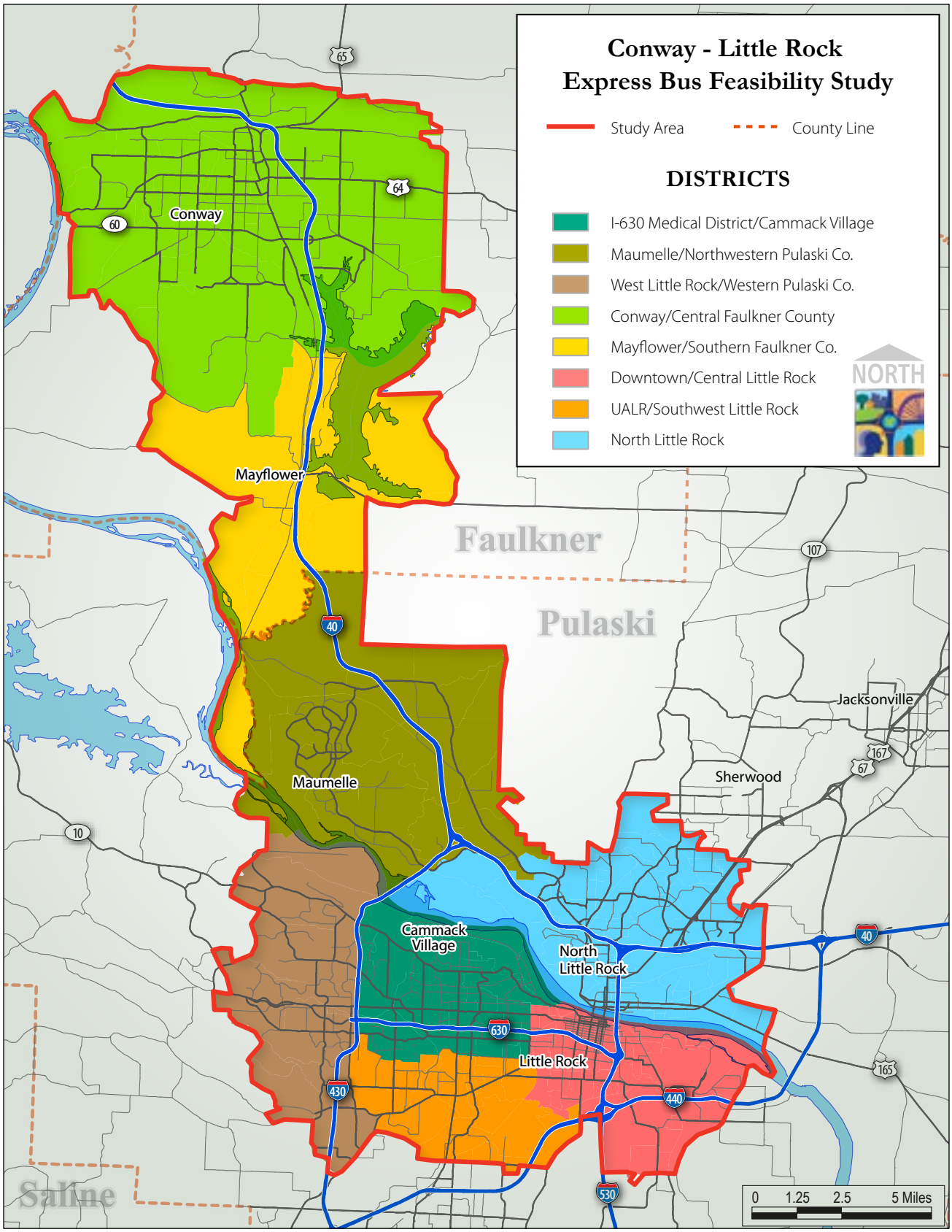


Figure 3-2. 2010 Population Density

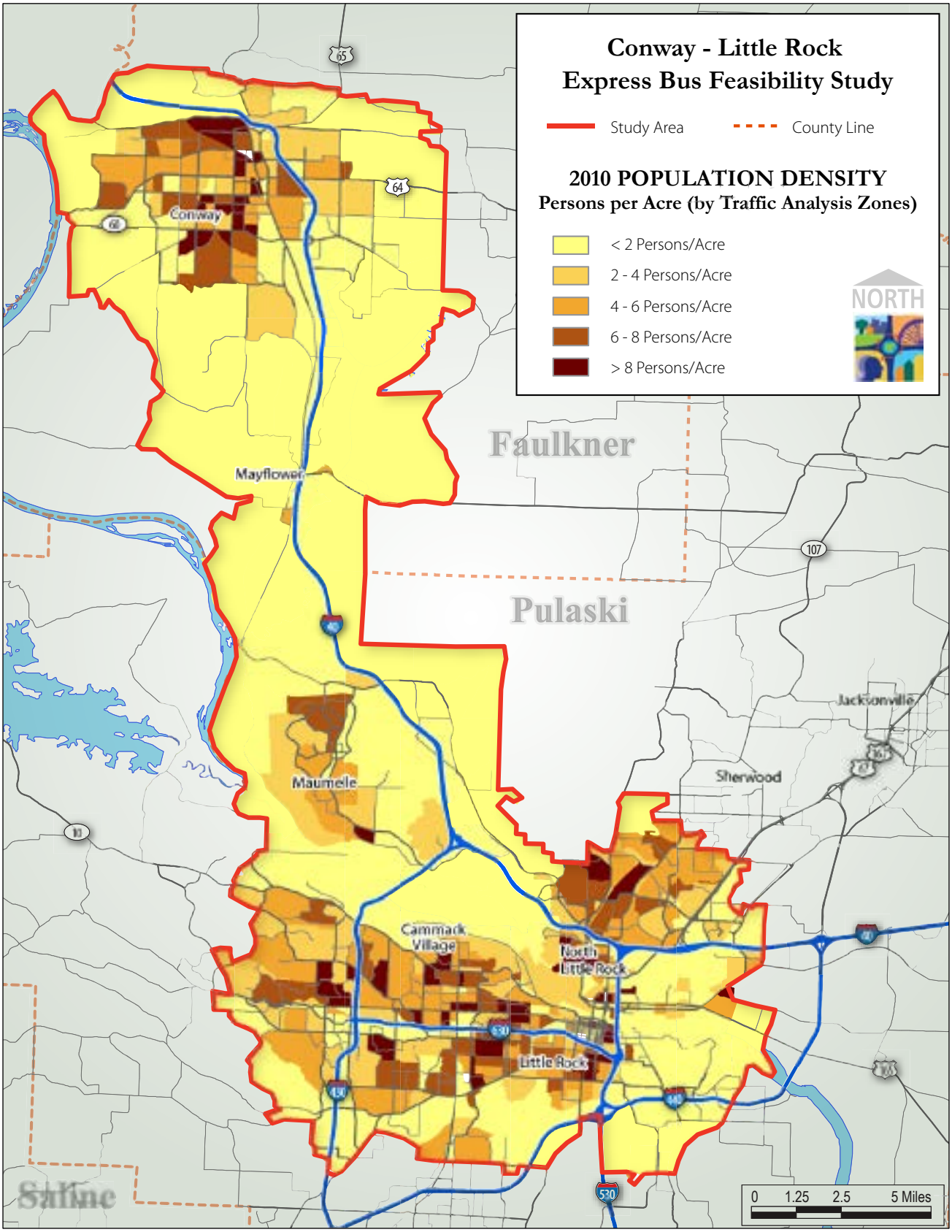
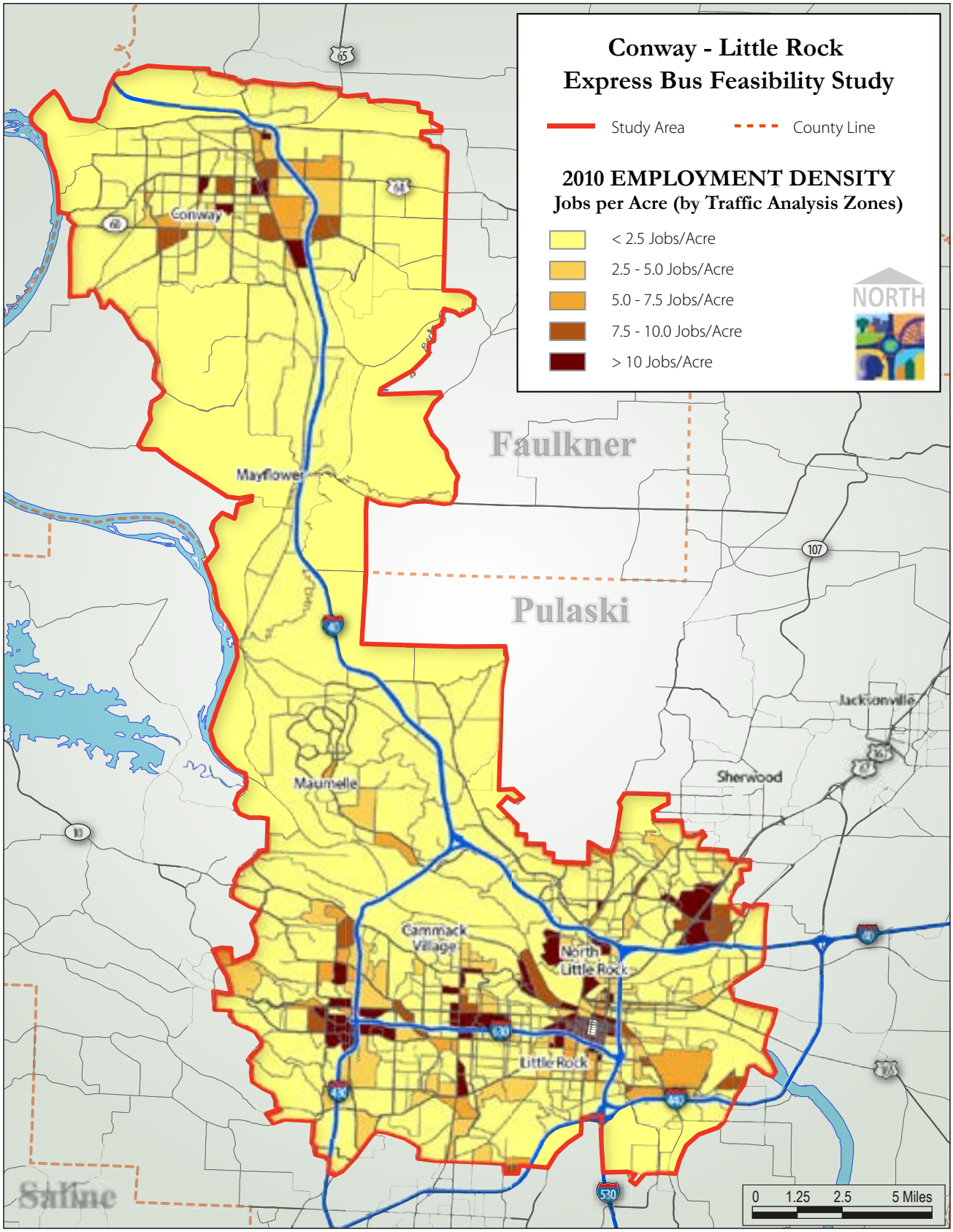


Figure 3-3. 2010 Employment Density



and Acxiom Corp.. Information Technology, the University of Central Arkansas, Conway Regional Medical Center, Conway Human Development Institutional Care and Southwestern Energy Company in the Conway/Central Faulkner County District. Figure 3-4 shows all of the major employment centers in the study area that have with at least 250 employees.

The hospitals in the study area are major civic institutions in addition to places of employment. The Downtown/Central Little Rock District has more civic institutions than any other district, and is home to the State Capitol Complex, Arkansas School for the Deaf and Blind, Arkansas Children's Hospital, Philander Smith College, Arkansas Baptist College, Federal Courthouse, Bill and Hillary Clinton National Airport, Central Arkansas Main Library and the UALR Law Library. Colleges, universities and vocational schools in the study area include University of Central Arkansas, Hendrix College and Central Baptist College in Faulkner County, Philander Smith College, Arkansas Baptist College, Pulaski Technical College, University of Arkansas at Little Rock, and the Arkansas School for the Deaf and Blind in Pulaski County. The location of civic institutions in the study area is shown in Figure 3-5.

Shopping and entertainment venues are also major activity centers in the study area, as show in Figure 3-6. In the Downtown/Central Little Rock District, major activity centers include the State Fair Grounds, Little Rock Convention Center, River Market, Arkansas Arts Center, River Cities Travel Center, and the Clinton Presidential Library. In the North Little Rock District the major activity centers include five shopping centers as well as the Verizon Area and Dickey-Stephens Park. Major activity centers in the I-630 Medical District/Cammack Village District include War Memorial Stadium, Park Plaza Mall and shops at Park Avenue. Table 3-3 lists all of the major employment centers, activity centers and civic institutions in each of the eight districts.

Figure 3-4. Major Employment Centers

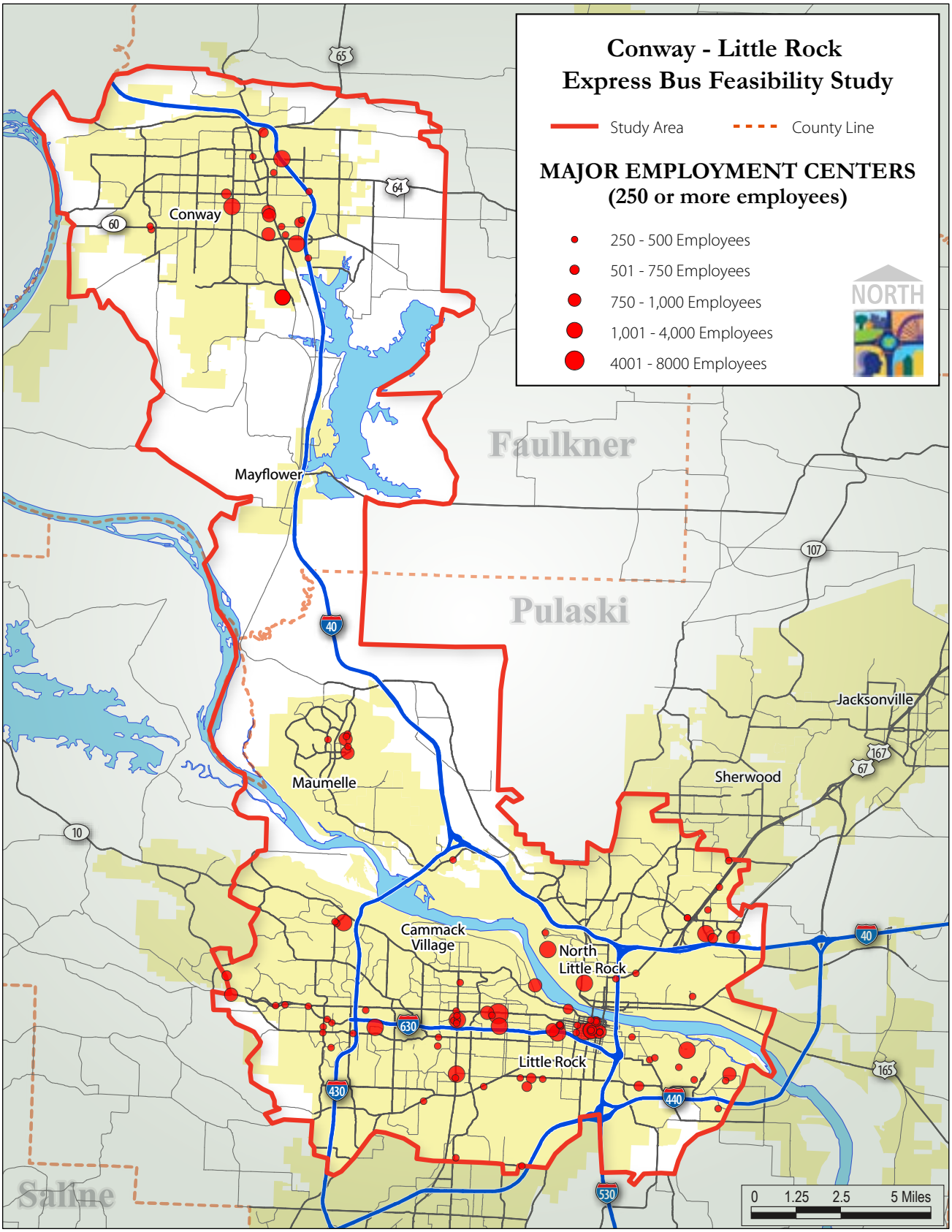


Figure 3-5. Civic Institutions

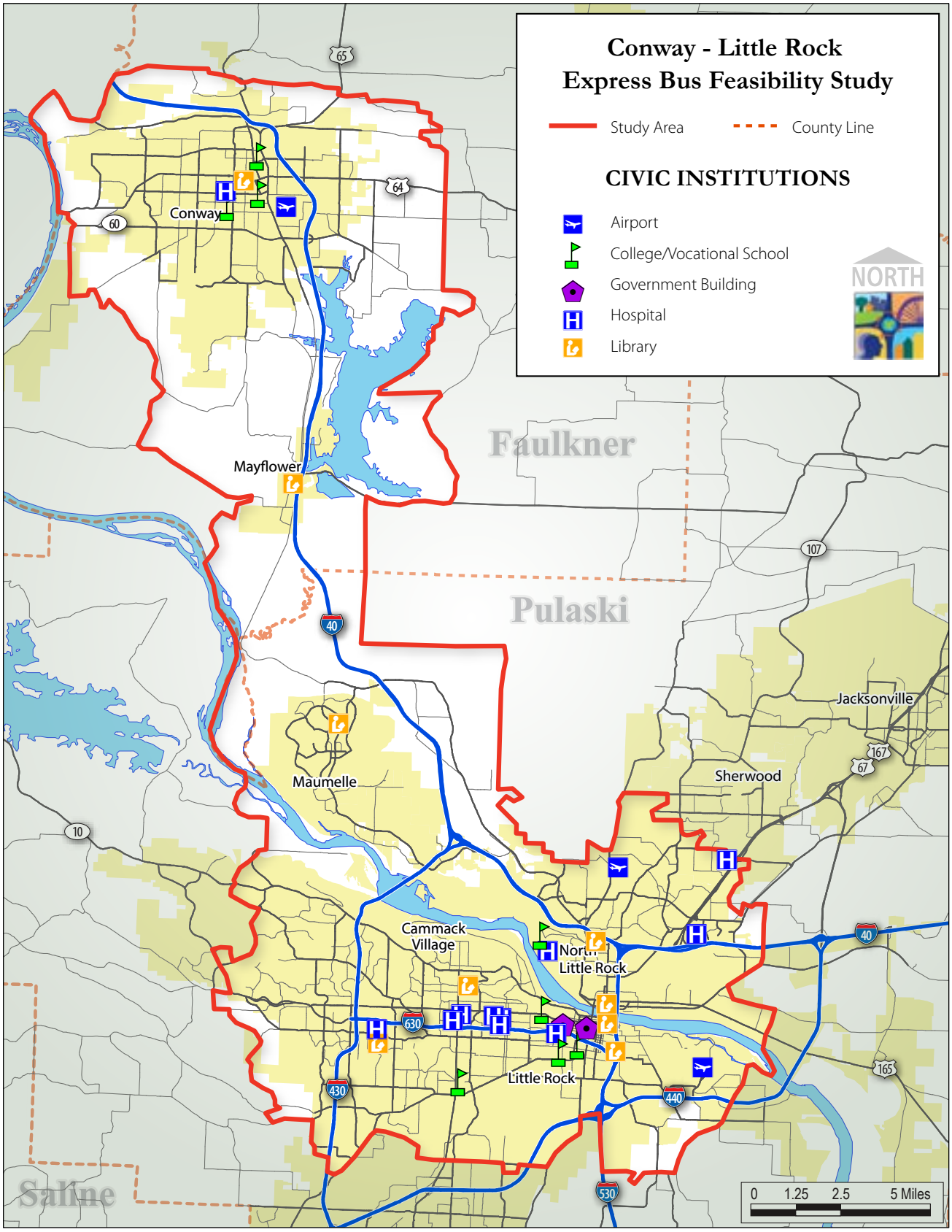


Figure 3-6. Major Activity Centers

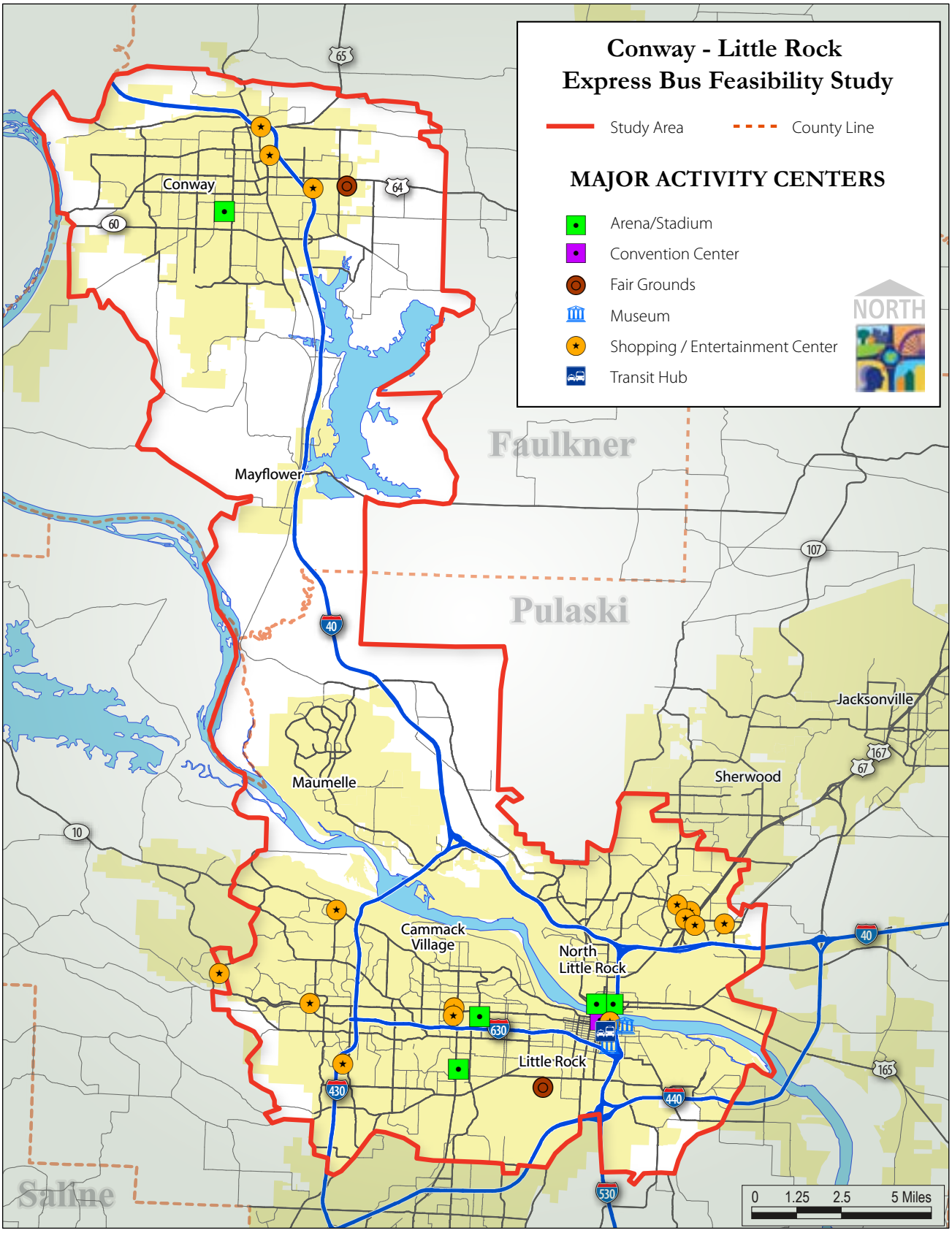


Table 3-3. Major Employment, Activity Centers and Civic Institutions in Districts

Conway/Central Faulkner County District		
Category	Place	Type
Major Activity Centers	Estes Stadium University Of Central Arkansas	Stadium
	Faulkner County Fairgrounds and Expo Center	Fairgrounds/ Expo Center
	Conway Commons	Shopping Center
	Conway Towne Center	Shopping Center
	The Village at Hendrix	Shopping Center
Civic Institutions	Dennis F. Cantrell Field	Airport
	Faulkner County Library	Library
	University Of Central Arkansas	College
	Hendrix College	College
	Conway Regional Medical Center	Hospital
	Central Baptist College	College
Major Employers	Faulkner County Gov't	Employers with at least 250 employees
	International Paper Co..	
	Rock-Tenn Co..	
	Kroger	
	Tokusen USA Inc.	
	ICT Group Inc	
	Hendrix College	
	City of Conway Gov't	
	Schlumberger	
	Hewlett Packard Technology	
	Nabholz Construction Corp..	
	Kimberly-Clark	
	Snap-On Equipment	
	Virco Manufacturing Corp..	
	Wal-Mart Supercenter	
	University Of Central Arkansas	
	Southwestern Energy Company	
	Conway Human Development Institutional Care	
	Conway Regional Medical Center	
	Acxiom Corp.. Information Technology	

Mayflower/Southern Faulkner County District		
Category	Place	Type
Civic Institutions	Mayflower Public Library	Library

UALR/Southwest Little Rock District		
Category	Place	Type
Major Activity Centers	Jack Stephens Arena	Arena
Major Employers	Pulaski County Jail	Employers with at least 250 employees
	UAMS/Ecco Head Start Program	
	Sysco Food Svc Of Arkansas LLC	
	Smith Fiberglass Products Co.	
	Razorback Security Svc	
	Quality Foods Inc	
	UALR	
Civic Institutions	UALR	College
	McMath Library	Library

West Little Rock/ Western Pulaski County District		
Category	Place	Type
Major Activity Centers	Shackleford Crossing	Shopping Cntr
	The Promenade at Chenal	Shopping Cntr
	Target/Home Depot Shopping Center	Shopping Cntr
	Pleasant Ridge Town Center	Shopping Cntr
Major Employers	Rivercity Energy	Employers with at least 250 employees
	Parkway Village Clinic	
	Pinnacle Pointe Hospital	
	Sam's Club	
	Roller Funeral Home	
	Fairfield Communities	
	Embassy Suites Hotel	
	Farm Bureau Insurance	
	Bank Of The Ozarks Inc	
	Family Life	
	Wal-Mart	
	Saab Leasing Co.	
	Superior Financial Corp.	

I-630 Medical Center/Cammack Village District		
Category	Place	Type
Major Activity Centers	War Memorial Stadium	Stadium
	Park Plaza Mall	Shopping Cntr
	Park Avenue	Shopping Cntr
Civic Institutions	UAMS	Hospital
	Arkansas State Hospital	Hospital
	St. Vincent's Hospital	Hospital
	St. Vincent's Doctor's Hospital	Hospital
	Baptist Medical Center	Hospital
	McClellan VA Hospital	Hospital
	Fletcher Library	Library
Major Employers (250 or more employees)	HEALTHSCOPE Benefits	Employers with at least 250 employees
	Arkansas State Hospital	
	J C Penney Co.	
	Superior Protection Svc Inc.	
	Sears Roebuck & Co.	
	Visiting Nurse Assn-AR	
	St Vincent Health System	
	Centers For Youth & Families	
	Dillard's Department Store	
	Arkansas Department Of Health	
	AT&T	
	St Vincent Infirmary Medical	
	Central Arkansas Veterans Healthcare System	
	Baptist Health Center	
	UAMS Medical Center	

Maumelle/ Northwestern Pulaski County District		
Category	Place	Type
Civic Institutions	Maumelle Library	Library
Major Employers	Haynie Co..	Employers with at least 250 employees
	Kimberly-Clark	
	Ace Hardware	
	Windsor Door Co..	
	Molex Inc.	
	Target	

North Little Rock District		
Category	Place	Type
Major Activity Centers	McCain Mall	Shopping Center
	Verizon Arena	Arena
	Dickey-Stephens Stadium	Stadium
	Wal-Mart Supercenter	Shopping Center
	Lakewood Shopping Center	Shopping Center
	The Other Center	Shopping Center
	McCain Plaza	Shopping Center
Civic Institutions	Argenta Branch Library	Library
	William F. Laman Public Library	Library
	North Little Rock Municipal Airport	Airport
	Baptist Springhill	Hospital
	Ft. Roots VA Hospital	Hospital
	Pulaski Technical College	College
	St. Vincent's Rehabilitation Hospital	Hospital
Major Employers	Wild River Country	Employers with at least 250 employees
	Tyson Foods Inc.	
	J C Penney Co.	
	Wal-Mart Portrait Studio	
	YOUR Employment Svc	
	One Source Home & Building Center	
	Dow Building Svc	
	Pulaski Technical College	
	Dillard's Department Store	
	St Vincent Medical Center	
Major Employers	ABF Freight System Inc.	Employers with at least 250 employees
	J B Hunt Transport Inc.	
	US Veterans Medical Center	
	Baptist Memorial Medical Center	
	Union Pacific	

Downtown/Central Little Rock District		
Category	Place	Type
Major Activity Centers	State Fair Grounds	Fair Grounds
	Little Rock Convention Center	Convention Center
	River Market	Shopping Center
	Arkansas Arts Center	Museum
	River Cities Travel Center	Transit Hub
	Clinton Presidential Library	Museum
Civic Institutions	State Capitol Complex	Government
	Arkansas School for the Deaf and Blind	School
	Arkansas Children's Hospital	Hospital
	Philander Smith College	College
	Arkansas Baptist College	College
	Federal Courthouse	Government
	Bill and Hillary Clinton National Airport	Airport
	Central Arkansas Main Library	Library
	UALR Law Library	Library
Major Employers	Little Rock City Hall Offices	Employers with at least 250 employees
	Aegon Insurance Group	
	Central Flying Svc	
	Arkansas Computer Services Department	
	Misc. State Depts.	
	Education Department	
	ESD Headquarters	
	Simmons First National Bank	
	United Parcel Service	
	Rogers Bancshares Inc.	
	Arkansas State Fair & Show	
	Marriott Hotel Little Rock	
	Afco Steel Inc.	
	Fed Ex Freight East Inc.	
	Little Rock Fire Department	
	Central Flying Svc	
	TCBY Enterprises Inc.	
	Arkansas Parks & Tourism Department	
	Arkansas Democrat-Gazette	
	Timex Store	
	Regions Bank	
	Replacement Parts Inc.	
	Stephens Group Inc.	
Major Employers	Revenue Department	Employers with at least 250 employees
	Arkansas Democrat Gazette	
	SWA Call Center	
	CenterPoint Energy	
	Dassault Falcon Jet Corp.	
	Arkansas Blue Cross & Blue Shield	
	Dillard's Inc.	
	Arkansas Children's Hospital	
	Entergy Arkansas Inc.	
	Acxiom Data Processing	

3.3 Transit Dependent Populations

3.3.1 Minority and Low Income Populations

Minority populations tend to use transit more frequently than the general population, and a lower income affects people's transportation choices. A review of US Census data was used to determine high concentration areas of minority and low income populations within the study area. The percentages of the population that identify as minority or that qualify as low-income (living below the poverty level) for the counties and major cities in the study area is shown in Table 3-4. Statewide data is included for reference.

Areas with the greatest concentrations (more than 80 percent) of minority populations are primarily located in downtown and southeast Little Rock, to the south of I-630, and to the southeast of where the I-40 and I-30 interstates converge in North Little Rock, (see Figure 3-7), and include the following planning districts:

- Downtown/Central Little Rock
- I-630 Medical District/Cammack Village
- North Little Rock
- UALR/Southwest Little Rock

Approximately 21.8 percent of the population in the City of North Little Rock, 18.6 percent of the population in the City of Conway and 17.8 percent of the population in the City of Little Rock live below the poverty level. Several large Census Tracts in downtown Little Rock, adjacent to I-440, along I-630 and in multiple Census Tracts in North Little Rock, and west of I-40 (north of Dave Ward Drive) Conway has a higher percentage of the population living below poverty than in Pulaski and Faulkner counties. As shown in Figure 3-8, the planning districts that have the highest proportions of people living below the poverty level (more than 40 percent) include:

- Conway/Central Faulkner County
- Downtown/Central Little Rock
- North Little Rock
- UALR/Southwest Little Rock

Between Faulkner and Pulaski Counties, Pulaski County currently has the lowest median household income ($45,897). In addition, the median household income in the City of North Little Rock is $39,228, which is below the median for the rest of the study area and the state of Arkansas.

Table 3-4. Percentages of the Population that Identifies as Minority or Qualifies as Low-Income

Location	Percent Minority	Percent of all People Below Poverty Level	2011 Median Income
Arkansas	21.6%	18.4%	$40,149
Faulkner County	14.4%	15.4%	$47,649
City of Conway	20.4%	18.6%	$44,745
Pulaski County	40.2%	16.7%	$45,897
City of Little Rock	48.9%	17.8%	$44,392
City of North Little Rock	42.4%	21.8%	$39,228

Source: 2007-2011 American Community Survey (ACS), percent with Disability is based on 2009-2011 ACS

3.3.2 Population Over Age 65

Although the median age of a Faulkner County resident is 31 years old, and the median age of a Pulaski County resident is 36 years old, the region's population is getting older and is expected to continue to age. Older adults, individuals aged 65 or older, typically use transit more because they become less comfortable driving as they age and/or they have increasing mobility constraints due to income.

Approximately 10-12 percent of the study area residents are aged 65 or older, and most of the study area has moderate to heavy concentrations of older adults (see Table 3-5). The highest concentration

of older adults is in the City of North Little Rock, southeast Little Rock, north of the I-630 corridor and in northwest Conway. As shown in Figure 3-9, the North Little Rock District has the highest proportion of older adults (more than 20 percent).

Table 3-5. Population over Age 65

Location	Percent Age 65+
Arkansas	14.3%
Faulkner County	9.9%
City of Conway	8.4%
Pulaski County	11.9%
City of Little Rock	11.3%
City of North Little Rock	12.7%

Source: 2007-2011 American Community Survey (ACS), percent with Disability is based on 2009-2011 ACS

3.3.3 Housing Units with No Vehicle Available

Households without vehicles tend to rely on public transit because they have no other options available. Table 3-6 shows the number of occupied housing units with no vehicle available. In Pulaski County, 7.7 percent of the housing units do not have access to a car, truck or van for private use. The Cities of North Little Rock and Little Rock appear to be the most transit dependent with some 11.3 percent and 7.8 percent (respectively) of housing units not owning a vehicle; thus, there is a high correlation here among these areas that have high concentrations of households with low-incomes and those that do not have a vehicle.

