

MOVE

CENTRAL ARKANSAS

STATE OF THE SYSTEM

Central Arkansas Transit Authority

November 2014



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CATA has realized considerable success and has steadily attracted riders to its services for the past five years.



[1]

INTRODUCTION

MOVE Central Arkansas defines the vision for the Central Arkansas Transit Authority (CATA) and develops a roadmap for CATA to invest in future transit service. As Central Arkansas positions itself as a great place to live, work, and visit; adapts to growing population and employment; and supports the needs of the community's most vulnerable people, CATA will be increasingly pressured to provide frequent, comfortable, and convenient transit service.

The State of the System report provides a foundation for MOVE Central Arkansas by describing who CATA is, what the market for transit is now and in the future, how CATA measures up to its peers, and what the opportunities are to enhance transit service in Central Arkansas.

WHO IS CATA?

CATA operates the region's public transportation system. The agency's mission is to provide reliable, safe, accessible, clean, and customer-oriented transportation service to Central Arkansas's residents, employees, and visitors.

As part of fulfilling this mission, CATA provides fixed-route bus service in the cities of Little Rock and North Little Rock and express service linking the communities of Sherwood, Maumelle, and Jacksonville with downtown Little Rock. CATA also operates the popular River Rail Streetcar – the 3.4 mile streetcar loop that connects downtown Little Rock with North Little Rock via the Main Street Bridge. A third service, Links, provides demand-response paratransit service for people with a disability that prevents them from using the fixed-route bus service.

WHAT ARE CATA'S SUCCESSES?

CATA has realized considerable success and has steadily attracted riders to its services for the past five years. In 2013, CATA carried close to 3 million passengers (Figure 1), which reflects a trend of consistent growth. CATA has also become more productive over time. Between 2009 and 2012, CATA's productivity in terms of passengers per revenue hour increased by 20%. This is the largest productivity increase among peer agencies, and much larger than the average change of 1%.

CATA's success is also demonstrated by the River Rail Streetcar. The River Rail carries nearly 100,000 riders per year, yet it is the streetcar's impact on development, including the River Market in Little Rock and the Argenta Arts District in North Little Rock, that has made the service notable. Real estate data shows that the streetcar corridor attracted more than \$815 million in development. While not all of this investment is directly attributable to the River Rail, the impact of the service on the community's economic well-being is clearly demonstrated.

WHAT ARE THE OPPORTUNITIES?

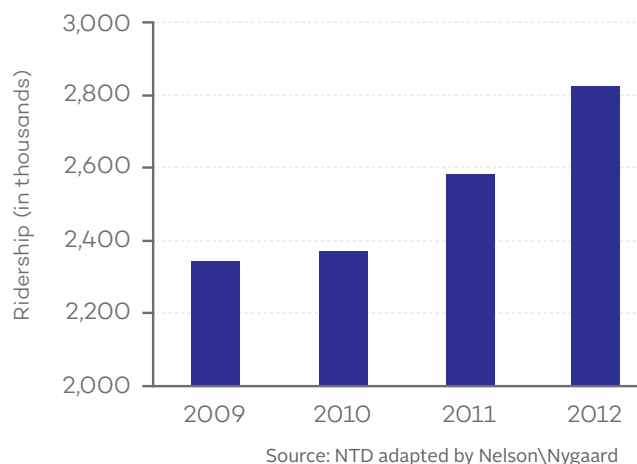
CATA's success is occurring at a time when interest in public transportation is increasing. Nearly all of the cities in the United States that have been successful at attracting employers and young professionals have invested in transit. These success stories include cities in California and on the west coast, as well as communities in the Mid-South such as Austin, Texas; Charlotte, North Carolina; and Oklahoma City. Other cities that were initially slower to invest in public transportation are in the process of planning new transit services in conjunction with urban revitalization and economic development strategies. These cities include places like Louisville, Kentucky; Nashville, Tennessee; and Birmingham, Alabama.

Transportation preferences are also changing among the nation's oldest and youngest generations. For the first time, the Millennial generation is driving less than their parents; aging Baby Boomers are requiring a renewed look at how we design our transit system to ensure that effective and efficient transit service can be an asset as the community ages. Public transit is a critical strategy supporting Central Arkansas' efforts to attract young professionals, families, businesses, and a growing Baby Boomer population.

To respond to these trends, there are a number of opportunities for CATA to improve its service offerings, including:

- **More Transit Service:** CATA provides transit service to the region's most important destinations but service is not frequent enough, does not operate long enough, and does not provide enough service on weekends. Supporting regional investments already made to attract young and aging professionals requires comparable investment in transit service.
- **Accessible Information:** We know technology is important to Millennials, but it is also important to other generations. Providing good information about the transit service, in real time and through sources that can be viewed on smart phones or accessed by cell phones is an important part of making transit service attractive.
- **High Quality Transit Facilities:** Bus shelters and benches are sorely needed in the CATA network. Currently only 6% of CATA's bus stops (or 99 of 1,616 stops) have shelters.¹ Implementing a system that installs stop amenities based on ridership data could ensure that popular destinations have comfortable and attractive waiting areas.

FIGURE 1-1. Annual ridership, 2009-2012



Although CATA currently has some high amenity transit facilities, resources are limited.

- **More and Different Types of Transit Service:** As CATA becomes a viable transportation choice for more people, it will need to expand the types of service it offers the community. CATA needs to develop transit service that is fast and frequent to get people to Midtown, the University of Arkansas at Little Rock, and the Capitol Complex. In some cases this will be express services from the surrounding communities; in other cases, it will be high capacity transit service like bus rapid transit or streetcar service that operates on city streets. CATA's service portfolio also needs to include services that circulate through Central Arkansas' growing communities like Jacksonville, Maumelle, and Sherwood, so that residents can get around locally and connect to regional services.
- **More Local Community Service:** Currently CATA's service is focused on getting people into downtown Little Rock. The demographic data suggests that many people, including people who traditionally rely on transit service, are concentrated outside of downtown. Providing service that allows them to get around their local communities, including Sherwood and Jacksonville but also Maumelle, to go shopping, attend classes and community events, and visit friends and family will improve their life.
- **Facilitate Transfers Outside of Downtown Little Rock:** Consistent with providing more local service, CATA may also restructure some services, so that members of the communities north of Little Rock, including Jacksonville, Sherwood,

and North Little Rock can travel to destinations, such as the McCain Mall without traveling into downtown first. This type of service may require a transfer between routes but would be faster and more convenient – as well as more logical – than traveling into downtown Little Rock first. CATA also needs to make transfers more efficient by timing connections and more comfortable by building mini-hubs or super stops where people are likely to transfer.

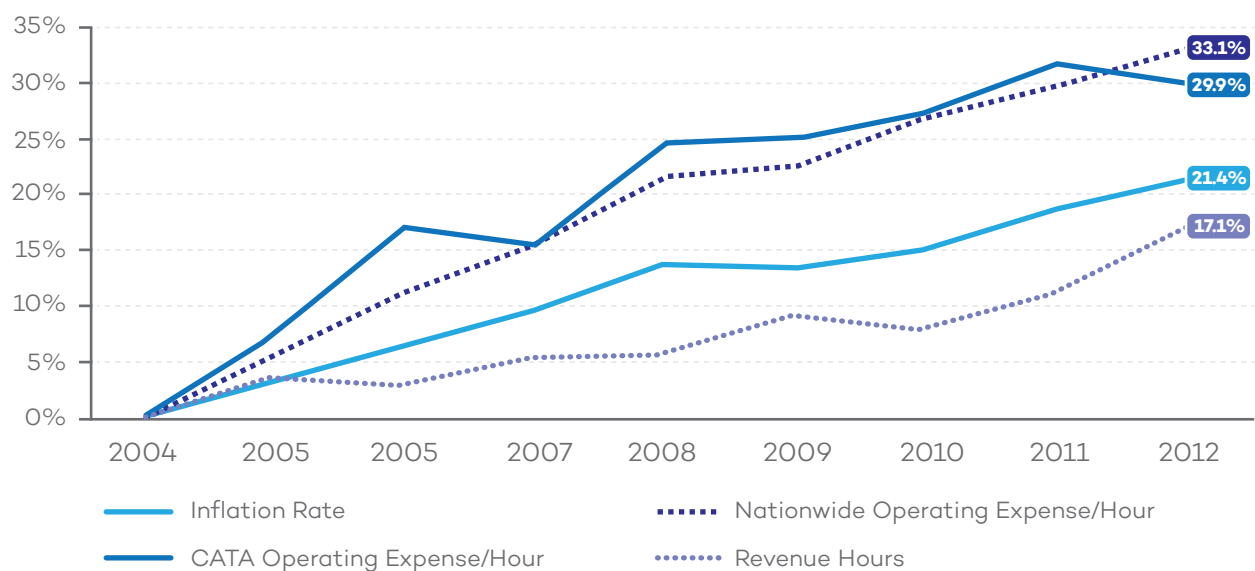
- **Improved Passenger Facilities:** Strengthening transit service for older adults, people with disabilities, and people with low incomes requires that these riders have a safe and comfortable place for them to wait for the bus. Expanding CATA's passenger facilities, such as providing more shelters and benches, and making sure these waiting areas have lights and information about the bus service would greatly improve the usability of the service. Transit super stops or mini-hubs could be provided in high-ridership locations where people are expected to transfer between routes; they would be bigger, have more amenities, and provide more information than standard bus stops.
- **Increased weekend service:** Many, but not all of CATA's routes operate on Saturdays, while only a handful operate on Sundays. However, we know many people continue to travel on weekend days for many reasons, including getting to work and attending to their personal errands. Part of making CATA's service more useful to more people will require operating more weekend service.

WHY “MOVE CENTRAL ARKANSAS?”

CATA is at a turning point as an agency and as a service. Although transit funding levels have gone up marginally over the last five years, the cost to operate transit service (largely driven by driver wages, insurance, and fuel) is also increasing. As shown in Figure 2, CATA's operating costs are increasing at a higher rate than its revenue hours, meaning that CATA is getting less bang for its buck. The amount of service CATA operates, as measured in service hours, has remained relatively stagnant over the last five years – even dipping considerably in 2010.

Generally speaking, CATA has been level funded for several years. This means that the amount of money CATA receives each year is roughly equivalent to what it received in previous years. A key challenge with CATA's funding mechanism is that it has minimal control over how much money it gets from state and federal programs. While CATA is also funded by five member jurisdictions (Little Rock, North Little Rock, Pulaski County, Sherwood, and Maumelle), the way that the funding model is set up deters service expansion because more service means that the communities' contribution will be increased.

FIGURE 1-2. Transit Operating Costs vs Inflation



Source: Inflation rate from Bureau of Labor Statistics: Consumer Price Index; Hourly operating expense rate and revenue hours for demand response and bus from National Transit Database

CATA also suffers from limited access to capital funds for major system upgrades. With member contributions used exclusively to cover operating shortfall, CATA relies on state funds to meet federal grant match requirements to fund capital improvements. The last major capital project CATA sponsored was the River Rail in 2004. At the time it was built, the River Rail was envisioned as a streetcar service that would operate every 15 minutes; today both lines run approximately every 25 minutes.

With these issues in mind, the purpose of MOVE Central Arkansas effort is twofold:

- Articulate an agency vision to create a transit system and set of services that makes riding transit easier and more desirable for more people in the community.
- Develop an agency funding strategy that allows CATA to grow and develop in response to community needs and desires for transit service.

This State of the System report is intended to provide a high-level snapshot of the state of Central Arkansas transit service. It describes the current conditions of public transportation in Central Arkansas, identifies both positive elements as well as areas of concern, and highlights key opportunities to improve transit service quality and accessibility.



The State of the System report contains the following sections:

- **Chapter 2:** Transit Service provides an overview of CATA's existing transit system.
- **Chapter 3:** Market Analysis provides a discussion on who currently rides transit, who the transit markets could be, the relationship between land use and transportation, and local and national trends that will affect CATA and transit ridership more generally in the coming years.
- **Chapter 4:** Peer Review compares CATA transit service operations to 13 of its peer agencies.
- **Chapter 5:** Funding provides an overview of CATA's current funding environment.
- **Chapter 6:** Best Practices serves as a look forward to the opportunity for CATA to establish leading practices in transit service, transit infrastructure, and supportive amenities.

BENEFITS AND ECONOMIC DEVELOPMENT IMPACTS OF PUBLIC TRANSIT

1 Create Jobs

Every \$1 billion of investment in public transportation operations annually leads to an average of 41,100 jobs supported for a year, such as drivers, schedulers and dispatchers, mechanics, and management staff; \$3.8 billion in business sales; and \$530 million in tax revenues.

2 Access to Employees

Provides employers better access to employees and vice versa.

3 Increase Property Value

Public transit investments have been shown to increase transit property values and result in valuable development opportunities. This is especially true for systems that have fixed guideways, including rail and bus rapid transit projects.

- Cleveland's HealthLine, for example, generated \$114.5 in economic development benefits for every \$1 invested. In other words, Cleveland spent \$50 million building the HealthLine but the service generated \$5.8 billion in transit-oriented development (ITDP).
- Between 2006 and 2011, residential property values in regions such as Chicago and the Twin Cities performed 42% better, on average, if they were located near a fixed guideway system (APTA).



4 Saves Money

- Public transportation saves people money and can strengthen the local economy. According to APTA's Transit Savings Report, a two person household can save, on average, more than \$10,174 a year by downsizing to one car. Money not spent operating a vehicle can be spent in the local economy.
- According to a 2010 AARP study, nearly 90% of individuals aged 65 or more want to stay in their homes for as long as possible. Transportation is essential for this strategy to work. Aging in place saves society money – average nursing day care services cost \$928 per month as compared to \$5,243 for nursing homes.

5 Access to Services

Supports Arkansas's most vulnerable individuals by increasing access to health care, human services, job training and education, employment, and other daily services (shopping, appointments, etc.)

CATA fixed route service provides connections to Little Rock, North Little Rock, and surrounding communities in Pulaski County.



[2]

TRANSIT IN CENTRAL ARKANSAS

The Central Arkansas Transit Authority (CATA) provides a range of public transportation services within the Little Rock Metropolitan Area. While CATA's operating authority extends to all of Pulaski County, the CAT fixed-route bus service and Links complementary paratransit service are concentrated in the county's core communities of Little Rock and North Little Rock. CAT express routes provide service to the suburban communities of Maumelle, Sherwood, and Jacksonville, as well as unincorporated parts of Pulaski County, including Hensley and Pinnacle Mountain. In addition, CATA operates the River Rail, a 3.4-mile streetcar system that serves the downtowns of Little Rock and North Little Rock via the Main Street Bridge over the Arkansas River.

EXISTING CATA SERVICE

CATA operates four types of transit service: (1) fixed-route commuter express service that provides connections between downtown Little Rock and the communities of Maumelle, Oak Grove, Pinnacle, Jacksonville, Sherwood, and Hensley; (2) fixed-route local service that provides connections between downtown Little Rock, downtown North Little Rock, and other local destinations; (3) River Rail service (the streetcar) that connects downtown Little Rock to North Little Rock and major tourist destinations; and (4) Links paratransit service that provides door-to-door service for people with disabilities. The Authority is governed by a 12-member Board of Directors appointed by the local governments of Little Rock, Maumelle, North Little Rock, Pulaski County, and Sherwood.