As shown in Figure 3-10, some Census Tracts in downtown Little Rock, North Little Rock, to the east of I-30 (north of I-440), along I-630 and in northern Conway, have higher concentrations of the housing units with no vehicle available than the county and city-wide averages. The highest concentration of zero-household vehicles is in the following planning districts:

- Downtown/Central Little Rock
- I-630 Medical District/Cammack Village
- North Little Rock
- UALR/Southwest Little Rock

Table 3-6. Occupied Housing Units with No Vehicle Available

Location	Occupied Housing Units	Housing Units with No Vehicle Available	
Arkansas	1,121,386	73,137	6.5%
Faulkner County	41,540	1,840	4.4%
City of Conway	21,330	1,056	5.0%
Pulaski County	154,346	11,856	7.7%
City of Little Rock	79,284	6,220	7.8%
City of North Little Rock	25,804	2,920	11.3%

Source: 2007-2011 American Community Survey (ACS), percent with Disability is based on 2009-2011 ACS

Figure 3-7. Percent Minority Population

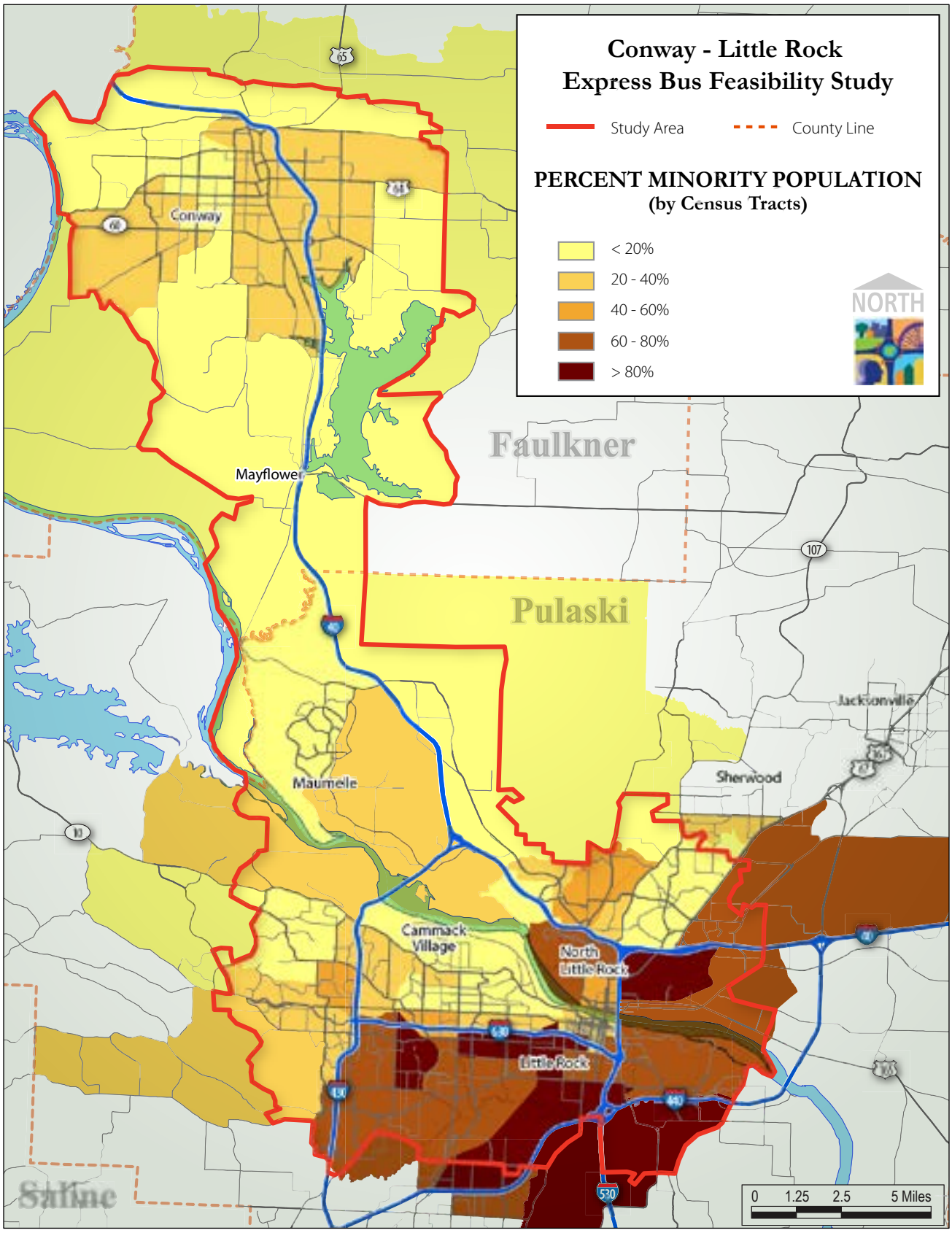


Figure 3-8. Percent of the Population Below Poverty Level

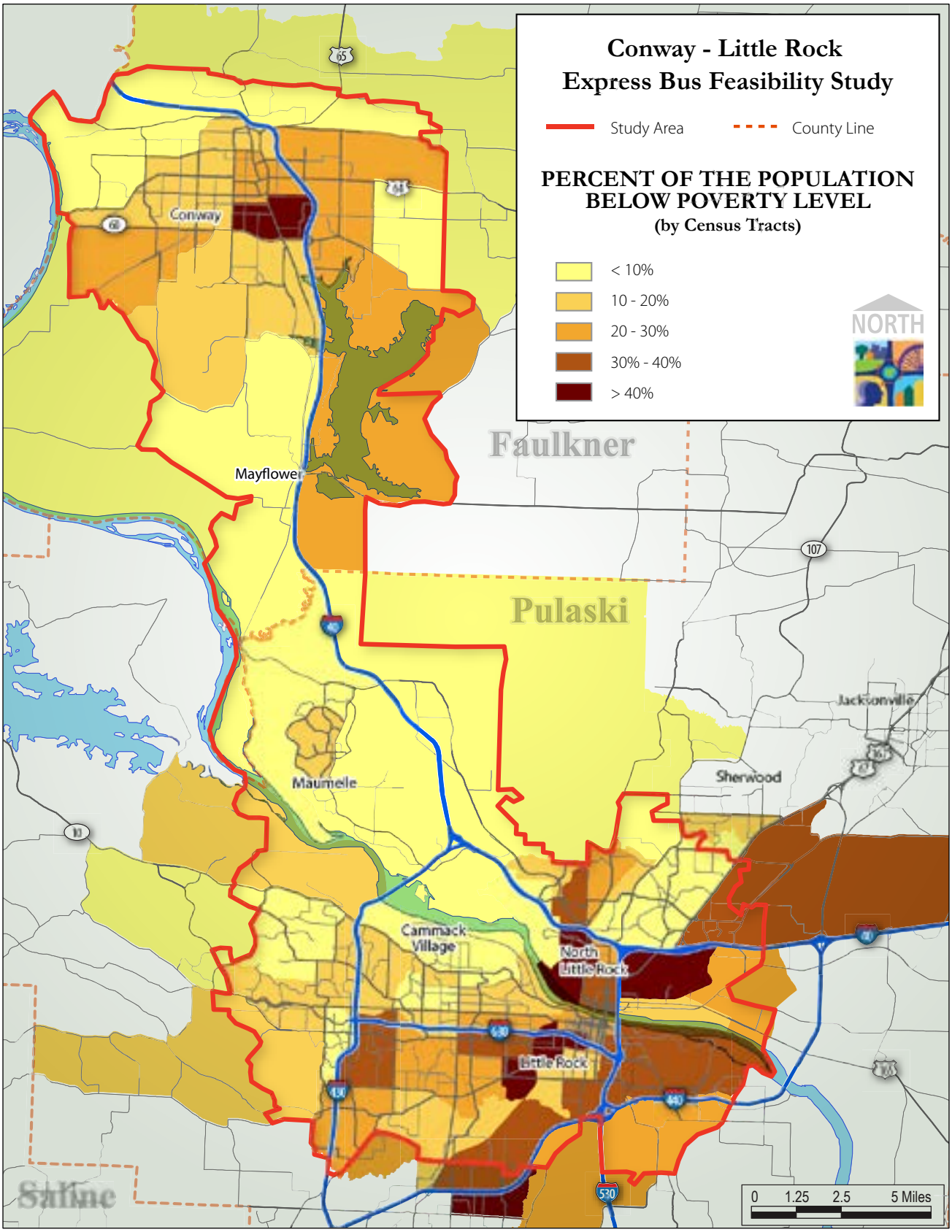


Figure 3-9. Percent of the Population over Age 65

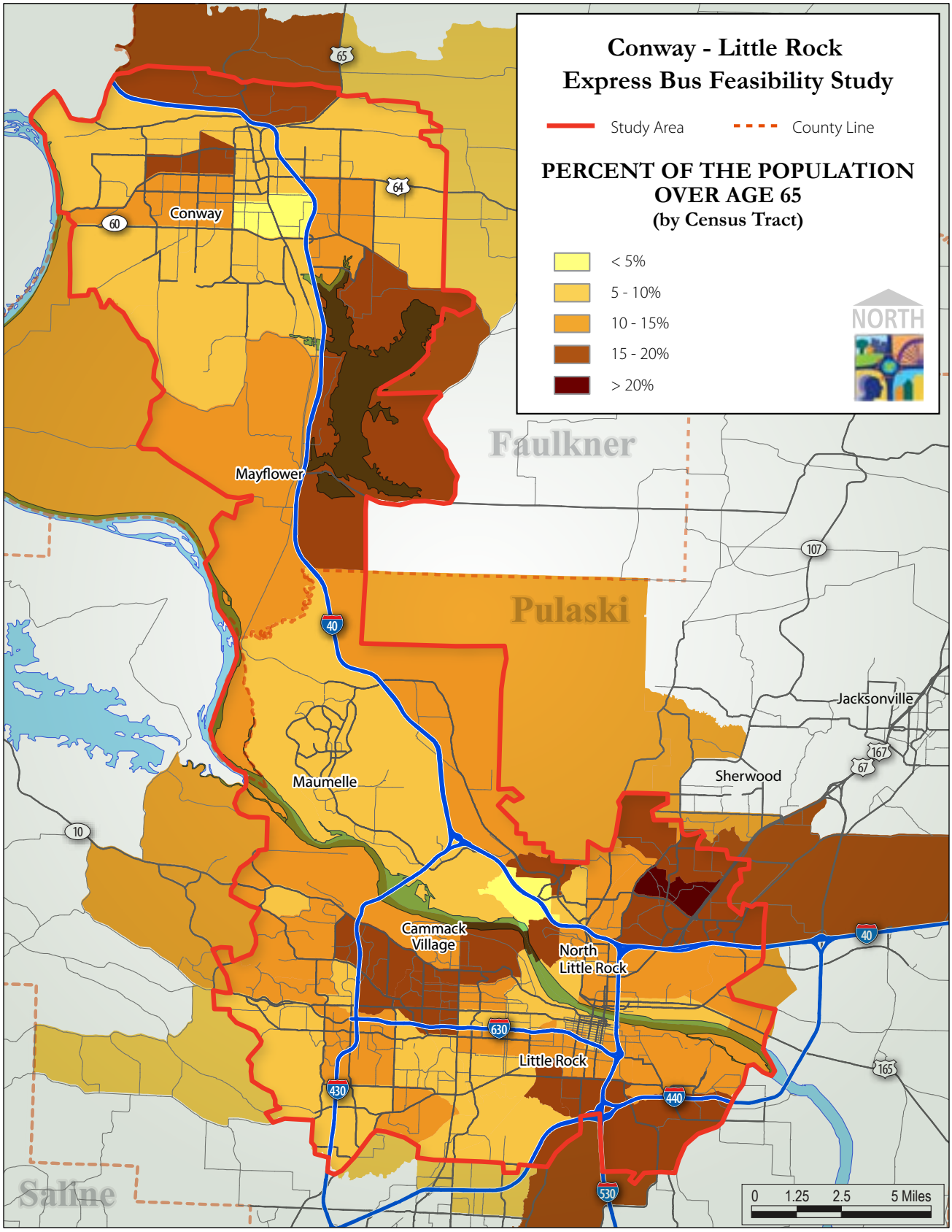


Figure 3-10. Percent of Housing Units with No Vehicle Available

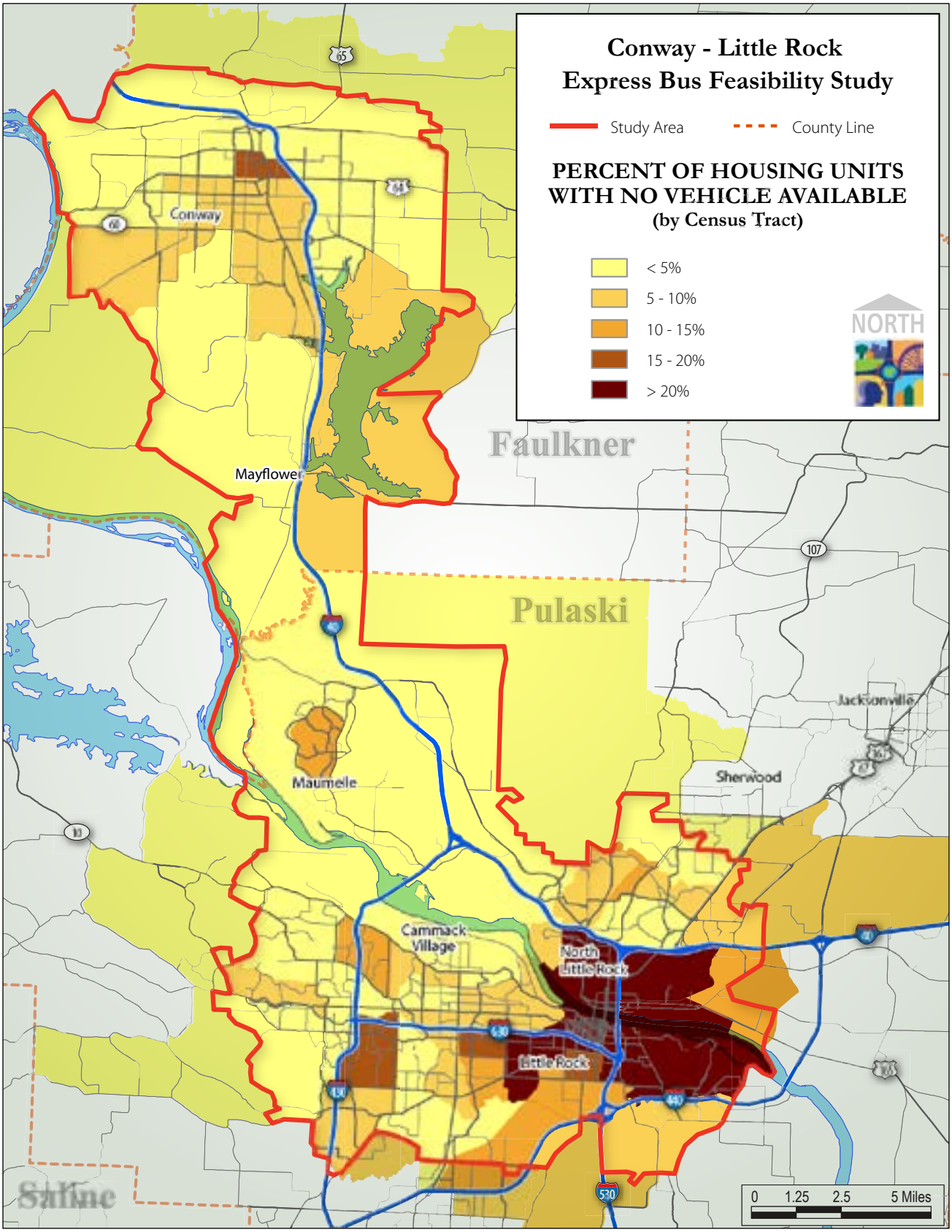


Table 3-7. Scoring Criteria for Transit Demand

Measure	Type of Measure (Proximity or Overlap)	Transit Demand: Suitability Weighting (0 to 10)
Population Density	Overlap	High (9)
Employment Density	Overlap	High (9)
Distance to Nearest Major Employer	Proximity	High (9)
Distance to Nearest Major Activity Center	Proximity	Medium (6)
Distance to Nearest Civic Institution	Proximity	Medium (6)
Percent Minority Population	Overlap	Low (3)
Percent Low Income Population	Overlap	Low (3)
Percent Population Over Age 65	Overlap	Low (3)
Percent of Housing Units with No Vehicle Available	Overlap	Low (3)

3.4 Transit Demand Analysis

Measures of the proximity and overlap were used to develop a composite "score" of potential demand for transit within the study area. A suitability analysis was used to develop the transit demand scores. The suitability analysis normalizes scores (0 to 100) for each measure, weights each measure, and then combines them into a composite score. TAZs are the unit of analysis. The end result is a suitability score and ranking of each TAZ potential for transit demand relative to every other TAZ in the study area. The scoring criteria for transit demand are summarized in Table 3-7, and the map showing the transit demand analysis in the study area is shown in Figure 3-11.

Figure 3-11. Transit Demand Suitability

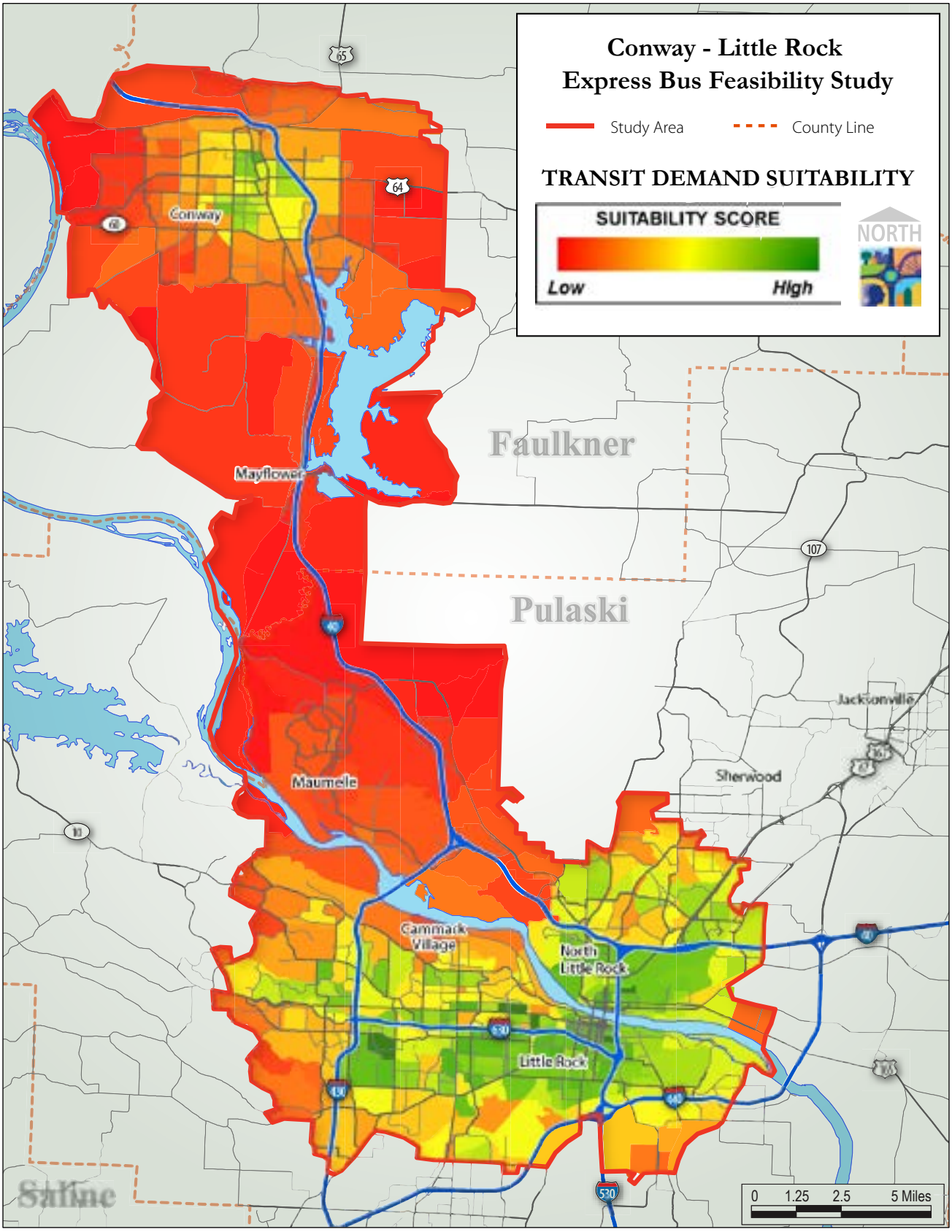


Table 3-8. County Workflow Patterns

		Origin				
		Faulkner		Pulaski		Total Jobs
Destination	Faulkner	34,395	66.8%	1,686	0.9%	36,081
	Pulaski	13,646	26.5%	171,129	94.4%	184,775
	Other	3,448	6.7%	8,522	4.7%	11.970
	Total	51,489	100.0%	181,337	100.0%	232,826

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Table 3-9. Mode to Work

Location	Total # of Workers 16 Years of Age and Older	Mode to Work (Percent of Workers)				
		Drove Alone	Carpooled	Public Transportation (excluding taxicab)	Bicycle	Walk
Faulkner County	51,489	80.3%	12.9%	0.2%	0.2%	2.1%
Pulaski County	181,337	84.5%	10.7%	1.2%	0.1%	1.5%

Source: U.S. Census Bureau, 2006-2010 American Community Survey, Table DP03

3.5 Commuting Patterns

The average amount of time a central Arkansas resident spends in travel has steadily increased, attributed to a range of factors, including cross-county commuting, continued suburban out-migration and an increase in congestion-induced delay. The vast majority of residents travel by car, which is the only viable option for most of central Arkansas.

3.5.1 County-to-County Workflow

While there is a significant amount of cross-county commuting in central Arkansas, there is very little reverse commuting from Pulaski to Faulkner County. A majority of work trips are focused on Pulaski County, which contains almost three-fourths of all employment in the region. According to 2006-2010 American Community Survey estimates as shown in Table 3-8, about 27 percent of all work trips originating from Faulkner County were destined for Pulaski County, while approximately one percent of the work trips from Pulaski County were destined to Faulkner County. An extremely high percent (94.4 percent) of work trips within Pulaski County have an origin and destination for employment within Pulaski County.

3.5.2 Modal Options

From a modal standpoint, there is very little redundancy in central Arkansas. The private automobile is by far the predominant form of transportation, and for the vast majority of residents it is the only viable form of transportation available to them. Of the total trips made in Faulkner and Pulaski Counties, at least 93 percent are made either as an auto-driver or an auto-passenger (see Table 3-9). Few residents currently use public transit, ride a bicycle or walk to work.

Table 3-10. Average Travel Time to Work (in Minutes)

Location	Total # of Workers 16 Years of Age and Older	Mode to Work (Percent of Workers)			
		All Modes	Drove Alone	Carpooled	Public Transportation (excluding taxicab)
Faulkner County	51,500	80.3%	12.9%	0.2%	0.2%
Pulaski County	181,300	84.5%	10.7%	1.2%	0.1%

Source: U.S. Census Bureau, 2006-2010 American Community Survey, Table DP03

3.5.3 Travel Time and Delay

Over the last two decades, central Arkansas' average commute time lengthened by nearly 3.5 minutes to 23.4 minutes, a 15 percent increase. This increase is attributed in large part to increasing distances between homes and jobs as more residents move further into suburban and exurban locations. Intuitively, average commute times in Faulkner County (24.8 minutes) are higher than in Pulaski County (19.2 minutes), indicative that many commuters from Faulkner County travel to Pulaski County for work (see Table 3-10).

From a current fixed-route transit standpoint, the average transit traveler is at a significant comparative disadvantage compared to their driver counterparts. In Pulaski County (the only county in central Arkansas with fixed-route transit service), the average travel time by public transportation (38 minutes) is nearly twice the travel time of driving.

3.6 Inter-district and Intra-district Trips

The study area was divided into eight distinct activity districts to evaluate travel patterns. Using morning peak hour data obtained from the CARTS travel demand model, all trips and home-based work (commute) trips within and between districts in the study area were calculated for both the 2010 and 2040 horizon years. Detailed results of the analysis are included in Tables 3-12 through 3-16 at the end of this section.

Figure 3-12 illustrates the trips within the study area to the districts. For home-based work trips in 2010 and in 2040, travel within the study area is most heavily oriented toward the Downtown/Central Little Rock District, the I-630 Medical District/Cammack Village District and the West Little Rock/Western Pulaski County District. For all trip purposes in 2010 and in 2040, travel within the study area is most heavily oriented toward the I-630 Medical District/Cammack Village District, the Downtown/Central Little Rock District and the North Little Rock District.

By 2040, no shift is anticipated to occur. The Conway/Central Faulkner County, I-630 Medical District/Cammack Village and Downtown/Central Little Rock Districts are each projected to attract over 12,000 home-based work trips by 2040.

Analysis of the inter-district and intra-district trip tables revealed that shorter distance intra-district trips within a single district outnumber inter-district trips in both home-based work trips and all trip purpose categories in both the Conway/Central Faulkner County District and the North Little Rock District. For example in 2040, approximately 49,493 of all trips in the Conway/Central Faulkner County District will remain within the district, and only 6,617 of all trips are expected to travel to other districts. For the North Little Rock District, 20,351 intra-district trips are anticipated in 2040, and only 13,347 of all trips are expected to travel to other districts.

Table 3-11. Significant District-to-District Movements for 2010 Home-Based Work Trips (Peak Hour)

Producing District (Origin)	Attracting District (Destination)	Estimated Home-Based Work Trips per Day (Peak Hour)
Conway/ Central Faulkner County	West Little Rock/Western Pulaski County	538
	North Little Rock	1,001
	I-630 Medical District/Cammack Village	851
	Downtown/Central Little Rock	907
Maumelle/ Northwest Pulaski County	Conway/Central Faulkner County	397
	West Little Rock/Western Pulaski County	568
	North Little Rock	1,192
	I-630 Medical District/Cammack Village	849
	Downtown/Central Little Rock	812
West Little Rock/ West Pulaski County	North Little Rock	590
	I-630 Medical District/Cammack Village	2,978
	Downtown/Central Little Rock	2,076
North Little Rock	Conway/Central Faulkner County	276
	Downtown/Central Little Rock	2,409
	I-630 Medical District/Cammack Village	1,531
	TOTAL	16,975

Source: CARTS Travel Demand Model

3.6.1 Trips to Major Attracting Districts

2010 and 2040 trips within the study area to four major attracting districts that serve as important regional centers for potential express bus service were also analyzed. These four major districts include the Conway/Central Faulkner County, North Little Rock, I-630 Medical District/Cammack Village and Downtown/Central Little Rock Districts.

Figure 3-13 shows the trips within the study area to the Conway/Central Faulkner County District. The largest amount of 2010 home-based work trip flows within the study area to the district (more than 275 trips) are from the Maumelle/Southern Faulkner County, Mayflower/Southern Faulkner County and North Little Rock Districts. For all trip purposes in 2010, the major travel flows (900 trips or more) from within the study area to the district are from those same districts. Only three percent (or 992) of all trip purposes to the district are moving north from the North Little Rock District. A large majority, or at least 85 percent, of the home-based and all trip purposes are remaining within the Conway/Central Faulkner County District.

Figure 3-14 shows the trips within the study area to the North Little Rock District. The largest amount of 2010 home-based work trip flows within the study area to the district (more than 1,000 trips) are from the Maumelle/Southern Faulkner County District and the Conway/Central Faulkner County District. For all trip purposes in 2010, the major travel flows (2,000 trips or more) from within the study area to the district are from the Maumelle/Southern Faulkner County District and the I-630 Medical District/ Cammack Village District. Only five percent (or 1,603) of all trip purposes to the district are moving south from the Conway/Central Faulkner County District.

Figure 3-15 shows the trips within the study area to the I-630 Medical District/Cammack Village District. The largest amount of 2010 home-based work trip flows within the study area to the district (more than 1,300 trips) is from the West Little Rock/Western Pulaski County District and the North Little Rock District. For all trip purposes in 2010, the major travel flows (4,000 trips or more) from within the study area to the district are from the West Little Rock/Western

Figure 3-12. Peak Hour Trips within Study Area to Districts

1 Conway/Central Faulkner County

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	7,611	1,291	31,361	5,060
2040	12,694	2,436	49,493	6,617
% Change	66.8%	88.7%	57.8%	30.8%

2 Mayflower / Southern Faulkner County

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	59	270	433	1,498
2040	113	397	1,434	2,876
% Change	91.5%	47.0%	231.2%	92.0%

3 Maumelle / Northwestern Pulaski County

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	1,336	1,348	6,092	4,210
2040	1,960	2,162	10,454	7,606
% Change	46.7%	60.4%	71.6%	80.7%

4 West Little Rock / Western Pulaski County

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	2,576	4,411	9,244	12,546
2040	2,415	5,127	9,801	14,347
% Change	-6.3%	16.2%	6.0%	14.4%

5 North Little Rock

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	4,367	4,225	19,620	10,850
2040	4,442	4,977	20,351	13,275
% Change	1.7%	17.8%	3.7%	22.4%

6 I-630 Medical District / Cammack Village

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	4,307	8,529	15,363	23,934
2040	4,101	8,575	15,311	25,619
% Change	-4.8%	0.5%	-0.3%	7.0%

7 Downtown / Central Little Rock

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	1,482	10,505	6,153	20,999
2040	1,738	10,322	6,698	21,067
% Change	17.3%	-1.7%	8.9%	0.3%

8 UALR / Southwest Little Rock

	HBW Trips (Intra-district)	HBW Trips from other Districts	All Trips (Intra-district)	All Trips from other Districts
2010	552	2,634	3,509	9,119
2040	585	2,864	3,632	9,856
% Change	6.0%	8.7%	3.5%	8.1%

Conway - Little Rock
Express Bus Feasibility Study

TRIPS WITHIN STUDY AREA FROM DISTRICTS

Study Area
County Line
HBW Home Based Work Trips
ALL TRIPS All trip purposes

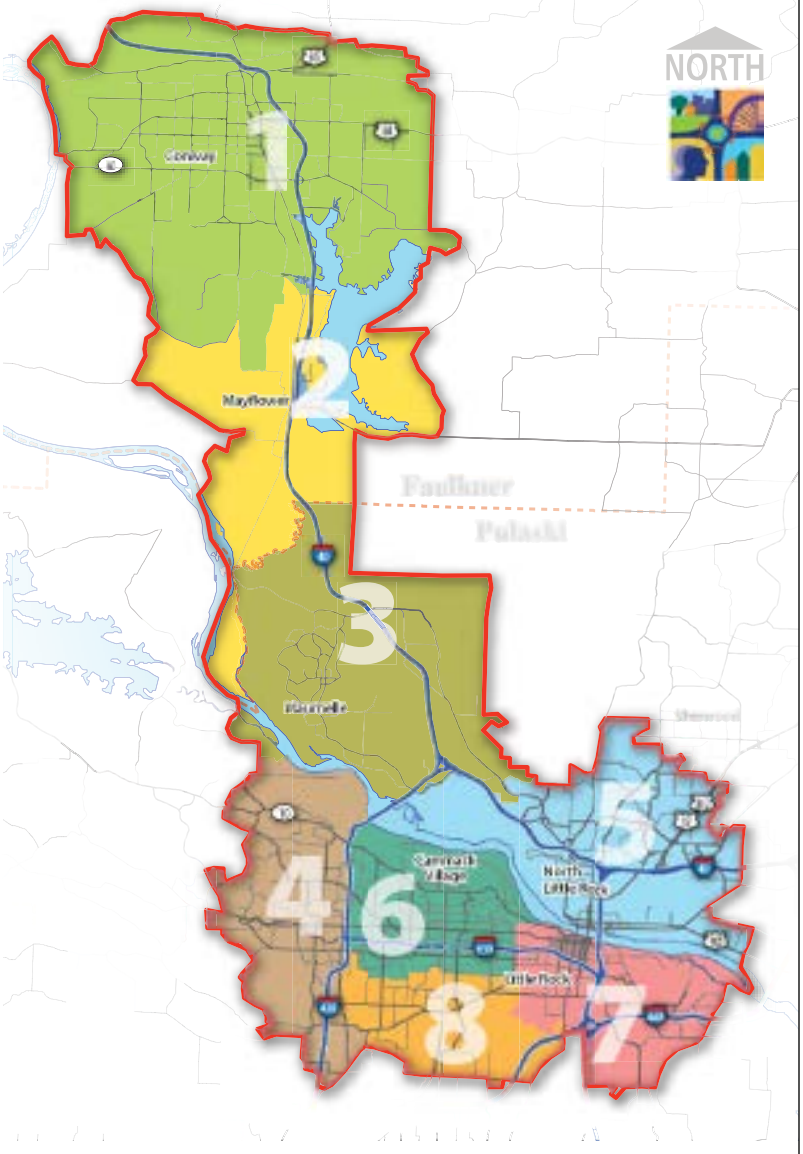


Figure 3-13. Peak Hour Trips within Study Area to Conway/Central Faulkner County District

1 Conway/Central Faulkner County

	HBW Trips (Intra-district)	HBW Trips (Inter-district)	All Trips (Intra-district)	All Trips (Inter-district)
2010	7,611	85%	31,361	86%
2040	12,694	84%	49,493	88%
% Change	66.8%		57.8%	

2 Mayflower / Southern Faulkner County

	HBW Trips to District 1	% of HBW Trips to District 1	All Trips to District 1	% of All Trips to District 1
2010	301	3%	1,355	4%
2040	917	6%	3,037	5%
% Change	204.7%		124.1%	

3 Maumelle / Northwestern Pulaski County

	HBW Trips to District 1	% of HBW Trips to District 1	All Trips to District 1	% of All Trips to District 1
2010	397	4%	1,787	5%
2040	696	5%	1,588	3%
% Change	75.3%		-11.1%	

4 West Little Rock / Western Pulaski County

	HBW Trips to District 1	% of HBW Trips to District 1	All Trips to District 1	% of All Trips to District 1
2010	130	1%	309	1%
2040	154	1%	333	1%
% Change	18.5%		7.8%	

5 North Little Rock

	HBW Trips to District 1	% of HBW Trips to District 1	All Trips to District 1	% of All Trips to District 1
2010	276	3%	992	3%
2040	403	3%	962	2%
% Change	46.0%		-3.0%	

6 I-630 Medical District / Cammack Village

	HBW Trips to District 1	% of HBW Trips to District 1	All Trips to District 1	% of All Trips to District 1
2010	118	1%	334	1%
2040	162	1%	376	1%
% Change	37.3%		12.6%	

7 Downtown / Central Little Rock

	HBW Trips to District 1	% of HBW Trips to District 1	All Trips to District 1	% of All Trips to District 1
2010	30	0%	189	1%
2040	50	0%	211	0%
% Change	66.7%		11.6%	

8 UALR / Southwest Little Rock

	HBW Trips to District 1	% of HBW Trips to District 1	All Trips to District 1	% of All Trips to District 1
2010	39	0%	94	0%
2040	54	0%	109	0%
% Change	38.5%		16.0%	

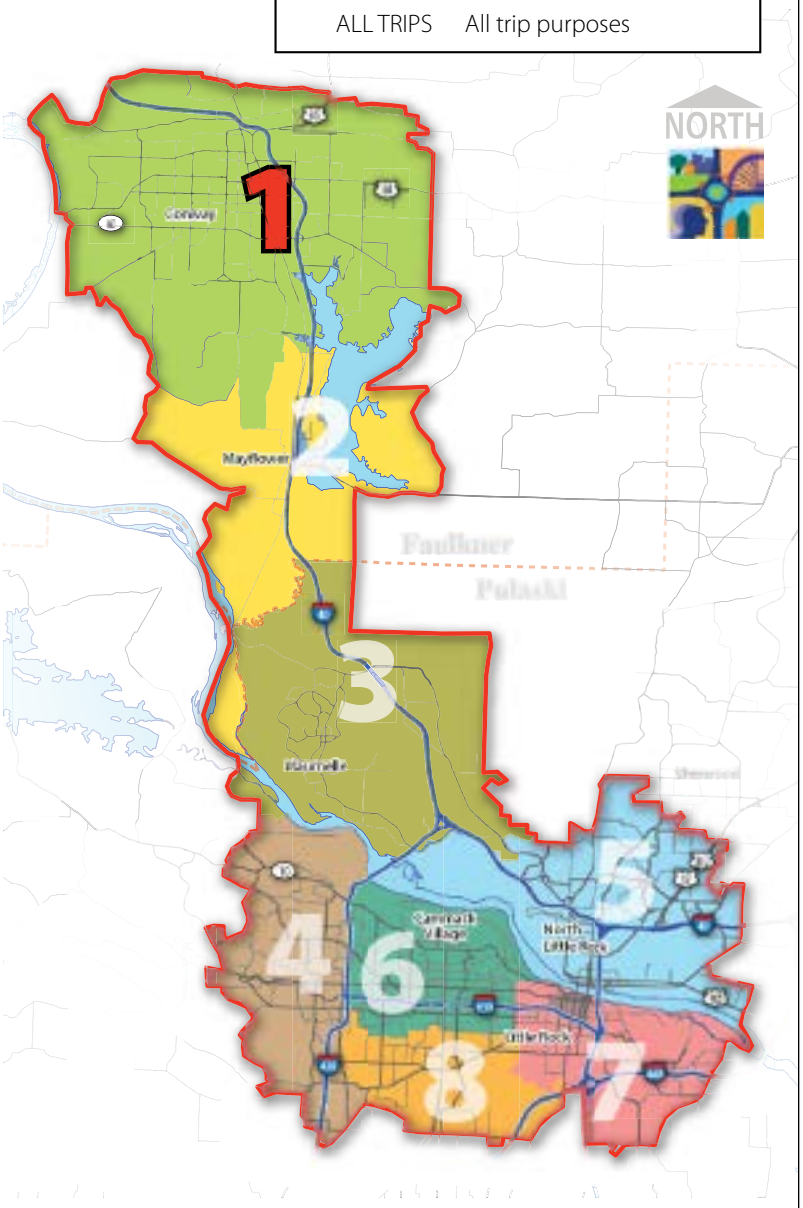


Figure 3-14. Peak Hour Trips within Study Area to the North Little Rock District

1 Conway/Central Faulkner County

	HBW Trips to District 5	% of HBW Trips to District 5	All Trips to District 5	% of All Trips to District 5
2010	1,001	12%	1,603	5%
2040	1,246	13%	2,263	7%
% Change	24.5%		41.2%	

2 Mayflower / Southern Faulkner County

	HBW Trips to District 5	% of HBW Trips to District 5	All Trips to District 5	% of All Trips to District 5
2010	177	2%	346	1%
2040	373	4%	766	2%
% Change	110.7%		121.4%	

3 Maumelle / Northwestern Pulaski County

	HBW Trips to District 5	% of HBW Trips to District 5	All Trips to District 5	% of All Trips to District 5
2010	1,192	14%	2,823	9%
2040	1,518	16%	4,084	12%
% Change	27.3%		44.7%	

4 West Little Rock / Western Pulaski County

	HBW Trips to District 5	% of HBW Trips to District 5	All Trips to District 5	% of All Trips to District 5
2010	590	7%	1,377	5%
2040	511	5%	1,287	4%
% Change	-13.4%		-6.5%	

5 North Little Rock

	HBW Trips (Intra-district)	% of HBW Trips (Intra-district)	All Trips (Intra-district)	All Trips (Intra-district)
2010	4,367	51%	19,620	64%
2040	4,442	47%	20,351	61%
% Change	1.7%		3.7%	

6 I-630 Medical District / Cammack Village

	HBW Trips to District 5	% of HBW Trips to District 5	All Trips to District 5	% of All Trips to District 5
2010	714	8%	2,095	7%
2040	713	8%	2,096	6%
% Change	-0.1%		0.0%	

7 Downtown / Central Little Rock

	HBW Trips to District 5	% of HBW Trips to District 5	All Trips to District 5	% of All Trips to District 5
2010	300	3%	1,906	6%
2040	363	4%	2,084	6%
% Change	21.0%		9.3%	

8 UALR / Southwest Little Rock

	HBW Trips to District 5	% of HBW Trips to District 5	All Trips to District 5	% of All Trips to District 5
2010	251	3%	701	2%
2040	254	3%	696	2%
% Change	1.2%		-0.7%	

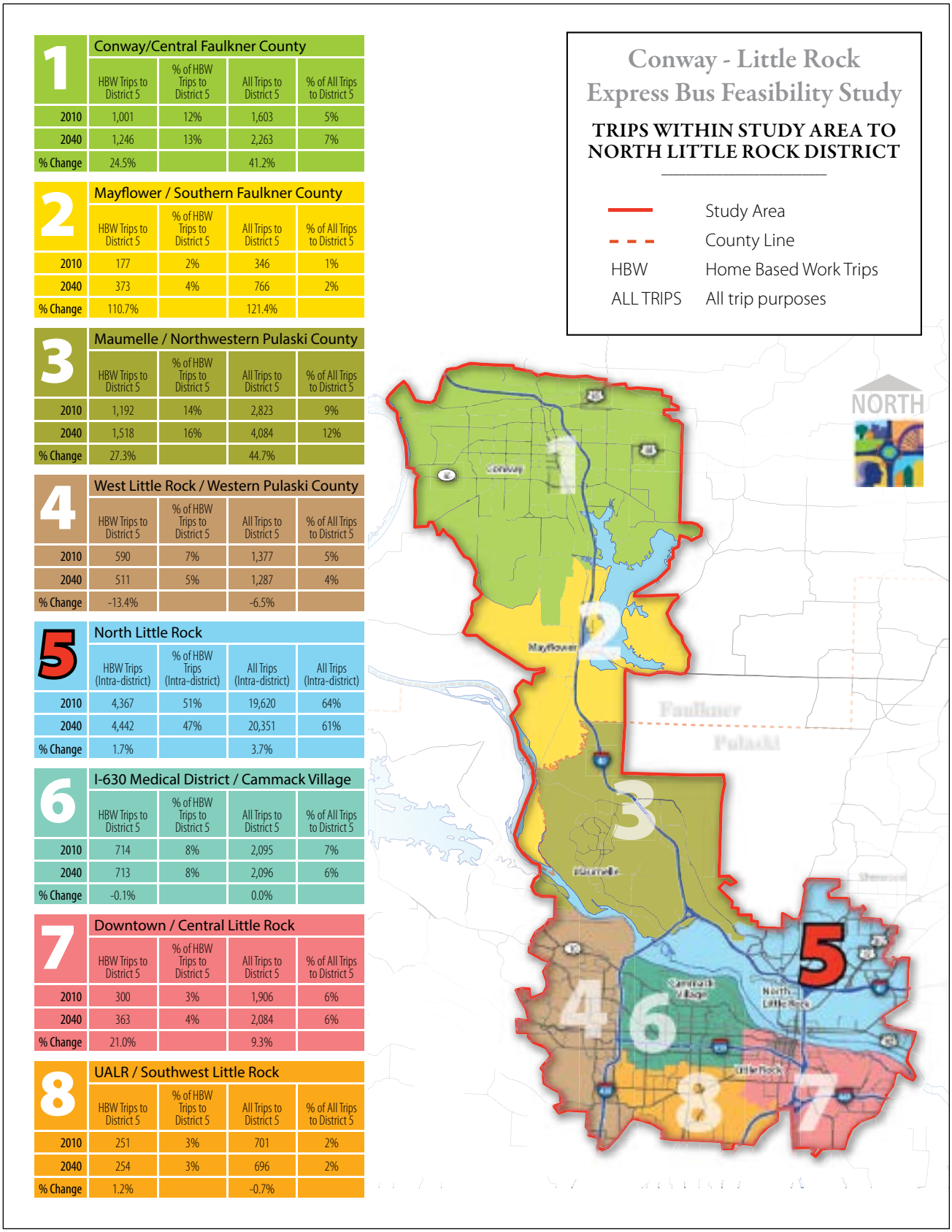


Figure 3-15. Peak Hour Trips within Study Area to the I-630 Medical District/Cammack Village District

1	Conway/Central Faulkner County			
	HBW Trips to District 6	% of HBW Trips to District 6	All Trips to District 6	% of All Trips to District 6
2010	851	7%	1,085	3%
2040	998	8%	1,417	3%
% Change	17.3%		30.6%	

2	Mayflower / Southern Faulkner County			
	HBW Trips to District 6	% of HBW Trips to District 6	All Trips to District 6	% of All Trips to District 6
2010	129	1%	191	0%
2040	264	2%	424	1%
% Change	104.7%		122.0%	

3	Maumelle / Northwestern Pulaski County			
	HBW Trips to District 6	% of HBW Trips to District 6	All Trips to District 6	% of All Trips to District 6
2010	849	7%	1,549	4%
2040	1,021	8%	2,295	6%
% Change	20.3%		48.2%	

4	West Little Rock / Western Pulaski County			
	HBW Trips to District 6	% of HBW Trips to District 6	All Trips to District 6	% of All Trips to District 6
2010	2,978	23%	8,694	22%
2040	2,464	19%	8,468	21%
% Change	-17.3%		-2.6%	

5	North Little Rock			
	HBW Trips to District 6	% of HBW Trips to District 6	All Trips to District 6	% of All Trips to District 6
2010	1,531	12%	3,706	9%
2040	1,526	12%	3,811	9%
% Change	-0.3%		2.8%	

6	I-630 Medical District / Cammack Village			
	HBW Trips (Intra-district)	% of HBW Trips (Intra-district)	All Trips (Intra-district)	All Trips (Intra-district)
2010	4,307	34%	15,363	39%
2040	4,101	32%	15,311	37%
% Change	-4.8%		-0.3%	

7	Downtown / Central Little Rock			
	HBW Trips to District 6	% of HBW Trips to District 6	All Trips to District 6	% of All Trips to District 6
2010	865	7%	4,189	11%
2040	1,022	8%	4,556	11%
% Change	18.2%		8.8%	

8	UALR / Southwest Little Rock			
	HBW Trips to District 6	% of HBW Trips to District 6	All Trips to District 6	% of All Trips to District 6
2010	1,326	10%	4,520	12%
2040	1,280	10%	4,647	11%
% Change	-3.5%		2.8%	

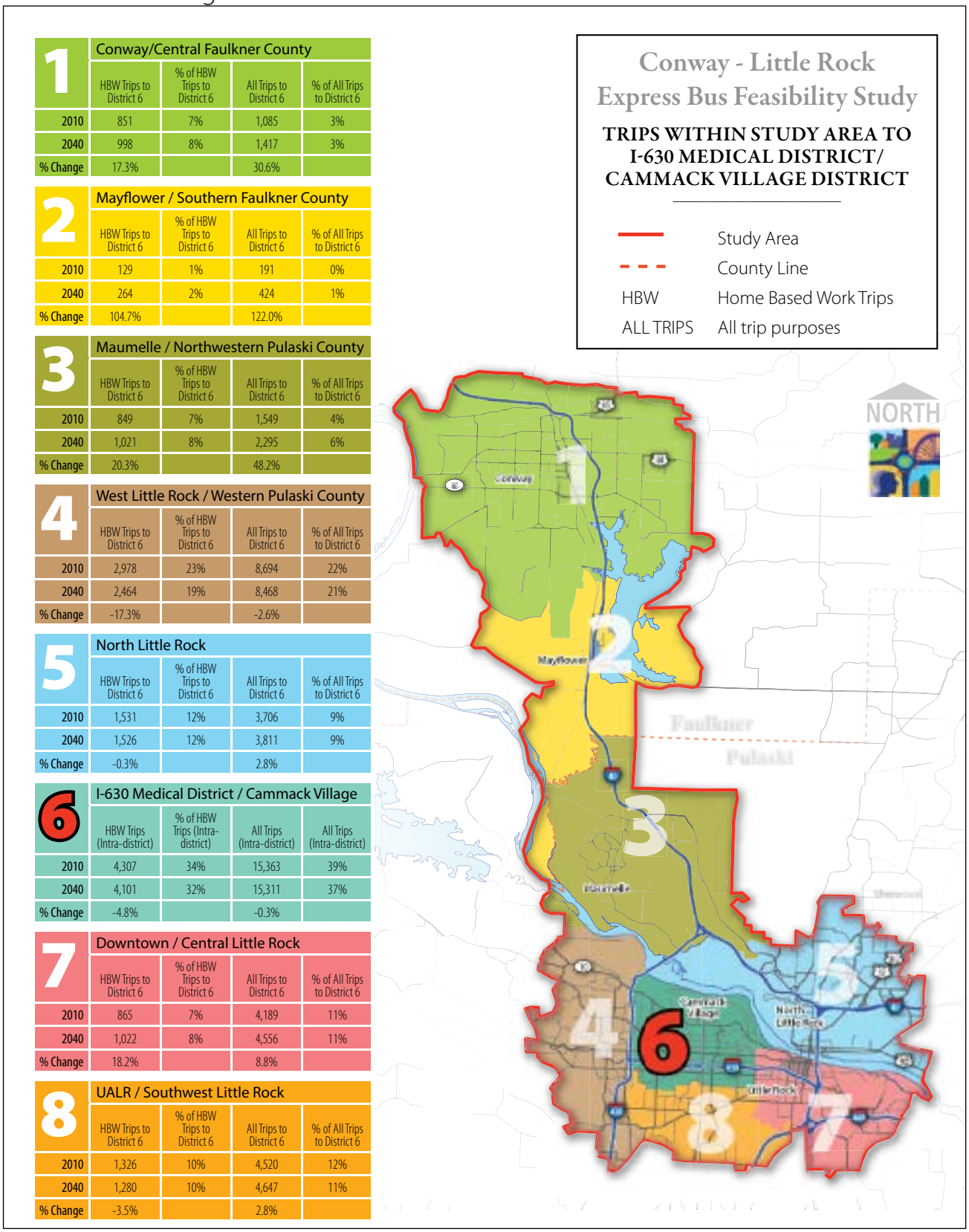


Figure 3-16. Peak Hour Trips within Study Area to Downtown/Central Little Rock District

1 Conway/Central Faulkner County

	HBW Trips to District 7	% of HBW Trips to District 7	All Trips to District 7	% of All Trips to District 7
2010	907	8%	1,064	4%
2040	1,029	9%	1,286	5%
% Change	13.5%		20.9%	

2 Mayflower / Southern Faulkner County

	HBW Trips to District 7	% of HBW Trips to District 7	All Trips to District 7	% of All Trips to District 7
2010	135	1%	176	1%
2040	271	2%	365	1%
% Change	100.7%		107.4%	

3 Maumelle / Northwestern Pulaski County

	HBW Trips to District 7	% of HBW Trips to District 7	All Trips to District 7	% of All Trips to District 7
2010	812	7%	1,177	4%
2040	936	8%	1,478	5%
% Change	15.3%		25.6%	

4 West Little Rock / Western Pulaski County

	HBW Trips to District 7	% of HBW Trips to District 7	All Trips to District 7	% of All Trips to District 7
2010	2,076	17%	3,813	14%
2040	1,728	14%	3,474	13%
% Change	-16.8%		-8.9%	

5 North Little Rock

	HBW Trips to District 7	% of HBW Trips to District 7	All Trips to District 7	% of All Trips to District 7
2010	2,409	20%	5,413	20%
2040	2,399	20%	5,408	19%
% Change	-0.4%		-0.1%	

6 I-630 Medical District / Cammack Village

	HBW Trips to District 7	% of HBW Trips to District 7	All Trips to District 7	% of All Trips to District 7
2010	3,023	25%	6,717	25%
2040	2,864	24%	6,496	23%
% Change	-5.3%		-3.3%	

7 Downtown / Central Little Rock

	HBW Trips (Intra-district)	% of HBW Trips (Intra-district)	All Trips (Intra-district)	All Trips (Intra-district)
2010	1,482	12%	6,153	23%
2040	1,738	14%	6,698	24%
% Change	17.3%		8.9%	

8 UALR / Southwest Little Rock

	HBW Trips to District 7	% of HBW Trips to District 7	All Trips to District 7	% of All Trips to District 7
2010	1,143	10%	2,638	10%
2040	1,093	9%	2,561	9%
% Change	-4.4%		-2.9%	

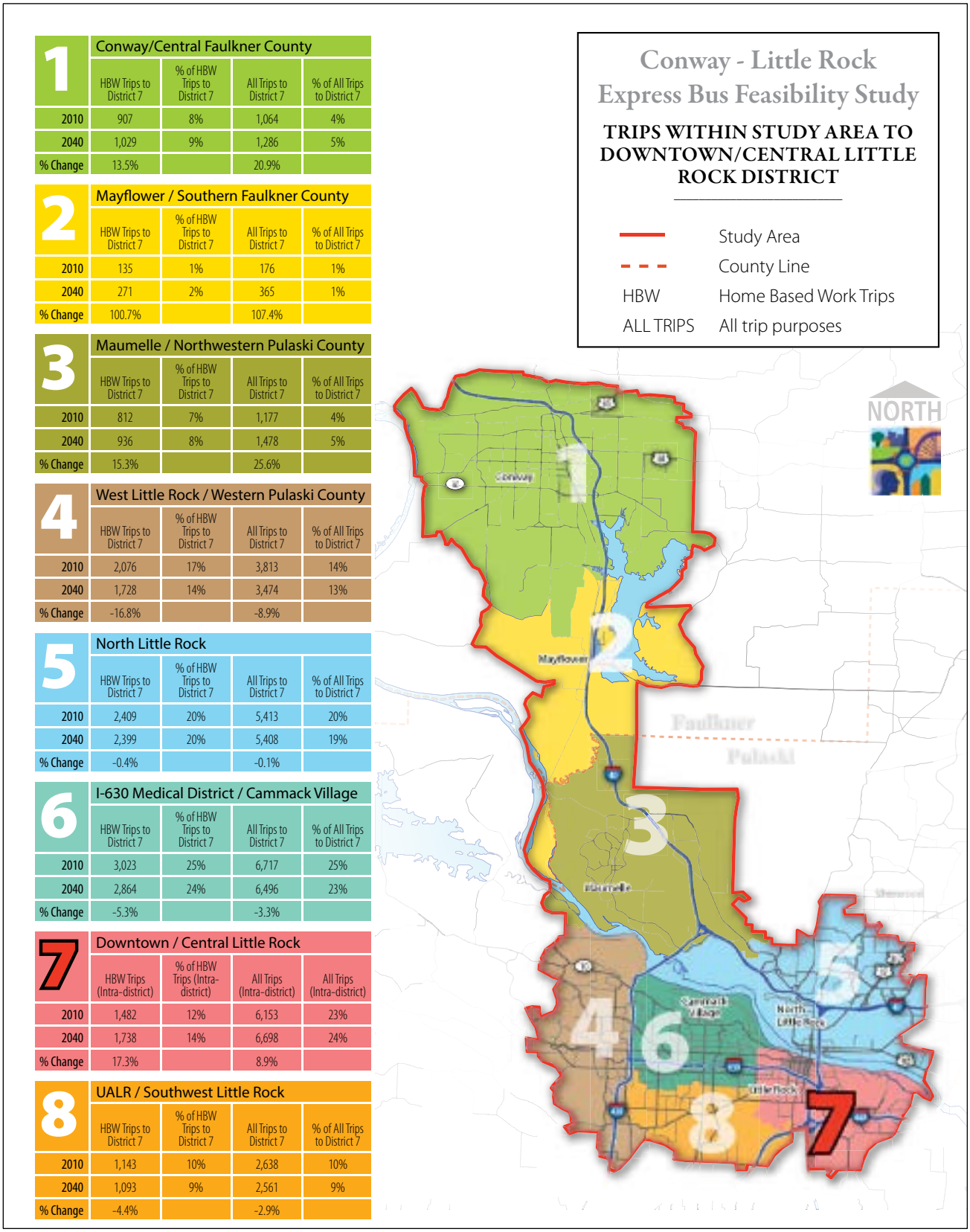


Table 3-12. 2010 Distribution of Inter-District Trips - Home-Based Work Trips (Peak Hour)

Producing District (From)	Attracting District (To)								
	Conway/Central Faulkner County	Mayflower/ Southern Faulkner County	Maumelle/ Northwestern Pulaski County	West Little Rock/Western Pulaski County	North Little Rock	I-630 Medical District/ Cammack Village	Downtown/ Central Little Rock	UALR/ Southwest Little Rock	Total Trips
Conway/Central Faulkner County	7,611	175	415	538	1,001	851	907	203	11,701
Mayflower/Southern Faulkner Co..	301	59	84	83	177	129	135	32	999
Maumelle/Northwestern Pulaski Co..	397	43	1,336	568	1,192	849	812	194	5,391
West Little Rock/Western Pulaski Co..	130	11	177	2,576	590	2,978	2,076	678	9,216
North Little Rock	276	26	435	638	4,367	1,531	2,409	400	10,081
I-630 Medical District/ Cammack Village	118	10	157	1,660	714	4,307	3,023	870	10,858
Downtown/Central Little Rock	30	2	33	310	300	865	1,482	257	3,278
UALR/Southwest Little Rock	39	3	47	615	251	1,326	1,143	552	3,977
Intra-district Trips*	7,611	59	1,336	2,576	4,367	4,307	1,482	552	22,288
Destine Trips	1,291	270	1,348	4,411	4,225	8,529	10,505	2,634	33,213
Total Trips	8,902	329	2,684	6,987	8,591	12,835	11,986	3,186	55,501

**Intra-district trips are shorter-distance trips that occur within a district*
Source: CARTS Travel Demand Model

Table 3-13. 2010 Distribution of Inter-District Trips - All Trip Purposes (Peak Hour)

Producing District (From)	Attracting District (To)								
	Conway/Central Faulkner County	Mayflower/ Southern Faulkner County	Maumelle/ Northwestern Pulaski County	West Little Rock/Western Pulaski County	North Little Rock	I-630 Medical District/ Cammack Village	Downtown/ Central Little Rock	UALR/ Southwest Little Rock	Total Trips
Conway/Central Faulkner County	31,361	794	900	718	1,603	1,085	1,064	264	37,789
Mayflower/Southern Faulkner Co..	1,355	433	227	136	346	191	176	46	2,908
Maumelle/Northwestern Pulaski Co..	1,787	345	6,092	1,081	2,823	1,549	1,177	369	15,223
West Little Rock/Western Pulaski Co..	309	56	516	9,244	1,377	8,694	3,813	2,359	26,369
North Little Rock	992	191	1,635	1,415	19,620	3,706	5,413	1,036	34,008
I-630 Medical District/ Cammack Village	334	61	539	5,637	2,095	15,363	6,717	3,681	34,427
Downtown/Central Little Rock	189	34	244	1,722	1,906	4,189	6,153	1,364	15,800
UALR/Southwest Little Rock	94	17	148	1,837	701	4,520	2,638	3,509	13,465
Intra-district Trips*	31,361	433	6,092	9,244	19,620	15,363	6,153	3,509	91,774
Destine Trips	5,060	1,498	4,210	12,546	10,850	23,934	20,999	9,119	88,215
Total Trips	36,421	1,931	10,302	21,791	30,469	39,297	27,151	12,627	179,990

**Intra-district trips are shorter-distance trips that occur within a district*
Source: CARTS Travel Demand Model

Table 3-14. 2040 Distribution of Inter-District Trips - Home-Based Work Trips (Peak Hour)

Producing District (From)	Attracting District (To)								
	Conway/Central Faulkner County	Mayflower/ Southern Faulkner County	Maumelle/ Northwestern Pulaski County	West Little Rock/Western Pulaski County	North Little Rock	I-630 Medical District/ Cammack Village	Downtown/ Central Little Rock	UALR/ Southwest Little Rock	Total Trips
Conway/Central Faulkner County	12,694	269	650	689	1,246	998	1,029	261	17,836
Mayflower/Southern Faulkner Co..	917	113	219	183	373	264	271	70	2,409
Maumelle/Northwestern Pulaski Co..	696	66	1,960	741	1,518	1,021	936	256	7,194
West Little Rock/Western Pulaski Co..	154	11	223	2,415	511	2,464	1,728	639	8,147
North Little Rock	403	33	709	693	4,442	1,526	2,399	416	10,621
I-630 Medical District/ Cammack Village	162	11	232	1,738	713	4,101	2,864	905	10,726
Downtown/Central Little Rock	50	3	59	405	363	1,022	1,738	317	3,958
UALR/Southwest Little Rock	54	4	70	678	254	1,280	1,093	585	4,018
Intra-district Trips*	12,694	113	1,960	2,415	4,442	4,101	1,738	585	28,048
Destine Trips	2,436	397	2,162	5,127	4,977	8,575	10,322	2,864	36,860
Total Trips	15,129	510	4,122	7,542	9,420	12,677	12,059	3,449	64,909

**Intra-district trips are shorter-distance trips that occur within a district*
Source: CARTS Travel Demand Model

Table 3-15. 2040 Distribution of Inter-District Trips - All Trip Purposes (Peak Hour)

Producing District (From)	Attracting District (To)								
	Conway/Central Faulkner County	Mayflower/ Southern Faulkner County	Maumelle/ Northwestern Pulaski County	West Little Rock/Western Pulaski County	North Little Rock	I-630 Medical District/ Cammack Village	Downtown/ Central Little Rock	UALR/ Southwest Little Rock	Total Trips
Conway/Central Faulkner County	49,493	1,901	2,010	1,045	2,263	1,417	1,286	365	59,779
Mayflower/Southern Faulkner Co..	3,037	1,434	748	324	766	424	365	108	7,205
Maumelle/Northwestern Pulaski Co..	1,588	498	10,454	1,658	4,084	2,295	1,478	580	22,636
West Little Rock/Western Pulaski Co..	333	75	774	9,801	1,287	8,468	3,474	2,459	26,671
North Little Rock	962	239	2,611	1,527	20,351	3,811	5,408	1,087	35,996
I-630 Medical District/ Cammack Village	376	86	844	5,850	2,096	15,311	6,496	3,710	34,769
Downtown/Central Little Rock	211	55	390	1,924	2,084	4,556	6,698	1,547	17,465
UALR/Southwest Little Rock	109	23	230	2,020	696	4,647	2,561	3,632	13,918
Intra-district Trips*	49,493	1,434	10,454	9,801	20,351	15,311	6,698	3,632	117,174
Destine Trips	6,617	2,876	7,606	14,347	13,275	25,619	21,067	9,856	101,264
Total Trips	56,109	4,310	18,060	24,149	33,626	40,929	27,766	13,489	218,438

**Intra-district trips are shorter-distance trips that occur within a district*
Source: CARTS Travel Demand Model

Pulaski County District and the UALR/Southwest Little Rock District. Only three percent (or 1,085) of all trip purposes to the district are moving south from the Conway/Central Faulkner County District.

Figure 3-16 shows the trips within the study area to the Downtown/Central Little Rock District. The largest amount of 2010 home-based work trip flows within the study area to the district (more than 2,000 trips) are from the I-630 Medical District/Cammack Village District and the North Little Rock District. For all trip purposes in 2010, the major travel flows (4,000 trips or more) from within the study area to the district are also from the I-630 Medical District/ Cammack Village District and the North Little Rock District. Only four percent (or 1,064) of all trip purposes to the district are moving south from the Conway/Central Faulkner County District.

3.6.2 Significant District-to-District Movements for 2010 Home-Based Work Trips

The most significant district-to-district movements are shown in Table 3-11. A total of approximately 16,975 home-based work trips link the areas of Conway, Maumelle/Northwest Pulaski County, North Little Rock and Little Rock based on the model data. A subset of these trips could be accommodated by express bus service. More refined estimates of ridership will be developed in the Transit Operating Plan for the proposed service (shown in another chapter of this report). The revised estimates will be based on the experience of peer systems, the transit ridership characteristics in central Arkansas, and the results of the Conway – Little Rock Express Bus Feasibility Study Survey from October 2013 (discussed in the next section).

3.7 Conway-Little Rock Express Bus Feasibility Study Online Survey

3.7.1 Survey Overview

An online public opinion survey was developed to gauge the level of interest in express bus service for residents that travel between the cities of Conway, Little Rock and North Little Rock, and to what extent an express bus service could be utilized between major home and work locations. The survey was first deployed by Metroplan staff at Ecofest in Conway on September 14, 2013, which generated 74 participants, and then the survey was posted online on the Metroplan website. Metroplan sent out a press release on September 25, 2013, and the online survey was deployed and monitored by Metroplan during the month of October 2013. The survey was posted on the Metroplan Facebook page, Twitter account, and was published in the Arkansas Times, Arkansas Democrat Gazette, on websites for KATV, Fox 16 News, University of Central Arkansas and UALR Public Radio, and was distributed via email to major employers in the region.

The online survey closed on October 31, 2013 with a total of 669 responses. All responses were confidential. The locations of the respondents were varied and included cities, such as Greenbrier and Morrilton, which were not identified within the immediate study area. This demonstrates a degree of support for public transportation between Conway and Little Rock in a wider region. The complete results of the public opinion survey are found in the next section.

3.7.2 Online Survey Results

- **44%** of the total number of all trips taken was for **work**.
- 76% of all survey participants indicated taking trips for work; of these responses:
  - 80% indicated five or more trips per week
  - 12% indicated three or four trips per week
  - 8% indicated one or two trips per week

Question 1: During a typical week, how many days do you travel between Conway, Little Rock, and/or North Little Rock for each of these **reasons**?

- Work
- Shopping & Entertainment
- School
- Services
- Other

Question 1 helps to determine trip purpose and assumes each response indicates a round trip.

- Only **9%** of participants indicated trips for **school,** of these responses:
  - 19% indicated five or more trips per week
  - 25% indicated three or four trips per week
  - 42% indicated one or two trips per week

Only **17%** of participants indicated trips made for **services**, and 21% indicated **other** trips. The majority of those who selected these types of trips only indicated making them one or two days a week.

- **28%** of the total number of trips were **shopping/ entertainment trips**
- **48%** of all survey participants indicated taking trips for shopping/ entertainment; of these responses:
  - 2% indicated five or more trips per week
  - 14% indicated three or four trips per week
  - **84%** indicated one or two trips per week

Question 2: What **times** do you typically:

- **Depart** for work/school?
- **Arrive** at work/school?
- Leave from **work/school?**
- Arrive home **from** work/school?

Almost two thirds of commuters **leave** their home between 6:00-7:30 AM. Roughly the **same** number commuters **return** home between 4:00-5:30 PM (see survey responses in Tables 3-16 and 3-17).

Table 3-16. Journey Home from Work/School

	% of Population that Leaves Destination at Specified Time	% of Population that Arrives Home at Specified Time
Before 8:59 AM	3.0%	2.2%
9:00 AM-3:59 PM	19.6%	8.0%
4:00-4:29 PM	17.2%	6.4%
4:30-4:59 PM	18.6%	9.7%
5:00-5:29 PM	24.7%	17.9%
5:30-5:59 PM	7.4%	20.7%
6:00-6:59 PM	5.1%	27.4%
After 7:00 PM	4.3%	7.6%

Table 3-17. Journey to Work/School Destination

	% of Population that Leaves Home at Specified Time	% of Population that Arrives at Destination at Specified Time
Before 6:00 AM	8.6%	1.8%
6:00-6:29 AM	19.7%	3.7%
6:30-6:59 AM	27.2%	10.6%
7:00-7:29 AM	19.9%	16.3%
7:30-7:59 AM	9.9%	22.9%
8:00-8:29 AM	7.5%	16.1%
8:30-8:59 AM	1.5%	10.6%
9:00 AM-3:59 PM	2.5%	11.1%
4:00-5:59 PM	2.1%	0.2%
After 6:00 PM	1.2%	1.8%

Question 3: What **days** of the **week** is your commute?

- **68%** said **weekdays**
- 8% said weekends
- 20% said various days of the week
- 4% said other

Question 4: Do you **pick-up** or drop off **children/family** members or run other **errands** during your commute?

- 22% said yes
- **73%** said **no**
- 5% said N/A or left blank

Questions 5, 6 and 7 refer to the maps in Figures 3-17 through 3-22.

Question 5: What are the **zip codes** of your **home** location and **work** location?