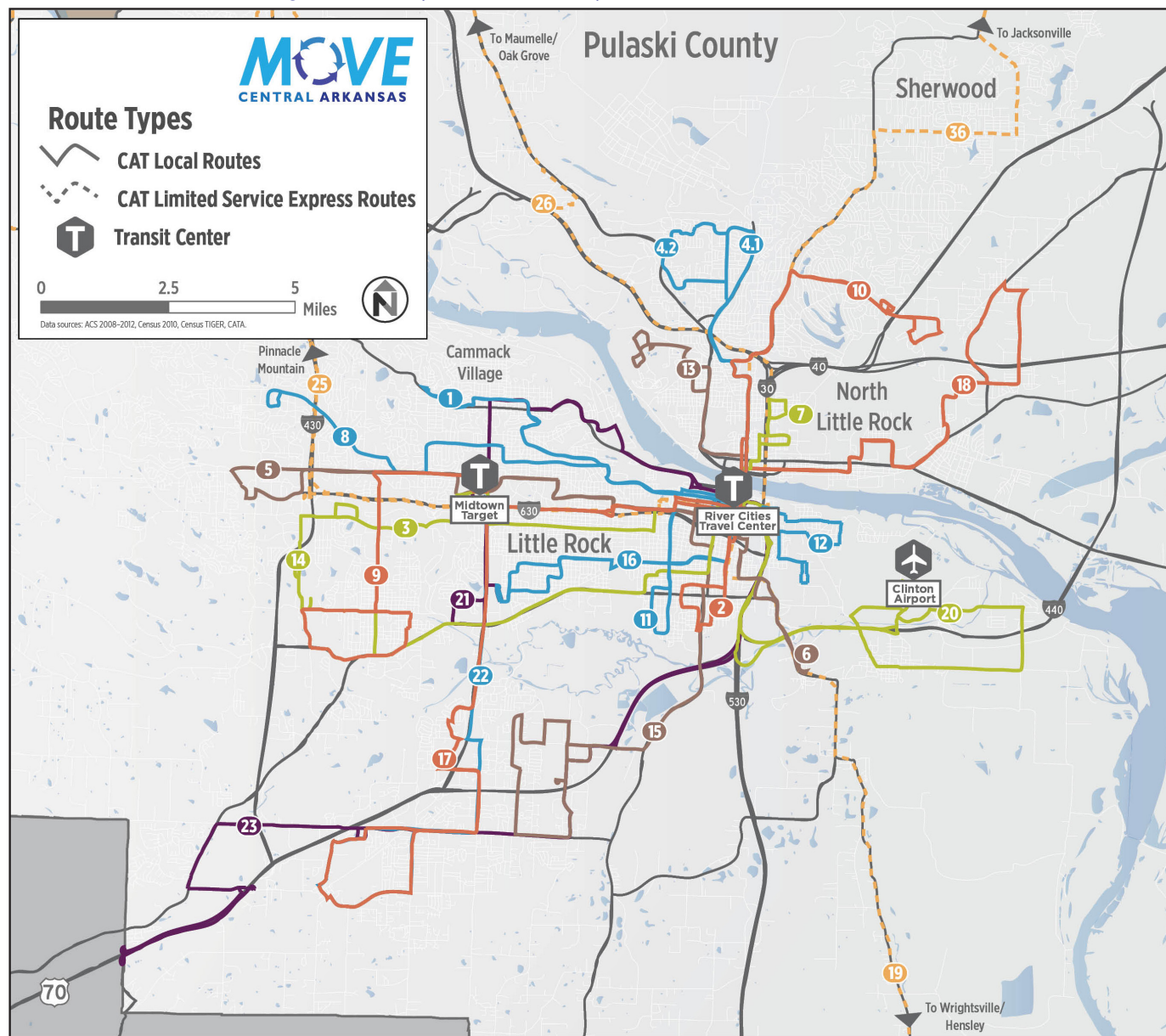
This section provides an overview of fixed-route transit service in the region, a look at the demographic profile of fixed-route transit riders, and a discussion of

opportunities for service expansion. A more detailed assessment of CATA's system performance is provided in Chapter 5.

Fixed-Route Local and Commuter Express Bus Service Service Design

CATA's fixed route bus service, or CAT service, is primarily organized as a hub-and-spoke system with nearly all routes radiating from the River Cities Travel Center in downtown Little Rock. There is also a secondary hub in the Midtown area of Little Rock where five routes converge near Target and St. Vincent Doctor's Hospital. Routes 9 and 22 are the only two routes that do not serve the River Cities Travel Center and begin and end near the Midtown Target. The majority of the routes provide connections north across the river into North Little Rock, or to

FIGURE 2-1. CATA Existing Services System Route Map



the hospitals, universities, and neighborhoods west of downtown. There are also a handful of routes that link downtown with the Bill and Hillary Clinton National Airport and neighborhoods south and west of downtown. Figure 2-1 provides the current CATA system map.

Service Types

CATA operates 26 bus routes. Twenty-two of the routes are designed as local service, meaning they travel on local streets and make frequent stops. Four of the routes are express services that are designed to provide faster and more direct but less frequent service connecting outlying areas into downtown. Express service is available from Hensley, Maumelle, Pinnacle Mountain, and Jacksonville/Sherwood into downtown Little Rock. However, these routes mostly operate as limited-stop services rather than true express routes. Fixed-route service levels are listed in Figure 2-3.

Frequency of service is one of CATA's biggest challenges.

Ridership

Ridership on CAT fixed-route buses increased between 2009 and 2013 from 2.3 million riders in 2009 to 2.8 million riders in 2013 (Figure 2-2).

Route 5 that operates along Markham is the highest ridership route, carrying about 10% of all the riders in the system at more than 1,000 riders per day. There are three other routes in CATA's system that carry close to 1,000 riders per day: Route 3 that travels to Baptist Medical Center; Route 10 to the McCain Mall; and Route 14 Rosedale that serves southwestern Little Rock. The fifth most productive route, Route 13 serves Pulaski Tech and carries just over 800 riders per day. Combined, these five routes are responsible for about half of all the riders on the CATA bus system.

Service Span and Frequency

All CATA routes operate on weekdays and all routes except the Express services operate on Saturdays. About half the service is available on Sundays. Most weekday bus service begins between 5:00 am and 6:00 am and ends around 8:00 pm. Weekend service tends to start later and end earlier. Figure 2-3 below provides an overview of service span and frequency. Service frequency in the midday and peak hours is illustrated in the maps in Figure 2-4 and Figure 2-5.

Frequency of service is one of CATA's biggest challenges. Currently, the most frequent routes in the system operate every 30 or 35 minutes during peak periods and several routes have service every 40 or 60 minutes. This means that if riders need to transfer between routes, trips can be very long. Peak hour frequency is crucial to attracting more choice riders.

Fares

CATA maintains separate fare structures for bus and streetcar service. The base fare for CAT fixed-route bus service is \$1.35 for a one-way trip. Children under five ride free, and discount fares are available for children under 12 (\$0.60) and for seniors and people with disabilities (\$0.65). A minimal \$0.05 is charged for transfers. Various multi-day or multi-ride passes are available, including a one-day pass (\$3.75), a 10-day pass (\$11.50 base pass / \$5.75 discount pass), and 31-day pass (\$36 base pass / \$18 senior pass / \$19.50 student pass).

CATA also offers discounted bus passes to area employers and universities through the Corporate CAT and College and University Discount programs. In both cases, CATA provides bus passes and they are sold to employees and students on-site by the employer or institution. Four colleges - Pulaski Tech, UALR, Remington College, and Heritage College - currently participate in the College and University program and 27 employers are signed up for the Corporate CAT program.

FIGURE 2-2: CAT Bus Ridership, 2009 - 2013

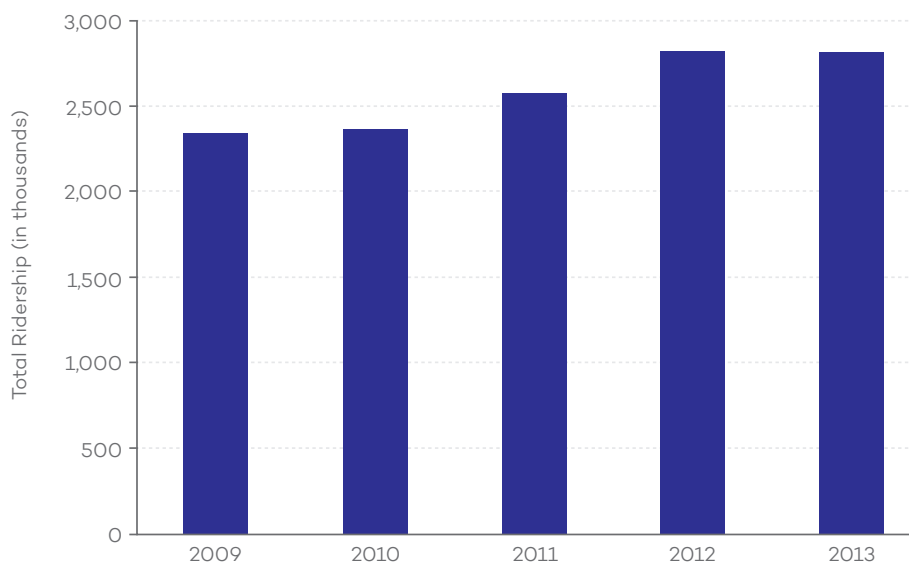


FIGURE 2-3. CATA Fixed Route Service Levels

| Route | Name | Weekdays | | | | | | | | | Saturday | | | | | | | Sunday | | | | | | | |
|-------|-------------------------------------|-----------|----------|---------------------|--------------------|-------------------|------------------|-------------------|-----------------|-----------|----------|---------------------|----------|---------|--------|---------|-------|-----------|----------|---------------------|--------------------|-------------------|------------------|-------------------|-----------------|
| | | First Run | Last Run | Schedule Regularity | Early AM Frequency | AM Peak Frequency | Midday Frequency | PM Peak Frequency | Night Frequency | First Run | Last Run | Schedule Regularity | Early AM | AM Peak | Midday | PM Peak | Night | First Run | Last Run | Schedule Regularity | Early AM Frequency | AM Peak Frequency | Midday Frequency | PM Peak Frequency | Night Frequency |
| 1 | Pulaski Heights | 5:30 AM | 6:48 PM | Very Regular | 30 | 35 | 35 | 35 | 33 | 5:30 AM | 6:48 PM | Very Regular | 35 | 45 | 45 | 30 | - | | | | | | | | |
| 2 | South Main | 5:44 AM | 8:16 PM | Fairly Regular | 31 | 35 | 35 | 35 | 40 | 5:44 AM | 6:33 PM | Fairly Regular | 33 | 45 | 45 | 36 | - | 8:50 AM | 4:16 PM | Very Regular | - | 45 | 45 | 45 | - |
| 3 | Baptist Medical Center | 5:20 AM | 8:45 PM | Very Regular | 30 | 35 | 35 | 35 | 45 | 5:20 AM | 7:06 PM | Very Regular | 35 | 35 | 35 | 35 | - | 9:13 AM | 4:43 PM | Very Regular | - | 45 | 45 | 45 | - |
| 4 | Levy / Amboy | 5:21 AM | 8:22 PM | Very Irregular | 35 | 35 | 30 | 30 | 45 | 5:21 AM | 6:43 PM | Fairly Regular | 33 | 65 | 54 | 70 | - | - | - | - | - | - | - | - | - |
| 5 | West Markham | 5:22 AM | 8:00 PM | Fairly Regular | 30 | 30 | 40 | 35 | 45 | 5:25 AM | 6:20 PM | Fairly Irregular | 24 | 35 | 35 | 35 | - | 9:12 AM | 4:00 PM | Very Regular | - | 45 | 45 | 45 | - |
| 6 | Granite Mountain | 5:50 AM | 6:39 PM | Fairly Regular | 35 | 40 | 40 | 48 | - | 5:50 AM | 6:39 PM | Fairly Regular | 35 | 40 | 40 | 48 | - | - | - | - | - | - | - | - | - |
| 7 | East 9th | 5:55 AM | 8:19 PM | Very Regular | 35 | 35 | 35 | 35 | 45 | 5:55 AM | 6:38 PM | Fairly Regular | 35 | 35 | 35 | 35 | - | - | - | - | - | - | - | - | - |
| 8 | Rodney Parham | 6:20 AM | 8:27 PM | Fairly Regular | - | 40 | 40 | 30 | 44 | 6:27 AM | 5:26 PM | Fairly Regular | 45 | 40 | 40 | 30 | - | 9:12 AM | 4:22 PM | Fairly Regular | - | 45 | 45 | 44 | - |
| 9 | West Central / Barrow Road | 6:02 AM | 8:22 PM | Very Regular | 60 | 60 | 60 | 60 | 60 | 6:02 AM | 6:22 PM | Very Regular | 60 | 60 | 60 | 60 | - | - | - | - | - | - | - | - | - |
| 10 | McCain Mall | 5:30 AM | 8:01 PM | Very Regular | 30 | 30 | 30 | 30 | 45 | 5:30 AM | 6:20 PM | Fairly Regular | 45 | 45 | 45 | 45 | - | 9:17 AM | 4:05 PM | Very Regular | - | 45 | 45 | 45 | - |
| 11 | M.L. King | 5:43 AM | 8:19 PM | Fairly Regular | 35 | 40 | 40 | 44 | 45 | 5:43 AM | 6:40 PM | Fairly Regular | 36 | 40 | 40 | 44 | - | 8:48 AM | 4:20 PM | Very Regular | - | 45 | 45 | 45 | - |
| 12 | Presidential Library / East 6th | 5:49 AM | 6:36 PM | Fairly Regular | 36 | 40 | 40 | 44 | - | 5:49 AM | 6:36 PM | Fairly Regular | 36 | 40 | 40 | 45 | - | - | - | - | - | - | - | - | - |
| 13 | Pulaski Tech | 5:30 AM | 8:20 PM | Very Regular | 35 | 30 | 30 | 30 | 45 | 5:30 AM | 6:41 AM | Fairly Regular | 55 | 60 | 60 | 60 | - | 8:34 AM | 4:22 PM | Fairly Regular | - | 54 | 57 | 60 | - |
| 14 | Rosedale | 5:18 AM | 8:00 PM | Very Regular | 30 | 35 | 35 | 35 | 45 | 5:18 AM | 6:20 PM | Fairly Regular | 35 | 35 | 35 | 30 | - | 9:12 AM | 4:00 PM | Very Regular | - | 45 | 45 | 45 | - |
| 15 | 65th Street | 5:22 AM | 6:52 PM | Fairly Irregular | 25 | 30 | 75 | 30 | 27 | 5:22 AM | 6:50 PM | Very Regular | 65 | 75 | 75 | 75 | - | - | - | - | - | - | - | - | - |
| 16 | UALR | 5:38 AM | 8:41 PM | Very Regular | 35 | 30 | 30 | 30 | 60 | 5:38 AM | 6:46 PM | Very Regular | 35 | 30 | 30 | 30 | - | 8:43 AM | 4:27 PM | Fairly Regular | - | 57 | 58 | 58 | - |
| 17 | Mabelvale-Downtown | 5:03 AM | 6:20 PM | Very Irregular | 35 | 55 | 41 | 60 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 18 | McAlmont | 5:19 AM | 8:00 PM | Fairly Irregular | 30 | 40 | 40 | 27 | 45 | 5:19 AM | 6:20 PM | Fairly Irregular | 30 | 45 | 40 | 27 | - | 8:40 AM | 4:26 PM | Fairly Regular | - | 58 | 58 | 59 | - |
| 19 | Hensley Express | 5:20 AM | 6:31 PM | Very Irregular | 35 | 90 | 92 | 60 | - | 9:00 AM | 6:00 PM | Very Regular | - | 90 | 90 | 90 | - | - | - | - | - | - | - | - | - |
| 20 | Airport / College Station | 5:36 AM | 8:04 PM | Fairly Regular | 60 | 60 | 60 | 63 | 49 | 5:36 AM | 6:20 PM | Fairly Regular | 60 | 60 | 60 | 63 | - | 8:40 AM | 4:00 PM | Fairly Regular | - | 56 | 57 | - | - |
| 21 | University Avenue | 6:15 AM | 6:17 PM | Very Regular | - | 45 | 45 | 45 | - | 6:15 AM | 6:17 PM | Very Regular | 45 | 45 | 45 | 45 | - | - | - | - | - | - | - | - | - |
| 22 | Mabelvale-Midtown | 8:35 AM | 9:04 PM | Very Irregular | - | - | 34 | - | 54 | 6:36 AM | 6:29 PM | Very Regular | 70 | 70 | 70 | 70 | - | 8:41 AM | 5:08 PM | Very Regular | - | 45 | 45 | 45 | - |
| 23 | Baseline / Southwest | 5:33 AM | 8:00 PM | Fairly Regular | 55 | 55 | 55 | 60 | 65 | 5:33 AM | 6:20 PM | Fairly Regular | 55 | 55 | 55 | 60 | 65 | 9:15 AM | 4:00 PM | Very Regular | - | 45 | 45 | 45 | - |
| 25 | Pinnacle Mountain Express | 6:15 AM | 6:15 PM | Very Irregular | - | 30 | - | 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 26 | Maumelle / Oak Grove Express (Loop) | 6:30 AM | 6:24 PM | Very Irregular | - | 30 | - | 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 36 | Jacksonville / Sherwood Express | 5:50 AM | 7:14 PM | Very Irregular | 20 | - | - | 25 | 60 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Source: CATA

Route Types

- CAT Local Routes
- CAT Limited Service
- Express Routes

Peak Frequency Levels

- Every 20 to 30 Minutes
- Every 31 to 45 Minutes
- Every 46 to 60 Minutes
- No Service

Transit Center

0 2.5 5 Miles

Data sources: ACS 2008-2012, Census 2010, Census TIGER, CATA.

Pulaski County

Sherwood

North Little Rock

Little Rock

Clinton Airport

Midtown Target

River Cities Travel Center

To Maumelle/Oak Grove

To Jacksonville

To Wrightsville/Hensley

70

430

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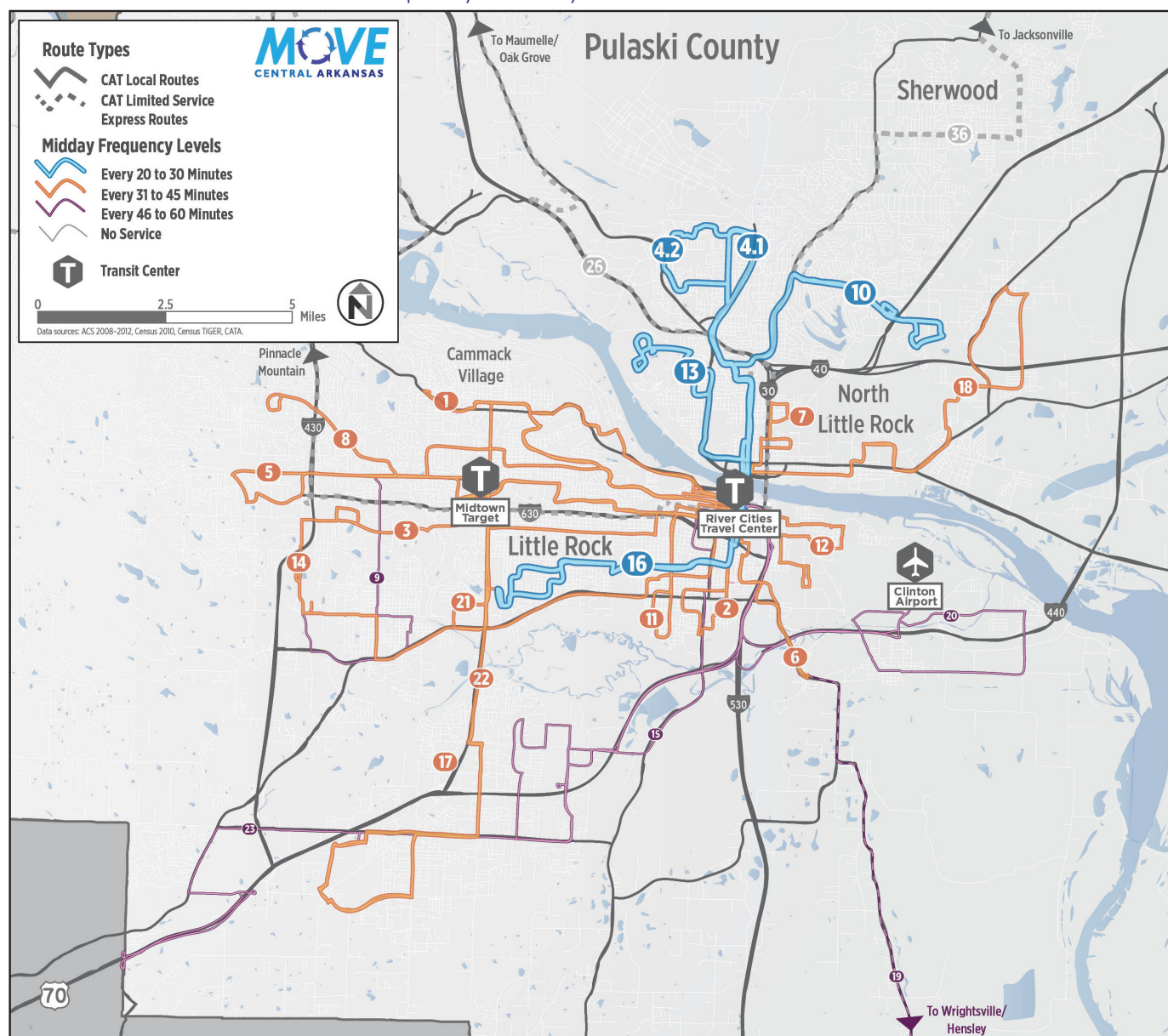
CATA's 26 bus routes carry about 10,000 riders each weekday. Annual fixed route operating costs have increased from \$12.2 million in 2011 to \$13.2 million in 2013. The increase in operating costs is due in part to a 7% increase in revenue hours. The service increase included adding two new routes: Route 22 Mabelvale – Midtown that connects Midtown with shopping areas near Baseline Road and Route 23 Baseline/Southwest to Pulaski Tech's South Campus.

20% higher than 2009. Service effectiveness, measured in terms of passengers per revenue hour, increased steadily from 2009 until 2012, but then dropped in 2013 with the expansion of service from 24 to 26 routes.

CATA collects about \$0.67 per rider, making the public subsidy per rider approximately \$6.47. The revenue per rider is lower than CATA's fare in part because many of the rides were taken as transfer rides rather than a full fare. CATA's average fare also reflects the discounts offered as part of offering transit passes as well as discounts for children, older adults, and people with disabilities. In addition, as part of interpreting the subsidy per rider, it is important to

No public transportation system in the world earns enough money from passenger fares to pay for the cost of the service.

FIGURE 2-5. CATA Transit Route Frequency - Midday



remember that no public transportation system in the world – including large urban systems operating in cities like London, Tokyo, or Hong Kong – earns enough money from passenger fares to pay for the cost of operating

and building the service. A review of transit agencies considered to be CATA's peers demonstrate that CATA's cost per rider is equivalent to or better than the majority of its peers (see Chapter 4).



River Rail Streetcar

The River Rail Streetcar opened in November 2004 and expanded its service in February 2007 to provide service to the Clinton Presidential Center and Heifer International Headquarters. The 3.4 mile loop crosses the Arkansas River to connect the downtowns of Little Rock and North Little Rock. The River Rail is a replica vintage streetcar service meaning the streetcars have modern amenities such as air conditioning but are designed to look historic.

The River Rail provides connections to many of Central Arkansas's main tourist destinations, including the Clinton Library, the River Market, the Convention Center, and the Verizon Arena and Argenta neighborhood in North Little Rock. There are two River Rail routes – the Green Line travels between the Clinton Library and the Convention Center and the Blue Line travels between the Clinton Library and the Convention Center and also crosses the river into North Little Rock. The Blue Line operates daily and the Green Line

operates Monday through Saturday. The Blue Line covers the same route as the Green Line but also crosses the river to North Little Rock and covers the Green Line during their operating hours. River Rail service details are provided in Figure 2-5 and a map of the routes are provided in Figure 2-6.

Ridership on the River Rail has declined over the last several years. In 2013, annual ridership was 92,515, down 12% from 2012, in line with reductions in service frequency. Providing less frequent service is evident in the amount of annual service hours provided. The River Rail operated over 11,682 revenue hours in 2013, down 5% from 2012.

Annual operating cost for the River Rail was just under \$1 million in 2011. In 2013, operating costs increased 13% to \$1 million. The increase in costs in 2013 reflects capital maintenance work and replacing high cost materials. The River Rail service is used primarily as a tourist service on the weekends (61% of ridership is between Friday – Sunday compared to 39% Monday – Thursday)

FIGURE 2-6. River Rail Map



FIGURE 7. CATA River Rail Service Levels

| Service Day | Route | Service Span | Frequency | Base Fare |
|---------------------|------------|--------------------|------------|---|
| Monday – Wednesday | Blue Line | 8:20 am – 10:00 pm | 25 minutes | <ul style="list-style-type: none"> Under age 4: free Ages 5-11: \$0.50 Ages 12-64: \$1.00 Discount Fare (elderly & disabled): \$0.50 Day Pass: \$2.00 3 Day Pass: \$5.00 20-ride card: \$15.00 |
| | Green Line | 8:20 am – 10:00 pm | 23 minutes | |
| Thursday – Saturday | Blue Line | 8:20 am – midnight | 25 minutes | |
| | Green Line | 8:20 am - midnight | 23 minutes | |
| Sunday | Blue Line | 10:40 am – 5:45 pm | 25 minutes | |
| | Green Line | n/a | n/a | |

Source: CATA

Links Paratransit Service

CATA also operates the Links Paratransit service. Unlike the fixed-route and River Rail services, Links is not a scheduled service and instead is operated in response to passenger requests for service. The Links service is required by the federal Americans with Disabilities Act (ADA) and this law also governs how the service is structured. All CATA vehicles, including the River Rail, are accessible to persons with disabilities. However, there are some cases where riding the fixed-route service is challenging. Federal law requires CATA to offer paratransit service to all

passengers who have a disability that prevents them from riding CATA's fixed route service, including the River Rail.² The demand response service is available to people during the same hours that the bus and River Rail operates and will pick up and drop off passengers within three-quarters of a mile on each side of a fixed transit route. Passengers must call at least 24 hours in advance of their trip and CATA is allowed to charge up to twice the fare charged to fixed route or River Rail riders. In 2012, the Links paratransit service provided roughly 67,500 trips to people with disabilities.



Links paratransit service provides demand-response service for passengers with disabilities.

FLEET

The CATA bus fleet consists of 56 low-floor Gillig transit buses and 24 paratransit vehicles used for Links service. All buses are currently diesel powered, but the agency's fleet replacement plan will result in an all-CNG fleet within a ten-year period beginning in 2015. The River Rail service is operated by five electric streetcars.

TRANSIT FACILITIES

Rivers Cities Travel Center

The CAT bus service is organized as a hub and spoke system with the system hub located in downtown Little Rock at the Rivers Cities Travel Center located at 310 E. Capitol Avenue. The Travel Center is served by all routes except for Routes 9 and 22. The River Cities Travel Center includes 23 off-street bus bays and a climate-controlled indoor waiting area that is staffed from 7:00 am to 6:00 pm with customer service agents. River Rail streetcar service does not extend to the Travel Center.

Midtown Avenue

CAT bus service also uses a secondary transit hub located along Midtown Avenue adjacent to the Park Avenue retail development. Five routes converge at this location near Target and the Doctor's Building.



CATA bus fleet consists of 56 low-floor Gillig transit buses.



The River Cities Travel Center is the central downtown transit center where 22 of CATA's routes originate.

CATA maintains 1,616 bus stops...

only 6% have shelters.

Park-and-Rides

CATA does not manage any park-and-ride locations. However, the Arkansas Highway and Transportation Department (AHTD) has three park-and-ride lots in the greater Little Rock area that are served by CATA buses (see Figure 2-8).

FIGURE 2-8. Park-and-Ride Locations and Bus Service

| Park-and-Ride Location | Bus Service |
|--------------------------|--|
| Hwy 161 & I-40 | Route 18 McAlmont |
| Crystal Hill Road & I-40 | Route 26 Maumelle /Oak Grove Express |
| University & I-630 | Route 17 Mabelvale-Downtown Route 21 University Ave Route 22 Mabelvale-Midtown |

Source: CATA

Bus Stops

CATA maintains 1,616 bus stops throughout its system. All bus stops are equipped with a bus stop sign at a minimum. CATA does not currently have a formal system of prioritizing transit stop improvements. Instead, amenities are installed based on requests from passengers and other stakeholders, as well as anecdotal evidence of high passenger volumes. Figure 2-9 provides an overview of current bus stop amenities.

FIGURE 2-9. Bus Stop Amenities

| Bus Stop Type | Number of Stations with Amenity |
|----------------------------|---------------------------------|
| Bus stop sign | 1,616 (all) |
| Passenger shelters | 99 |
| Benches maintained by CATA | 8 |
| Ad benches* | 96 |

*Add benches are privately owned and are not maintained by CATA.

Source: CATA



Only 6% of CATA bus stops have shelters. Many, like the one pictured above, are privately owned and not maintained by CATA.

PASSENGER INFORMATION

CATA route maps, schedules, and general information are available online at www.cat.org. CATA also maintains a Facebook page that is used primarily to issue rider alerts and announcements regarding service disruptions, detours, and promotions.

Individual pocket schedules are available for each CAT bus route and can be found on the buses and at the River Cities Travel Center. Schedules are also posted in display panels in some bus shelters. Each pocket schedule includes a route map and time table, as well as key destinations served and instructions in English and Spanish on how to read the schedule.

In addition to pocket schedules for each route, CATA also produces a comprehensive system map showing all routes (not including River Rail) and important landmarks and regional destinations. The fold-up map is primarily available at the River Rail Travel Center. A separate informational brochure is available for River Rail only, and is available on-board the streetcars.

CATA also provides real-time arrival information at every River Rail stop, at www.nextbus.com, or by calling or texting CATA.

ISSUES AND OPPORTUNITIES FOR CATA

CATA's service network is a mature system that has supported Central Arkansas for many years. Ridership is steady and has even grown slightly over time. At the same time, however, with the exception of the River Rail, the system has not changed significantly for the past several decades. There are opportunities for CATA to grow and update the transit service so it better reflects changing community needs and takes advantages of new best practices in the transit industry and better positions Central Arkansas to retain its vibrancy and competitive advantages in the coming decades.

System Design

Among the system's strengths is that most of the fixed route bus service operates on a fairly direct path between destinations. Traveling directly between destinations makes travel times faster and also means the bus service is less expensive to operate. In addition, by taking a direct path, the bus travels the same path as other travelers, particularly private

automobiles (cars), making the route intuitive, easy to understand, and easy to use.

One of the challenges with CATA's service is that the system has a flat system design, meaning service levels and frequencies are generally the same rather than adjusted to reflect demand or the importance of the route in the overall network. There are opportunities to make adjustments to existing service levels to better match the service with demand. Likewise, it may be appropriate to offer different types of service in different areas; adjusting service types can also better match service with demand and need. In addition, there are corridors in the system where services overlap, creating redundancies in the network; this is most apparent along University Avenue between downtown Midtown and the University of Arkansas at Little Rock.

System Frequency and Span

One of the biggest challenges in CATA's network is the amount of service available. Headways (or the frequency with which the bus arrives) on CATA's routes are low. The most frequent routes operate with headways of 30 minutes, with many others operating with headways between 35-40 minutes. Generally speaking this level of service is not adequate to attract choice riders.