- See Figure 3-17

Question 6: What is the **closest** major **intersection** to your **home?**

- See Figures 3-18 and 3-_21

Question 7: What is the **closest** major **intersection** to your most frequented commuting **destination?**

- See Figures 3-19, 3-20, and 3-22

Figure 3-17. Home and Work Locations

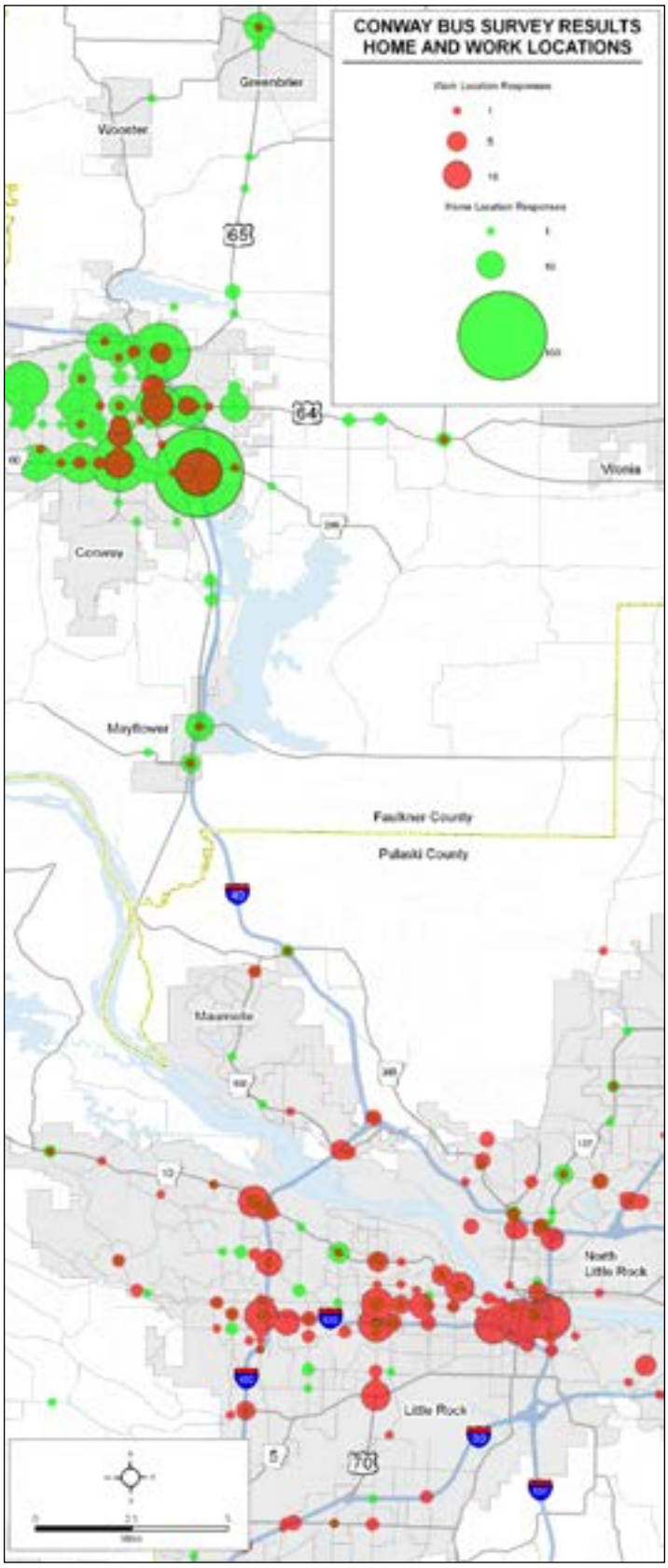


Figure 3-18. Home Locations in the Little Rock Area

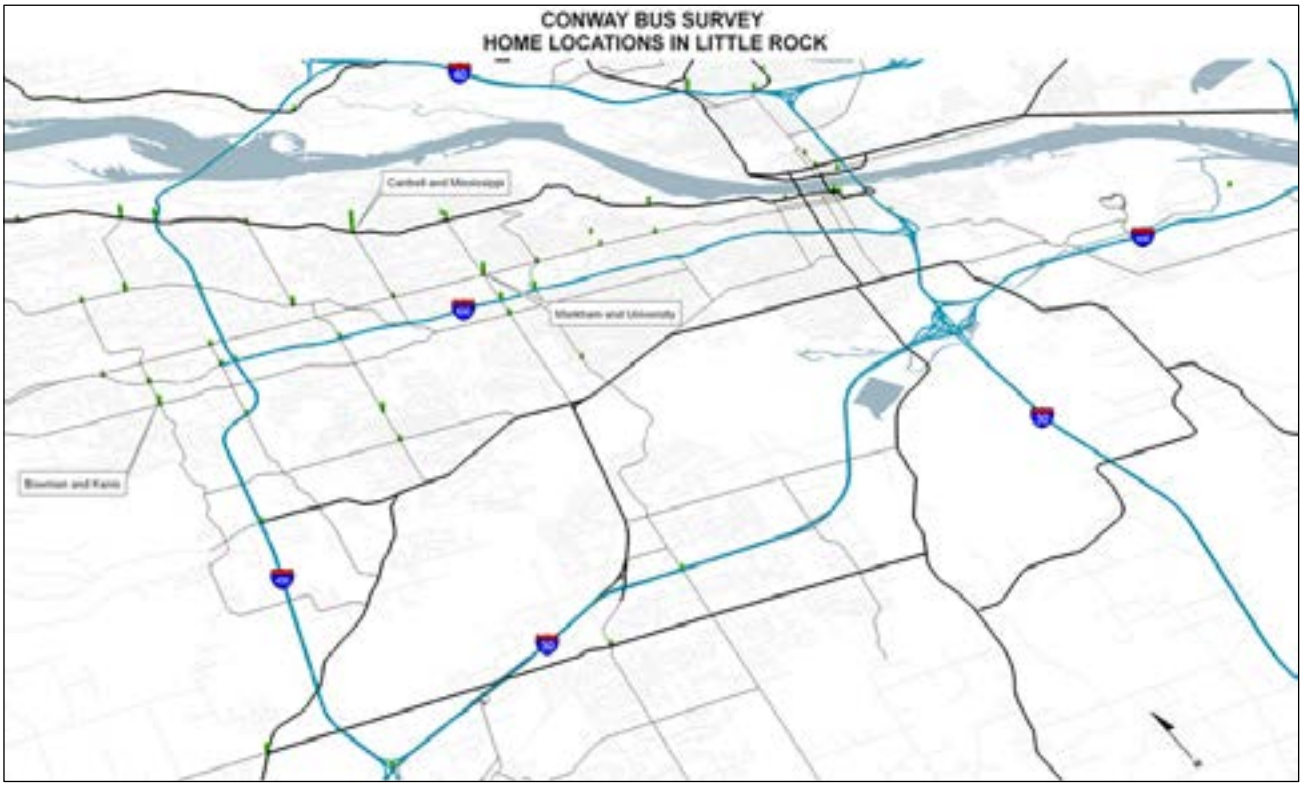


Figure 3-19. Work Locations in the Little Rock Area

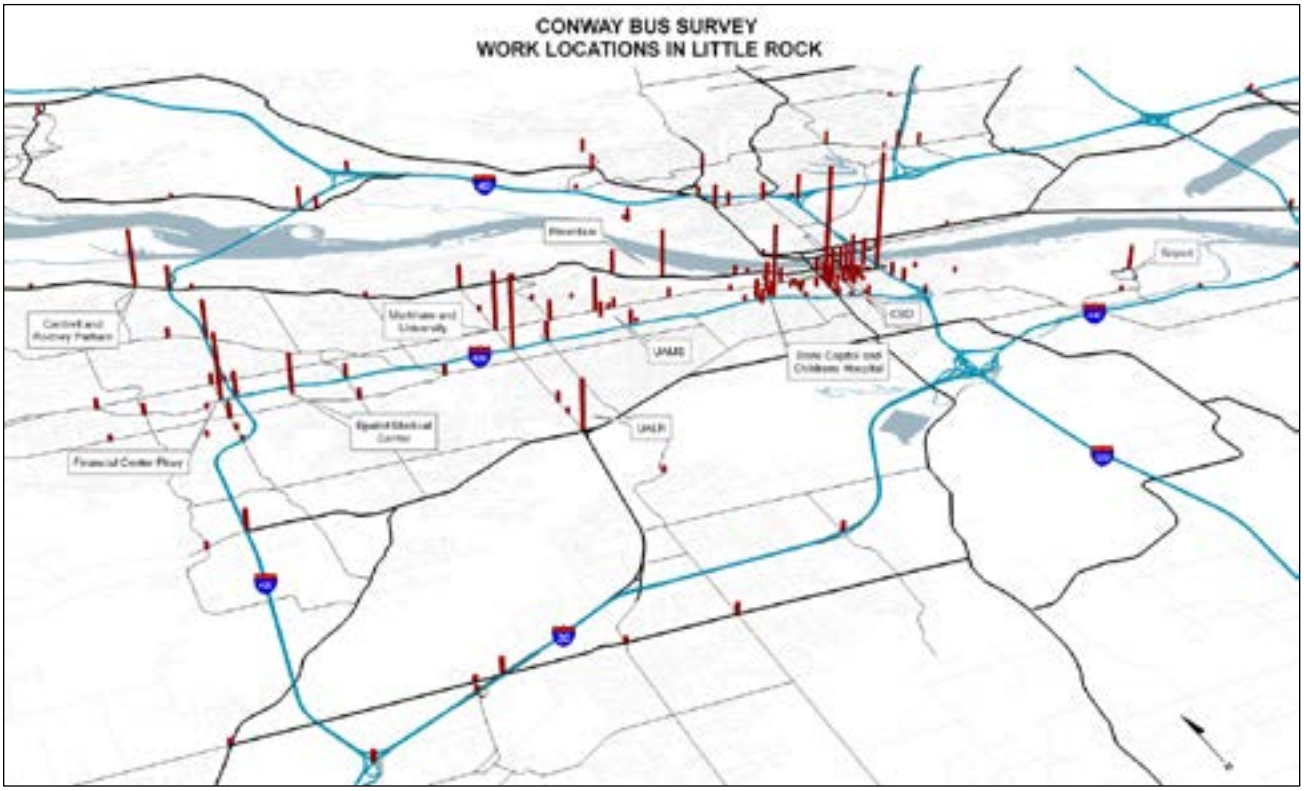


Figure 3-20. Work Locations in the Little Rock Central Business District

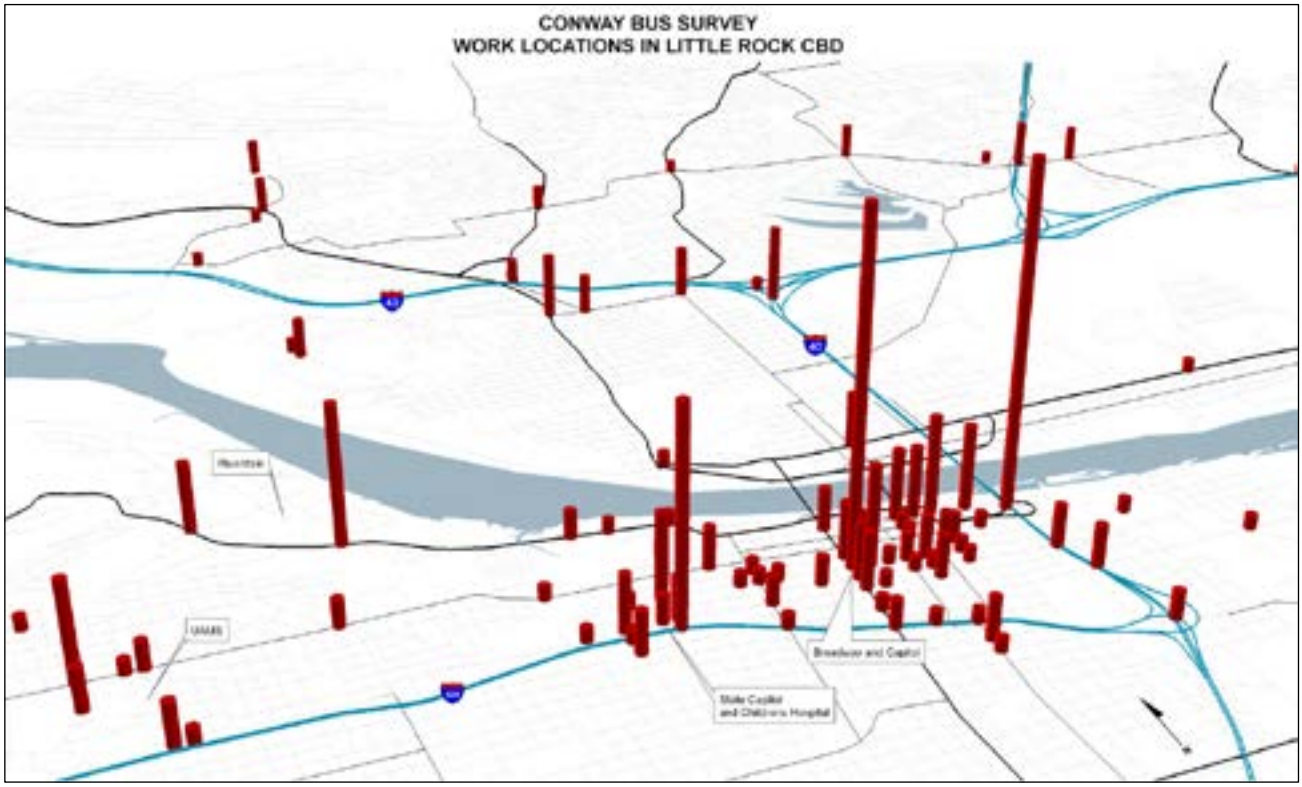


Figure 3-21. Home Locations in Conway

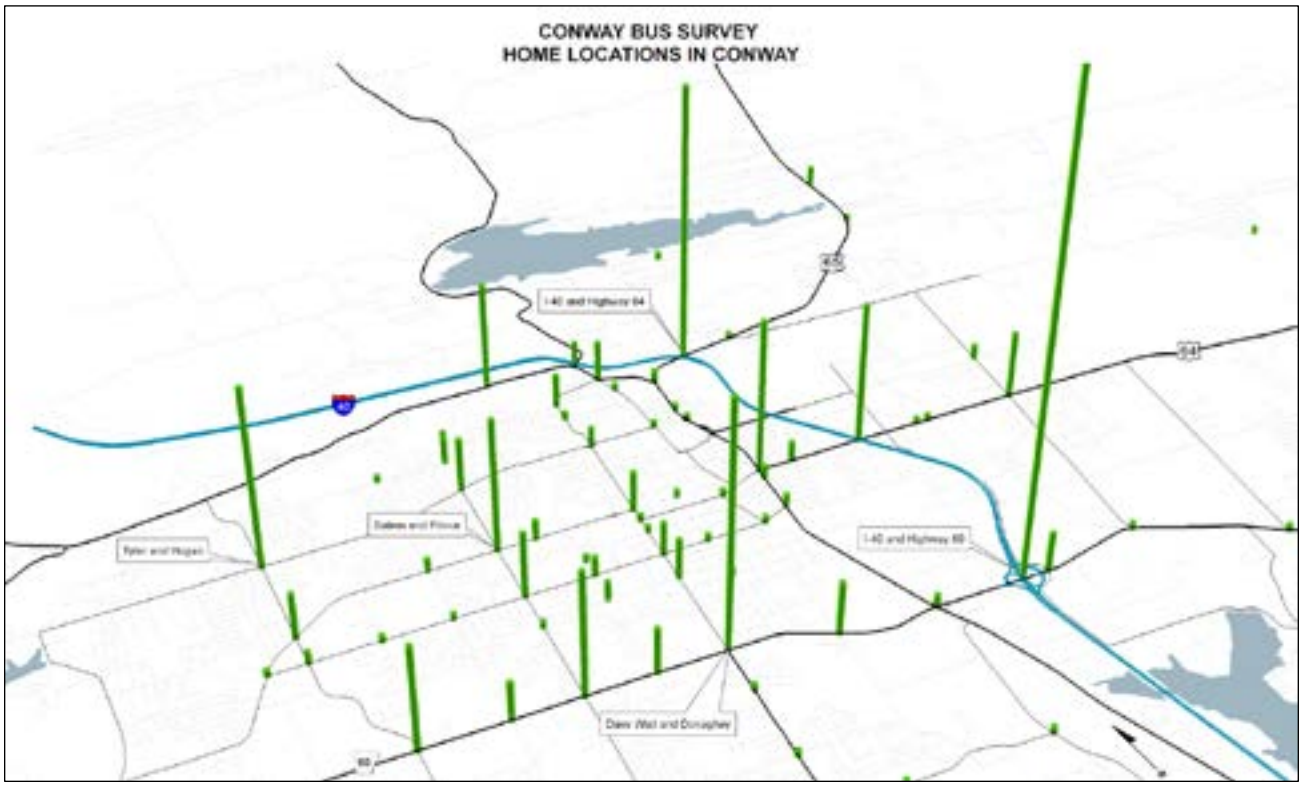
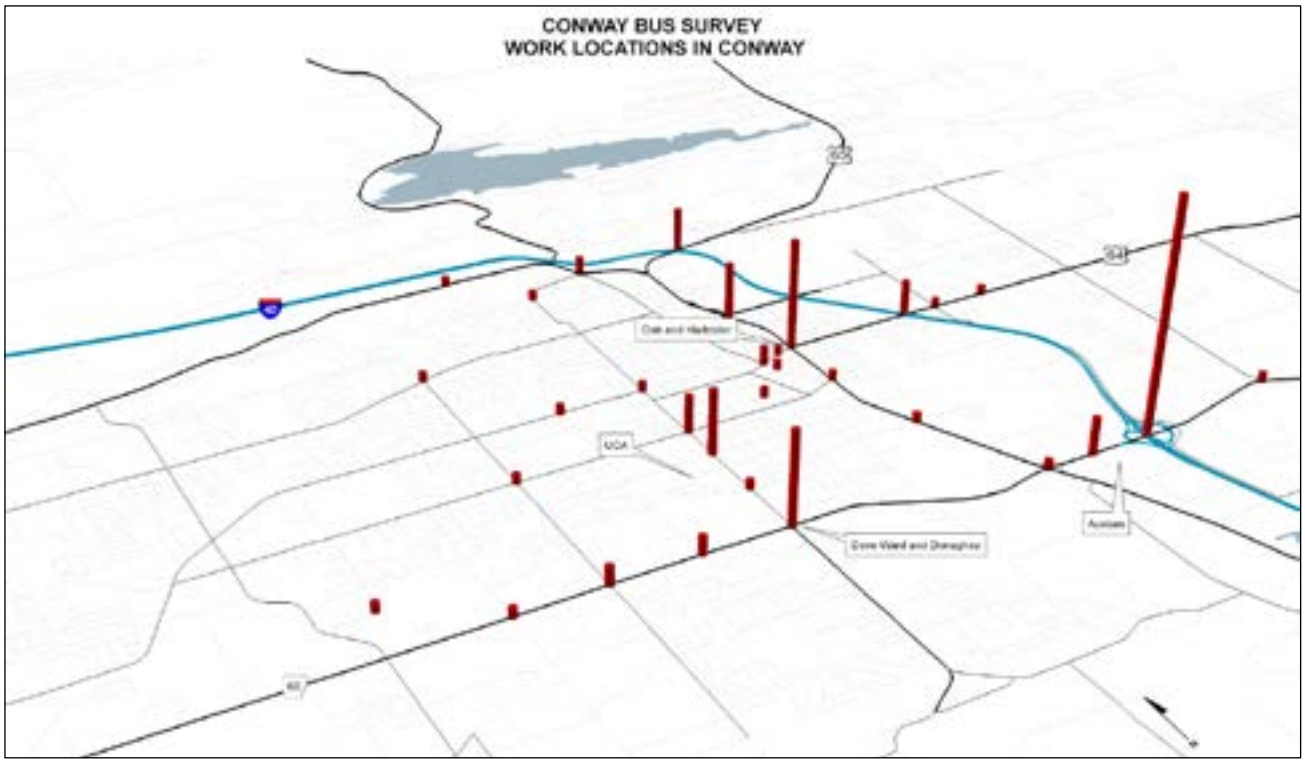


Figure 3-22. Work Locations in Conway



Question 8: If an express bus service is established between Conway, Little Rock, and/or North Little to major destinations and work locations, how **likely** would you be to use it?

- 42% – Definitely, if schedule allows
- 40% – Definitely, to save money on gas
- 3% – Probably, when my schedule allows
- 6% – Probably, if I had a guaranteed ride home
- 3% – Probably not, unless gas rises
- 3% – Probably not ever
- 3% – Did not respond

Question 9: If an **express bus** service is established how **often** would you **use** it?

- Daily - 36%
- A few times a week - 35%
- A few times a month - 19%
- Weekends - 4%
- Never - 4%
- Did not respond - 2%

36% would use the express service **daily**.

Question 10: What would **encourage** you to **use** an express bus service?

80%

- **Convenience** of park & ride or stop **near** home 80%
- Amenities like **comfortable seats/Wi-Fi** 40%
- Safety 28%
- Gas prices reaching $4 23%
- Assistance finding bus routes/stops 18%
- Employer offered pretax credit 13%
- Sale of bus passes at work 10%
- Gas prices reaching $6 10%
- Other (write in category) 13%
  - 22 participants (3%) wrote in "convenience of stop to destination"
  - 17 participants (3%) wrote in "reliable service with a convenient schedule"

Question 11: What is the **maximum** amount you would be willing to **pay** for a one-way fare?

- 7% would pay a maximum of $1
- 35% would pay a maximum of $2
- 36% would pay a maximum of $4
- 11% would pay a maximum of $6
- 6% would pay a maximum of $8
- 5% Did not respond

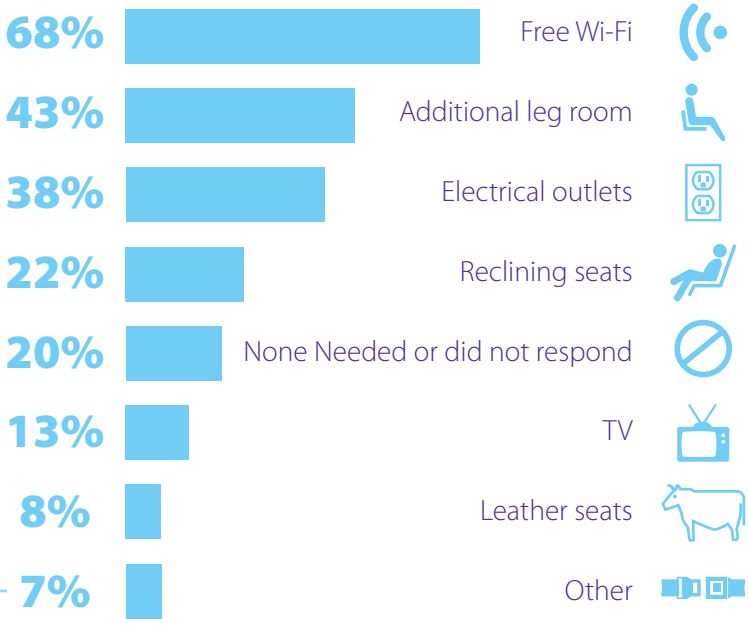
35% of respondents would be willing to **pay** a maximum of **$2** for a **one-way fare**.

Question 12: What is the **maximum** amount you would be willing to **pay** for a monthly **pass**?

- 19% would pay a maximum of $60
- 9% would pay a maximum of $70
- 13% would pay a maximum of $80
- 1% would pay a maximum of $90
- 10% would pay a maximum of $100
- 7% Did not respond

41% would pay a maximum of **$50** for a **monthly** pass.

Question 13: What type of on-board **amenities** would be **important** to you? Participants chose all categories that applied to them, of the following:



- Other 7%
  - Cleanliness
  - Quietness
  - Reliable temperature control
  - On-board restrooms
  - Safety features such as seat belts
  - Larger seats

3.7.3 Further Survey Analysis

Out of the 669 responses, 479 participants were identified as potential frequent riders. Potential frequent riders are identified as those who answered that they would ride the service either "daily" or "a few times per week." After frequent riders were identified, cross tabulations were executed to ascertain participants that travel to destinations along the recommended I-40/I-30 Route (or Alternative 2: the I-40/I-30 Route as described in the Transit Service Plan in Chapter 5), to ascertain departure and arrival times and to gauge the level of commitment to use the service by these commuters. Additional cross tabulations were performed to all frequent riders to determine what riders would be willing to pay for a one-way trip and a monthly pass, what factors would encourage a participant's use of the system, and what amenities riders would prefer.

Frequent Rider Profile: Origins and Destinations

Among the 479 frequent riders, 380 identified a location within Faulkner County, not just Conway, as their trip origin while 67 participants and 11 participants identified as having trip origins in Little Rock and North Little Rock respectively.

In cross tabbing destinations, only frequent riders that indicated locations within zip codes encompassing the downtowns of Little Rock and North Little Rock were counted, as well as destinations in the city of Conway representing reverse commuters. This more accurately represents riders that would be served by the recommended I-40/I-30 Route (or Alternative 2: the I-40/I-30 Route as described in Transit Service Plan in Chapter 5). Trip destination numbers among frequent riders showed that 163 trips terminated in downtown Little Rock while an additional 12 trips ended in downtown North Little Rock. Frequent reverse commute riders were modestly represented as 65 responses indicated a terminus in Conway. In all 240 frequent riders indicated destinations along the preferred route.

Commute Times for Frequent Riders

Out of those identified as frequent riders, 240 participants indicated a destination within a zip code in Downtown Little Rock, Downtown North Little Rock, or the City of Conway in which the preferred route serves. As expected, the largest volume of participants during the commute to their destinations was between 6:00AM and 8:00AM. The commute home was slightly more disbursed, however, a large portion of frequent riders start travel between 4:00PM to 5:30PM.

Table 3-18. Recommended I-40/I-30 Route - Journey to Work/School Destination Survey Responses

	% of Frequent Riders that Leave Home at Specified Time	% of Frequent Riders that Arrive at Destination at Specified Time
Before 6:00AM	7.1%	0.8%
6:00-6:29AM	13.3%	2.9%
6:30-6:59AM	25.0%	7.1%
7:00-7:29AM	19.6%	15.8%
7:30-7:59AM	12.5%	23.8%
8:00-8:29AM	8.8%	22.1%
8:30-8:59AM	1.2%	10.0%
9:00AM-3:59PM	0.4%	0.8%
4:00-5:59PM	0.4%	0%
After 6:00PM	1.7%	0.4%

Table 3-19. Recommended I-40/I-30 Route - Journey Home from Work/School Survey Responses

	% of Population that Leaves Destination at Specified Time	% of Population that Arrives Home at Specified Time
Before 8:59AM	2.5%	1.7%
9:00AM-3:59PM	15.8%	5.4%
4:00-4:29PM	13.3%	3.8%
4:30-4:59PM	18.8%	9.6%
5:00-5:29PM	15.4%	16.3%
5:30-5:59PM	7.1%	20.4%
6:00-6:59PM	4.2%	27.9%
After 7:00PM	1.2%	4.2%

Frequent Rider Level of Commitment

The likelihood of riders actually committing to using the service is an inexact science. However, selecting

a preferred route allowed data from question 8, "likelihood of use," to be cross tabulated with frequent riders who identified destinations along the route.

Riders who were identified as "committed" answered that they would definitely use the system if it saved on transportation costs or it was convenient to their schedules. Out of 240 frequent riders commuting to destinations served by the recommended I-40/ I-30 Route, 210 of them committed to "definitely" use the bus system.

Desired Bus Prices by Frequent Riders

Choosing a competitive price will be essential in attracting riders. The system must provide a more affordable option to attract choice riders that may find it cheaper to use their private vehicles as well as those who cannot afford a private vehicle.

Survey participants were asked to indicate how much they would pay for a one-way trip and also a monthly pass. Out of 479 frequent riders, 38.2% would pay $2 and 39.5% would pay $4 for a one way ticket. Only 14% of survey takers said they would pay $6 or $8 and 5.4% indicated that $1 dollar is the most they are willing to pay for a one way trip.

For a monthly pass, the largest portion of frequent riders (35.7%) would pay $50 maximum. For the rest of the participants, 20.9% answered $60, 10.4% answered $70, 15.7% answered $80, 1.9% answered $90, and 12.3% answered $100 as a maximum monthly price.

What May Encourage Frequent Ridership

Survey takers were given several options and told to select the three most important factors that would encourage them to use the express system. "Convenience of a park and ride/bus stop to my home" was selected by 86.4% of the 479 frequent riders. "Additional amenities" were important to 42.4% of the frequent riders. Other notable responses were "safety", "gas prices over $4.00," and "assistance finding routes" at 32.2%, 23.2%, and 18.6% respectively.

Preferred Amenities

Participants chose from a list of amenities that they would like to see on the service. Of the choices, Wi-Fi was the most popular with 69.3% of frequent riders indicating it as a preference. Additional leg room (43.4%), electrical outlets (39.0%), and reclining seats (24.2%) were the next most popular items. Furthermore, 17.9% did not answer or indicated that no additional amenities were necessary. These choices may help identify how to cater to a choice rider base and encourage greater use of the system.

Express bus equipped with reclining leather seats

Chapter 4: Alternatives Evaluation

The purpose of this chapter is to describe the alternatives identified and considered for the proposed Conway express bus service. These alternatives have been developed in collaboration with the Steering Committee, CATA and Metroplan professional staff, and the consultant project team. This chapter will also deal with factors that are logical to consider when deciding whether implementing the proposed service is feasible. The elements of feasibility are described and each alternative has been evaluated against these feasibility factors. It is ultimately the responsibility of the local jurisdictions, principally the City of Conway and Faulkner County, together with their state-level, regional, and local planning partners to determine if the service will be implemented and if so how to fund this service. In the following chapter, a detailed Transit Service Plan is provided in the event project implementation advances.

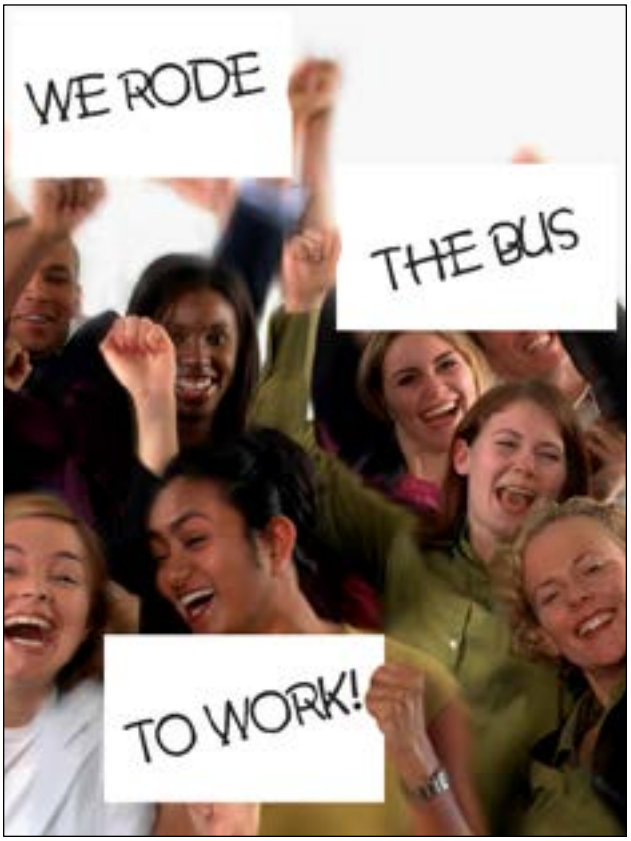
4.1 The Issue of Feasibility

For a transit service such as the proposed express bus service to be considered feasible, it should provide the appropriate level of service to serve a reasonable number of riders, for the lowest cost possible. Public transportation, by definition, is an open system, available to anyone who wants to use the service, regardless of whether a fare is charged or the service is provided free of charge. But if the cost of the express bus service cannot pay for itself through farebox revenues, then the feasibility of implementation of the service will be dependent on the willingness of the project sponsor and/or partnering organizations to pursue local, state and federal funding resources for the new transit service.

In the U.S., the vast majority of public transportation services are supported financially by various levels of government. Transit service is considered by many communities to help accomplish public goals, such as facilitating access to jobs, especially for low- and middle-income workers, providing an option for commuting that has fewer negative impacts on our natural environment than single-occupant vehicle travel, and providing travel options to those who cannot or choose not to drive. Communities in support of public transit service cite improvements in quality of life for residents and visitors alike.

There are very few completely privately funded and operated public transportation systems in the U.S. While some public agencies contract either the entire service or portions of it to the private sector, the public agency retains "ownership" of the system and makes the policy, financial, and operating decisions for it. Some intercity bus services are completely privatized, such as Megabus, which is the largest privately funded provider of intercity express bus transportation, serving more than 70 major cities in North America out of major hubs, but the consultant project team has been unable to identify any local commuter express bus services that are completely privately funded and operated.

There are some examples of individual routes being privatized. Again, the service area is limited as well as the transit facilities from which they operate. There is



a private jitney service, which utilizes a small bus for carrying passengers over a regular route on a flexible schedule, that operates in the Buford Highway Corridor in Fulton and DeKalb Counties, in the Metro Atlanta region. Riders pay a fare and use medium-sized bus vehicles (without amenities) and the transit station facilities owned and operated by the Metropolitan Atlanta Rapid Transit Authority (MARTA), the publicly owned and operated transit service. The privately operated service has a one-way route length of approximately 22 miles. This corridor is a major spine paralleling the I-85 corridor, one of the region's busiest interstate highways. MARTA operates service in the corridor as well, but serves a much larger area, providing access to many more locations and connections to other communities in the region.

The Buford Highway corridor extends through the one of the region's most diverse and transit-dependent areas where over 100 languages are spoken. The jitney service directly competes with the MARTA service and operates at slightly lower fares. Since the private jitney service does not compensate MARTA for the use of its station areas or connections to the larger transit network, the jitney is able to provide the service at a lower cost, placing the burden of the associated transit infrastructure on the public. This has caused tension among the transit operators.