Many routes also have irregular departure patterns. A system that operates according to regular schedules that depart on a "clock face" schedule (i.e., 0:15, 0:20 or 0:30) are easier to remember and use. In addition, the span of service, in terms of both hours of the day and days of the week, is low. Most routes end service by 7:00 pm. And, while many routes operate on Saturday, service on Sunday is limited. For CATA to take the next step and attract choice riders, they will need to invest more resources into the system and expand frequency and service span.

Passenger Amenities and Infrastructure

One of the most consistently expressed challenges with CATA is the lack of sufficient amenities for riders in terms of safe, comfortable areas to wait for the bus that are easy to identify as bus stops. As highlighted in the text, CATA has over 1,600 bus stops, but only 99 have shelters (about 6%) and only eight of these shelters are owned by CATA. The remaining shelters are owned and installed through advertising contracts. CATA is responsible for maintaining the shelters. Using advertising contracts to build shelters has some financial advantages but can also undermine a transit agency's ability to control the layout, look, and amenities associated with the shelters.

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Communities across the United States are re-imagining how transit can be woven into the social fabric of communities.



[3]

MARKET ANALYSIS

The role of public transportation in American cities is changing. While many transit agencies have traditionally served their community's most vulnerable individuals, transit agencies are increasingly being asked to provide a transportation choice that is viable for more people. As cities like Little Rock, North Little Rock, Jacksonville, and Maumelle invest in their downtowns, public transportation is becoming a service that can support people's need to get around locally, as well as get people to commercial centers conveniently, safely, and comfortably. This chapter explores the emerging markets for public transportation services in Central Arkansas, examines the relationship between land use and transportation, and discusses how CATA can position itself to fulfill this role.

WHAT ARE THE MARKETS FOR TRANSIT?

CATA has an opportunity to attract and serve new, choice riders – those who will take transit because it is convenient and it allows them the leisure of relaxing or working during their commute to work. Communities across the United States, including in the mid-south, are re-imagining how transit can be woven into the social fabric of communities by connecting people to shopping, dining, jobs, and other daily services, and by serving as a place for social interaction.

Market Trends

The changing transportation preferences of two generations in particular are influencing how transit agencies across the nation are planning for service: the Millennial generation (those born between 1981 and 2000) and Baby Boomers (those born between 1946 and 1964). Both of these generations are choosing communities that offer them transit service that is comfortable, safe, efficient, and convenient.

Millennials

Central Arkansas wants to attract a young, talented workforce and their families. Attracting and retaining this population is critical to ensuring that Central Arkansas remains competitive nationally to employers and emerging industries. We also know through national experience that these young professionals and families expect new and diverse mobility options. To be competitive, CATA will have to improve the quality of its transit service and make taking the bus and riding the streetcar a civilized and attractive option.

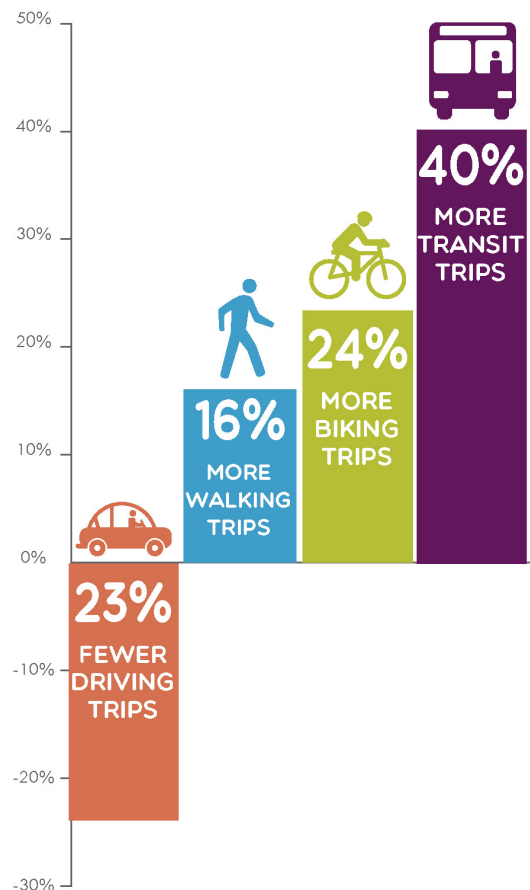
According to the 2010 Census, the 85.4 million Millennials make up close to 28% of the total U.S. population and 22% in Pulaski County.³ Millennials' transportation patterns are changing. Millennials are:

- **Purchasing fewer cars.** From 2007 to 2011, the number of cars purchased by 18 to 34-year-olds fell almost 30%.⁴
- **Driving less.** People aged 18 to 34 drove 23% fewer miles in 2009 than in 2001.⁵
- **Not obtaining their driver's licenses.** The percent of young people with a driver's license is on the decline. According to the Federal Highway Administration, from 2000 to 2010, the share of 14 to 34-year-olds without a driver's license increased from 21% to 26%.⁶
- **Biking, walking, and taking transit more.** Millennials use transit, bicycling, and walking more than young people have in the past two decades.⁷ From 2001 to 2006, bike trips increased by 24% among 16-34 year olds.⁸
- **Placing more value on technology and access to technology.** Part of the reason Millennials are driving less is because they are choosing to spend limited resources on technology, such as smart phones, tablets, and computers. New mobile apps remove many day-to-day barriers that dissuade casual transit riders by providing easy trip planning tools and real-time information.⁹ Transit systems that allow them to stay connected while they travel are highly valued.¹⁰

Millennials value transportation options because they allow them the luxury of working while in transit, staying connected with peers, or relaxing while letting someone else drive.

THE MILLENNIALS ARE TRAVELING DIFFERENTLY

From 2001-2009 those aged 16 to 34 took:



Source: Federal Highway Administration, "National Household Driving Trends," 2001-2009

Baby Boomers

Baby Boomers are another attractive expansion market for CATA. Nationally, Baby Boomers represent 76.4 million people. In Pulaski County, people over the age of 50 represent 31.4% of the total population.¹¹ Central Arkansas is also increasingly viewed as a desirable place to retire, providing a combination of a relatively mild climate, friendly people, and affordability.¹² Part of attracting Baby Boomers to Central Arkansas and keeping them there requires providing the type of living experience they desire.

Central Arkansas, especially the cities of Little Rock and North Little Rock have invested in their downtowns, with aggressive strategies to attract housing, employment, and retail into the downtown areas. Since 1996, approximately \$2 billion in investment has transformed the downtown Little Rock area.¹³ As a result, there are more residential units in downtown than ever before, units that are renting faster than other parts of the region. People living downtown include young professionals but also older professionals and retirees. In 2011, Kiplinger ranked Little Rock as number seven in their list of “Best Value Cities” due to affordable housing prices coupled with its downtown amenities.¹⁴ Other communities in Central Arkansas, such as the City of Maumelle with its lakeside village environment are also having success in attracting retirees.

National research suggests that 85% of Baby Boomers want to age in place, or live in their homes and communities as long as possible.¹⁵ Many in the Boomer generation are also planning to downsize to homes that allow them to trade large yards requiring maintenance for smaller homes in communities where they can walk and use transit to get around. A 2013 survey by the National Association of Realtors found that 60% of Baby Boomers preferred to live in neighborhoods with a combination of shopping, restaurants, and parks, as compared to 35% who preferred traditional residential neighborhoods. In one survey, 77% of active Baby Boomers¹⁶ identified affordable and convenient transportation alternatives to the car to be at least somewhat important when deciding where to live and work.¹⁷ To attract older adults to transit, service will need to be safe and approachable.



To accommodate the aging population of Baby Boomers, CATA will need to ensure transit service is accessible, safe, and comfortable.

Central Arkansas' Most Vulnerable Members

Another equally important market for CATA is the members of the community who rely on transit. People who are more likely to rely on transit tend to include people who, because of demographic characteristics such as age, disability, income, or automobile availability, are less likely to drive than the general population. These individuals still need to travel – to go to work, attend classes, receive medical care, and take care of personal needs like shopping and visiting friends and family members.

Older Adults

As people age, they often become less comfortable or less able to operate a vehicle. Costs associated with operation and maintenance can also be a burden as many older adults transition to fixed incomes. Transit offers older adults the freedom to stay in their homes as they transition away from their vehicles, also known as “aging in place”.

Recent surveys have also revealed that the Baby Boomer generation desires a more active retirement lifestyle. Boomers are living longer, staying more active, and seeking out neighborhoods that are walkable and served by transit. Providing cost-effective transit helps existing Central Arkansas residents age in place and could attract Baby Boomers who are looking for vibrant neighborhoods to retire in.

Today, 13% of Pulaski County residents are over the age of 65.¹⁸ Their households are spread across all areas of Central Arkansas (see Figure 3-1). Senior households are clustered in Cammack Village, north Little Rock, and the northern neighborhoods of North Little Rock. The communities of Maumelle, Sherwood, and Jacksonville also have clusters of older adults. Older adults living in downtown Little Rock and North Little Rock have access to transit with higher frequencies (Figure 3-2). Older adults in Maumelle, Sherwood, and Jacksonville only have access to limited express routes, and many in northeast Pulaski County and in south and southwest Pulaski have no transit service.

FIGURE 3-1: Distribution of Older Adults across the Central Arkansas Region

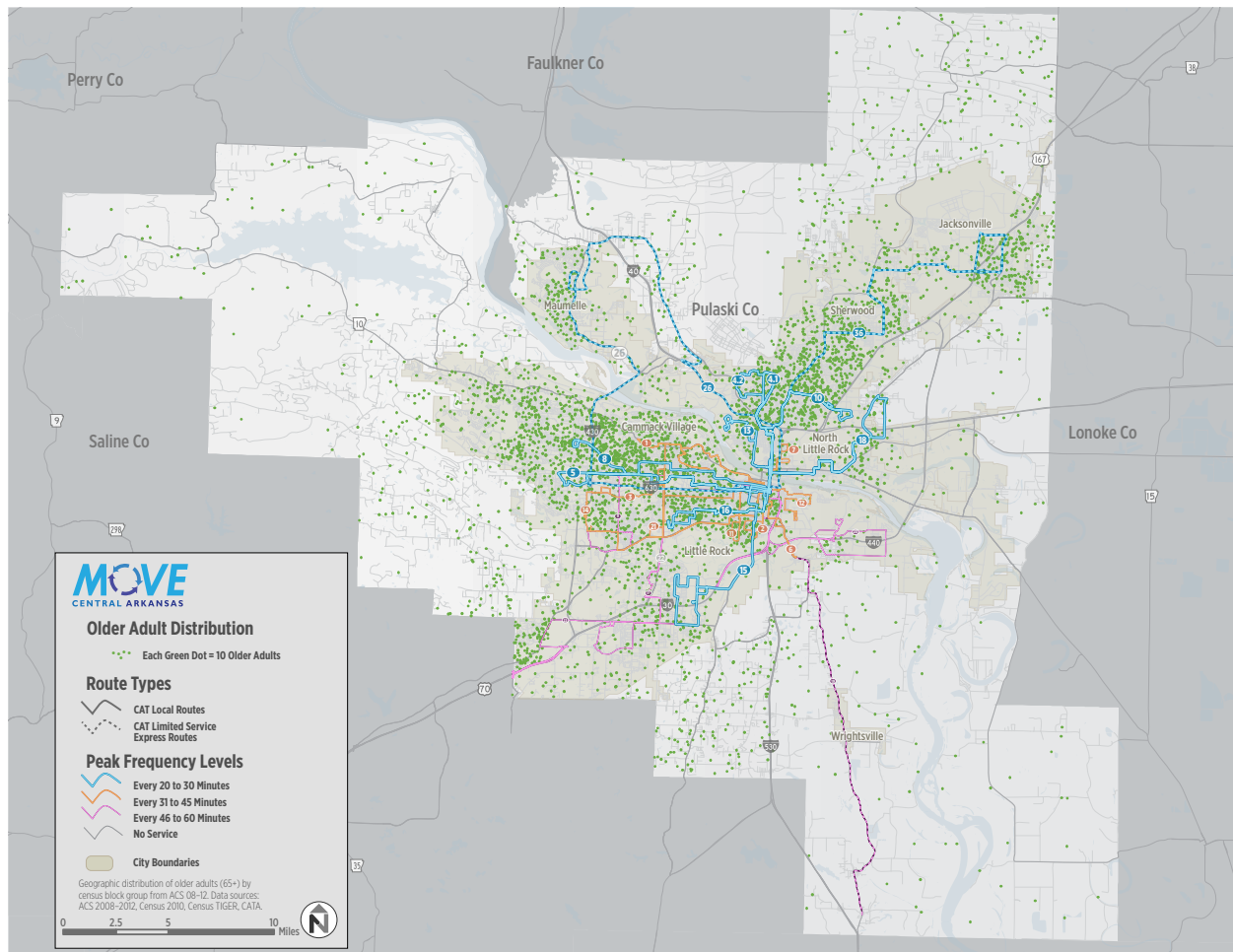
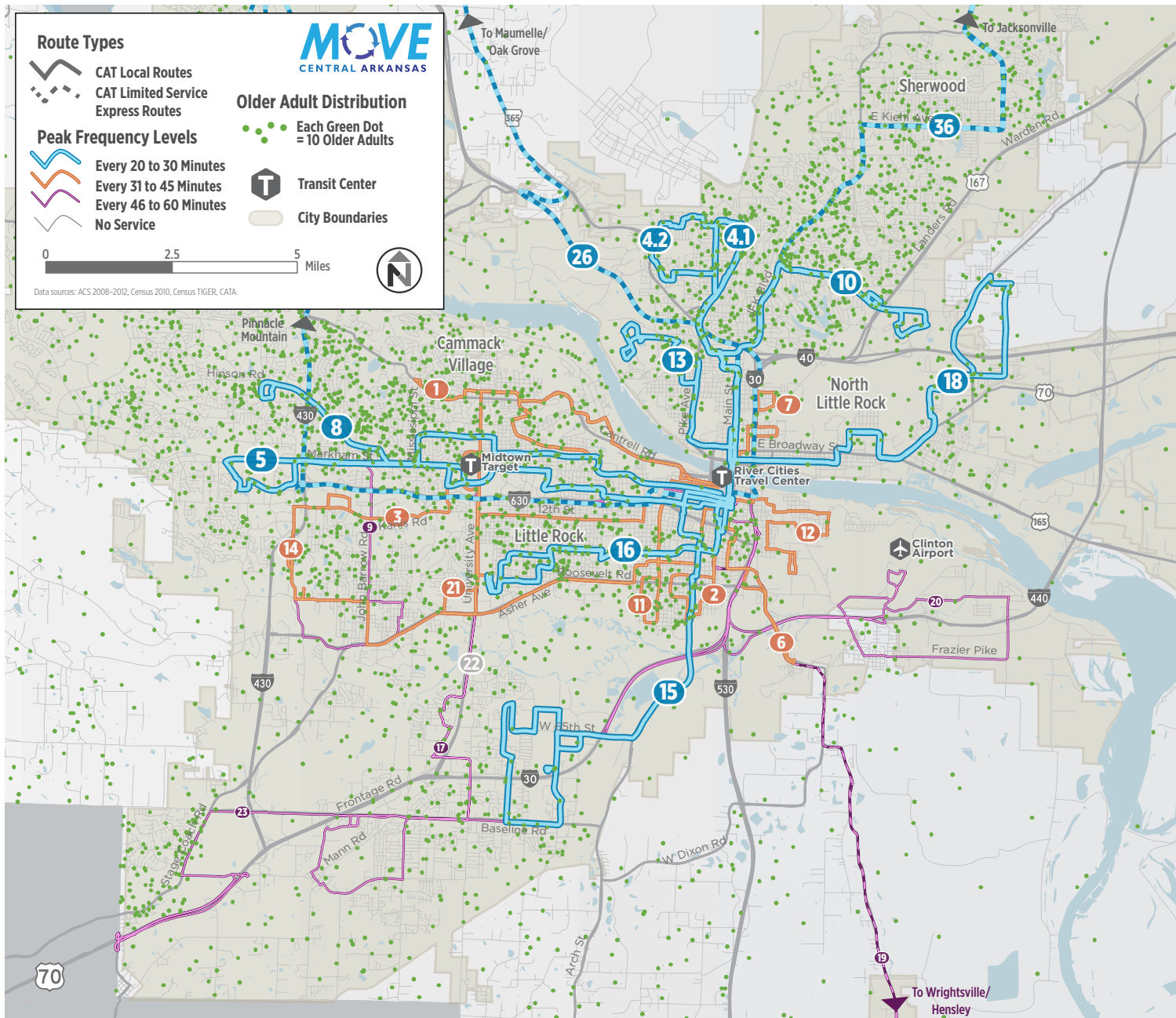


FIGURE 3-2: Distribution of Older Adults in Downtown Little Rock and North Little Rock



People with Disabilities

About 16% of the population in Pulaski County has a disability.¹⁹ While many people with disabilities are able to drive, many are not. Public transportation – including both regular fixed-route bus service but also specialized paratransit services, such as those provided by Links – are an essential resource to ensure people with disabilities are able to live actively and productively.

People with disabilities live throughout Central Arkansas (See Figure 3-3). Most communities

and areas are home to people with disabilities. The highest concentrations are in Little Rock, especially the neighborhoods north of I-630 and in northwest Little Rock, but there are also clusters of people with disabilities living in North Little Rock, Sherwood and Jacksonville. For the most part, these areas have transit service, but outside of the region's main corridors, transit service is sparse and oriented around getting people into downtown Little Rock.

FIGURE 3-3: Distribution of People with Disabilities across the Central Arkansas Region

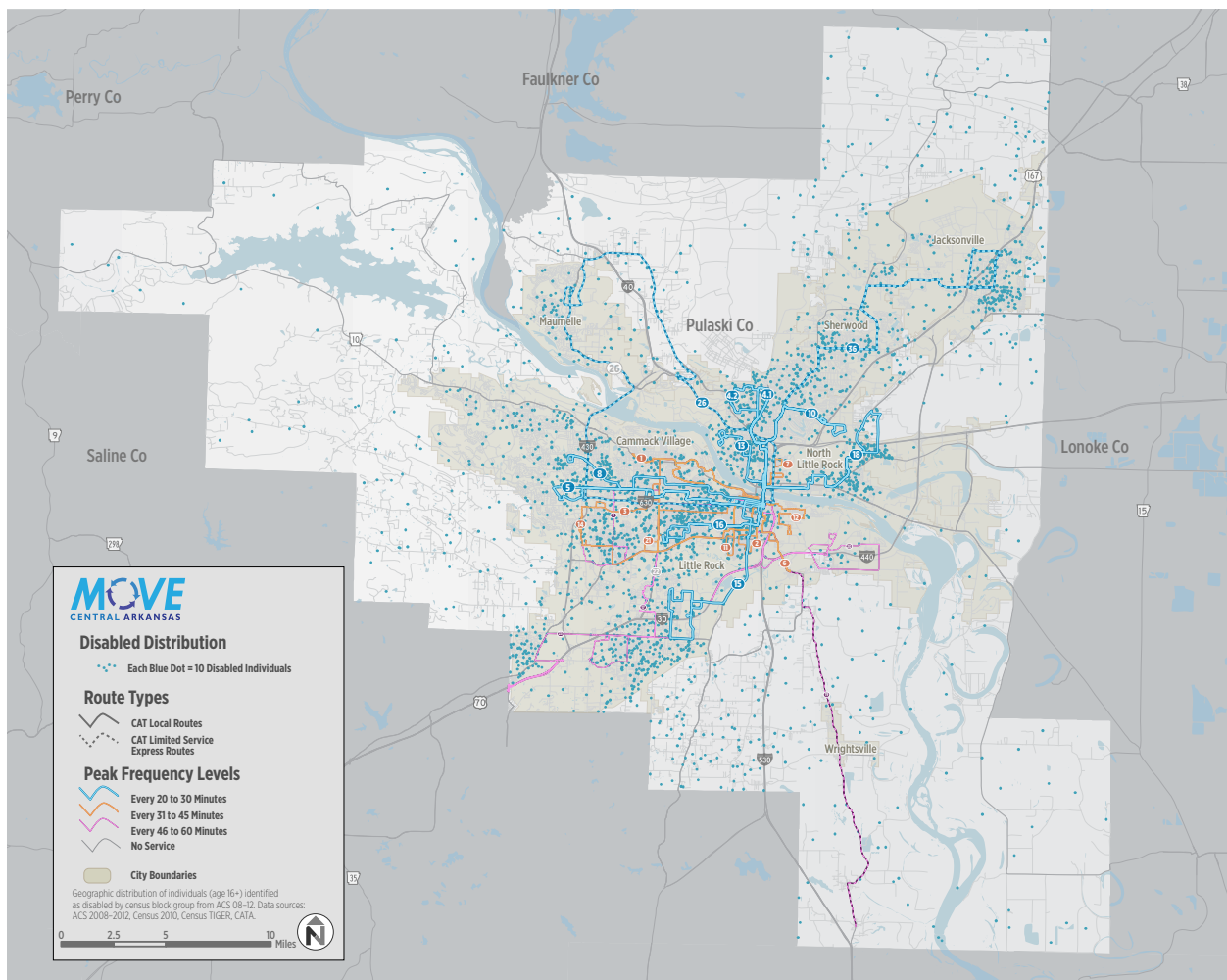
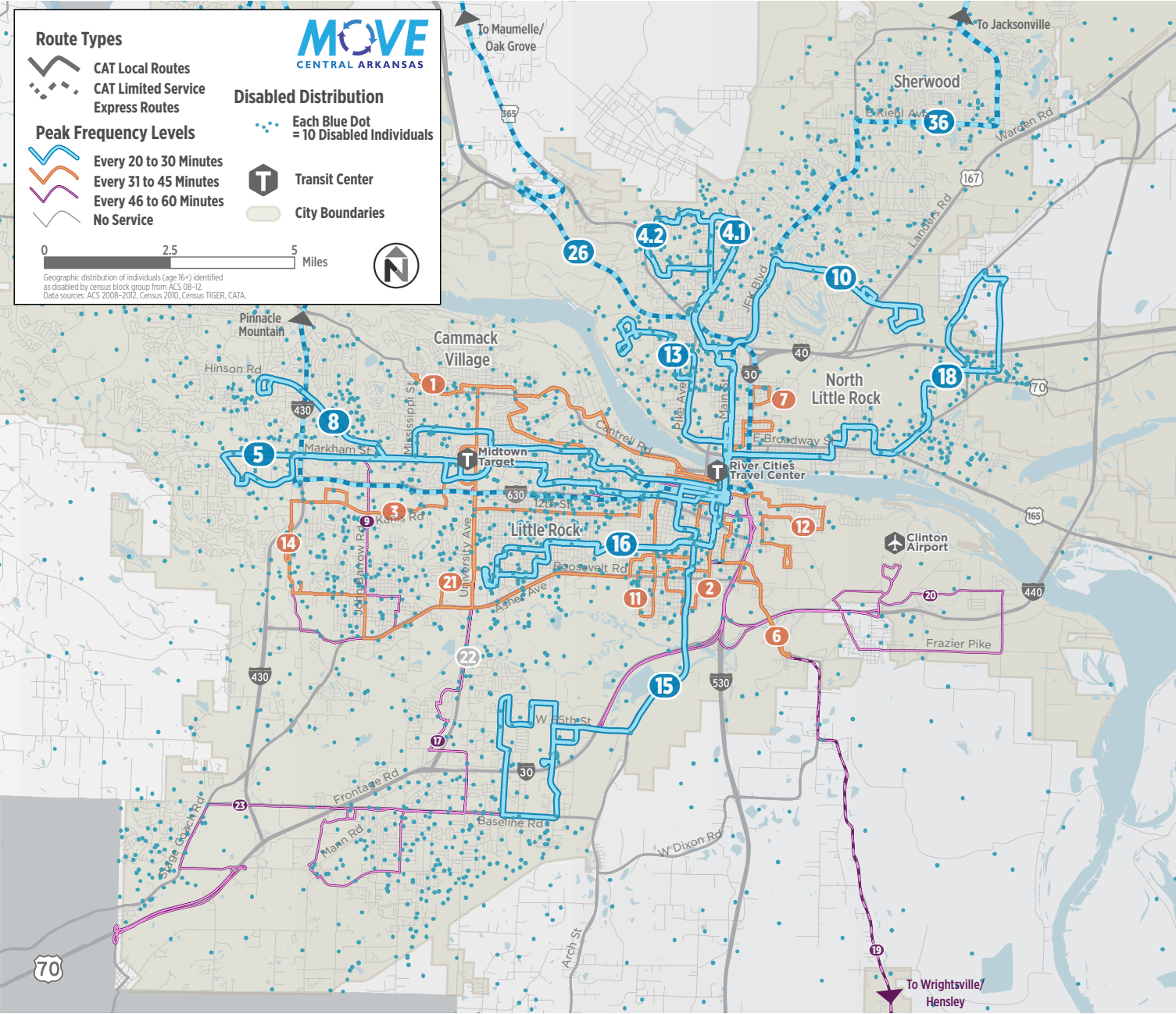


FIGURE 3-4: Distribution of People with Disabilities in Downtown Little Rock



Low Income Households

More than any other demographic characteristics, income is correlated with the need for public transportation. As income falls, people are less likely to have regular access to a private vehicle.

Concentrations of households below the poverty line are found in North Little Rock, straddling I-30, and in downtown Little Rock (see Figure 3-6). Within Little Rock, low-income populations concentrate around Hanger Street, in the neighborhoods between Broadway Street and I-30, and throughout southeast

Little Rock. Many of these communities have higher concentrations of households living below the poverty line; most are currently served by a CATA transit line (see Figure 3-5 and Figure 3-6).

There are neighborhoods, however, with moderate concentrations of households below the poverty line that are not served by a CATA route. These neighborhoods are northeast of North Little Rock, in the area of Wrightsville, and in south-southeast Little Rock.

FIGURE 3-5: Low Income Households in Central Arkansas

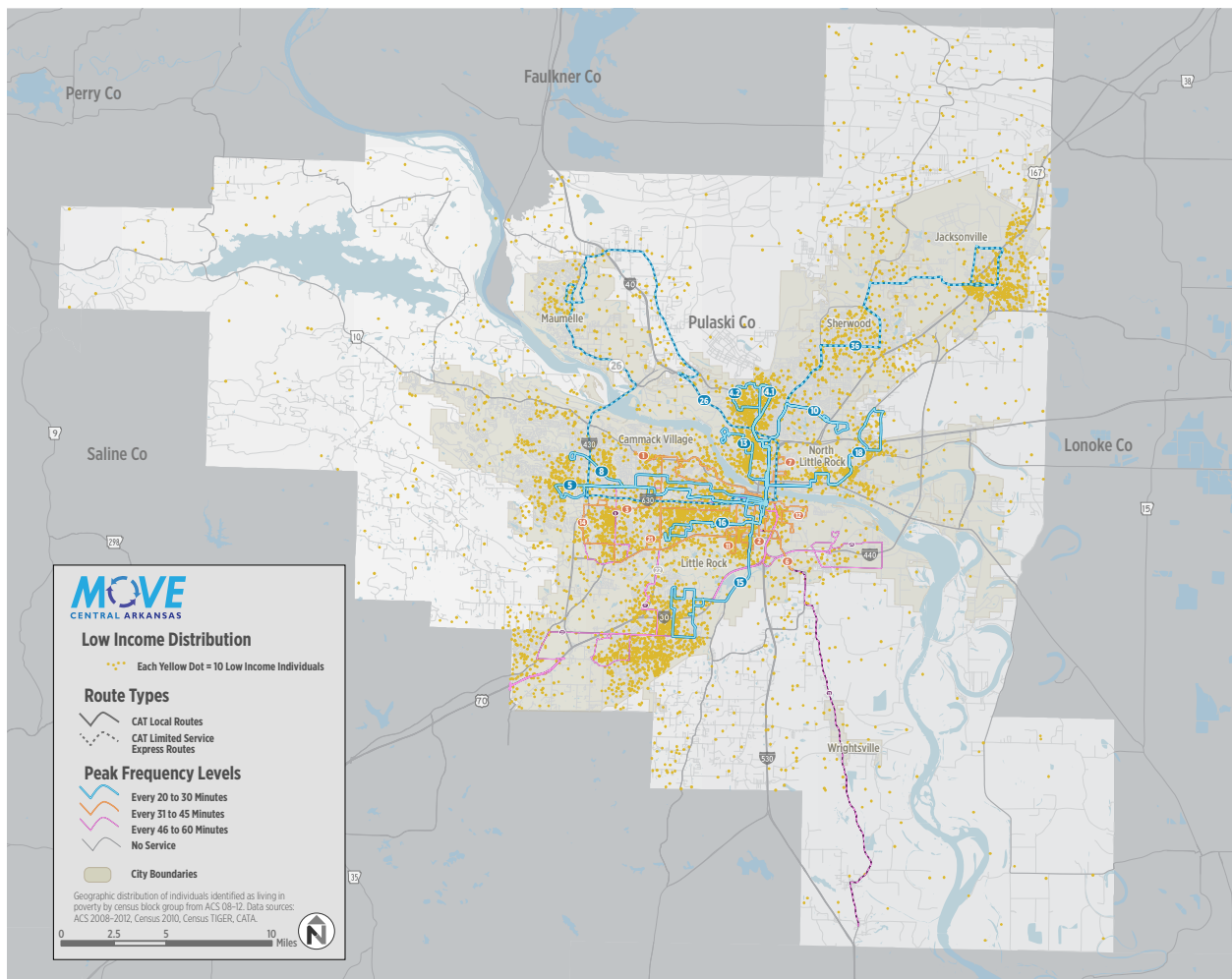
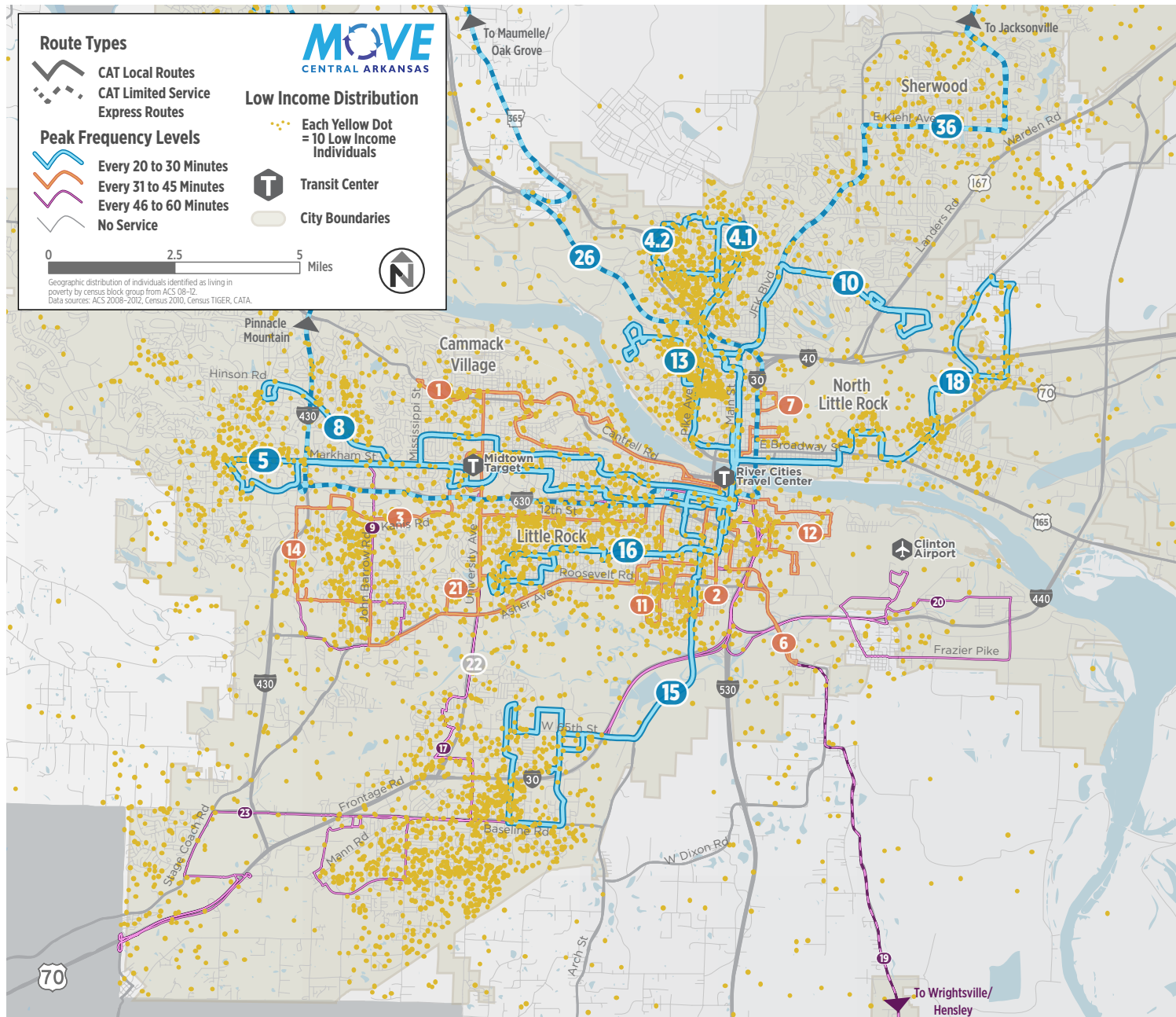


FIGURE 3-6: Low Income Households in Downtown Little Rock and North Little Rock



People need to get to work, to go to school, to visit friends and family, and to attend to personal business.