4.2 Feasibility Factors

For the purpose of this study, express bus service linking the Conway area to the Little Rock area is considered "feasible", if it addresses the following criteria:

- Access to a High Capacity, High Volume Roadway System – For an express bus service to be feasible, there must be a roadway system, preferably with freeways, for some or all of the routes on which buses can operate at speeds competitive with private auto travel. The road network must also link commuters living in neighborhoods near the bus stops/access points to their job or school sites. The bus stops or transit stations should be located in convenient and safe locations.
- Use of Available Buses – Bus vehicles, either conventional transit coaches or "over-the-road" coaches, such as those used by charter and intercity bus operations are typically needed. They must be priced at an acceptable cost to local decision-makers and the public, either by lease or purchase. A range of bus types are described in Chapter 5.
- Provisions for Transit Service Operations and Maintenance - This element includes the cost of drivers, maintenance support staff, dispatchers, and their associated equipment. These items must be available and affordable and can be provided via in-house staff and resources or through purchased services by contract.
- Market for Express Bus Service – This includes a group of bus riders willing to use the service at an established cost on a regular basis to meet locally established revenue goals. In the case of the Conway express bus service, the target users could either be "captive riders", persons due to income or other conditions who are dependent on public transit for their trips or "choice riders" who are individuals with other commute options, such as their private car, who may elect to use the express bus service. A detailed description of types of bus riders is included in the next section.
- Institutional and Management Structure – This means there is an established organization that is accountable for managing the resources (public and/or private) expended to provide the service. The sponsoring organization would be the policy and decision-making entity for the service. The entity responsible for the day-to-day operations of the service would report to the policy and decision-making organization and can be either a public or private sector entity.
- Financial Resources – An essential element for the service to be considered feasible is the existence of sufficient financial resources to support all of the management and operational functions of the service.
- Public and Political Will to Initiate and Operate the Service - There must be public and political support or will for the responsible entity or entities to plan, deliver, and manage the express bus service and be responsible for its resources.

4.3 Targeted Express Bus Market

In general, bus riders are typically defined as either "captive" or "choice" riders. Captive (also known as transit dependent) riders are those who do not have other travel options, such as a private automobile that is readily available or that have a disability that prevents them from using other modes of transportation. Choice riders are those who have other options available, but choose transit because of the benefits (cost, convenience, health, environmental) of doing so.

One of the more prominent benefits of express bus service is that it presents an alternative to those who do not want to drive long distances, often in congested conditions. For the proposed Conway express bus service to be effective, the service must target and attract choice riders who will use the bus to commute between Conway, Little Rock and North Little Rock.

In general, the most important factors influencing the use of transit involves the tradeoffs made by potential riders based on their personal economic situation and their choices on the use of their time and money. The most significant motivations for choice riders to use the service are the ability to receive an economic benefit (money savings) in using transit versus driving, or a time savings or increased productivity during commute times (riding the bus vs. being able to work, read, rest, etc. during commute periods). Transit service reliability, especially in the terms of on-time performance and the total travel time from origin to final destination, also are among the important factors in attracting choice riders. The choice rider also can be interested in other comfort-related features of the service, such as cleanliness and interior vehicle features, such as cushioned seats, amenities such as Wi-Fi service, luggage racks, etc. Other factors attracting choice riders include location and security of the park and ride facilities, the value received for fare paid for the trip, convenient fare media, and personal safety during the commute trip and also waiting for the bus at stops.

4.4 Basis for Consideration of Express Bus Service Alternatives

The following are key findings for the study derived from the review of prior and on-going plans and studies, the identification of transit markets, as well as input from the Steering Committee and from citizens who completed the online survey during October 2013. These findings will form the basis for consideration of transit service alternatives, the development of the transit operating plan for the preferred route alignment.

- Providing more transit options was one of the top ranked themes in the Imagine Central Arkansas (ICA) effort during 2012 and 2013. The average amount of time a central Arkansas resident spends in travel has steadily increased and the vast majority of residents travel by car, which is the only viable option for most of central Arkansas. Currently, there is no commuter transit service offered between Conway and Pulaski County. One of the more prominent benefits of express bus service is that it presents an alternative to those who do not want to drive long distances, often in congested conditions.
- Pulaski County is home to about three-quarters (75 percent) of the Central Arkansas region's employment. About 13,600 residents of Faulkner County commute to jobs in Pulaski County, representing about one of every four commuters. Travel flow patterns from Conway, according to both the travel demand model and census data analysis, show that the most concentrated travel seems to be in the downtowns of North Little Rock and Little Rock.
- Improving transit options can provide increased mobility for the transit dependent, but express bus service is able to attract choice riders, in addition to people who have no other transportation alternative. Choice riders will continue to travel by car unless the transit system is more convenient, reliable, attractive, safe, cost-competitive, and comfortable.
- According to the Conway-Little Rock Express Bus Feasibility Study Online Survey deployed in

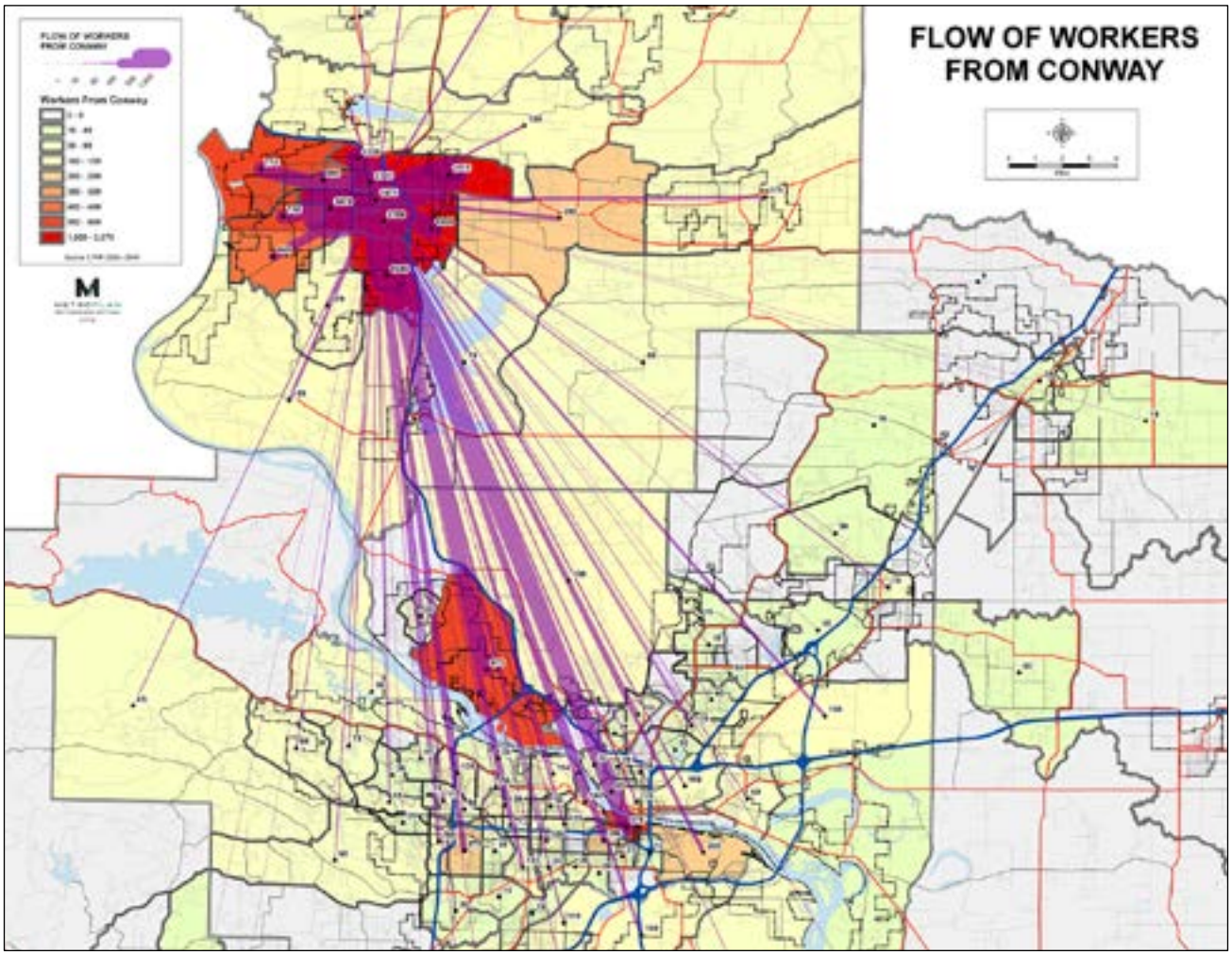
October 2013, 479 participants (or 72 percent) were identified as potential frequent riders, or those that answered that they would ride the service either "daily" or "a few times per week." Among the 479 frequent riders, 240 participants (or 36 percent) indicated a destination within a zip code in Downtown Little Rock, Downtown North Little Rock, or the City of Conway.

- The CARTS travel demand model was used to identify potential district-to-district movements that represent the targets for potential express bus service, both in 2010 and in 2040 (see Chapter 3). Figure 4-1 shows the flow of commuters from Conway, based on Census Transportation Planning Package (CTPP) data. A subset of these trips from Conway to Little Rock and North Little Rock could be accommodated by express bus service. More refined estimates of ridership will be developed in the Transit Service Plan for the proposed service (shown in Chapter 5 of this report), but the ridership estimates will not assume a reverse commute from Little Rock to Conway during the initial service start-up period.

4.5 Little Rock to Conway Commuters (Reverse Commute)

The potential number of residents in Little Rock/ North Little Rock that commute to Conway who might use the service was also considered (reverse commute). The absence of a local bus system in

Figure 4-1. Flow of Workers from Conway



Conway, fewer commuters, and lack of job access around potential park and ride lots results in limited potential for service in the reverse direction. As such, upon its inception, the service is expected to exclusively serve residents of Faulkner County even if provisions allow its use in the reverse direction.

If the service is implemented and successful, the express route could be coordinated with a new local bus system in the future and serve transportation needs at the University of Central Arkansas and Hendrix College increasing the demand in the reverse direction.

4.6 Initial Alternative Route Alignments

The study area's population and employment densities, development patterns, major employment and activity centers, transit dependent populations, commuting patterns, and estimates of intra-and inter- district trips from the region's travel demand model provide the context for the development of two initial alternative alignments for express bus service.

4.6.1 Description of the Initial Alternative Route Alignments

The two initial alternative alignments proposed by the project team and considered by the Steering Committee include:

Alternative 1: I-40 / I-430 / I-630 Route

As shown in Figure 4-2, this route would start in Conway and travel to Downtown Little Rock via West Little Rock. The southbound (inbound) portion of the route would begin at a park-and-ride stop in Conway at the I-40/Dave Ward Drive/ Industrial Boulevard interchange. It would then run south along I-40, merge south onto I-430, and serve the park-and-ride stop in Maumelle at the I-430/ Maumelle Boulevard interchange. The route would run south along I-430, merge onto I-630, and exit at a stop in West Little Rock at the Baptist Health Center. After Baptist, the route would continue traveling east on I-630, making a stop in the Medical District at the Cedar Street interchange. Riders would continue traveling east on I-630, making a stop at the I-630 at the Broadway Street interchange in downtown Little Rock. Finally, the route would travel north on Broadway Street, turning right onto Fourth Street, and make a final stop at the River Cities Travel Center.

The northbound (outbound/reverse commute) portion of the route would leave River Cities Travel Center and would travel the same route back to Conway, via I-630 to I-430 to I-40, making the same stops. The one-way route length is approximately 33 miles and 66 miles round trip.

At peak hour in the morning, a one-way trip for a vehicle leaving Conway and arriving at the River Cities Travel Center is approximately 80 minutes (one hour and 20 minutes), and the total roundtrip travel time is approximately 132 minutes (two hours and 12 minutes). At peak hour in the evening, a one-way trip for a vehicle leaving the River Cities Travel Center in Little Rock and arriving in Conway is estimated at 70 minutes (one hour and ten minutes), and the total roundtrip travel time is estimated at 139 minutes (two hours and 19 minutes).

Alternative 2: I-40 / I-30 Route

As shown in Figure 4-3, the southbound (inbound) portion of this route would begin in Conway and extend to Downtown Little Rock via North Little Rock. This route would begin at a park-and-ride lot in Conway at the I-40/Dave Ward Drive/ Industrial Boulevard interchange. It would then run south along I-40, exiting at a park-and-ride stop in Maumelle at the I-40/Highway 365/MacArthur Drive interchange. The route would continue south on I-40, merge south onto I-30, and exit I-30 at the West Broadway interchange, making a stop at the park-and-ride lot on West Broadway in North Little Rock. The route would continue west on West Broadway, turn south on Maple Street, travel across the Main Street Bridge, and continue on Main Street/Scott Street, turning left onto Fourth Street. Finally, the route would run along Fourth Street and make its last stop at the River Cities Travel Center.

The northbound portion of the route (outbound/ reverse commute) would leave the stop at the River Cities Travel Center and would travel the same route back, via I-30 to I-40, making the same stops, and

Figure 4-2. Initial Alternative 1 – I-40/I-430/I-630 Route

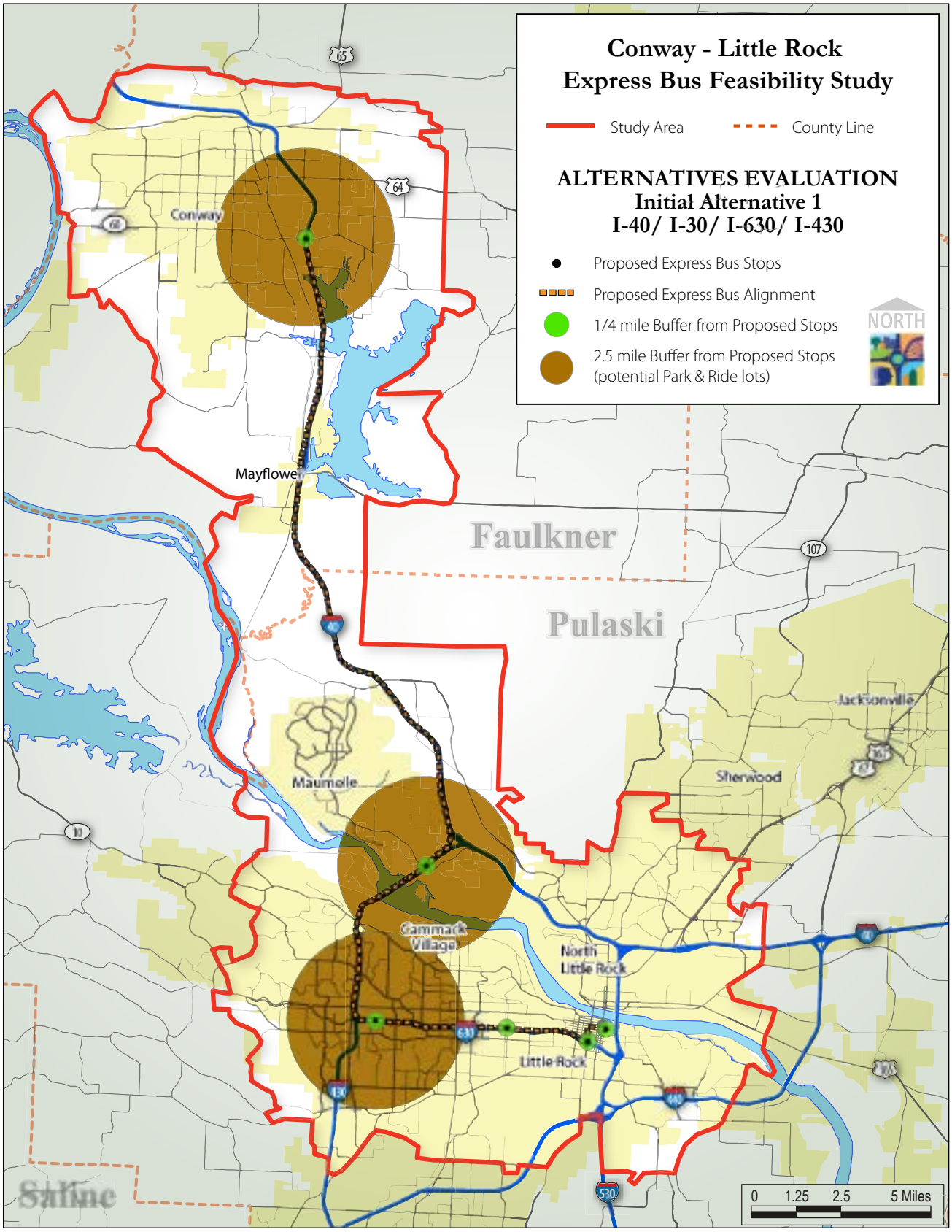
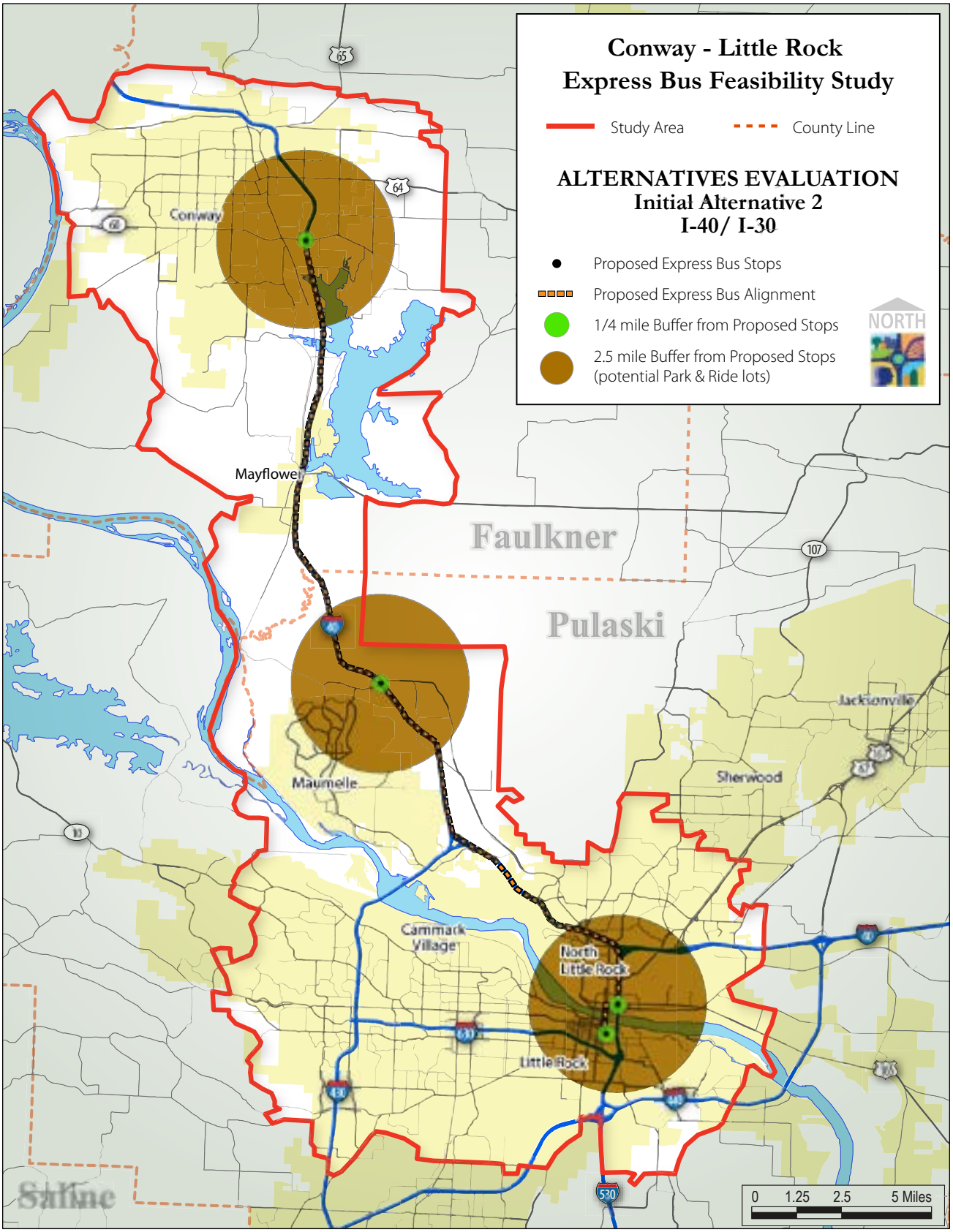


Figure 4-3. Initial Alternative 2 – I-40/I-30 Route



ending at the originating stop in Conway. The route length is approximately 27 miles one-way, or 54 miles round trip.

At peak hour in the morning, a one-way trip, for a vehicle leaving Conway and arriving at the River Cities Travel Center, is approximately 61 minutes (one hour and one minute), and the total roundtrip travel time is approximately 99 minutes (one hour and 39 minutes). At peak hour in the evening, a one-way trip for a vehicle leaving the River Cities Travel Center in Little Rock and arriving in Conway is estimated at 59 minutes, and the total roundtrip travel time is estimated at 129 minutes (two hours and two minutes).

4.6.2 Evaluation Criteria

The initial alternative alignments were measured against a set of preliminary evaluation criteria by the Project Steering Committee. This evaluation involved several quantified factors associated with each alternative, such as order of magnitude cost and vehicle estimates based on length and travel times. A description of the preliminary evaluation criteria is included below, and the results of the evaluation of the initial alternative alignments are summarized in Table 4-2. These statistics were calculated using several professionally accepted methods, including estimates from Metroplan's ongoing regional transportation planning analyses, field data collection on travel times, the regional travel demand model, and estimates based on peer experiences for similar services.

CATA unit cost data were used for the purpose of estimating operating cost and to enable comparisons between alternatives. This should not be taken as an explicit recommendation or assumption that CATA operate the service.

Travel Times

Express bus travel should be as time-competitive as possible with private auto travel in order to provide attractive and convenient service. Peak period transit travel times between major origin-destinations should be as close as possible to the comparable travel time by private auto and not to exceed the ratio of 1.15 (transit travel time divided by auto travel time) for express routes. In this context, travel time is considered the time the patron is on the bus and does not include wait time.

Estimated one-way and round-trip AM Peak and PM peak travel times, including stops, were calculated based on travel time analysis conducted for the 2011 Congestion Management Program (CMP) of the Central Arkansas Regional Transportation Study (CARTS) as well as additional field work conducted as part of this study.

Alternative 1 would result in a longer morning commute (approximately 20 minutes) between Conway and the River Cities Travel Center, with a one-way travel time of approximately 80 minutes, compared to 61 minutes for Alternative 2, making it less likely to attract choice riders headed to downtown Little Rock. The same is true for the afternoon commute from the River Cities Travel Center to Conway, where the one-way travel time for Alternative 1 is estimated at 70 minutes, compared to the 59 minute commute for Alternative 2.

Stop Characteristics

The number of stops required for a passenger to reach his/her final destination was taken into consideration. This is considered a measure of the directness of the service because more bus stops on the route increases total travel time. Additional wait time at each stop will also affect the total passenger travel time.

The evaluation criteria "measuring population" is intended to identify the population served by existing and potential park and ride stops. The population totals were measured within 2.5 miles of proposed park-and-ride stops rather than within 2.5 miles of a route alignment because stops or stations are points where riders can enter/exit the transit line, and they better represent the number of people who are served by a line. Due to the relatively low density of development in the region, there is a high potential for use of park-and-ride lots by commuters because they are not able to access the express bus service by walking or biking as in other locations. The 2.5 mile radius around stations was selected to accommodate this potential for park-and-ride users, rather than to limit the population served to those

Table 4-1. Evaluation of Initial Alternative Alignments

Factor	Alternative 1 I-40 /I-430/I-630 Route	Alternative 2 I-40/I-30 Route
Route length in miles (round-trip)	66	54
Travel Time (min.)		
One-way - AM peak	80	61
One-way - PM peak	70	59
Round trip - AM peak	132	99
Round trip - PM peak	139	122
Daily Departures (morning and afternoon, three hours each)		
30 min frequency	6	6
60 min frequency	3	3
120 min frequency	1	1
Vehicle Requirement		
30 min frequency	5	4
60 min frequency	3	2
120 min frequency	2	1
Stop Characteristics		
Total Stops	6	4
Park and Ride Stops	3	2
Population (2010) within 2.5 miles of park-and-ride lots	88,406	62,783
Employment (2010) within 1/4 mile of all stops	10,152	5,679
Employment (2010) in major employment centers within 1/4 mile of all stops	8,350	1,650
Vehicle Revenue Hours		
Daily @ 30 min frequency	27	22
Daily @ 60 min frequency	14	11
Daily @ 120 min frequency	5	4
Annual @ 30 min frequency	7,130	5,680
Annual @ 60 min frequency	3,570	2,840
Annual @ 120 min frequency	1,190	950
Cost		
Annual operating @ 30 min frequency	$534,750	$426,000
Annual operating @ 60 min frequency	$267,750	$213,000
Annual operating @ 120 min frequency	$89,250	$71,250
Vehicles @ 30 min frequency	$1.5M to $2.0M	$1.2M to $1.6M
Vehicles @ 60 min frequency	$0.9M to $1.2M	$0.6M to $0.8M
Vehicles @ 120 min frequency	$0.6M to $0.85M	$0.3M to $0.45M

Note: Cost assumes $75 per revenue vehicle hour of service (based on 2011 NTD data for CATA) and $300,000 to $450,000 per vehicle. Vehicle requirements and costs do not include a spare vehicle. The initial alternatives did not include the use of more expensive over-the-road coaches which was later identified as an option by the Project Steering Committee.

living within the more commonly selected ¼ mile (i.e. typical walking distance) radius of stations.

The employment evaluation criteria is intended to assess the transit service ability to better serve existing and future travel by determining the total employment (number of workers) that would be served by a particular route. Similar to the population measure, the variations in total employment among the alternatives can be attributed in part to the numbers and location of proposed stops.

Major employment centers were defined and mapped in Chapter 3 of this study. For this particular evaluation measure, the number of these features within ¼ mile (i.e. typical walking distance) of a stop was determined in order to assess the ability of an alignment to connect potential riders to major employment centers.

Costs

Order of magnitude operating costs for each alignment were calculated in annual operating expenses at different frequencies to indicate each alignment's ability to provide cost effective transportation options. As an additional measure of cost effectiveness, order of magnitude capital costs for vehicles required under each alignment were measured. Cost assumes $75 per vehicle revenue hours (VRH) based on 2011 National Transit Database data for CATA and $300,000 to $400,000 per vehicle, and vehicle requirements and costs do not include a spare vehicle. It is assumed that the capital cost for vehicles assumes the use of 35 or 40-foot long standard transit buses similar to what CATA operates on its fixed route service.

4.6.3 Steering Committee Recommendations

Preliminary route and stop maps and the preliminary evaluation results for the initial alternative alignments were presented to the Steering Committee members for discussion and refinement. The Steering Committee identified the following desirable attributes for the express bus service:

- Simple route layout using the River Cities Travel Center in Downtown Little Rock and the State Capitol Complex. A stop at the River Cities Travel Center would accommodate a large number of workers, and the stop at the State Capitol Complex would place passengers within a ¼ mile walking distance of a major employment center, and would provide transfer access to other existing Central Arkansas Transit Authority (CATA) local bus routes.
- Modification of Alternative 1 to loop pattern with direct morning service into downtown Little Rock via I-40 and return trip to Conway via I-630 and I-430. The route would operate in the reverse direction in the afternoon.
- Frequent service (high levels during peak times, if feasible).
- Limited stops in order to achieve the lowest possible route travel times (assume one or two stops in Conway, one in North Little Rock and two in Little Rock).
- Utilize existing and new park and ride locations in Conway and North Little Rock.
- Buses that can seat a higher capacity of riders, thereby helping to reduce the need for more buses. For example, a 60-foot articulated bus has an average seated passenger capacity of approximately 65 people, whereas a 40-foot standard bus has an average seated passenger capacity of approximately 40 people.

4.7 Refinement of Alternative Alignments

Based on input from the Steering Committee and technical analysis, the two alternative alignments were refined. A description of the refined alignments for the alternatives follows:

Alternative 1: I-40 / I-30 / I-430 / I-630 Route

As shown in Figure 4-4, the southbound portion of the route would begin with two stops in Conway (a northern stop at I-40/Skyline Drive interchange and a stop at the I-40/Dave Ward Drive/ Industrial Blvd interchange). It would then run south along I-40 and I-30, and exit I-30 at the Second Street interchange and travel to a stop at the River Cities Travel Center. It would continue travel on Fourth Street, turning right onto Scott Street, and then take an immediate left onto Third Street, traveling on Third Street to the State Capitol Complex for a stop at Third Street and Bishop Street. Finally, the route would travel west via I-630 to a stop at in the I-630 Medical District at Capitol Avenue and Jack Stephens Drive.

The northbound portion (reverse commute) of the alignment would leave the stop in the I-630 Medical District, and would travel via I-630, to I-430, to I-40, and loop back to the two stops in Conway. The route would run clockwise in the AM peak hours, and would run counter-clockwise in the PM peak hours. The route length is approximately 34 miles one-way, or 68 miles round trip.

At peak hour in the morning, a one-way trip for a vehicle leaving Conway and arriving at the I-630 Medical District is approximately 74 minutes (one hour and 14 minutes), and the total roundtrip travel time is approximately 120 minutes (two hours). At peak hour in the evening, a one-way trip for a vehicle leaving the I-630 Medical District and arriving in Conway is estimated at 56 minutes, and the total roundtrip travel time is estimated at 119 minutes (one hour and 59 minutes).

Alternative 2: I-40 / I-30 Route

As shown in Figure 4-5, the southbound portion of the route would begin with two stops in Conway (a northern stop at I-40/Skyline Drive interchange and a stop at the I-40/Dave Ward Drive/ Industrial Blvd interchange). It would then run south along I-40 and I-30, and exit I-30 at the West Broadway interchange in North Little Rock. The route would continue west on West Broadway, turn south on Maple Street, travel across the Main Street Bridge, and continue on Main Street/Scott Street, turning left onto Fourth Street to make a stop at the River Cities Travel Center. Next, it would leave the River Cities Travel Center and travel on Fourth Street, turning right onto Scott Street, then an immediate left onto Third Street, traveling on Third Street to the State Capitol Complex for a stop at Third Street and Bishop Street

The northbound portion of the alignment would leave the stop at the State Capitol Complex and would travel on Third Street, then travel across the Broadway Bridge to a stop in North Little Rock on Main Street (between East Broadway and Washington Avenue). The route would then return north via I-30 and I-40 back to the originating two park-and-ride stops in Conway. The route length is approximately 32 miles one-way, or 64 miles round trip.

At peak hour in the morning, a one-way trip for a vehicle leaving Conway and arriving at the State Capitol Complex is approximately 70 minutes (one hour and 10 minutes), and the total roundtrip travel time is approximately 120 minutes (two hours). At peak hour in the evening, a one-way trip for a vehicle leaving the State Capitol Complex and arriving in Conway is estimated at 48 minutes, and the total roundtrip travel time for a is estimated at 103 minutes (one hour and 43 minutes).

The route would serve North Little Rock more effectively by serving the downtown area of North Little Rock via a park-and-ride stop, and would utilize the same route as local CATA bus routes in North Little Rock. The route has also been refined to avoid the congestion on the I-30 bridge in downtown Little Rock by exiting off I-30 in North Little Rock.