WHERE DO PEOPLE TRAVEL?

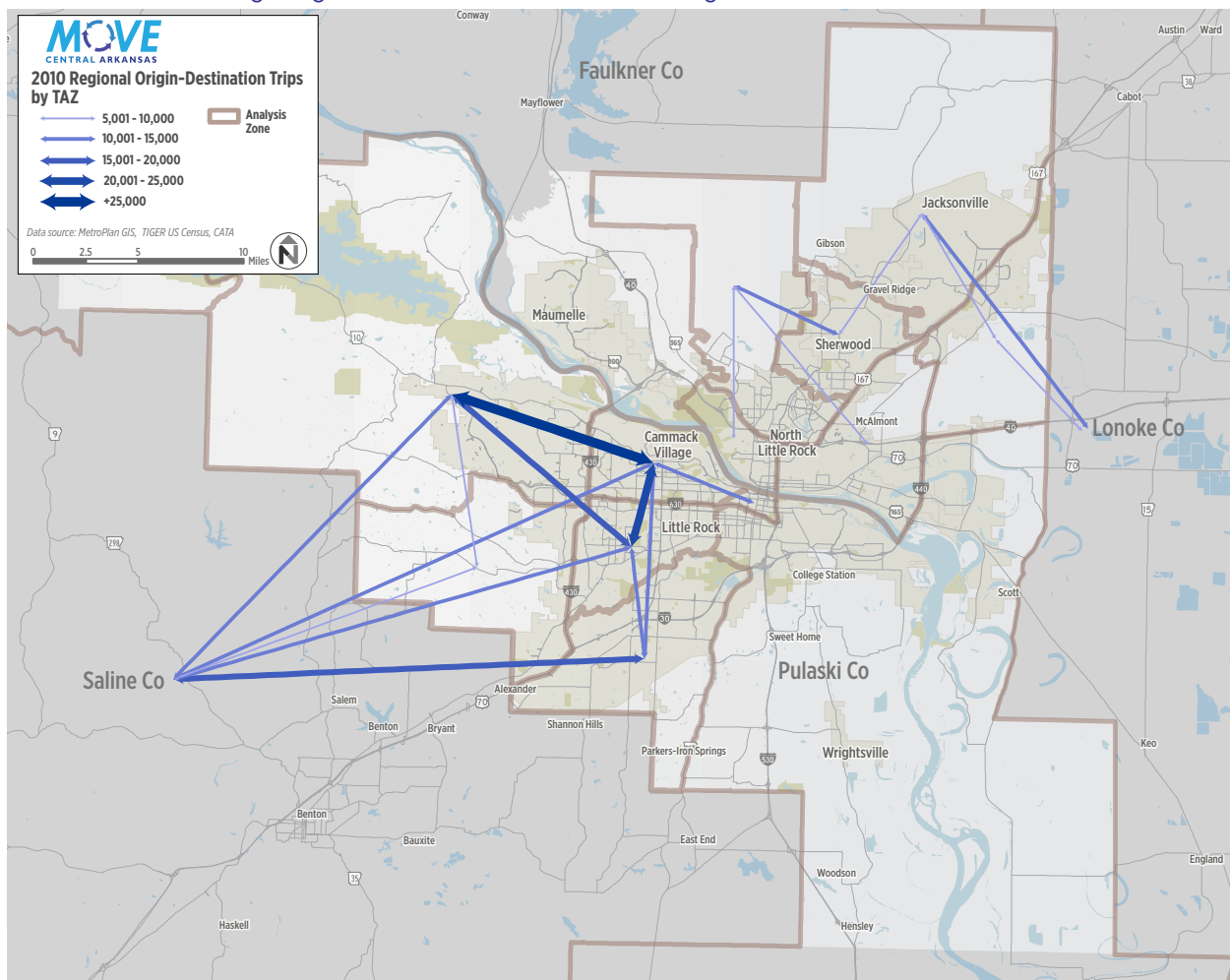
Assessing the demand for transit involves considering where people want to go. We know that nearly everyone wants to travel every day – people need to get to work, to go to school, to visit friends and family, and to attend to personal business like shopping and medical services. This means that jobs, housing, schools, services, and recreational and tourist attractions are important destinations for transit.

Currently, both Little Rock and North Little Rock have a healthy mix of residential development and employment, with more residential units and office projects underway, especially in downtown Little Rock. Growth is also strong in the suburban communities of Sherwood and Jacksonville. In fact, even as the downtown communities grow, a significant amount of new housing in Central Arkansas is being developed in the suburbs.

The region also has many popular recreation attractions that attract people from around Central Arkansas as well as out of town visitors. These destinations include the trails and parks located along the Arkansas River, the River Market District, the shops and restaurants on Main Street, the Verizon Arena, Dickey-Stevens Park, the William J. Clinton Presidential Library, and the Arkansas Arboretum. Central Arkansas also has numerous shopping facilities – the McCain Mall in North Little Rock, the Park Plaza Mall on University, and the shopping complexes on Shackleford Road. There are also new developments emerging in outlying areas, in Sherwood and Jacksonville among others. Other resources and facilities draw people from across the region, such as the University of Arkansas for Medical Services (UAMS), University of Arkansas at Little Rock (UALR), and Pulaski Tech and the Baptist Medical Center.

To plan effective and efficient transit service that people want to use, it is important to know where trips start and end today (Figure 3-7 below). Data in the map below is summarized to describe travel demand between Little Rock and North Little Rock and the region. This analysis is based on MetroPlan's regional model using origin-destination data for the year 2010. Today, the predominant travel pattern is from the southwest and northwest regions into Little Rock. Transit service should match these general travel patterns to ensure it is serving the trips people are already taking today.

FIGURE 3-7: Existing Origins and Destinations in the Region



Where Do People Currently Take Transit?

The largest concentration of transit boardings is at CATA's transit hub, radiating from the River Cities Travel Center in downtown Little Rock (Figure 3-8 and Figure 3-9). The importance of the Travel Center as a destination in part reflects the fact that it is located in downtown, but also that it is the main transfer point for the system. There is also a secondary hub in the midtown area of Little Rock where five routes converge. People transfer downtown to travel across the river into North Little Rock, and to the hospitals, universities, and neighborhoods west of downtown.

In Little Rock, the highest ridership route is Route 5, traveling along west Markham Street carrying 10% of all riders. This route serves the Arkansas Children's Hospital, the VA Hospital, State Hospital, St. Vincent Infirmary, and the University of Arkansas Medical Services. It also serves the Home Depot, Walmart and Sam's Club, a high ridership destination in west Little Rock.

Route 3 traveling to the Baptist Medical Center, Route 10 to the McCain Mall, and Route 14 Rosedale that serves southwestern Little Rock are the next three

most productive routes each carrying nearly 1,000 riders per day. Another popular destination in west Little Rock is a cluster of educational institutions: S.W. Middle School, Bale Elementary, and the University of Arkansas at Little Rock. The schools are located near the University Shopping Center, contributing to the popularity of the destination.

North of the Arkansas River, popular destinations include the Baptist Memorial Medical Center, McCain Mall and Walmart in northeast North Little Rock and the VA hospital and Pulaski Technical College in east North Little Rock. The Union Pacific Shops, Hays Senior Center, William Laman Library, Shorter College, and Rose City Shopping Center in North Little Rock also draw many riders.

Even the most heavily used transit routes only run frequencies of 20 or 30 minutes during peak periods and several routes have service every 40 or 60 minutes. Current riders on the routes serving medical destinations and senior centers may be more likely to be transit dependent and will wait long periods for transfers because of limited options. To attract choice riders who, CATA should explore running more frequent buses, particularly during peak hours.

FIGURE 3-8: Boardings by Stop across Central Arkansas Region

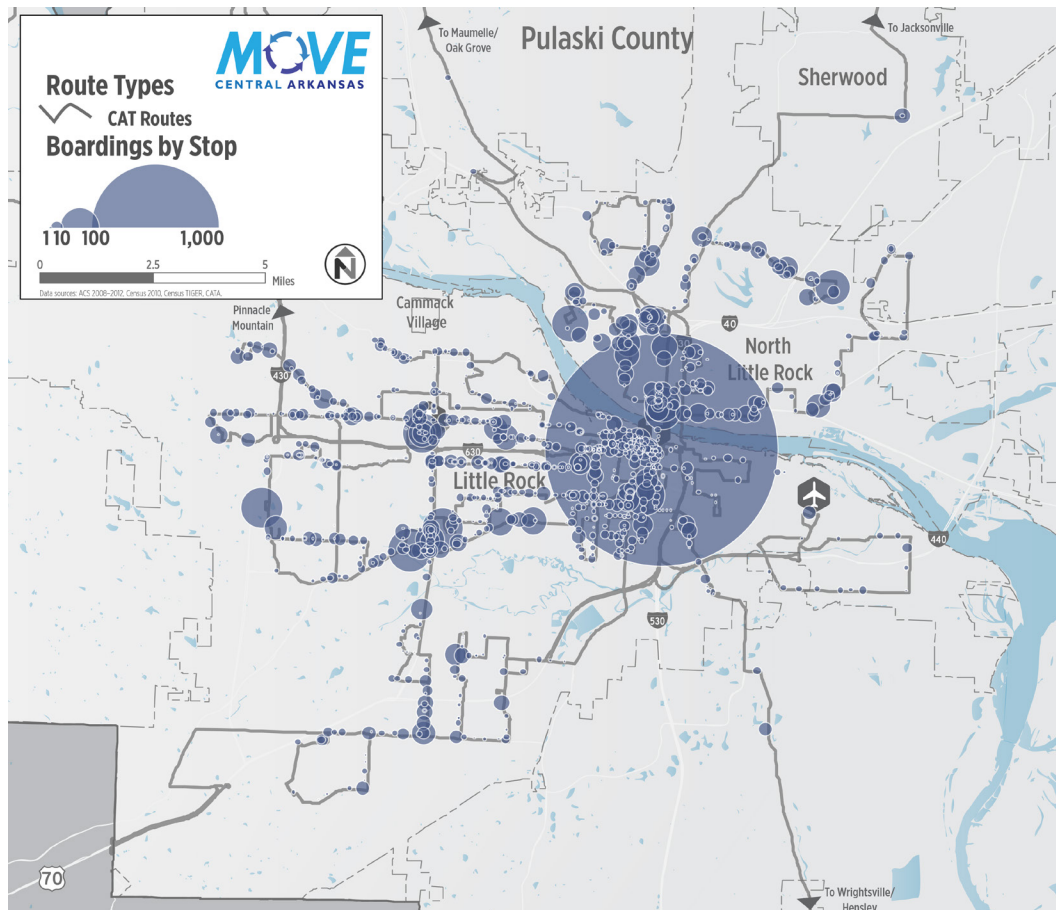
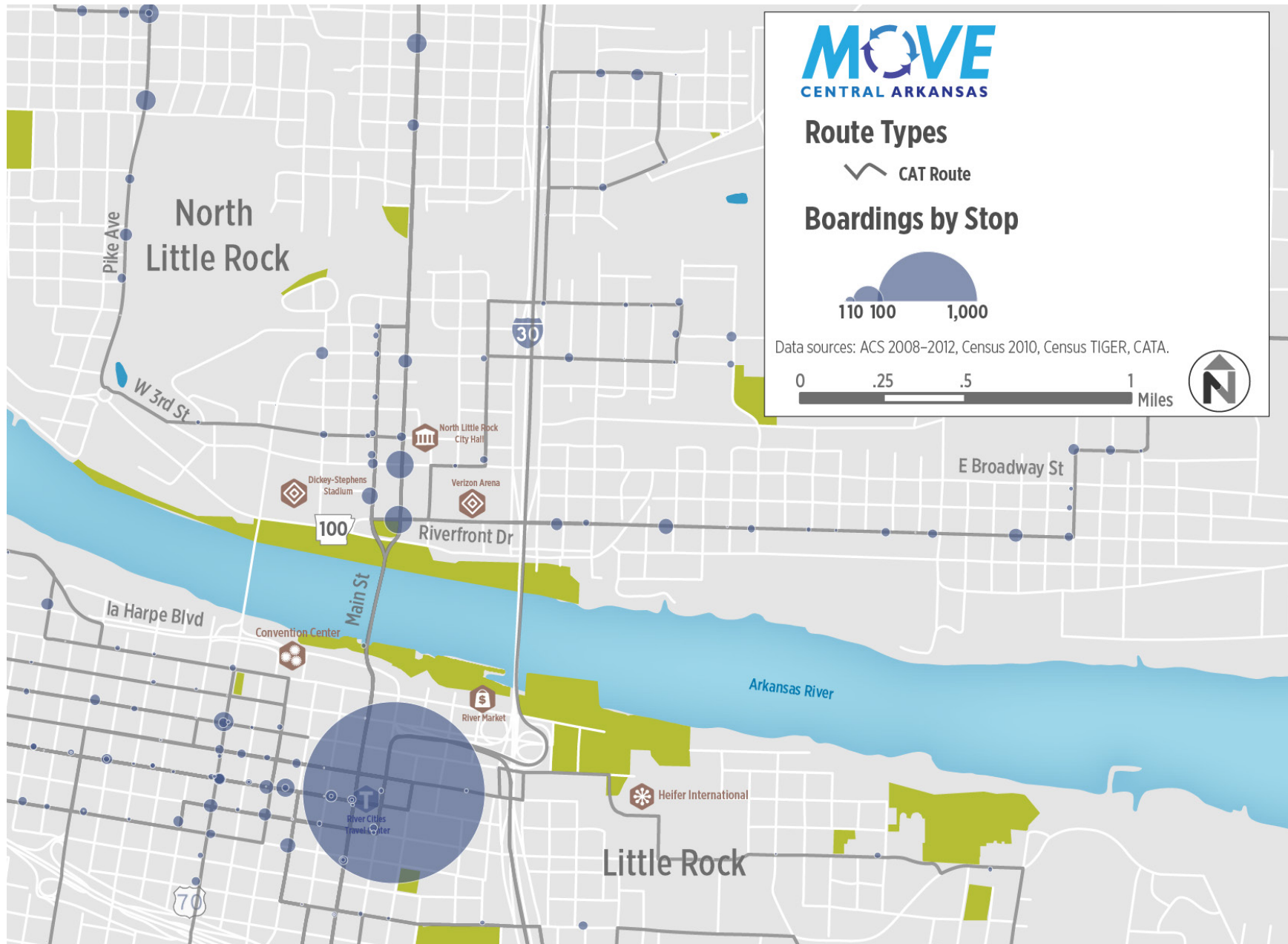


FIGURE 3-9: Boardings by Stop in Downtown Little Rock and North Little Rock



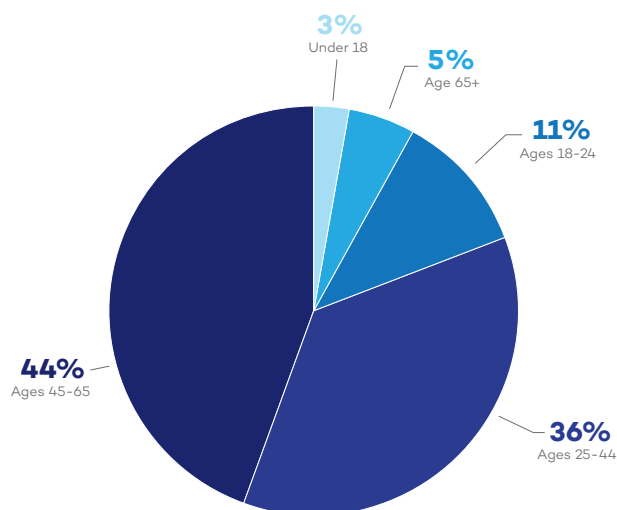
WHO CURRENTLY USES TRANSIT IN CENTRAL ARKANSAS?

In 2013, approximately 1% of workers in Little Rock and 2% of workers in North Little Rock used CATA to get to work.²⁰ Forty-four percent (44%) of CATA riders are between the ages of 45 and 65 (Figure 3-10). The next largest age cohort of riders is between the ages of 25 and 44 (36%). The smallest groups of riders are youth under the age of 18 and older adults over the age of 65.

The majority of CATA riders (52%) are female, though it is nearly evenly split between genders. CATA riders are also more likely to be of African American decent (71%) (see Figure 3-11). The next largest group of CATA customers are riders identifying as Caucasian (22%).

Little Rock residents ride CATA for a variety of reasons, from saving money on driving and parking, to seeking out a low-stress way to start and end their day. In the case of one customer, riding a CATA bus brings her closer to her workplace than the shuttle required for employees (see Rider Profiles).

FIGURE 3-10: Age of CATA Riders



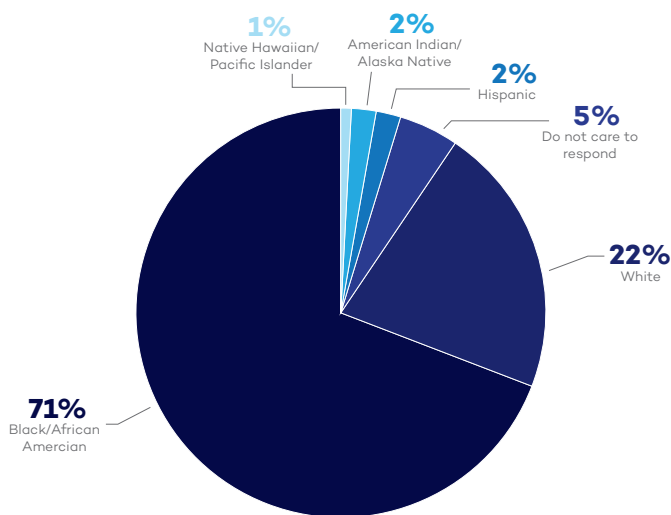
Source: 2013 CATA Customer Survey

WHAT IS THE RELATIONSHIP BETWEEN TRANSPORTATION AND LAND USE?

Transit can be designed to serve different types of riders and make sure vehicles travel to important destinations, but ultimately land uses have a significant impact on people's ability and willingness to use transit. Transit service that is supported by safe walking and bicycling infrastructure will attract more riders than service that connects areas without sidewalks or safe places to cross the street.

For transit service to continue to be a central component of local and regional mobility, future investments in transit will require strong coordination with land use planning to ensure transit service is supported by walkable and bicycle friendly streets and vibrant destinations. This section provides a discussion on the relationship between land use and transit demand and an overview of existing and future land use patterns in the Little Rock and North Little Rock regions.

FIGURE 3-11: Self-identified Race of CATA Riders



Source: 2013 CATA Customer Survey

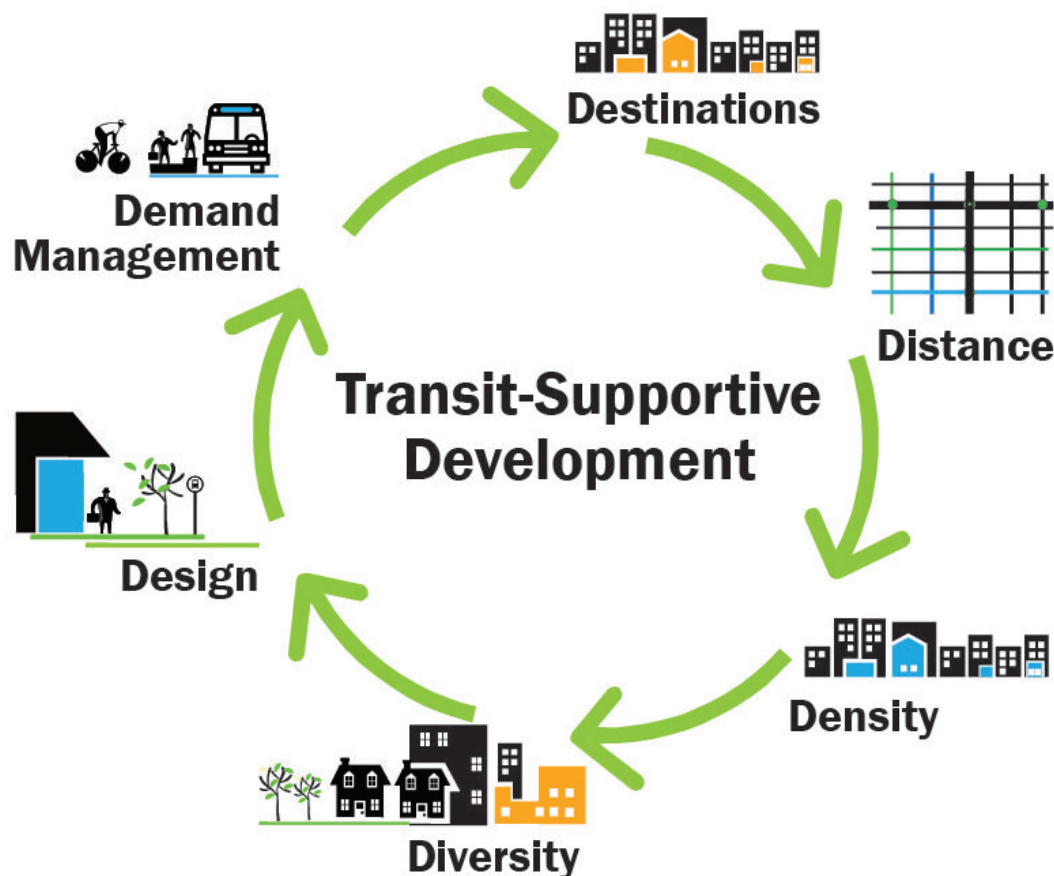
The Relationship Between Land Use and Transit Demand

Community destinations, distance between those destinations, density, land use diversity, design, and demand management, (often called the “6Ds”) are the critical factors that influence travel behavior, including the likelihood that people will choose to ride transit.^{21,22} Extensive research shows that the built environment – including how neighborhood’s are laid out as well as land use patterns, transportation networks, and urban design – significantly affects travel behavior. Simply put, people want to take transit when they walk to buses on streets that are pleasant, safe, and comfortable and the transit service takes them efficiently to where they are going.

Demand management (pricing and incentives) and demographics (income, household size, age, etc.) are also considered important factors.

To understand the connection between land use and transportation in the Little Rock and North Little Rock region, an overview of “the 6D principles” is provided in Figure 3-12 below. The 6Ds are most effective when applied in concert, although various principles apply differently at varying scales of geography. For example, density and diversity must be considered at the neighborhood scale, while design principles can apply to a specific station, stop, or site.

FIGURE 3-12: The “6D” Principles



WHO RIDES TRANSIT IN CENTRAL ARKANSAS?

EDWARD O. WALKER

Attorney

I ride sometimes daily between 7:15 am - 8:00am (coming to work) - 6:30 pm (going home). The walk to the stop, and the ride is a perfect transition into work. Also my kids (pictured) love to ride home from the Child Development Center with me after I leave work.

I am 2.5 miles from the office and it takes approximately the same time to get into the office by riding the bus as it does to drive my car – after I park and grab my stuff. It's the same with the

ride home. The bus stops pretty much in front of the office on the way into work and catch the ride home two block from the office in front of B of A. Also my job pays the fare as part of their green initiative.

Riding the bus is a great way to start the day with music playing on the ear buds and I can think about what I may face during the day without the worry of traffic or speeding tickets.



JEREMY LEWNO

Founder, Bobby's Bike and Hike in Little Rock

"We live downtown near the Travel Center and use the bus regularly. We always take the bus when we have to go to the airport. I'm a believer in transportation choices and public transportation provides that. People need the option to bike, walk and get to work in a variety of ways."

"My wife used to ride the bus to work every day. She used the bike rack to take her bicycle with her and then would ride home at the end of the day."

"In the next 10 years, the number of people who are not only working, but also living, downtown is going to grow. Those people need good public transportation to get around and have access to all that the downtown has to offer."



KAREN LEE

Recent transplant from Chicago

"Riding a bus fosters a sense of community. Everyone I met on the bus here in Little Rock is polite and hospitable."

[Riding the bus] gave me time to decompress after a work day. I enjoyed getting 20 minutes to read the newspaper or a book while someone else took the wheel and drove me home. It was a nice time to relax before the rest of my evening started. What I like most about CATA is how very friendly and helpful the bus drivers are."

What I like most about CATA is the drivers. Once they get familiar with your routine they are very accommodating, i.e. if they see you running to the stop they will wait, or drop you at the same spot as previous days once you request a stop."

I have only had positive experiences with CATA."



Streetcar Catalyzes Economic Development

In the past decade, a number of American cities have invested in downtown streetcar to provide a convenient and attractive means for residents, employees, and visitors to get around, to introduce a new element of excitement in downtown, and to spur interest and significant investment by the public and private sectors. Central Arkansas was one of the first communities to include a streetcar as part of a downtown revitalization strategy.

In cities across the U.S., streetcar has been attributed to catalytic investment and revitalization in downtowns and are often seen as a symbol of a vibrant downtown. Beyond just a means of transportation, streetcars tend to:

- Attract more riders than standard bus service, particularly more “choice” riders
- Provide downtown circulation to major tourist attractions and other destinations
- Attract private capital investment and development along the streetcar line
- Support a walkable, urban environment

In Memphis, 4,000 residential units have been built within a block of the streetcar in a formerly underused industrial area. In Tampa, over \$800 million in new private development has been built along the 2.4 mile TECO line. These statistics point to the undeniable influence that streetcar has had on communities nationwide. Indeed, Little Rock has seen this benefit with its investment in the River Rail that was built in two phases in 2004 and 2007.

The River Rail Revitalizes Downtown Little Rock and North Little Rock

Over the past two decades, the citizens and leaders of Little Rock have made great strides in the ongoing revitalization of the downtowns of Little Rock and North



Source: Nelson\Nygaard

Between 2000 and 2012, for every \$1 that the local taxpayer paid for the construction of the river rail system, an additional \$135 was invested in downtown capital improvements by the private and public sectors.

Little Rock. In 1995 as part of the downtown master plan, the River Rail Streetcar was imagined to reignite the metropolitan urban core of Little Rock and North Little Rock. Part of a broader plan to bring jobs, residences, and visitors downtown, the goal of the River Rail Streetcar was also to provide an attractive transportation connection for tourists, residents, and employees to access key destinations.

Phase I of the River Rail Streetcar Line opened in 2004, connecting downtown Little Rock and downtown North Little Rock via the Main Street Bridge. In February of 2007, a second phase opened that provided connections to the Clinton Presidential Center and Heifer International Headquarters. Three replica vintage streetcars operate on the 3.4-mile route linking some of the most vibrant destinations in the two cities.

The River Rail project included 3.4 miles of rail tracks, purchase of five replica historic streetcars, and a trolley barn. The price tag of the investment was about \$30



million dollars, of which the federal government funded about \$24 million and the local governments were responsible for about \$6 million. Central Arkansas' experience is that the return on investment was substantial. Since 2000, 957 new residential units were added to the corridor, 13,194 jobs in downtown were either created or retained, and over five million students and visitors used the service. The project also helped spur more than \$815 million in capital revitalization investments. Between 2000 and 2012, for every \$1 that the local taxpayer paid for the construction of the River Rail system, an additional \$135 was invested in downtown capital improvements by the private and public sectors. In addition, the River Rail has contributed to:

- 21% increase in River Rail Study Area population
- 56% increase in River Rail Study Area residential property values
- 44% increase in River Rail Study Area retail property values
- 18% increase in Pulaski County sales tax revenue
- 15% increase in Argenta (downtown NLR) hotel tax revenue
- 50% increase in Argenta (downtown NLR) food tax revenue

A Look to Future Opportunities

Public transit is a critical strategy supporting Central Arkansas' efforts to attract young professionals, families, businesses, and a growing Baby Boomer population. To date, studies have examined the potential of extending the River Rail to the Clinton National Airport.

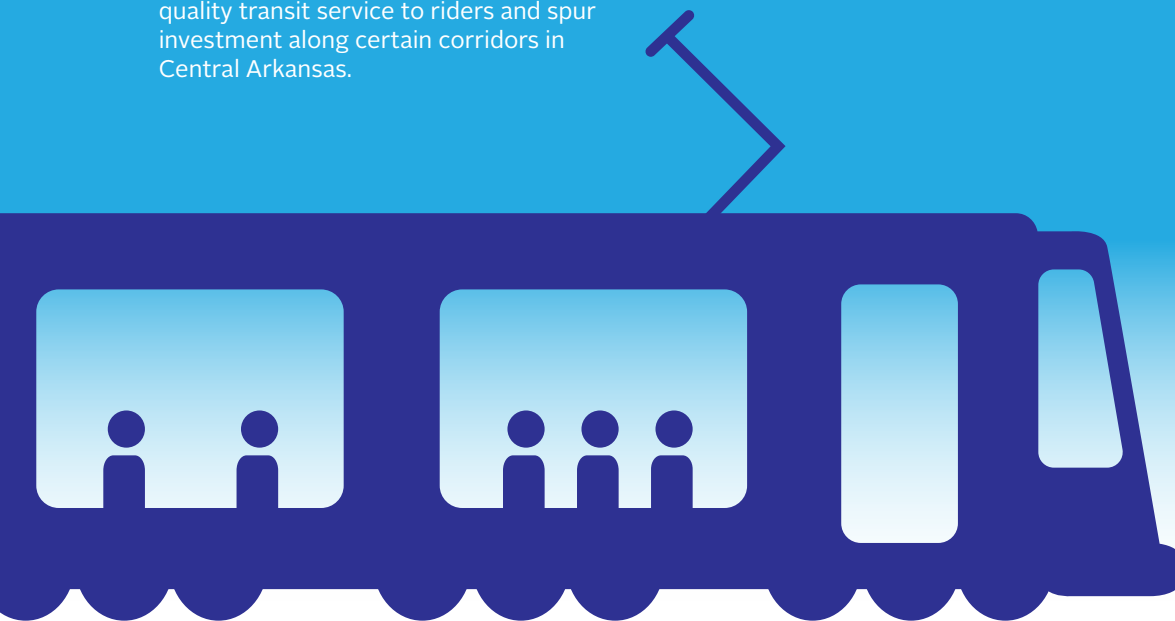
An alternative (or a complement) to extending the River Rail includes Bus Rapid Transit (BRT). Like streetcar systems, BRT can also provide an intermediate step to provide high quality transit service to riders and spur investment along certain corridors in Central Arkansas.