4.7.2 Evaluation Criteria

Again, the alternative alignments were evaluated based on the set of evaluation criteria. Selected travel times between stops were added as an additional evaluation measure. The results of the

Figure 4-4. Refined Alternative 1 – I-40/I-30/I-430/I-630 Route

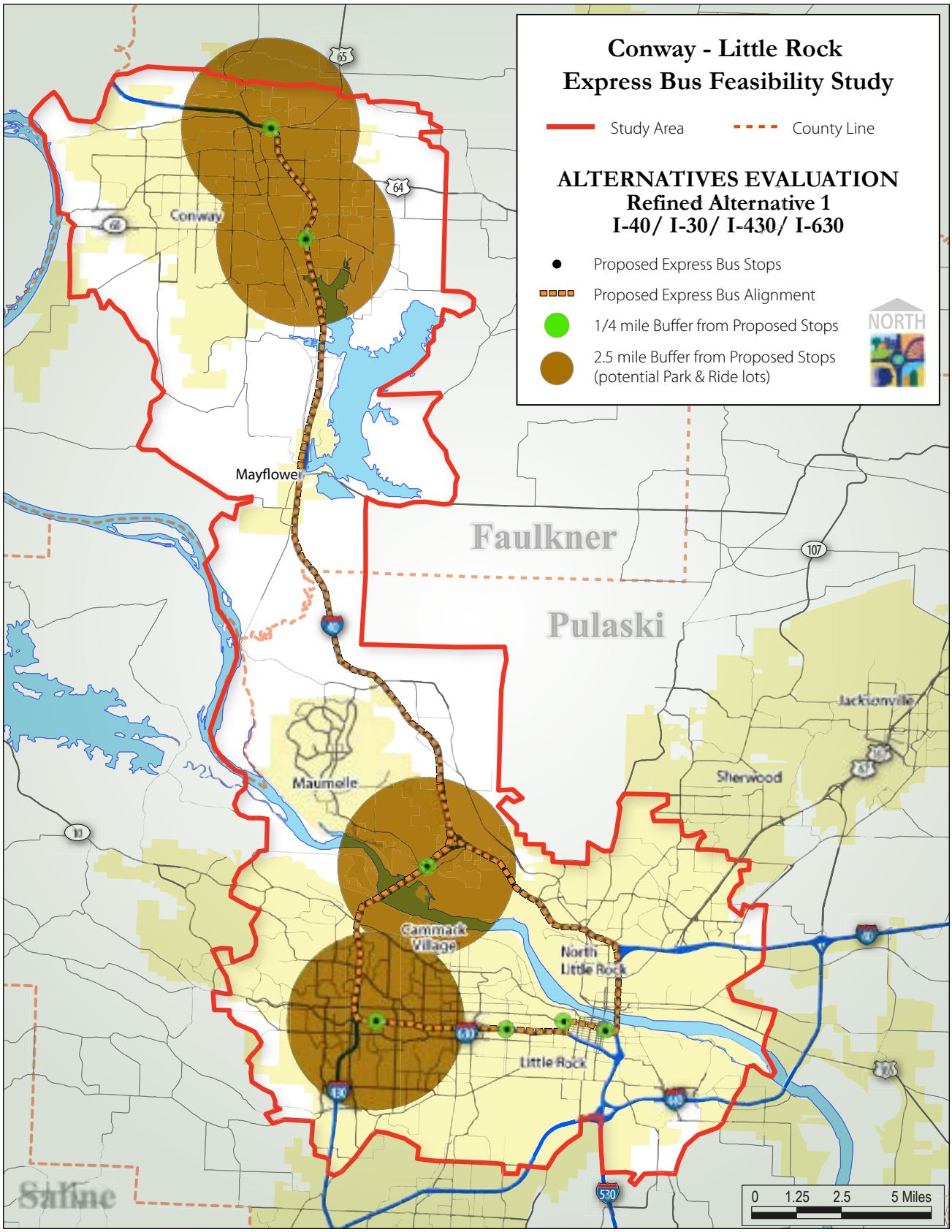
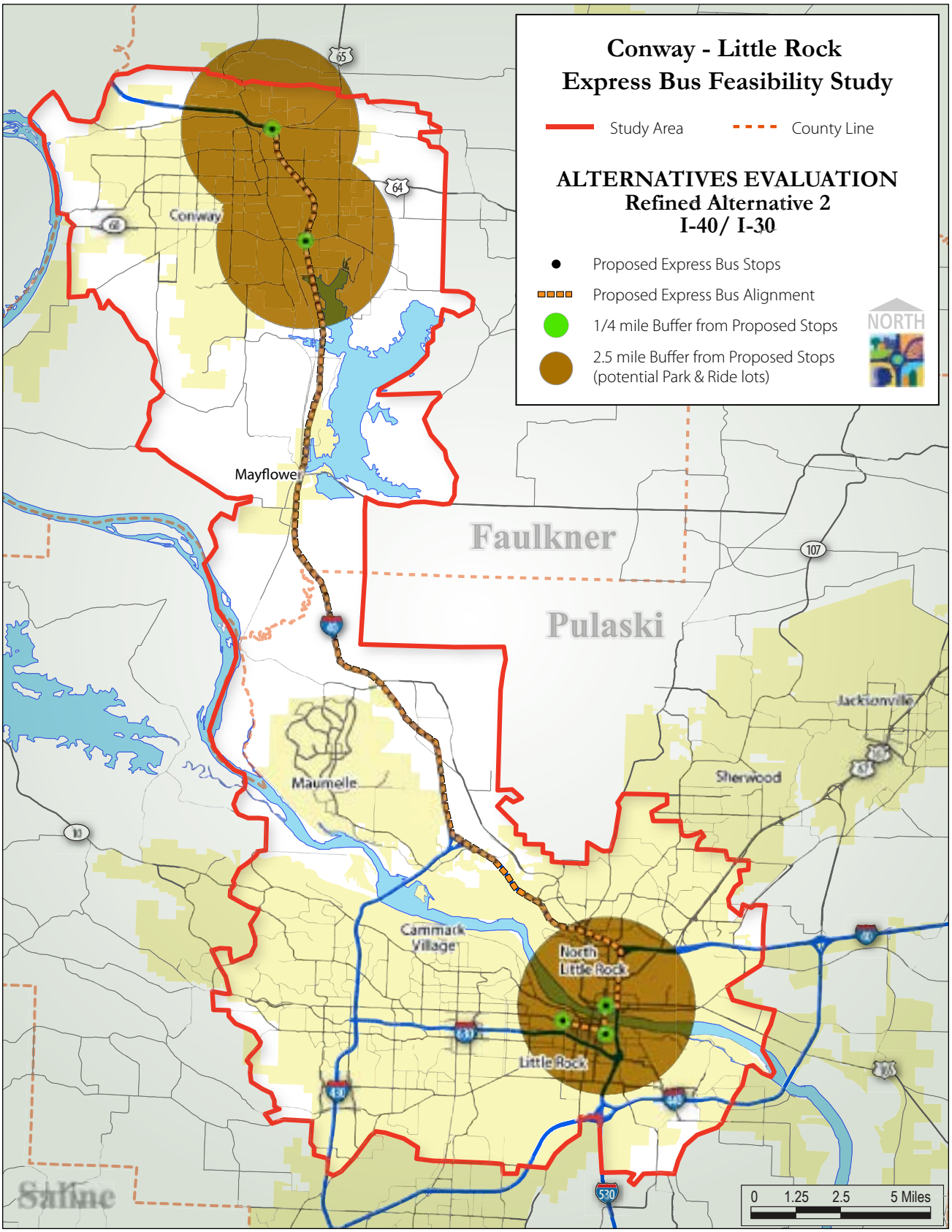


Figure 4-5. Refined Alternative 2 – I-40/I-30 Route



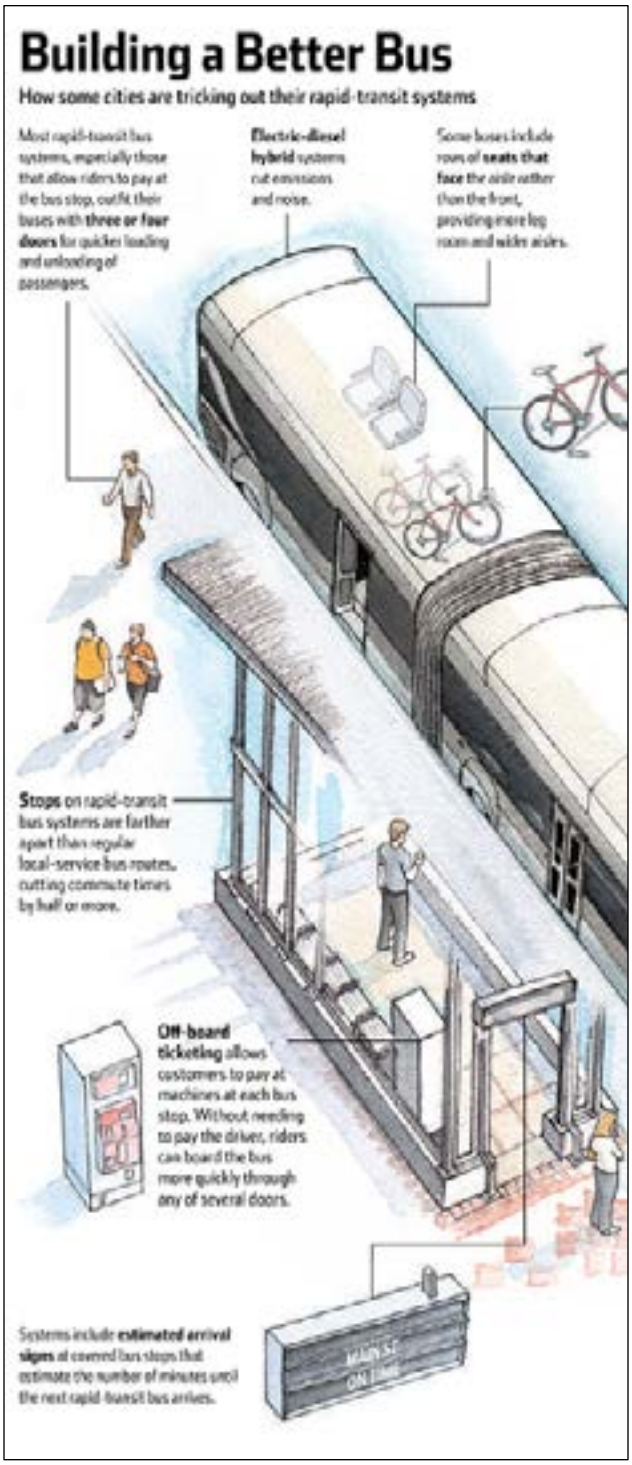
refined alternative alignments against the evaluation criteria are summarized in Table 4-2.

4.8 Findings and Recommended Alignment

The evaluation of refined alternative alignments resulted in a recommendation of the express bus service along the 64-mile I-40 / I-30 route (Alternative 2). Although the two alignments are comparable in terms of capital and operating costs, Alternative 2 is preferable based on several key findings, including:

- Travel flow patterns from Conway, according to both the regional travel demand model and census data analysis, show that the most concentrated travel seems to be in the downtown areas of North Little Rock and Little Rock, both of which are better served by Alternative 2.
- Alternative 1, the I-40 / I-30 / I-630 / I-430 route, would result in in-vehicle travel times of 64 minutes between Conway and the I-630 Medical District. This is too long to make the transit trip competitive with a private automobile, and would be less likely to draw choice riders.
- Alternative 1 would also result in an afternoon commute between the Capitol Complex and Conway of 56 minutes, compared to 38 minutes for Alternative 2, again making it less likely to attract choice riders.
- Among the 479 frequent riders identified in the survey, 240 participants (or 36 percent) indicated a destination within a zip code in Downtown Little Rock, Downtown North Little Rock, or the City of Conway, which is more in line with destinations served by Alternative 2.
- Alternative 2 would result in the most direct route from Conway to the River Cities Travel Center in downtown Little Rock, providing the potential for transfer to the local CATA routes.

The Project Steering Committee concurred with this recommendation.



Source: The Wall Street Journal

Table 4-2. Evaluation of Refined Alternative Alignments

Factor	Alternative 1 I-40 / I-30 / I-630 / I-430 Route	Alternative 2 I-40/I-30 Route
Route length in miles (round-trip)	68	64
Travel Time (min.)		
One way - AM peak	74	70
One way - PM peak	56	48
Round trip - AM peak	120	120
Round trip - PM peak	119	103
Daily Departures (morning and afternoon, 3 hours each)		
30 min frequency	6	6
60 min frequency	3	3
Vehicle Requirement		
30 min frequency	4	4
60 min frequency	2	2
Stop Characteristics		
AM Total stops	5	4
PM Total stops	5	4
Park and ride stops	2	3
Population (2010) within 2.5 miles of park-and-ride lots	45,404	81,141
Employment (2010) within 1/4 mile of all stops	12,916	10,532
Employment (2010) in major employment centers within 1/4 mile of all stops	7,122	3,922
Selected Travel Times (min.)		
Conway (Dave Ward Drive) to River Cities Travel Center- AM	50	50
Conway (Dave Ward Drive) to State Capitol Complex – AM	58	58
Conway (Dave Ward Drive) to I-630 Medical District – AM	64	NA
North Little Rock to Conway (Dave Ward Drive) – AM	NA	24
I-630 Medical District to Conway – PM	64	NA
State Capital Complex to Conway (Dave Ward Drive) – PM	56	38
River Cities Travel Center to Conway (Dave Ward Drive) – PM	46	49
North Little Rock to Conway (Dave Ward Drive)- PM	NA	30
Conway (Dave Ward Drive) to River Cities Travel Center- PM	46	25
Vehicle Revenue Hours		
Daily @ 30 min frequency	24	22
Daily @ 60 min frequency	12	11
Annual @ 30 min frequency	6,220	5,800
Annual @ 60 min frequency	3,110	2,900
Cost		
Annual operating @ 30 min frequency	$467,000	$435,000
Annual operating @ 60 min frequency	$233,000	$218,000
Vehicles @ 30 min frequency	$1.2M to $1.6M	$1.2M to $1.6M
Vehicles @ 60 min frequency	$0.6M to $0.85M	$0.6M to $0.85M

Chapter 5: Transit Service Plan

This chapter will describe in more detail the proposed system and operating characteristics related to the recommended route selected by the Steering Committee, which is Alternative 2, the I-40 / I-30 Route, described in Chapter 4. Evaluation data for the recommended route can be found in Table 5-1. Additionally, capital and operating costs, potential funding strategies and options for operating and managing the service are also described in this Chapter.

5.1 System and Capital Facilities Characteristics

5.1.1 Proposed Route and Station Locations

Figure 5-1 shows Alternative 2: the I-40 / I-30 Route, the recommended route. Figures 5-2 and 5-3 are enlarged maps that show the I-40 / I-30 Route and proposed stops in Conway, as well as in North Little Rock and Little Rock. The maps show the proposed stops and route in context with the locations of major employment centers, civic institutions and major activity centers.

Table 5-2 identifies the stop locations and route segments in both directions. The northbound part of the trip includes a park-and-ride stop in North Little Rock, to provide access to large employment and activity centers in North Little Rock, and then would return to the originating park-and-ride stops in Conway. A reverse commute from Little Rock or North Little Rock to Conway is currently not feasible based on the fact that Conway lacks a local transit system to provide access to final destinations. A local transit service would be very valuable to provide a direct transfer connection from the park-and-ride lots to major employment centers, activity centers and colleges in Downtown Conway and would be an important factor in potential riders deciding to use the service for their reverse commute trip.

A reverse commute movement from Little Rock to Conway might become desirable as new major employment centers in Conway are developed, such as the proposed Baptist Medical Facility, located immediately west of I-40, a new major retail center near I-40 and Industrial Boulevard, or the redevelopment of Dennis F. Cantrell Field into large scale mixed-use development. While the new developments in Conway would provide additional employees that could increase the total potential transit riders (and reverse commuters), they will not in themselves change whether a reverse commute would be feasible. The development of a local fixed-route transit system in Conway to provide direct transit connections from the express bus service to the major employment centers would make the reverse commuting option more feasible in the future. A local fixed-route transit service could provide not only extended hours of transit (beyond peak morning and evening hours), but could also provide the college students in Conway (at the University of Central Arkansas, Hendrix College and Central Baptist College) access to the express bus service at the Conway park-and-ride lots, thereby giving them the potential to access employment and retail in Little Rock. The local transit service could also provide access for reverse commuters travelling from Little Rock to the college campuses in Conway. As noted in Chapter 2 of this study, the 2010 Conway Transit Feasibility Study recommended the implementation of a two-route system in Conway.

5.1.2 Park-and-Ride Facilities and Transit Stops

In order to provide transit system access for potential passengers who live beyond reasonable walking distance of the proposed stations (generally greater than ¼ mile), park-and-ride facilities should be provided at two stops in Conway. The Walmart parking lot near the interchange of I-40 and Skyline Drive in Conway should be explored as shared-use park-and-ride lot. To the south, the existing park-and-ride facility off the I-40 at Dave Ward Drive/ Industrial Boulevard/ Highway 60 interchange in Conway is almost at capacity. Additional parking

Table 5-1. Characteristics of the Recommended Express Bus Route

Factor	Amount
Route length in miles (round-trip)	64
Travel Time (min.)	
One way - AM peak	70
One way - PM peak	48
Round trip - AM peak	120
Round trip - PM peak	103
Daily Departures (morning and afternoon, each)	
30 min frequency	6
60 min frequency	3
Vehicle Requirement (does not include a spare vehicle)	
30 min frequency	4
60 min frequency	2
Stop Characteristics	
AM Total stops	4
PM Total stops	4
Park and ride stops	3
Population (2010) within 2.5 miles of park-and-ride lots	81,141
Employment (2010) within 1/4 mile of all stops	10,532
Employment (2010) in major employment centers within 1/4 mile of all stops	3,922
Selected Travel Times (min.)	
Conway (Skyline Drive) to River Cities Travel Center- AM	62
Conway (Dave Ward Drive) to River Cities Travel Center- AM	50
Conway (Skyline Drive) to State Capitol Complex – AM	70
Conway (Dave Ward Drive) to State Capitol Complex – AM	58
North Little Rock to Conway (Dave Ward Drive) – AM	24
North Little Rock to Conway (Skyline Drive) – AM	30
State Capital Complex to Conway (Dave Ward Drive) – PM	38
State Capital Complex to Conway (Skyline Drive) – PM	48
North Little Rock to Conway (Dave Ward Drive)- PM	30
North Little Rock to Conway (Skyline Drive)- PM	38
Conway (Dave Ward Drive) to River Cities Travel Center- PM	25
Conway (Skyline Drive) to River Cities Travel Center – PM	31
Vehicle Revenue Hours	
Daily @ 30 min frequency	22
Daily @ 60 min frequency	11
Annual @ 30 min frequency	5,800
Annual @ 60 min frequency	2,900

Figure 5-1. Recommended I-40/I-40 Route

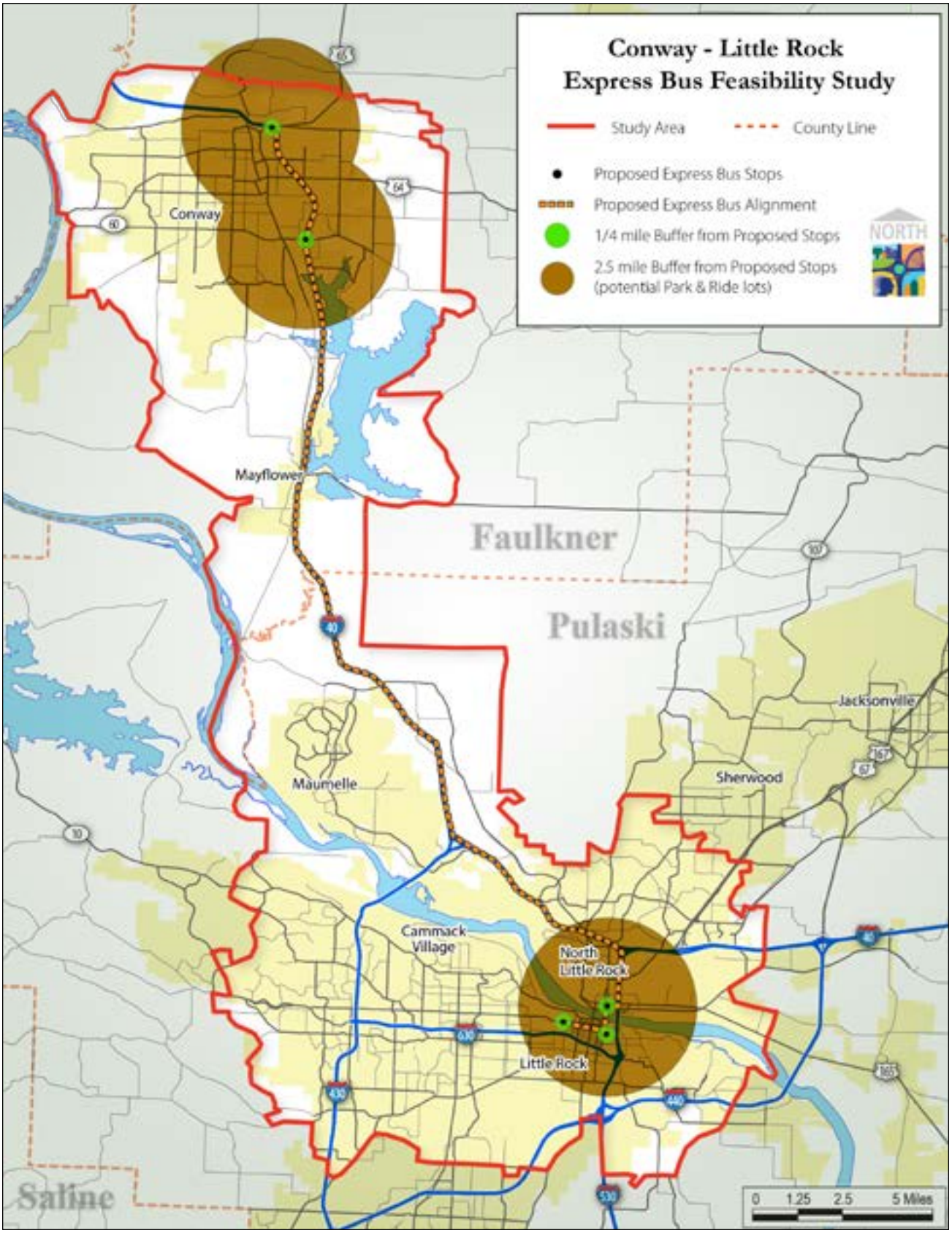


Figure 5-2. Recommended I-40/I-40 Route – Conway

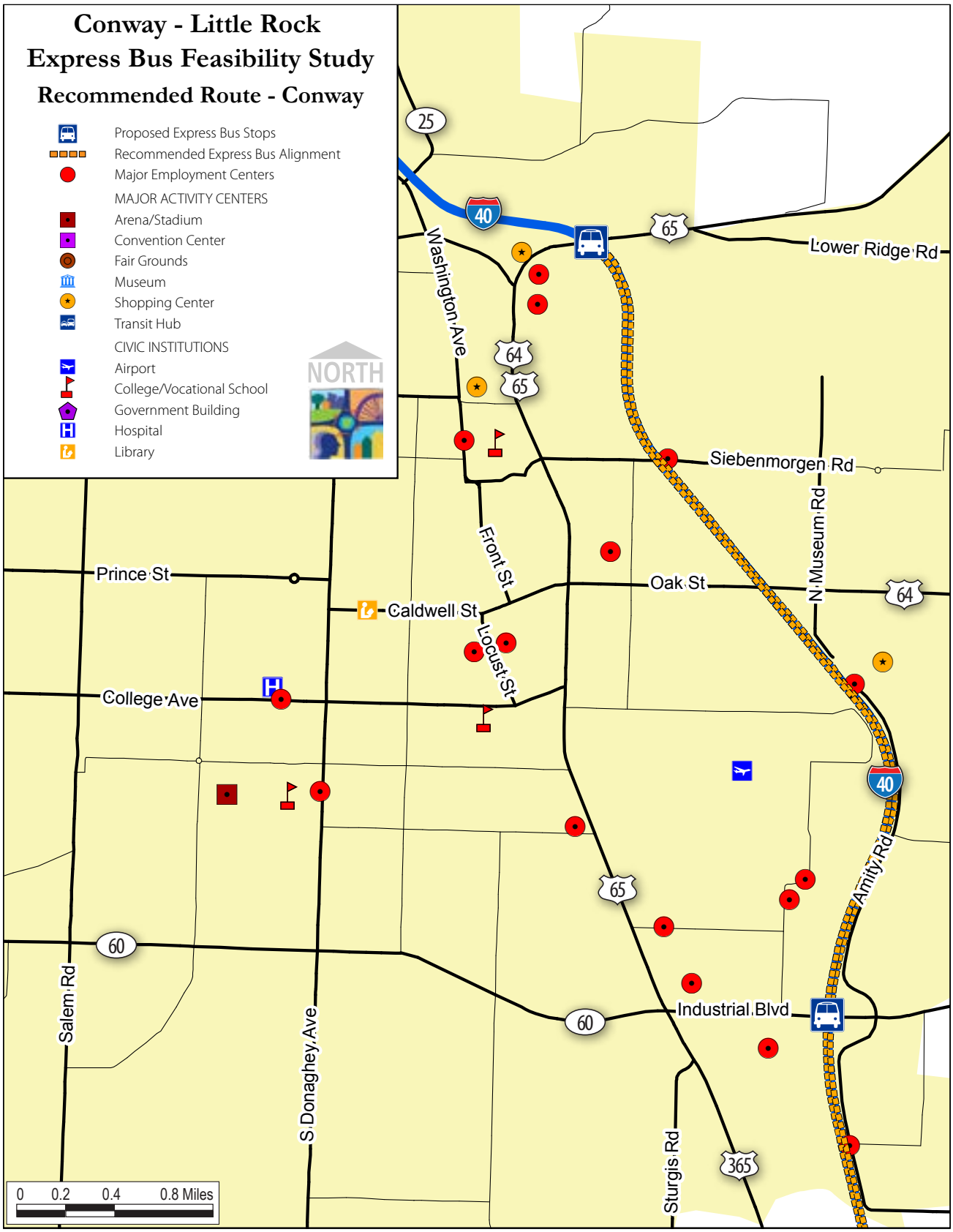


Figure 5-3. Recommended I-40/I-40 Route – North Little Rock and Little Rock

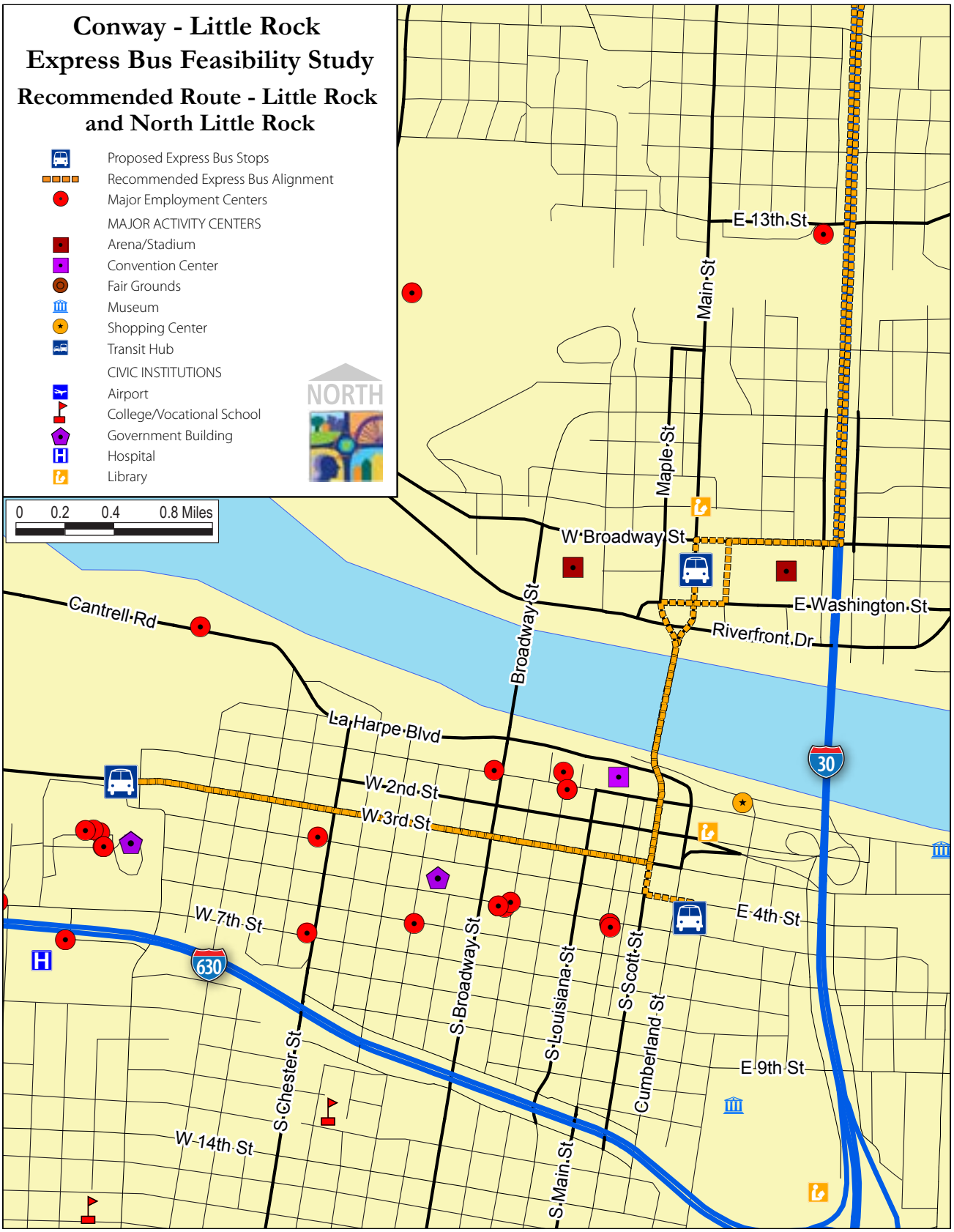


Table 5-2. Proposed Stops and Segments for the Recommended I-40 /I-30 Route

Park-and-Ride and Transit Stops	Segments
I-40/ Skyline Drive interchange park-and-ride lot in Conway (existing lot, shared-use)	Southbound: Travel along I-40 to Dave Ward Drive/ Industrial Boulevard / Highway 60 (approximately 3.6 miles)
I-40/ Dave Ward Drive/ Industrial Boulevard / Highway 60 park-and-ride lot in Conway (existing and/or new lot)	Southbound: Travel along I-40 to I-30, and exit I-30 at the West Broadway interchange in North Little Rock. Continue west on West Broadway, turn south on Maple Street, travel across the Main Street Bridge, and continue on Main Street/ Scott Street, turning left onto 4th Street (approximately 27.3 miles)
River Cities Travel Center at Cumberland Street and 4th Street in Little Rock (existing CATA transit hub)	Southbound: Travel along 4th Street, right onto Scott Street, left onto 3rd Street to the State Capitol complex (approximately 1.4 miles)
3rd Street at Bishop Street at the State Capitol Complex (existing CATA transit stop)	One-way route length = 32 miles
North Little Rock on Main Street between East Broadway and Washington Avenue (riders could utilize the existing nearby public parking lots as informal park-and-ride lots)	Northbound: Travel down 3rd Street, then travel across the Broadway Bridge to a stop in North Little Rock (approximately 1.8 miles)
I-40/ Dave Ward Drive/ Industrial Boulevard / Highway 60 park-and-ride lot in Conway (existing and/or new lot)	Northbound: Travel north via I-30 and I-40 back to the I-40/ Dave Ward Drive/ Industrial Boulevard / Highway 60 park and ride lot (approximately 26.6 miles)
I-40/ Skyline Drive interchange park-and-ride lot in Conway (existing lot, shared-use)	Northbound: Travel north via I-40 back to the I-40/ Skyline Drive interchange park and ride lot (approximately 3.6 miles) One-way route length = 32 miles

River Cities Travel Center, Little Rock

State Capitol Building, Little Rock

spaces would need to be added, or the construction of an additional park-and-ride facility in the southeast quadrant of the interchange should be explored (if there is adequate right-of-way).

There are numerous underused public parking lots that exist on North Poplar Street, near the proposed stop in North Little Rock on Main Street. Riders could utilize the existing public parking lots, such as the ones owned by the City of North Little Rock, as informal park-and-ride facilities.

As the route enters Little Rock, where there is a higher employment density, nearby residential areas, and space constraints due to existing development, the need for and feasibility of park-and-ride lots is reduced. The existing Central Arkansas Transit Authority (CATA) stops at the River Cities Travel Center and at the State Capitol Complex are intended to be accessed by pedestrians, bicyclists and transit riders transferring from other CATA routes.

While the formal park-and-ride facilities mentioned above for Conway should be implemented in the short-term, others should be considered for longer-term if the express bus service area and frequency of service grows. Additional locations for park-and-ride facilities, such as at the future interchange at I-40 at Gold Creek in Faulkner County, should also be explored. The park-and-ride facilities should be designed to maximize traveler's convenience, facilitate ease of entry and exit for bus vehicles to the interstate highway and ensure vehicle security.

The needs and capital costs to provide signs for the express bus service and to build bus shelters at additional park-and-ride lots will need to be budgeted, as detailed in Section 5-5 (Capital Costs).

I-40/Skyline Drive interchange park-and-ride lot in Conway

I-40/Dave Ward Drive/Industrial Blvd./Hwy 60 park-and-ride lot in Conway

3rd Street at Bishop Street at the State Capitol Complex

North Little Rock stop off Main Street and North Poplar Street

5.1.3 Vehicle Requirements

A total of three transit buses will be required for start-up of the express service along the I-40 / I-30 route at 60-minute headways during the AM and PM peak periods only, with two vehicles providing the service and a third vehicle serving as a back-up vehicle to maintain service headways. If CATA were to operate the express bus service, then CATA could provide a spare vehicle as part of their existing fleet of spare vehicles. If an operator other than CATA operates the new express bus service, then a spare vehicle will need to be purchased.

In order to advance the express bus service into implementation, decisions to procure suitable vehicles will need to be made by the project sponsor(s). The purchasing decision for express buses is typically based on the following factors: size, propulsion system, high or low-floor, interior amenities and manufacturer.

Size

The table below outlines the vehicle characteristics of standard and articulated buses. The Federal Transit Administration's (FTA) procurement guidance states that bus vehicles must be at least 12 years old or have accumulated at least 500,000 miles before they can be replaced.

Propulsion System

Public transportation agencies are moving away from traditional diesel engines to vehicles powered by hybrid propulsion systems that burn alternative fuels. As of 2013, about 40 percent of the bus fleets in the U.S. were powered by alternative fuels. The type of propulsion system can positively affect emissions, service times, operating and maintenance costs and sound levels.

The majority of transit buses today operate on diesel fuel. Although diesel fuel is readily available, the diesel buses pollute more than other propulsion

Table 5-3. Typical Transit Vehicle Sizes and Capacities

Vehicle Characteristic	Standard Bus 	Articulated Bus 	Motor Coach Bus/ Over-the-Road Buses 
Length	40 feet	60 feet	45 feet
Width (including mirror)	10 to 10.5 feet	10 to 10.5 feet	8.5 feet
Height	10 to 11 feet	11 to 12 feet	11 to 12 feet
Ground-to-Floor Height	2.3 feet	2.3 feet	2.3 feet
Seated Passenger Capacity	40 to 45 people	65 people	47 to 56 people
Maximum Passenger Capacity (seated and standing)	65 to 75 people	100 to 120 people	56 people
% of Vehicles Active in Urbanized Areas	91.9%	6.4%	0.5%
Average New Vehicle Cost (in 2012-2013)	$400,000	$740,000	$450,000

Source: TCRP, the American Public Transportation Association, the American Bus Association and 2012 National Transit Database Revenue Vehicle Inventory for Urbanized Areas

Standard 40-foot Diesel Bus – North American Bus Industries

Articulated 60-foot Low Floor Bus – New Flyer

Passenger Coach Bus – Motor Coach Industries

systems. Currently, the cost of diesel buses range from $300,000 to $400,000, depending on what options are included. They achieve an average of two to three miles per gallon. The easy availability of diesel-powered vehicles is an important consideration for the start-up of new services to minimize both capital and operating costs. Motor coach buses (or over-the-road buses) are sometimes used to operate express bus service and intercity bus service, and are generally operated on diesel fuel.

Natural gas (compressed and liquid) is the second most used propulsion system. Natural gas buses produce fewer emissions, which helps transit agencies meet environmental protection laws. On the other hand, natural gas does not contain as much energy per unit as diesel fuel. The fuel economy tends to be lower on natural gas vehicles than diesel by about 0.6 miles per gallon. In addition, the lack of natural gas fueling facilities must be offset by the construction of new fueling facilities. Compressed natural gas vehicles are the most frequently employed alternatives to traditional diesel powered vehicles in use today. Average costs range from $400,000 per standard size natural gas bus to $670,000 per 45-foot bus, or more, depending on what options are included.

Hybrid bus technology combines a fossil-burning engine, which burns either diesel or gasoline, with an electric engine. The main advantage is that hybrid buses can provide a reduction in emissions and can provide an increase in fuel economy (by 30-40 percent). Average costs of these vehicles range from $500,000 to $700,000.

Battery electric transit buses are among the cleanest vehicle options, but because the electric bus battery range is so low (30-miles on average), the buses require recharging stations periodically at a convenient place along the route, preferably at bus stops or a layover location to avoid service delays and inconveniencing the passengers. The bus may need to charge for as long as five minutes. If the electric bus is already running late, then it may continue to run late for quite a while if it has to be re-charged, which would lead to poor system reliability. Electric transit buses typically cost $700,000 more than a diesel bus, with average costs near $1,000,000. In addition, the cost of necessary charging stations can

40-foot Low Floor CNG Bus - New Flyer

Natural Gas Bus - Nova Bus

Diesel-Electric Hybrid Bus - Nova Bus

be up to $50,000 each. In regions where pollution concerns prevent the purchase of diesel buses (such as in California), electric buses have had their greatest appeal.

High or Low-Floor

Low-floor vehicles were developed to make boarding and exiting the bus easier for seniors and people with disabilities. In a low-floor bus, entering and exiting is level with the curb. Although low-floor buses cannot hold as many people as a high-floor buses, the use of low-floor buses can reduce station boarding time by about 20 percent compared to high-floor vehicles due to due to the lack of stairs. Most manufacturers provide low-floor buses in

Hybrid Electric Bus

Electric Battery Bus – Ecoliner

Table 5-4. Percent of Bus Vehicles by Type of Fuel (2006-2011)

Type of Fuel	Percent of Bus Vehicles					
	2006	2007	2008	2009	2010	2011
CNG, LNG, and Blends	15.20%	15.60%	18.50%	18.30%	18.60%	18.60%
Diesel	81.40%	79.80%	70.20%	68.90%	65.80%	63.50%
Hybrid Electric and Other	1.70%	2.30%	3.80%	4.90%	7.00%	8.80%
Gasoline Biodiesel	0.60%	0.60%	0.50%	0.70%	0.70%	0.80%
Biodiesel	---	---	6.60%	6.40%	7.70%	7.90%
Other	1.20%	1.70%	0.40%	0.80%	0.20%	0.40%

Source: "Public Transportation Investment Background Data" published July 1, 2013 by the American Public Transportation Association (APTA) in the APTA Public Transportation Vehicle Database. (Data is a sample from an APTA member survey, they are NOT adjusted to national totals)

lengths of 29-31, 35 and 40 feet. Low-floor buses typically cost $50,000 - $60,000 more than a standard transit bus. Over-the-road buses and intercity bus coaches typically do not have a low-floor.

Interior Amenities

Interior amenities can be a primary marketing device in attracting choice riders. Such amenities include Wi-Fi access, electrical outlets, additional leg room and reclining seats. Access to wireless internet service can make passenger transit time more productive and attractive to choice riders. According to the American Public Transportation Association, the percentage of buses with WiFi access has increased from 0.5 percent in 2008, to 1.1 percent in 2010, to 3.8 percent in 2013. About 2.7 percent of buses have electrical outlets.

Passenger amenities, such as Wi-Fi, additional leg room, reclining seats, and information systems can be factors that attract express bus riders. These choices may help identify how to cater to a choice rider base and encourage greater use of the transit system.

Standard amenities on motor coach buses (or over-the-road buses) typically include high chair backs, reclining seats and armrests, optimal light and temperature control, spacious storage compartments, a restroom, adjustable individual reading lamps, a public address system, radio dispatch and GPS equipment. Optional additional amenities on

40-foot Low Floor Bus - Nova

40-foot Low Floor Bus - Gillig

AMENITIES

Percent of Online Survey Respondents that Expressed Interest in an Amenity (among those that identified themselves as "Likely Frequent Riders")

WiFi	69%
Additional leg room	43%
Electrical outlets	39%
Reclining seats	24%

passenger motor coach buses may include: Wi-Fi, 15-inch LCD TV monitors, electrical outlets, satellite ready AM/FM CD receiver, window blinds and individual headsets w/plug-ins.

The inclusion of these optional features is a function of vehicle procurement. There are too many factors to be able to estimate an a la carte cost for each feature with any degree of accuracy. However, a

Availability of free WiFi connection

Access to electrical outlets

Passengers enjoy WiFi connectivity during their commute

Express Bus equipped with reclining leather seats

reasonable assumption is that the features could add $10,000 to $25,000 to the cost of a vehicle.

Some transit operators have been able to add Wi-Fi service to their vehicles through use of a portable Wi-Fi hotspot. This is a relatively low-cost strategy, adding less than $100 per month to the cost of operating a vehicle.

Manufacturer

The three largest suppliers of standard and articulated buses to the American transit market are New Flyer of Winnipeg, Manitoba, Gillig of Hayward, California, and North American Bus Industries (NABI) of Alabama. Some transit agencies also purchase buses from Ontario-based Orion (now owned by Daimler-Chrysler) and St. Eustache, part of the Quebec-based Nova. The largest motor coach suppliers to the American transit market are Prevost and Motor Coach Industries. Most transit agencies minimize costs by limiting the manufacturer, type, and capacity of the vehicles they operate. Operating multiple vehicle types require a much larger supply of spare parts, which are not generally interchangeable, increasing the cost of the spare part inventory.

CATA currently operates a fleet of 59 buses, and all them are low-floor Gillig vehicles. All buses in the fleet have the same industrial-type hard seating, and all are equipped with Americans with Disabilities Act-required (ADA) ramps, a camera system and a fare box. CATA currently utilizes 35-foot and 40-foot buses, and they are currently applying for a federal grant that includes real-time passenger arrival information and Wi-Fi accessibility for all buses.

Passenger information for the express service can be provided at the River Cities Travel Center consisting of real time information regarding schedules and wait times. On-board traveler information can also be provided on buses using variable message boards, if included in the vehicle specifications.

Other forms of passenger information (i.e. maps, schedules, stop locations, etc.) can also be provided on the CATA and Metroplan websites and accessed via smartphones, employer websites, at each park-and-ride lot, and other key locations in the service area. Fare collection would be handled by the drivers validating passes or by riders paying-on-board with cash using fare box equipment similar to that used by CATA for its local service. Fare box equipment should be accounted for during the procurement process for the express service vehicles and included in the capital budget for the service.

5.2 Operating Characteristics

In the initial start-up phase, the recommended express bus service should operate only during peak travel periods, for a total of six hours each day, Monday through Friday. During the morning peak hours of 6:00 AM to 9:00 AM, the two buses would operate on 60-minute headways, with one bus starting the inbound (southbound) route at Conway, then once the inbound route is finished, operate the outbound/reverse segment of the route back through North Little Rock to Conway. During the three-hour peak period, a total of four bus runs (two in the AM and two in the PM) could be operated.

During the evening peak hours of 3:30 PM to 6:30 PM, the two buses would operate on 60-minute headways as well. No service will operate during the midday hours, from 9:00 AM to 3:30 PM, or on the weekends during the initial stage. If the service proves successful, expanded operating hours and/or 30 minute headways, along with expanded service into Conway can be pursued as a next step.

However, in order to attract riders to the express bus service, even during the initial period, it is recommended that a "guaranteed ride home" or taxi voucher program be instituted for express bus transit riders who may have a family or personal emergency and need to get home in the middle of the day. Without this "safety net", many potential express riders will opt out of using the service. These programs are common among transit systems operating peak-hour express bus and/or vanpool services without major issues in abuse of the system. Typically, three or four vouchers per year are available to a rider for these emergency services, if needed.

The AM peak hour one-way trip for a vehicle leaving Conway and arriving at the State Capitol Complex in Little Rock is approximately 70 minutes, or 1 hour and 10 minutes, including dwell times. For planning

purposes, a three and a half (3.5) minute dwell time is assumed, which is considered the scheduled time a vehicle is allowed to discharge and take on passengers at a stop, including opening and closing doors. The anticipated roundtrip travel time for a vehicle in the morning peak hours is approximately 120 minutes, or 2 hours.

The PM peak hour one-way trip for a vehicle leaving the State Capitol Complex in Little Rock and arriving in Conway is approximately 48 minutes. The anticipated roundtrip travel time for a vehicle in the peak hour evening hours is 103 minutes, or 1 hour and 43 minutes. The total estimated travel time for the vehicle includes the three and a half minute (3.5) dwell time at each stop, and 10-minute operator layover time and schedule recovery time per round trip. Layover time or recovery time is defined as time built into a schedule between arrival at the end of a route and the departure for the return trip, and is used for the recovery of delays and preparation for the return trip.

The widening of I-40 from four-lanes to six-lanes (three through-lanes in each direction) between North Little Rock and Conway has already begun and all segments of the widening should be completed by 2017. The widening of I-40 will reduce travel times for both automobiles and the proposed express bus service.

Existing CATA bus routes would serve as feeder bus routes for the express bus service at the stations in North Little Rock and Little Rock. Besides the CATA routes that would feed the stop at the River Cities Travel Center, there are two other CATA routes that would provide a transfer option at the State Capitol Complex stop at Third Avenue and Bishop Street. These two routes are: 1 Pulaski Heights and 8 Rodney Parham. In addition, the nearby CATA stops on Woodlane Street at the State Capitol Complex would provide transfers to Route 3 (Baptist Medical Center); Route 17 (Mabelvale-Downtown); and Route 36 (Jacksonville-Sherwood Forest).

Near the proposed North Little Rock stop on Main Street or North Poplar Street, there are five CATA routes that would provide transfer options at the stop at Washington Street and Main Street. These routes include: Route 4 (Levy / Amby), Route 7 (East Ninth), Route 10 (McCain Mall), Route 13 (Pulaski Tech) and Route 18 (McAlmont).

As described previously, if conditions change in Faulkner County and local connecting transit service is operated, the viability of a reverse commute service for the Conway express bus service should be re-visited by the appropriate parties.

5.3 Management and Operating Scenarios

This section describes three management and operating scenarios available to deliver the proposed express bus service. As stated previously, the affected local governments, primarily the City of Conway and Faulkner County, along with their federal, state, and regional partners, must determine whether the service is feasible and should advance to implementation. At the request of the Steering Committee, three distinct operating scenarios have been considered:

- Private Operator
- City of Conway and Faulkner County acting as a Joint Power Agency
- Central Arkansas Transit Authority (CATA) as Operator

The advantages and disadvantages for each of the operating scenarios are described for the new

express service. The detailed costs for each of the operating scenarios are provided later in Section 5.9.

5.3.1 Private Operator

The first scenario was requested by members of the Steering Committee as an alternative to public sector involvement. Under this scenario, the service would be provided exclusively by a private operator (or private service provider). The vehicles would be based on the fleet availability and preference of the private operator. The choice of vehicle would also impact the cost of the service since the cost charged by the private operator would account for its vehicle costs. Additionally, the private operator would be responsible for all administration and maintenance, including schedules and maintenance facilities. Funding and financial issues would be under their control.

A preliminary list of existing private transportation providers in the region who could theoretically provide this service include:

- **Arkansas Destinations** – Arkansas Destinations, Inc. is the parent company of Arkansas Trolley Company, Arkansas Events and Arkansas Weddings, and specializes as a Destination Management Company that offers sedan, limousine services, 14-passenger van/trolley buses, 25 passenger mini-buses and 47 - 56 passenger tour buses.
- **Little Rock Tours** – Little Rock Tours is a division of Eventure America that offers the state's only daily sightseeing tours, and is a full-service receptive operator and an outbound tour company. Little Rock Tours has vans, mid-size buses, as well as 11 full-size 56-passenger motorcoaches available for charter. Most of the motor coaches are equipped with WiFi, and all have climate control, reclining seats, VHS and DVD systems, restrooms, and large cargo bays.
- **Arrow Coach Lines** – Arrow Coach Lines is a family owned and managed company, specializing in charter, tour and contract motorcoach operations. Their customer base includes: tour operators, travel agencies, meeting planners, corporations, sport teams, city/state officials and schools. Arrow Coach Lines offers a wide range

of transportation services including: school field trips, convention shuttles, a 15-passenger sprinter bus, interstate charter service to all 48 intercontinental states and Canada, an airport transfer service and charter service for corporations.

- **Greyhound Bus** – Greyhound Bus, Lines Inc. is an intercity bus service common carrier of passengers serving over 3,800 destinations in the United States, Canada, and Mexico, with 13,000 daily departures across North America. Greyhound primarily operates motorcoaches produced by Motor Coach Industries and Prevost.
- **Jefferson Lines** – Jefferson Lines is a regional intercity bus company operating in United States that serves 13 states, including Arkansas. Jefferson Lines has 265 employees including roughly 150 drivers, and is reported to have over 100 buses in its fleet. Jefferson Lines is a member of the American Bus Association, United Motorcoach Association, and National Tour Association.
- **Kerrville Bus Company** – Kerrville Bus Company is a subsidiary of Coach America and is one of the nation's largest luxury charter motorcoach and transportation service providers. Their 55-passenger motorcoaches include reclining seats, large scenic windows, luxury seats, restrooms and DVD equipped motorcoaches.

Advantages:

- Labor costs are different between the public and private sectors in cases where the hourly rate of private employees may be less than that of a public agency's unionized labor (i.e. CATA currently employs 200 employees and approximately 155 are union eligible and are covered by a union contract).
- If a new express bus service is established that will only operate during the morning and evening hours, then a private operator could hire drivers to work split shifts to cover the morning and evening commutes, with no overtime compensation. A split shift driver would work four hours in the morning and then four hours in the late afternoon without overtime compensation, rather than a straight shift of eight consecutive hours. Sometimes a split shift scheduling arrangement may be prohibited by a public agency's union contract, such as CATA.
- Private operators could establish the new express service more quickly, on the assumption that the private operator can mobilize and implement the service faster than a public agency such as CATA or a city/county Joint Power Agency. A private operator would not have to go through the length processes involved with government funds and budgets.
- All vehicles and additional components such as spare parts, maintenance equipment, fueling systems, and information technology systems would be owned by the private operator. The private operator would handle its own quality control issues that would arise with service, vehicles, skills and training.
- A private operator might have more of an incentive to provide a quality transit service to attract choice riders.

Disadvantages:

- The relatively small scale of the proposed express bus service may not attract the interest of a private operator in its start-up phase. However, if the service expands substantially in the future, this may be a viable option.
- A private operator or service provider would not have access to FTA 5307 or other public funds.
- Without public subsidy, it may be difficult to operate the service profitably.

5.3.2 City of Conway and Faulkner County acting as a Joint Power Agency

In this scenario, the City of Conway and Faulkner County would own, manage and operate the transit service as an independent agency. Thus, the City and County would become a joint power agency through a county-city agreement and would have complete control over the service levels, schedules and vehicles. All decisions would be made at the local level and all financial decisions would be made by elected officials. The City and County would purchase the vehicles based on size, need and preference, and would hire staff to handle adminis-

tration and maintenance duties. Initially, this joint power agency could contract with a private service operator or CATA to deliver the service, and then the agency would serve in a management role only. Should the agency provide sufficient capacity in the future, it could assume control of all management and operations.

Advantages:

- As an urbanized area, the City of Conway could have access to FTA 5307 or other public funds.
- Initially, the City of Conway and Faulkner County could contract with CATA or a private operator to deliver the service. Later, the agency could assume control of operations and management as capacity becomes efficient.
- The City of Conway has a fleet maintenance facility which could be used to maintain the transit buses as well, thus alleviating the need to construct a new facility.
- If a local fixed-route transit system becomes established in Conway, then it could become more cost efficient for the City of Conway and Faulkner County to own, manage and operate the express bus service. Or, the transit experience gained by the City of Conway through the start-up of the express bus service could prove to be the critical experience that is needed should the City of Conway establish its own local fixed-route transit system.

Disadvantages:

- The City of Conway and Faulkner County would have to develop new transit experience and resources in-house in order to implement the new express bus service. At the current time, the City of Conway and Faulkner County do not operate transit service. Thus, there would be the need for City/County departments to take on the new responsibilities required for the operation of transit service, including: finance/budgeting, cash control, employee hiring and training, vehicle procurement, vehicle maintenance and fueling, grant management and service marketing and promotion.
- Additional components such as spare parts, administrative vehicles, maintenance equipment, fueling systems, and information technology systems are also required. The City of Conway and Faulkner County do not currently have the necessary infrastructure or expertise that is needed to support the proposed bus system. Quality control issues may arise with service, vehicles, skills and training.
- A new transit service would be vying for public funds and would compete with existing government departments for these limited funds. The City Council and Commissioners may not see transit as an essential service when it is competing with traditional governmental services.
- New taxes would be required to establish a funding source for the Joint Power Agency.

5.3.3 Central Arkansas Transit Authority (CATA)

In the final scenario, the service would be managed and operated by the Central Arkansas Transit Authority (CATA), a public sector transit entity that is federally subsidized. CATA currently provides a variety of transit services to serve the jurisdictions of Little Rock, North Little Rock, Maumelle, Sherwood and other portions of Pulaski County. Fixed route transit service is limited to Pulaski County. As of December 2013, CATA utilizes a fleet of 59 buses on 22 fixed bus service routes and four express bus service routes. Express weekday commuter service is provided from outlying areas to Downtown Little Rock and the State Capitol Complex on the following four routes: Hensley Express (#19), Pinnacle Mountain Express (#25), Maumelle Express (#26) and Jacksonville-Sherwood Express (#36). In 2012, the Jacksonville-Sherwood Express had the highest number of passengers per revenue hour among the express routes, averaging 13.5 passengers per revenue hour.

Advantages:

- CATA currently has the organizational strength, transit planning, operating, and management expertise, institutional history and depth of existing transit resources to carry out the new express bus service. It is fulfilling this role for four other express services in the region.
- The new express bus service would have the ability to provide free transfers for passengers to other CATA local routes. In contrast, other service providers would require an agreement with CATA to allow passengers to transfer from the express bus service to the CATA local routes.
- Due to the start-up nature of the express bus service and the need to test the ridership demand along the route, CATA could use part of their existing fleet to operate the service. As the ridership patterns stabilize and the service proves successful, procurement of more specialized vehicles for the express service can be undertaken.
- As a start-up service, the true demand for the service is difficult to predict. If service adjustments are needed to match the demand over time, CATA could potentially be more flexible in responding to these changes, compared to modifying contractual arrangements with a private sector operator or a Joint Powers Agency.

CATA could have access to FTA 5307 or other public funds.

Disadvantages:

- CATA does not have an organized Guaranteed Ride Home (GRH) Program. As described previously, a GRH program would give an added level of comfort to potential riders of the Conway express service to enable them to return home in the middle of the day if there are emergencies. The initial operating plan for the service does not include mid-day service.
- The current CATA fleet is near capacity. CATA has a total of 59 vehicles in its fleet and operates 49 of them in peak service, leaving only 10 vehicles as spares.
- CATA experiences a wait time of about 18-24 months to get new vehicles ordered and delivered.

If CATA operates the system, then a similar bus of the same service quality would have to be available if wanting to use a current CATA bus as a spare vehicle. This would impact the choice of transit vehicle to be procured for the new express bus service.

5.4 Phasing

To align system investments and ridership demand, the express bus service should be implemented in two phases, a start-up phase (years 1-4) and a build-out phase (year 5 and beyond). The phasing approach to the service will depend on the ridership trends for the service, the extent to which the express bus service can be integrated into local transit routes, the overall performance and productivity of the service and the availability of local capital and operating revenue sources.

5.4.1 Start-Up Phase (Years 1-4)

Linking the fast growing City of Conway in Faulkner County to regional destinations in Little Rock, the purpose of the start-up phase is to introduce express bus transit service in the I-40 corridor to meet travel demand across regional activity and employment centers.

The operating plan in the start-up phase establishes express buses running a total of 11 revenue vehicle hours (two vehicles operating between 6:00 AM to 9:00 AM and between 3:30 PM to 6:30 PM at 60 minute frequencies during weekday peak hours).

5.4.2 Build-Out Phase (Year 5 and Beyond)

The intent of the build-out phase is to provide long-term flexibility to commuters and transit providers. As growth occurs in the I-40 corridor and transit ridership demand increases, there are a series of system improvements that can be made incrementally that would result in the fully implemented

express bus transit service. The key improvements of the build-out phase include:

- Increased express bus service frequency between Conway and Downtown Little Rock at 30-minute headways, which would require a total of four standard vehicles to operate. This improved service might also include an additional stop off I-40 in Conway at the future Gold Creek interchange.
- Expanded express bus service to the I-630 Medical District.
- New local bus feeder service in Conway to accommodate potential reverse commuters.

5.5 Capital Costs

Capital cost estimates are based on the Federal Transit Administration's (FTA) standard cost categories, and where applicable, use prototypical baseline costs from FTA guidance. The standard cost categories for the capital cost estimate are:

- Vehicles, including fare box and communications equipment.
- Construction or improvement of new and/or improved park-and-ride facilities and/or curbside stops.
- Vehicle communications equipment (if not included in vehicle cost).
- Fare box equipment (if not included in vehicle cost).

Miscellaneous office equipment, including computers, copiers, office furniture, advertising/marketing, management and/or administrative labor costs, etc.

The cost of vehicles in the start-up phase varies from $600,000 to $1,350,000 depending on the operating scenario and type of vehicle. Two vehicles are required to operate the proposed service at 60-minute headways. Additionally, the Conway/Faulkner County scenario will require the purchase of third vehicle to be used as a spare when one of the others is down for maintenance. Under the CATA and Private Operator scenarios, it is assumed that a spare vehicle can be absorbed from their existing fleet and does not need to be purchased.

Due to the limited funding available, it would be best to lease parking spaces at initial park-and-ride

Table 5-6. Capital Cost Estimate for the Express Bus Service by Cost Category (in 2013 dollars)

Cost Element		Start-Up Phase			Build-Out Phase		
		Private Operator	Conway/ Faulkner County	CATA	Private Operator	Conway/ Faulkner County	CATA
Transit Buses, Fareboxes, and Communications Equipment[1]	Standard Transit Vehicle	$600,000	$900,000	$600,000	$600,000		
	Motor Coach	$900,000	$1,350,000	$900,000	$900,000		
Station/Stop Signs for Initial Service		$5,000	$5,000	$5,000	N/A		
Bus Shelters at Park-and-Ride Lots		$30,000	$30,000	$30,000	TBD		
New Park-and-Ride Lot Facilities (Long-Term)		NA	NA	NA	TBD		
Bus Maintenance and Storage Facilities[2]		NA	NA	NA	NA		
TOTAL		$635,000 to $935,000	$935,000 to $1,385,000	$635,000 to $935,000	$600,000 to $900,000 (excluding costs of building new park-and-ride lots and the cost of new bus shelters)		

1 - Assumes two vehicles in operation. Conway/Faulkner County scenario also includes cost to purchase a spare vehicle.
2 - Assumes bus storage and maintenance can be accommodated as part of existing fleet operations.

facilities rather than build park and ride lots, etc. until the express service has a proven solid demand. An additional two vehicles will be required in the build-out phase to operate at 30-minute frequencies, totaling $600,000 to $900,000 (depending on the type of vehicle).

It is assumed that, under the CATA and Conway/ Faulkner County scenarios, facilities for the storage and maintenance of vehicles can be accommodated as part of their existing fleet operations. Under the Private Operator scenario, it is also assumed that maintenance and storage facilities exist and that the cost will be accounted for as part of operating overhead. Capital costs for the transit service are separated by phases and are summarized in Table 5-6.

5.6 Operating Costs

Annual operating and maintenance (O&M) costs were derived using an estimated number of annual vehicle revenue hours of service. For the CATA scenario, costs are based on actual operating cost data as reported in the National Transit Database and include all cost elements, including fuel, maintenance, insurance, vehicle operators and administration. For the Conway/ Faulkner County and Private Operator scenarios, a combination of cost factors were used, including vehicle fuel and maintenance unit cost data as reported by CATA and assumptions about hiring and/or dedicating staff for vehicle operations and administration. Additional assumptions were made for the Private Operator scenario regarding overhead costs for facilities. The detailed cost tables and assumptions of the

Table 5-7. Operating & Maintenance Costs by Cost Category (in 2013 dollars)

Cost Element		Start-Up Phase			Build-Out Phase		
		CATA	Conway/ Faulkner County	Private Operator	CATA	Conway/ Faulkner County	Private Operator
Operating Cost	Annual Vehicle Revenue Hours (VRH)	2,900	2,900	2,900	5,800	5,800	5,800
	Inclusive Cost per VRH	$75.00	N/A	N/A	$75	N/A	N/A
	Fuel and Maintenance Cost per VRH	N/A	$44.52	$44.52	N/A	$44.52	$44.52
	Fuel and Maintenance Overhead Cost	N/A	0%	10%	N/A	0%	10%
	Operator and Administration Costs	N/A	$138,000	$107,000	N/A	$238,000	$205,000
	Operator and Administration Overhead Costs	N/A	0%	10%	N/A	0%	10%
Total Operating Cost		$218,000	$267,000	$261,000	$435,000	$496,000	$511,000
Shared parking area arrangement (short-term)		TBD	TBD	TBD	TBD	TBD	TBD
Marketing materials (i.e. hard copy maps, website content, flyers, etc.)		TBD	TBD	TBD	TBD	TBD	TBD
Total O&M Cost		$218,000	$267,000	$261,000	$435,000	$496,000	$511,000
		(excluding costs of short-term parking facilities and marketing materials)			(excluding costs of long-term parking facilities and marketing materials)		

Note – The operator and administration costs of the Private Operator scenario could be lower than $261,000 in the start-up phase and $511,000 in the build-out phase due to the labor cost in the private sector (which may be less due to non-unionized labor). But the exact costs are unknown in absence of a negotiated contract with a Private Operator. Detailed cost estimates are included in Appendix A.

O&M costs for each of the scenarios are provided in Appendix A.

The cost estimates are based on the service level of 2,900 annual vehicle revenue hours in the start-up phase (for two vehicles during the AM and PM peak periods) and 5,800 vehicle revenue hours in the build-out phase (for four vehicles during the AM and PM peak periods) for the route.

The annual projected cost of operating and maintaining the proposed express bus service in the start-up phase at 60-minute frequencies ranges from $218,000 to $267,000 in 2013 dollars. The annual projected cost of operating and maintaining the proposed express bus service in the build-out phase at 30-minute frequencies ranges from $435,000 to $511,000 in 2013 dollars. Operating and maintenance costs for the transit service are separated by phases and are summarized in Table 5-7.

5.7 Ridership Estimates

It is difficult to predict ridership on new express bus routes because the possible motivations for using the service vary from place to place, including income levels of riders, cost of auto use and parking compared to transit fares, level of congestion and other factors that could cause travelers to choose another mode of travel, etc. Potential transit users must consider the cost of driving in terms of monetary costs and time compared to the same for a transit trip. Very often, commuters do not consider the full cost of their auto travel and only consider their out-of-pocket costs, such as the cost of fuel, tolls, parking, etc. Assuming the 64-mile round-trip route length, the availability of free parking at the trip end that is common in Downtown Little Rock, a fuel cost of $3.50/gallon and a typical automobile (with 25-mile per gallon fuel efficiency), a commuter would likely see a maximum round trip automobile commute cost of $17.92 per day.

In addition to the trips made by commuters who are unwilling to use the bus, there are types of trips that are not typically attractive to express bus riders, including:

- Trips made by shift workers or students who because of the timing of their work or school schedule may not be able to use the service;
- Trips made by employees who need their personal car for work, school or other purposes during the day who are unable to leave their cars at home and ride transit;
- Travelers with a short work trip length that would have no cost savings or travel time advantage in using the express bus service.

It is also very difficult to predict ridership for a new transit service where there is not a clear method for providing travel time savings for the rider, such as operating in an express or high-occupancy vehicle (HOV) lane for part of the trip. As the service is implemented, the level of ridership should be monitored closely, including the location of trip origins and destinations which may provide guidance on how to refine or modify the route and/or stop locations based on actual transit operating experience.

Ridership estimates were determined using a peer review of express bus routes in Louisville (Transit Authority of River City), Tallahassee (StarMetro) and Tulsa (Metropolitan Tulsa Transit Authority), which have populations that are more comparable to the Little Rock region, along with larger metropolitan areas in Nashville (Metropolitan Transit Authority and Regional Transit Authority) and Charlotte (Charlotte Area Transit System), which have successfully established multiple express bus routes. Table 5-8 summarizes key service and operating characteristics for express bus service for the peer cities. The row showing characteristics for the "Peer Average" only includes the peer routes where the "Average Weekday Ridership" was available. The average weekday ridership of the "Peer Average" is 194 riders. Based on the peer review, the average daily boarding is estimated at 75 to 90 riders per day for the start-up service at 60-minute frequencies, and at 150 to 200 riders per day for the build-out phase at 30-minute frequencies. The ridership estimates for the proposed service do not assume reverse commuting riders from Little Rock and North Little Rock to Conway since Conway currently lacks a local fixed-route transit system. The proposed service is comparable to the peer cities in terms of hours of service, trip length, travel time, number of stations and the cost of a one-way fare.

Table 5-8. Service and Operating Characteristics for Express Bus Service in Peer Cities

Location/ System	Service Area Population of System (in 2012)	Route #	AM Peak			PM Peak		
			Hours of Service	Frequency	# of Buses	Hours of Service	Frequency	# of Buses
Proposed Service (Start-Up Phase)	304,678	Alternative 2: I-40 / I30	6:00 – 9:00 AM	60 min	2	3:30 – 6:30 PM	60 min	2
Proposed Service (Build-Out Phase)	304,678	Alternative 2: I-40 / I30	6:00 – 9:00 AM	30 min	4	3:30 – 6:30 PM	30 min	4
Peer Average[1]	1,049,645	N/A	5:53 - 8:39 AM	31 - 46 min	3.25	3:34 - 6:17 PM	32 - 53 min	3.25
LOUISVILLE (Transit Authority of River City)	806,893	64x Fincastle Forest Springs	6:30 - 7:52 AM	30 min	2	4:40 - 5:56 PM	30 min	2
		67x Oldham I-71 Express	6:30 - 8:17 AM	25 -30 min	3	4:15 - 6:00 PM	25 -30 min	3
		68x Prospect Express	6:20 - 7:46 AM	N/A	1	4:40 - 5:56 PM	N/A	1
TALLAHASSEE (StarMetro)	162,310	Southwood Express	6:30 - 9:30 AM	60 min	3	3:20 - 6:50 PM	60 min	4
TULSA (Metropolitan Tulsa Transit Authority)	400,000	#902 - Broken Arrow Express	6:30 - 8:30 AM	80 min	1	4:00 - 6:00 PM	66 min	1
		#909 - Union Express	6:50 - 7:37 AM	47 min	1	4:47 - 5:45 PM	58 min	1
NASHVILLE (Metropolitan Transit Authority and Regional Transit Authority)	1,583,115	#84X Murfreesboro Express	5:40 - 8:00AM	15-20 min	3	3:48 - 6:05PM	30 min	3
		#86X Smyrna/ LaVergne Express	6:00 - 8:00 AM	25-30 min	3	3:45 - 5:45 PM	25-30 min	3
		#87X Gallatin Express	5:45 - 7:35 AM	40 min	2	3:22 - 6:00 PM	25-45 min	2
		#91X Franklin/ Brentwood	6:25 - 8:08 AM	30 min	3	3:45 - 5:34 PM	25 min	3
		#94X Clarksville Express	6:00 - 7:45 AM	25 min	3	3:50 - 5:50 PM	51-57 min	3
		#95X Springhill Express	5:30 - 7:30 AM	30 min	2	3:45 - 5:30 PM	30 min	2
		#96X Nashville/ Murfreesboro	All day	60-90 min	3	All day	60-90 min	3
CHARLOTTE (Charlotte Area Transit System)	758,927	#46X Harrisburg Road Express	6:00 - 9:00 AM	30 min	5	4:00 - 7:00 PM	30 min	5

1 – Peer Average only includes the routes where the "Average Weekday Ridership" is available.

Sources: National Transit Database, Wikipedia, http://www.ridetarc.org/maps-schedule, https://www.talgov.com/starmetro/starmetro-routes-swx.aspx, http://tulsatransit.org/maps-schedules/, http://rtarelaxandride.com, and http://charmeck.org/city/charlotte/cats/Bus/Pages/default.aspx

Trip Length (one-way)	Travel Time (one-way)	# Stations	Number of Park-and-Ride Lots on Route	Average Weekday Ridership	One-Way Fare	Monthly Pass Fare	Active Bus Fleet
32 miles	48 - 70 min	5	3	75 - 90	$3 - $4	$50 - $60	N/A
32 miles	48 – 70 min	5	3	150 - 200	$3 - $4	$50 -$60	N/A
28.13 miles	65 - 78 min	5.25	1.88	194	$3.88	$82	Various
17 miles	51 min	8	2	N/A	$2.75	$85	• Gillig Advantage Low-Floor • Gillig BRT
25 miles	55 min	6	2	298			
14 miles	43 min	8	1	N/A			
8 miles	30 min	3	3	N/A	$1.25	$38	• Gillig Advantage Low-Floor • Gillig BRT
16 miles	50 min	7	2	N/A	$1.75	$40	• Gillig • New CNG buses
17 miles	58 min	7	2	N/A			
34 miles	74-94 min	5	1	165	$4	$70	• Gillig Low-Floor 40-ft, Neoplan Transliner Articulated Bus • Nova Rapid Transit Series #2 • North American Bus Industries 60 ft Hybrid Articulated Bus
24 miles	61-76 min	4	2	153			
29 miles	67-76 min	9	2	N/A			
22 miles	60 - 81 min	5	2	150			
48 miles	51-57 min	3	2	N/A			
36 miles	72 - 77 min	3	2	97			
34 miles	89 - 98 min	9	2	195			
13 miles	53-60 min	5	1	N/A	$2.75 within the county $4 to outside counties	$110	• Gillig Advantage Low-Floor 40-ft and Low-Floor Hybrid • Gillig BRT and BRT Hybrid • MCI D-Series • NovaBus Low-Floor

5.8 Farebox Revenues

Operating and maintenance expenses can be funded through a combination of revenue streams, including fare box revenues, local government revenues, such as general funds, property tax proceeds, or other local sources, depending on the operating scenario. In order to justify the cost of operating the express bus service, the fare must be set at a level that optimizes ridership and farebox recovery rate. In the case of the Private Operator scenario, in which no public revenue is assumed, the farebox recovery must exceed the operating expenses for the service to make financial sense.

Fare box revenue forecasts for the proposed express bus service are based on ridership estimates and assumptions regarding fare levels. In the start-up phase, estimated daily ridership for standard transit buses is estimated to be 75 round-trip riders, while the motor coach buses are estimated to draw about 90 round-trip riders. In the build-out phase, estimated daily ridership is 150 riders on standard transit buses, and 200 riders on motor coach buses. The rationale behind higher ridership for motor coach buses is that additional amenities, such as high chair backs, armrests and electrical outlets will draw more riders (who are willing to pay slightly higher fares).

Survey participants for the study were asked to indicate the maximum amount they would be willing to pay for a one-way fare. Out of the 479 frequent riders, 38 percent indicated they would pay $2 and 40 percent would pay $4 for a one-way fare. Only 14 percent of survey takers said they would pay $6 or $8 for a one-way fare. For a monthly pass, the largest portion of frequent riders (36 percent) indicated would pay $50 maximum. Among the other participants, 21 percent answered $60, 10 percent answered $70 and 16 percent answered $80 as a maximum monthly pass price.

Based on the online survey results, the fare level assumptions include a $3 one-way fare for the express bus service on standard buses, and a $4 one-way fare for the express bus service on motor coach buses. Monthly passes would cost $50 for the express bus service on standard buses, and $60 for the express bus service on motor coach buses.

If CATA becomes the operator, then the fare would include free transfer to a CATA local feeder bus route or an express bus route at the termination of the express bus trip. Travelers accessing the express bus route through a local bus route would pay $3 when boarding the local bus; this fare would include the transfer to the express bus line. To make the service more convenient and affordable, the region should consider instituting a transit pass program for the express bus service and discount it to encourage its use vs. cash fares.

Tables 5-9 and 5-10 show the estimated farebox revenue for the express bus service using standard transit buses and motor coach buses. Other assumptions include that the service would operate for five days a week for fifty weeks per year, and that 65 percent of the riders would use a monthly pass (due to the cost savings) and 35 percent would pay a one-way fare.

5.9 Summary of the Financial Costs

The proposed express bus service represents a flexible strategy to introduce new transportation options for people living and working in central Arkansas. Table 5-11 summarizes the total capital and operating and maintenance costs by phase. The total capital costs for the transit service ranges from $635,000 to $1,385,000 in the start-up phase and $600,000 to $900,000 in the build-out phase. The estimated annual operation and maintenance costs of standard buses range from $218,000 to $267,000 during the start-up phase and from $435,000 to $511,000 during the build-out phase.

The operating and capital costs for the proposed express bus service are preliminary, and cost estimates will be developed further in the next phase of project development, should an entity decide to proceed with express bus service. As cost estimates are refined, participating jurisdictions will be able to better understand the fiscal implications for their respective communities and potential revenue sources. Cost sharing strategies and governance structures defining ownership and management will

Table 5-9. Estimated Farebox Revenue and Recovery Ratio with Standard Transit Buses

	Start-Up Phase			Build-Out Phase		
	CATA	Conway/ Faulkner County	Private Operator	CATA	Conway/ Faulkner County	Private Operator
Annual O&M Cost	$218,000	$267,000	$261,000	$435,000	$496,000	$511,000
• Average Daily Ridership	75 Passengers			150 Passengers		
• 5 days a week for 50 weeks	250 Days			250 Days		
• Cost of Round-trip Fare	$6.00			$6.00		
• Cost of Monthly Pass	$50			$50		
• Annual Ridership	18,750			37,500		
• 35% of Riders Paying $6 Round-Trip Fare	$39,375			$78,750		
• 65% of Riders Paying $50 Monthly Fare	$50,781			$101,563		
Annual Farebox Revenue	$90,156			$180,313		
Farebox Recovery Ratio	41%	34%	35%	41%	36%	35%

Table 5-10. Estimated Farebox Revenue and Recovery Ratio with Motor Coach Buses

	Start-Up Phase			Build-Out Phase		
	CATA	Conway/ Faulkner County	Private Operator	CATA	Conway/ Faulkner County	Private Operator
Annual O&M Cost	$218,000	$267,000	$261,000	$435,000	$496,000	$511,000
• Average Daily Ridership	90 Passengers			200 Passengers		
• 5 days a week for 50 weeks	250 Days			250 Days		
• Cost of Round-trip Fare	$8.00			$8.00		
• Cost of Monthly Pass	$60			$560		
• Annual Ridership	22,500			50,000		
• 35% of Riders Paying $6 Round-Trip Fare	$63,000			$140,000		
• 65% of Riders Paying $50 Monthly Fare	$73,125			$162,500		
Annual Farebox Revenue	$136,125			$302,500		
Farebox Recovery Ratio	62%	51%	52%	70%	61%	59%

Table 5-11. Summary of Operating and Capital Costs (in 2013 dollars)

	Start-Up Phase (years 1-4)			Build-Out Phase (Years 5 and Beyond)		
	CATA	Conway/ Faulkner County	Private Operator	CATA	Conway/ Faulkner County	Private Operator
Total Capital Cost (low end of the range is for standard buses and high end is for motor coach buses)	$635,000 to $935,000	$935,000 to $1,385,000	$635,000 to $935,000	$600,000 to $900,000	$600,000 to $900,000	$600,000 to $900,000
Annual Operating and Maintenance Cost	$218,000	$267,000	$261,000	$435,000	$496,000	$511,000

be critically important final steps for introducing new transit services in central Arkansas.

Based on the performance of the service during the start-up phase or first four years, the build-out phase would expand service as demand warranted. Tables 5-12, 5-13 and 5-14 show the capital and operating cost and revenue projections for the first eight years for each of the operator scenarios.

5.10 Potential Federal Funding Sources

The USDOT, through its Federal Transit Administration (FTA) provides financial assistance to states, local governments, transit operators, and others for transit capital and operating assistance, depending on the type of geographic area where the project is located and eligible transit program activities. This section summarizes the primary sources of FTA funding for transit initiatives.

5.10.1 Federal Urbanized Area Formula Program (Section 5307)

The Urbanized Area Formula Program is the largest of FTA's grant programs. This program provides grants to urbanized areas to support public transportation. The funding is formula-based, with grants apportioned to urbanized areas on the basis of population, population density, bus vehicle revenue miles, fixed guideway revenue vehicle miles, fixed guideway directional route miles, operating cost and passenger miles. Total funding is $4.9 billion in FY 2013 and $5 billion in FY 2014 (includes the Growing States and High Density States formula). Under MAP-21, the program remained largely unchanged with a few exceptions:

- Job Access and Reverse Commute Program activities (Section 5316) under SAFETEA-LU now eligible under Urbanized Area Formula Program;
- Expanded eligibility for operating expenses for systems with 100 or fewer buses, in urban areas with over 200,000 persons;
- New discretionary Passenger Ferry Grants; and
- New takedown for safety oversight.

The FTA Section 5307 funds can be used for capital or operating expenses or any combination of those. As shown in Table 5-16, the capital cost component assumes 80 percent participation from FTA and a 20 percent local matching fund commitment. For operating costs, the FTA Section 5307 funds can be provided for up to 50 percent of the cost, and a 50 percent equal share of local funding must be provided to cover the remaining operating costs.

The Arkansas State Highway and Transportation Department (AHTD) administers the FTA Section 5307 Program. Thus, since Conway is a small UZA, its apportionment must be allocated at the discretion of the AHTD. If the express bus service advances toward implementation, a project sponsor, such as a city, county, CATA, or a new group of cities and counties forming a transit organization, must enter into a funding agreement with AHTD and abide by the federal and state requirements for transit grantee.

Funding has been apportioned in FY 2014 for use by the Conway Urbanized Area in the amount of $910,000. This funding can be used for transit capital, operating, or a combination of both. Future year allocations are expected to be similar.

It should be noted that AHTD allocates excess small urban and rural funds, that is, they reallocate unused FTA Section 5307 funds to eligible recipients. About $280,000 of Conway's prior year Section 5307 money is still available for use in the express bus project. These funds are good for another five years.

Urbanized Area Shared Cost (FHWA/AHTD Interpretation)

Guidance from Region 6 FTA and AHTD indicates that Conway's apportionment of FTA Section 5307 funds may only be used for the appropriate portion of any service that is operated within the Conway UZA boundary. The cost of service crossing UZA boundaries must be allocated based on a reasonable split between service operated within the Conway UZA and service attributable to the Little Rock UZA and the adjacent rural area. However, if there are no stops within the rural area, the cost of the service may be split by the Conway UZA and the Little Rock UZA apportionments. The split may be based on the mileage of the route operated in each UZA or hours

Table 5-12. Capital and Operating Cost and Revenue Projections by Year (in 2013 dollars) - CATA Scenario

	Start-Up Phase				Build-Out Phase			
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
CAPITAL COSTS:								
Vehicles	$600,000 to $900,000	$0	$0	$0	$600,000 to $900,000	$0	$0	$0
Station/Stop Signs for Initial Service	$5,000	$0	$0	$0	$0	$0	$0	$0
Bus Shelters at Park-and-Ride Lots	$30,000	$0	$0	$0	TBD	$0	$0	$0
TOTAL CAPITAL COSTS	**$635,000 to $935,000**	**$0**	**$0**	**$0**	**$600,000 to $900,000**	**$0**	**$0**	**$0**
ANNUAL O&M COSTS:								
Vehicle Operation	$218,000	$218,000	$218,000	$218,000	$435,000	$435,000	$435,000	$435,000
Shared- Parking Arrangements	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Marketing Materials	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
ANNUAL OPERATING REVENUE:								
Fare Box Revenues	$90,156 to $136,125	$90,156 to $136,125	$90,156 to $136,125	$90,156 to $136,125	$180,313 to $302,500	$180,313 to $302,500	$180,313 to $302,500	$180,313 to $302,500
TOTAL OPERATING DEFICIT	**$127,844 to $81,875**	**$127,844 to $81,875**	**$127,844 to $81,875**	**$127,844 to $81,875**	**$344,844 to $132,500**	**$344,844 to $132,500**	**$344,844 to $132,500**	**$344,844 to $132,500**
TOTAL OPERATING DEFICIT AND CAPITAL COST	**$1,016,875 to $762,844**	**$127,844 to $81,875**	**$127,844 to $81,875**	**$127,844 to $81,875**	**$1,032,500 to $944,844**	**$344,844 to $132,500**	**$344,844 to $132,500**	**$344,844 to $132,500**

Note: See Appendix A for cost details

The Cost of Gas for Driving an Automobile 64 miles is 1.5x the Cost of Riding the Express Bus

Driving an Automobile:
64 miles x $3.50/gallon = $8.96 gas
(with fuel consumption @25mpg)

Riding the Express Bus:
64 miles = $6 round-trip fare

Table 5-13. Capital and Operating Cost and Revenue Projections by Year (in 2013 dollars) - Conway/Faulkner County Scenario

	Start-Up Phase				Build-Out Phase			
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
CAPITAL COSTS:								
Vehicles	$900,000 to $1,350,000	$0	$0	$0	$600,000 to $900,000	$0	$0	$0
Station/Stop Signs for Initial Service	$5,000	$0	$0	$0	$0	$0	$0	$0
Bus Shelters at Park-and-Ride Lots	$30,000	$0	$0	$0	TBD	$0	$0	$0
TOTAL CAPITAL COSTS	**$935,000 to $1,385,000**	**$0**	**$0**	**$0**	**$600,000 to $900,000**	**$0**	**$0**	**$0**
ANNUAL O&M COSTS:								
Vehicle Operation	$267,000	$267,000	$267,000	$267,000	$496,000	$496,000	$496,000	$496,000
Shared- Parking Arrangements	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Marketing Materials	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
ANNUAL OPERATING REVENUE:								
Fare Box Revenues	$90,156 to $136,125	$90,156 to $136,125	$90,156 to $136,125	$90,156 to $136,125	$180,313 to $302,500	$180,313 to $302,500	$180,313 to $302,500	$180,313 to $302,500
TOTAL OPERATING DEFICIT	**$130,875 to $176,844**	**$130,875 to $176,844**	**$130,875 to $176,844**	**$130,875 to $176,844**	**$193,500 to $405,844**	**$193,500 to $405,844**	**$193,500 to $405,844**	**$193,500 to $405,844**
TOTAL OPERATING DEFICIT AND CAPITAL COST	**$1,111,844 to $1,515,875**	**$130,875 to $176,844**	**$130,875 to $176,844**	**$130,875 to $176,844**	**$1,005,844 to $1,093,500**	**$193,500 to $405,844**	**$193,500 to $405,844**	**$193,500 to $405,844**

Note: See Appendix A for cost details

Table 5-14. Capital and Operating Cost and Revenue Projections by Year (in 2013 dollars) - Private Operator Scenario

	Start-Up Phase				Build-Out Phase			
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
CAPITAL COSTS:								
Vehicles	$600,000 to $900,000	$0	$0	$0	$600,000 to $900,000	$0	$0	$0
Station/Stop Signs for Initial Service	$5,000	$0	$0	$0	$0	$0	$0	$0
Bus Shelters at Park-and-Ride Lots	$30,000	$0	$0	$0	TBD	$0	$0	$0
TOTAL CAPITAL COSTS	**$635,000 to $935,000**	**$0**	**$0**	**$0**	**$600,000 to $900,000**	**$0**	**$0**	**$0**
ANNUAL O&M COSTS:								
Vehicle Operation	$261,000	$261,000	$261,000	$261,000	$511,000	$511,000	$511,000	$511,000
Shared- Parking Arrangements	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Marketing Materials	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
ANNUAL OPERATING REVENUE:								
Fare Box Revenues	$90,156 to $136,125	$90,156 to $136,125	$90,156 to $136,125	$90,156 to $136,125	$180,313 to $302,500	$180,313 to $302,500	$180,313 to $302,500	$180,313 to $302,500
TOTAL OPERATING DEFICIT	**$124,875 to $170,844**	**$124,875 to $170,844**	**$124,875 to $170,844**	**$124,875 to $170,844**	**$208,500 to $420,844**	**$208,500 to $420,844**	**$208,500 to $420,844**	**$208,500 to $420,844**
TOTAL OPERATING DEFICIT AND CAPITAL COST	**$805,844 to $1,059,875**	**$124,875 to $170,844**	**$124,875 to $170,844**	**$124,875 to $170,844**	**$1,020,844 to $1,108,500**	**$420,844 to $208,500**	**$420,844 to $208,500**	**$420,844 to $208,500**

Note: See Appendix A for cost details

Table 5-15. Potential Distribution of Eligible FTA Section 5307 Funds based on Mileage of the Route

Jurisdiction	One-way Route Mileage Operated Within the Jurisdiction	Percent of One-Way Route Mileage Operated Within the Jurisdiction	One-way Route Mileage Operated Within the Jurisdiction (Including Rural Share)	Percent of One-Way Route Mileage Operated Within the Jurisdiction (Including Rural Share)
Conway UZA	10	31%	16	50%
Rural Area	12	38%	--	--
Little Rock UZA*	10	31%	16	50%
TOTAL	32	100%	32	100%

**Availability of FTA funding contingent upon a cost-sharing agreement with the Little Rock UZA.*

operated in each UZA, or on other similar information subject to FTA approval.

Although the proposed express bus service would operate in both the Conway and Little Rock UZAs, the start-up service would seem to largely benefit Conway and Faulkner County commuters only since the start-up phase of the service would not offer a viable reverse commute from Little Rock to Conway. Thus, the Little Rock UZA would be unlikely to use its allocation of federal funds for the proposed service and the start-up phase of the service would be funded exclusively by Conway's FTA 5307 funds. Any operational expenses within the Little Rock UZA would have to be paid for with user fees and local contributions.

If a reverse commute from Little Rock to Conway becomes viable in the future, due to the establishment of a local transit system in Conway, then the Conway and Little Rock UZAs might consider a cost sharing agreement. Table 5-16 shows the potential distribution of eligible FTA Section 5307 funds for the express bus service based on the mileage of the route operated in the Conway and Little Rock UZA and an equal sharing of costs between the Conway and Little Rock UZAs for the service traversing the rural area (assuming no service to the rural area). A cost-sharing agreement would need to be agreed upon by the two UZAs, with AHTD and FTA approval. If the service were to be agreed upon by both UZAs, then AHTD would handle all of the funding agreements for the service, including a funding agreement with the Conway UZA and a separate agreement with the Little Rock UZA.

Table 5-16. Federal Cost Sharing (FTA 5307)

	Maximum Federal Share	Local Share
Capital Cost	80%	20%
Operating Cost	50%	50%

Request for Conway UZA Funds (Regional Implication)

Given the Conway UZA's location within the Central Arkansas Study Area, unused FTA 5307 transit funds allocated to the UZA should first be made available within the Central Arkansas Region. In the case of express bus service operating between Conway and Little Rock as proposed in this study, the service will likely only benefit residents of the City of Conway and Faulkner County. Therefore, Conway UZA funds should be applied to the full route. Should a reverse commute become more practical, a request for contribution from Little Rock UZA could be considered.

5.10.2 Federal Bus and Bus Facilities Program (5339)

FTA's new formula grant program under MAP-21 is established under Section 5339, replacing the previous Discretionary Bus and Bus Facilities program (Section 5309). This capital program provides funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. Authorized funding is $422 million in FY 2013 and $428 million in FY 2014. Each year,

$65.5 million will be allocated with each State receiving $1.25 million and each territory (including Washington, DC and Puerto Rico) receiving $500,000. The remaining funding will be distributed by formula based on population, vehicle revenue miles and passenger miles. The federal share for this program is 80 percent. Eligible recipients under the Bus and Bus Facilities program are States and local governments, as well as public agencies and private companies that are engaged in public transportation and private non-profit organizations.

The funds may be used for the following eligible projects: purchase and acquisition of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers and shop and garage equipment. The Federal share of eligible capital costs is 80 percent of the net capital project cost.

Arkansas' six small urbanized area, including Conway, compete for approximately $527,000 annually. While the proposed express bus service includes all of the eligible program activities for the Section 5339 funding, as a new initiative, it could face difficult competition from transit agencies in Arkansas with on-going program needs.

5.11 Potential Non-Federal Funding Sources

For capital projects, the potential federal funding sources all require a local match of 20 percent or more depending on the program. Non-federal sources for capital investment vary from jurisdiction to jurisdiction, but typically involve the following tax and revenue sources for a local match:

- General revenues (e.g., Gulfport-Biloxi, Mississippi and Orlando, Florida)
- Sales taxes (e.g., St. Louis, Missouri and Austin, Texas)
- Property taxes (e.g., Tampa, Florida and Minneapolis, Minnesota)
- Employer/payroll taxes (e.g., Louisville, Kentucky and Portland, Oregon)
- Proceeds from special assessment districts (Metro Atlanta, Georgia)

As jurisdictions respond to changing transportation needs in their communities, there is a growing list of new funding and financing sources to support expanded transit services. The new sources center on revenue streams from projects, such as transit oriented/joint development, special assessment districts and tax increment financing districts. Following are brief descriptions of three non-traditional sources to support transit capital investments.

5.11.1 Transit Oriented Development/ Joint Development

Transit-oriented development (TOD) is generally defined as compact, mixed-use development within an easy walking distance of a transit station. This development places a high emphasis on public spaces such as streetscapes and creates a neighborhood or district that benefits from and complements the available transit services. As a potential funding source, jurisdictions and transit agencies have pursued joint development of TODs to generate long term revenue streams. In a joint TOD development, the private sector benefits from access to high quality transit service, which in turn supports greater density and higher rents. The public sector benefits from increased transit ridership and revenue

from ground leases, air rights and concessions. This might be a longer-term funding option for the Conway service as new development is attracted to the I-40 corridor that could benefit from optimal access to public transit.

5.11.2 Special Assessment Districts

Although special assessment districts have been widely used for years, they have more recently garnered attention as a potential source of local funding for transit improvements. A special assessment district is composed of a number of properties defined by set boundaries. These properties are charged a fixed fee or special tax to generate money for district improvements. The revenue produced by the district can be used to directly pay for the improvements or to repay debt that was used to finance the project. The amounts of the assessments that are charged are directly related to the benefits that each property receives from the improvement, as well as the distance of the property from the improvement, and the cost of the improvement. Special assessment districts often consist of a tax on commercial real estate around transit stations or in specific corridors. Depending on state law, these taxes require approval of some percentage of local property owners (i.e. a majority or super-majority). Typically the funds support system maintenance rather than construction activities.

5.11.3 Tax Increment Financing (TIF)

Tax Increment Financing is a program designed to leverage private investment for economic development projects in a manner that enhances the benefits accrued to the public interest. Under this mechanism, cities or counties designate a district to encourage development and improvement of a specific area. The TIF is established for a set number of years. At the launch of the TIF district, property values are assessed. As the district develops and property values rise, the increased tax revenue is dedicated to necessary improvements to or around the district, which may include transit investments. Once these modifications are made to the area, the assessed property value will escalate again and generate more funds for further improvement of the

TIF district. This cycle repeats itself for the lifetime of the district. Again, this source may have some applicability as a longer-term funding strategy for I-40 transit service.

5.12 Cost Sharing Options

A number of different methodologies to share the cost of transit services have been developed in the U.S. Some of the primary ones include one or more of these common factors listed below. These factors are often combined and weighted to create an equitable and efficient allocation of costs among jurisdictions benefitting from a particular transit service.

- Assignment of routes to specific jurisdictions
- Population
- Passengers
- Service Hours
- Service Miles

5.12.1 Single-Factor Formulas

Assignment of Routes to Jurisdictions

In one of the simplest cost-sharing formulas, transit routes are allocated to a particular jurisdiction (city or county) designated as the primary beneficiary. The designated jurisdiction is responsible for the local share of operating costs for that route, defined as total cost minus any federal subsidies and fares. Capital costs are typically covered entirely by the operator of the service, which maintains ownership of all assets. The designation is typically made by subjective agreement, rather than on the basis of objective criteria. The advantages to this method are that it is simple to implement and requires limited data (route maps only). The disadvantages include determining the "primary beneficiary" for truly regional services.

Population

Cost-share allocations can also be made based on population. In some cases, local assessments are set at a per-capita rate. In others, the assessments are based on percent of the total population. The populations of each of the contributing jurisdictions are summed, and then each jurisdiction's percentage of that total is determined. The same percentage is applied to local costs (defined as total operating expenses minus federal, state and fare box revenue) to determine each jurisdiction's allocation. The advantages to this method are its simplicity to implement and the readily available data from the U.S. Census to calculate the shares. Disadvantages include the fact that the cost shares are based on the number of potential riders rather than actual use of the service. This method does not account for discrepancies in level or frequency of service provided to the different jurisdictions.

Vehicle Revenue Hours/Service Hours or Vehicle Revenue Miles/Service Miles

This method allocates total operating and capital costs based on hours or miles of service in each jurisdiction. Limited exceptions would include routes that operate in a jurisdiction but do not serve that jurisdiction (for example, if there are no stops provided) and routes that clearly serve residents of only one jurisdiction such as express service. The advantages of this method are its simplicity to implement with minimal data requirements. Its drawbacks are that the method may unfairly penalize downtowns or other regional hubs with high concentrations of routes which may not all be needed to serve that particular jurisdiction itself.

Equal Share

In an equal share system, all participating jurisdictions contribute an equal amount, with the funds from each dedicated to services and/or facilities within that county. The advantages to this method are that it ensures equality of service and facilities and is ideal for funding new services. The major disadvantage is that it can be unfair to jurisdictions entering into existing transit system that primarily serves others.

5.12.2 Multiple-Factor Formulas

Many transit authorities in the U.S. determine cost allocations with a formula that combines population with other factors, such as service or revenue hours, service or revenue miles and ridership. In all cases, the cost allocated is equal to total costs minus any

federal or state subsidies and fare revenues. In some instances, fare revenues are broken down by the jurisdiction in which they are generated and used to adjust that jurisdiction's local share accordingly.

Population and Ridership

This method shares the cost by determining with a formula that is based partially on ridership and partially on population (for example, 90 percent on ridership from each jurisdiction and 10 percent on population). The advantages of this method are that it weights the cost allocation to place a larger share on jurisdictions with higher ridership. Its disadvantage is that if the population of one entity is disproportionately large, it can result in too high of a subsidy for cost (e.g. a county with large population may be allocated 50 percent of the cost, but only contribute 20 percent of riders).

Population and Service Hours

This method determines the cost-sharing by determining with a formula based partially on population and partially on vehicle service hours, often split equally. The advantage to this method is that it simple to calculate and implement. A major disadvantage could occur when one jurisdiction that has a much larger population than its partners. The cost sharing could be skewed with a heavily populated area paying a higher share for limited service.

5.13 Service Implementation and Next Steps

The feasibility and the factors to be considered in implementing a new express bus service connecting Conway with the Little Rock and North Little Rock areas have been examined in this report. Overall, the financial commitment to implement this type of service will be the most significant key to implementation.

The data from Metroplan's regional survey for the study suggested some public support for the new express bus service. A main factor to consider is that potential ridership may be constrained by not being able to achieve substantial travel time savings or provide a reverse commute for workers traveling from Little Rock to Conway. However, it does present a travel choice for commuters who see an economic benefit to lowering their current cost of community and/or being able to use their commute time for more productive purposes (i.e. reading, studying, working, etc.).

Two key questions remain in the consideration of the proposed service implementation. The first is whether CATA or Conway / Faulkner County are willing to become the project sponsor, and thus willing to assume responsibility for the proposed service, or whether there is a viable private transportation service operator that is willing to operate the service based solely on service revenues. Secondly, if the service is not likely to be implemented completely by private funds, then is there acceptance of a publicly subsidized service using available federal transit funds, such as FTA Section 5307 funds. If so, then other local or state resources must be determined. In summary, the cost of the express bus service will not pay for itself through farebox revenues, thus, the implementation of the service will be dependent on local, state and federal subsides, and the willingness of the project sponsor and/or partnering organizations to pursue funding for the new transit service.

If these questions can be answered and a decision to move toward service implementation is agreed upon, the following action steps are needed to implement the service. These steps must be assigned to a responsible organization accountable for carrying them out within federal and/or state guidelines and regulations. Table 5-17 summarizes these key steps grouped by major category of activities. A timetable for implementation activities should also be agreed upon by the project sponsor and partnering organizations. It is ultimately the responsibility of the local jurisdictions, principally the City of Conway and Faulkner County, together with their state-level, regional, and local planning partners to determine if the service will be implemented and if so how to fund this service.

Table 5-17. Major Implementation Steps for the Recommended Express Bus Service

Institutional

- **Obtain** concurrence on the proposed manager and operator of the service.
- **Confirm** the manager and operator of the service.
- **Develop** an organizational chart and responsibility areas for all transit-related activities.
- If the operator is a Joint Powers Agency, **negotiate** and **finalize** the Joint Power Agreement to carry out the project.

Service Planning

- **Refine** the Service Plan, including service policies, operating schedules, stop locations, fare and pass policies, etc.
- **Develop** marketing, promotion, and branding for the service.

Funding

- If there is a desire to pursue **FTA funding**, confirm service funding strategy with FTA Regional Office (i.e cost-sharing between Conway and Little Rock UZAs).
- If applicable, initiate open **discussion** with Little Rock UZA via Metroplan and CATA on proposed project.
- If applicable, **complete** FTA Section 5307 **grant** application and Certifications and Assurances packages.
- Complete **environmental** document to cover proposed new transit service and minor facility improvements.

Capital and Operating Facilities

- **Inventory** existing facility needs for accommodating new service.
- **Identify** refined needs and costs for shelters, transit rider information, signs, lighting, curbside stops, and other needed facilities for the service.
- **Initiate** conversations with property owners near proposed stops in North Little Rock for shared-use parking.
- Initiate **conversations** with AHDT on potential use of I-40 interchange areas for transit stop amenities at park-and-ride lots.
- **Install** shelters, signs, etc. at park and ride lots consistent with local government ordinances, building codes, and ADA requirements.
- **Identify** funding sources for capital improvements from transit and/or highway/park and ride facility resources.
- Identify and **fund** maintenance and operating facility for the service.

Human Resources

- **Identify** staffing needs, knowledge, skills, and abilities, reporting requirements, etc.
- **Develop** training program and/or resources for any new staff.

Appendix A

Detailed Operations and Maintenance Costs for the Operator Scenarios

Appendix A

Detailed Operations and Maintenance Costs for the Operator Scenarios

A1. Detailed O&M Costs for the Central Arkansas Transit Authority (CATA) Scenario

Cost estimates for the Central Arkansas Transit Authority (CATA) operating scenario is relatively straightforward, and utilizes comprehensive cost data that is available via the National Transit Database (NTD). Cost factors were based on those reported for CATA to the National Transit Database for the 2013 reporting year. Through October 2013 YTD, CATA is operating the fixed route system including the four express routes at a rate of $5.37 per mile or $75.34 per hour. The unit cost for the express bus service is estimated at $75 per revenue hour, which includes vehicle operation, vehicle fuel and maintenance, non-vehicle maintenance and general administration costs.

Table A-1. Summary of O&M Costs for the CATA Scenario

	Cost Element	60-minute Frequency (Start-Up Phase)	30-minute Frequency (Build-Out Phase)
Operating Cost	Annual Vehicle Revenue Hours (VRH)[1]	2,900	5,800
	Inclusive Cost per VRH	$75.00	$75
	Fuel and Maintenance Cost per VRH	N/A	N/A
	Fuel and Maintenance Overhead Cost	N/A	N/A
	Operator and Administration Costs	N/A	N/A
	Operator and Administration Overhead Costs	N/A	N/A
	Total Operating Cost	$218,000	$435,000
	Shared Parking Area Arrangement (Short-Term)	Tbd	Tbd
	Marketing Materials (i.e. hard copy maps, website content, flyers, etc.)	TBD	TBD
	Total O&M Cost	$218,000	$435,000

1 – Inclusive Cost per VRH includes vehicle operation, vehicle fuel and maintenance, non-vehicle maintenance and general administration costs.

A2. Detailed Cost Estimates for the Conway/ Faulkner County and Private Operator Scenarios

Cost estimates for the Conway/Faulkner County and Private Operator scenarios are more difficult, as actual cost data is not available. As a result, cost estimates are based on reasonable assumptions. To estimate the cost of providing express bus service under the Conway/Faulkner County and Private Operator scenarios, costs were estimated for two distinct categories:

- The cost to fuel and maintain bus vehicles, and
- The cost for staff to operate and administer the service.

Cost estimates to fuel and maintain buses are derived from estimates of vehicle revenue hours and corresponding unit costs. Fuel costs are based on average vehicle fuel efficiency of 3.5 miles per gallon, a cost of

$3.50 per gallon of diesel fuel and an average vehicle speed of 30 miles per hour ($30 per vehicle revenue hour). Vehicle maintenance costs, which include items such as oil, tires, preventative maintenance and insurance, is based on annual cost data reported by CATA in the National Transit Database: $2,354,000 for 162,200 vehicle revenue hours.

For the Conway/Faulkner County scenario, the cost assumes that vehicle storage and maintenance facilities can be accommodated as part of regular fleet operations. For the Private Operator scenario, a similar assumption is made. However, the cost must still be accounted for. An estimate of ten percent overhead is added to the Private Operator scenario to account for vehicle storage and maintenance facility costs.

Table A-2. Summary of Fuel and Maintenance Costs for the Conway/Faulkner County and Private Operator Scenarios

				Overhead[4]		Total Cost	
Cost Element	Cost Per VRH[1]	VRH	Base Cost	Conway/ Faulkner County	Private Operator	Conway/ Faulkner County	Private Operator
60-minute Frequency (Start- Up Phase)							
Fuel[2]	$30.00	2,900	$87,000	NA	10%	$87,000	$95,700
Maintenance[3]	$14.52	2,900	$42,097	NA	10%	$42,097	$46,307
Total	$44.52		$129,097			$129,097	$142,007
30-minute Frequency (Build-Out Phase)							
Fuel[2]	$30.00	5,800	$174,000	NA	10%	$174,000	$191,400
Maintenance[3]	$14.52	5,800	$84,194	NA	10%	$84,194	$92,614
Total	$44.52		$258,194			$258,194	$284,014

Notes:

1 - Vehicle revenue hours.
2 - Assumes 3.5 miles per gallon fuel efficiency at $3.50 per gallon average diesel fuel price.
3 - Based on 2012 CATA costs of $2,354,000 and 162,200 VRH.
4 - Estimate of additional cost for bus and facilities and spare vehicle.

To estimate costs for staff to operate and administer the service, assumptions were made regarding number and type of staff required and salary. Both scenarios assume two full-time vehicle operators are required at start-up (60 minute frequency) and four full-time vehicle operators are required at build-out (30 minute frequency). The Conway / Faulkner County scenario assumes one administrator at 25 percent of full-time and one dispatcher at 50 percent of full-time. Both positions could likely be filled by an existing staff employee.

For the Private Operator scenario, it is assumed that existing staff would fill these roles and part of their regular duties. Therefore, the amount of staff time dedicated to the express bus service is much less (ten percent each). Additionally, an overhead rate of ten percent is assumed to cover the cost of administrative facilities.

Table A-3. Summary of Operator and Administration Costs for the Conway/Faulkner County and Private Operator Scenarios

Cost Element	Conway/ Faulkner County	Private Operator	Salary	Fringe Benefits	Overhead		Total Cost	
					Conway/ Faulkner County	Private Operator	Conway/ Faulkner County	Private Operator
60-minute Frequency (Start- Up Phase)								
Administrator (part-time)	0.25	0.10	$50,000	25%	NA	10%	$15,625	$6,750
Dispatcher (part-time)	0.50	0.10	$35,000	25%	NA	10%	$21,875	$4,725
Vehicle Operators	2.00	2.00	$40,000	25%	NA	10%	$100,000	$108,000
Total							$137,500	$119,475
30-minute Frequency (Build-Out Phase)								
Administrator (part-time)	0.25	0.10	$50,000	25%	NA	10%	$15,625	$6,750
Dispatcher (part-time)	0.50	0.10	$35,000	25%	NA	10%	$21,875	$4,725
Vehicle Operators	4.00	4.00	$40,000	25%	NA	10%	$200,000	$216,000
Total							$237,500	$227,475

Notes:

1 - Estimate of additional cost for administrative facilities.

Table A -4. Summary of O&M Costs for the Conway/Faulkner County and Private Operator Scenarios

Cost Element	Conway/ Faulkner County	Private Operator
60-minute Frequency (Start- Up Phase)		
Operators and Administration	$137,500	$119,475
Fuel and Maintenance	$129,097	$142,007
Total	$266,597	$261,482
30-minute Frequency (Build-Out Phase)		
Operators and Administration	$237,500	$227,475
Fuel and Maintenance	$258,194	$284,014
Total	$495,694	$511,489