BRT refers to a high-end bus service that typically operates in dedicated transit lanes and provides frequent and fast service. BRT buses are typically “high amenity,” meaning they are safe, comfortable, and easy to board and have a branded identity, much like a streetcar would.

BRT has also been known to attract significant corridor investment. In cities like Cleveland, OH, the BRT system HealthLine has generated \$5.8 billion in development along the Euclid Avenue corridor, representing a return of \$114 for each transit dollar invested. In Eugene, Oregon, job growth has been attributed to the BRT system, EmX. Between 2004 and 2010, the number of jobs within a quarter of a mile of an EmX station increased by approximately 10% while jobs in the rest of the city decreased by more than 5%.



The BRT system, EmX, in Eugene, OR provides high amenity buses and stations and frequent service between the cities of Eugene and Springfield. The system has been attributed to job growth in the city.



Transit Supportive Elements

[1] DESTINATIONS

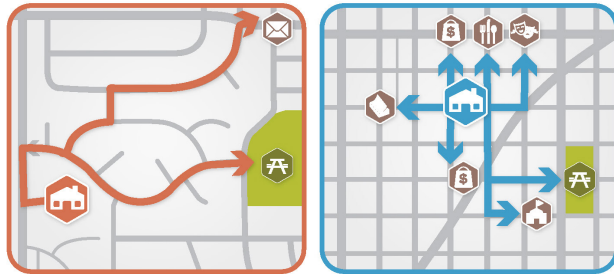
People are more likely to choose transit if, like private automobile travel, it brings them quickly and directly to their destinations. The key to maximizing transit access to major destinations is to ensure that most development occurs along the community's busiest corridors and effective transit service serves these corridors. Destinations should be aligned along reasonably direct corridor so that they can be efficiently served by frequent transit.



Transit service should connect to important destinations in the community, such as the McCain Mall in North Little Rock.

[2] DISTANCE

A key to making transit, bicycling, and walking more attractive is minimizing the distance between destinations by providing direct connections at the neighborhood scale. Distance does not just refer to the actual distance from point A to B, but also the perceived distance based on quality of environment. An interconnected system of pedestrian routes should be provided so that people of all ages and abilities can walk to transit service quickly and conveniently from the places they live, work, shop, and play.



Intersection density is a good measure for street connectivity. A disconnected street network results in long walking distances, few route options, and less efficient transit operations. A well-connected, fine-grained street network enables shorter and more direct walking connections, provides greater choice of routes, and is easier to serve with cost-effective transit.

[3] DENSITY

A key question in the future will be how to accommodate projected population and employment changes in an efficient manner that protects land consumption, community character, and the environment, while at the same time supports efficient transit service. Continuing to invest in transit and bicycle infrastructure in combination with concentrated land use development will be critical.



Multifamily housing with a mix of uses supports efficient and frequent transit service. The Park Avenue Lofts on S University Avenue shown above provides dense housing opportunities for Little Rock.

[4] DIVERSITY

The most lively and attractive communities are those with a rich mix of pedestrian-friendly uses that facilitate street-level activity around the clock. A mix of pedestrian-friendly uses is important to facilitate street-level activity throughout the day and night, increase affordability, and enliven the public realm. Pedestrian-scale buildings with lively facades adjoin the street, engaging pedestrians as they walk by. These characteristics are a key part of what makes the communities attractive and desirable to both residents and visitors. The diverse environment also encourages walking and supports access to the nearby transit services.



Downtown Little Rock boasts an active night life and rich cultural destinations. It also serves as the region's employment hub.

[5] DESIGN

High-quality pedestrian and bicycle facilities and transit waiting areas are critical to a complete transportation system. High-quality, pedestrian-friendly spaces that invite walking and bicycling and connect people to transit are a priority. High amenity transit stops are also key to attracting and retaining riders. Transit stops with comfortable places to sit, real-time information, and coverage from inclement weather make waiting for the bus that much more appealing.



Well-marked crossings and landscaping in downtown North Little Rock make for an inviting environment for people to walk to transit.

[6] DEMAND MANAGEMENT

Another critical part of developing both successful transit services and a truly multimodal transportation system is developing effective demand management strategies. Travel demand management (TDM) strategies are largely aimed to encourage use of the multimodal services (transit, carpooling, bike, walk, etc.) and discourage the use of single-occupancy vehicles. Parking management, including limiting supply and applying pricing strategies for use of the spaces, is one of the most effective ways communities and institutions can support transit services.



The Capital Hotel is among the 27 employers in Little Rock and North Little Rock that participate in CATA's Corporate CAT Program – a subsidized bus pass program designed to help encourage employers and their employees to take transit. The program allows employers to sell monthly transit passes to its employees at a discounted rate.

WHAT ARE CENTRAL ARKANSAS' EXISTING LAND USE PATTERNS?

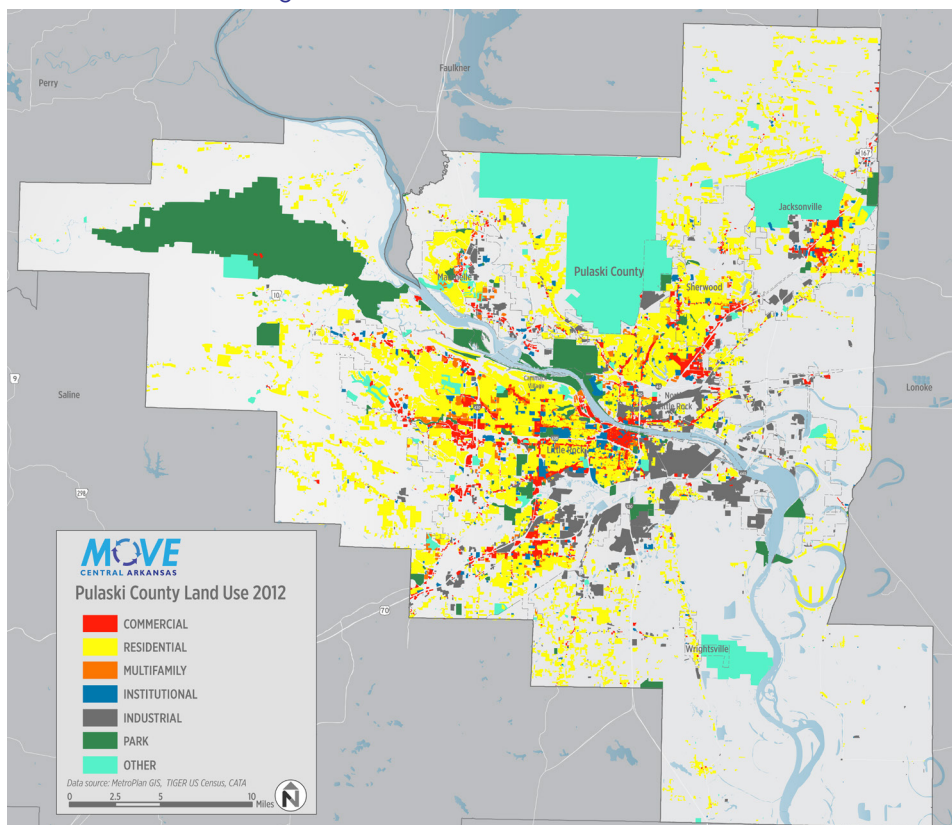
Like many cities in the U.S., Central Arkansas was centered on downtown Little Rock and North Little Rock; neighborhoods developed largely around historic streetcar lines. First introduced at the end of the 19th Century, the original Little Rock streetcar expanded the city westward outside the central city and into what would become Little Rock's first suburb, Pulaski Heights (now known as Hillcrest). Central Arkansas' development has historically been slow but steady; thus, while the towns and communities continue to develop in the outlying parts of the region, there are not vast tracks of suburban development found in other parts of the United States. In addition, while people continue to move to the suburban communities, others are looking for housing in the most urbanized parts of the region.

Developments in the city's downtown include a newly developed River Market District; the creation of several loft apartments in renovated historic buildings; new corporate office buildings being constructed downtown; and a new Tech Park that will be developed

in partnership with UALR. Other developments include the William J. Clinton Presidential Center and Park and Heifer International's global headquarters, renovated historic buildings converted into housing, and the construction of new corporate office buildings. The communities of Little Rock and North Little Rock are buzzing with development, rich cultural resources, and regional destinations. As CATA plans for future investments in transit service, aligning with existing and future transit-supportive land use patterns will be important.

Transit-supportive land uses (multifamily housing, commercial centers, employment sites, and other destinations) are concentrated in the downtowns of Little Rock and North Little Rock. While there is some multifamily residential housing in downtown Little Rock, downtown is primarily commercial and institutional uses. Commercial destinations west of downtown (such as the Park Plaza Mall) also draw a high level of ridership (see the ridership maps in Figure 3-8 and Figure 3-9). An overview of existing land uses in Central Arkansas is shown in Figure 3-13.

FIGURE 3-13: Existing Land Use

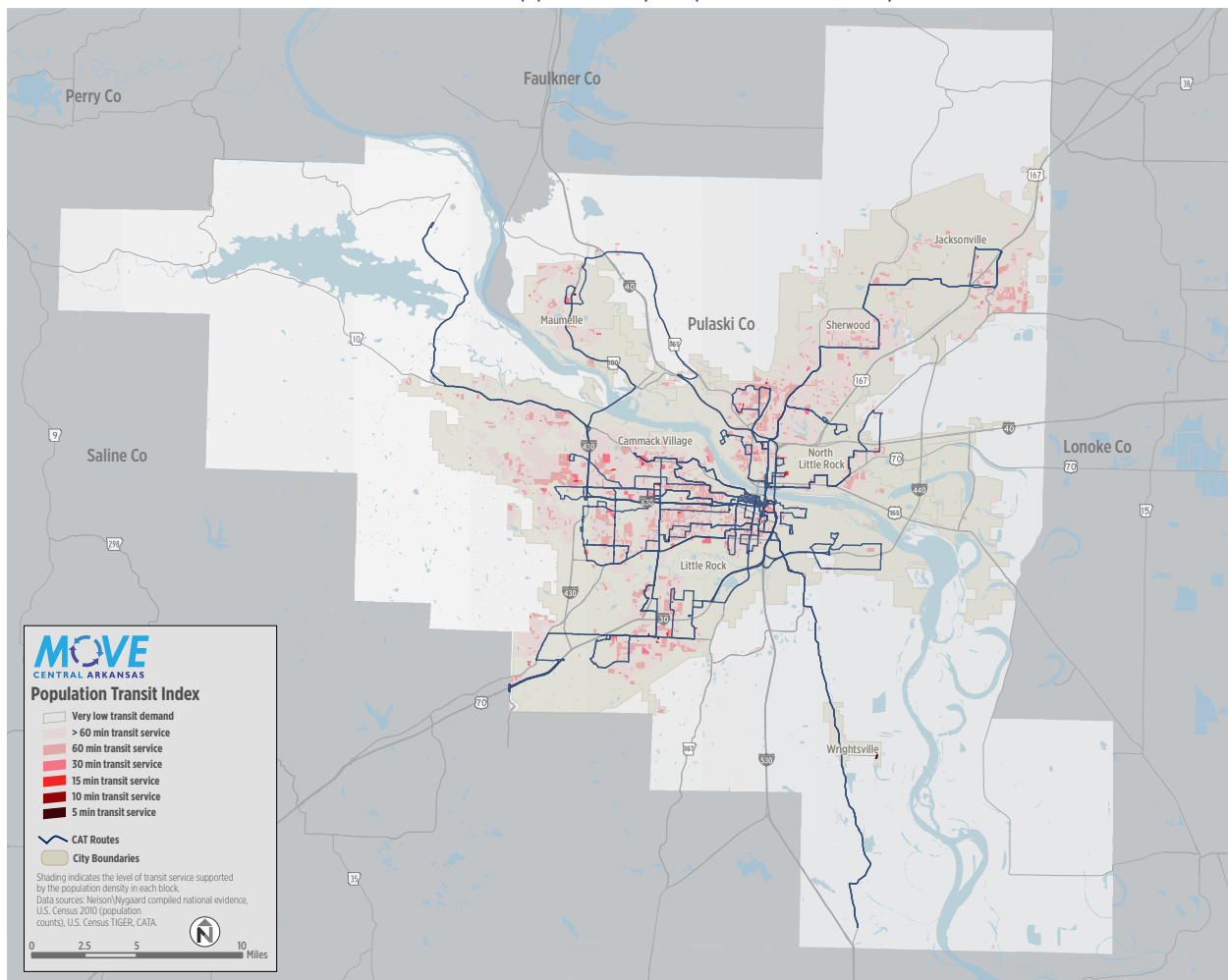


WHERE DO PEOPLE LIVE AND WORK?

Where Do People Live?

Population density is one of the strongest indicators of where transit will work best. When people live closer together and near a mix of uses, they are less likely to rely on automobiles and more likely to walk or take transit to their destinations. Figure 3-14 indicates the level of transit service supported by current population densities in the Central Arkansas region. Residents are not as concentrated as employment centers (see below), although Commack Village, Maumelle, Sherwood, and Jacksonville are more densely populated residential areas. West Little Rock and north and west North Little Rock also feature pockets of densely populated neighborhoods.

FIGURE 3-14: Level of Transit Service Supported by Population Density



Where Do People Work?

Employment density is also a strong indicator of transit demand. Commuters are common transit users because most commuters make the same trip many times a week. Figure 3-15 presents the level of transit service that is supportable by employment clusters. Some areas, such as downtown Little Rock, northeastern regions of North Little Rock, clusters at the intersections of I-630 and I-430, and along N University Avenue, have densities to support more frequent transit service than CATA currently operates. Most of the buses operating in these areas, such as Route 17 and Route 5, arrive every 20 to 30 minutes, despite employment densities that could support bus frequencies of 5 to 10 minutes. Other routes, including Route 21 and Route 3, operate at frequencies of 31 to 45 minutes, despite serving areas that could support 10 to 15 minute frequencies.

The combination of employment and population is represented in Figure 3-16 (Figure 3-17 shows downtown Little Rock); these are also the places transit service is likely to be most productive. Downtown Little Rock and west Little Rock all have combined population and employment densities to support very frequent transit service. Central and northeast North Little Rock also have combined densities that are transit supportive.

The concentration of people and jobs in and around the Capitol, Statehouse, Convention Center, numerous downtown museums and recreational opportunities support transit frequencies between 5-15 minutes throughout much of downtown. In contrast, most of the transit serving downtown Little Rock and North Little Rock currently operates every 20 to 30 minutes. Route 21 serving City Hall, the Pulaski County Courthouse and other civic destinations only operates every 31 to 45 minutes.

FIGURE 3-15: Level of Transit Service Supported by Employment Density

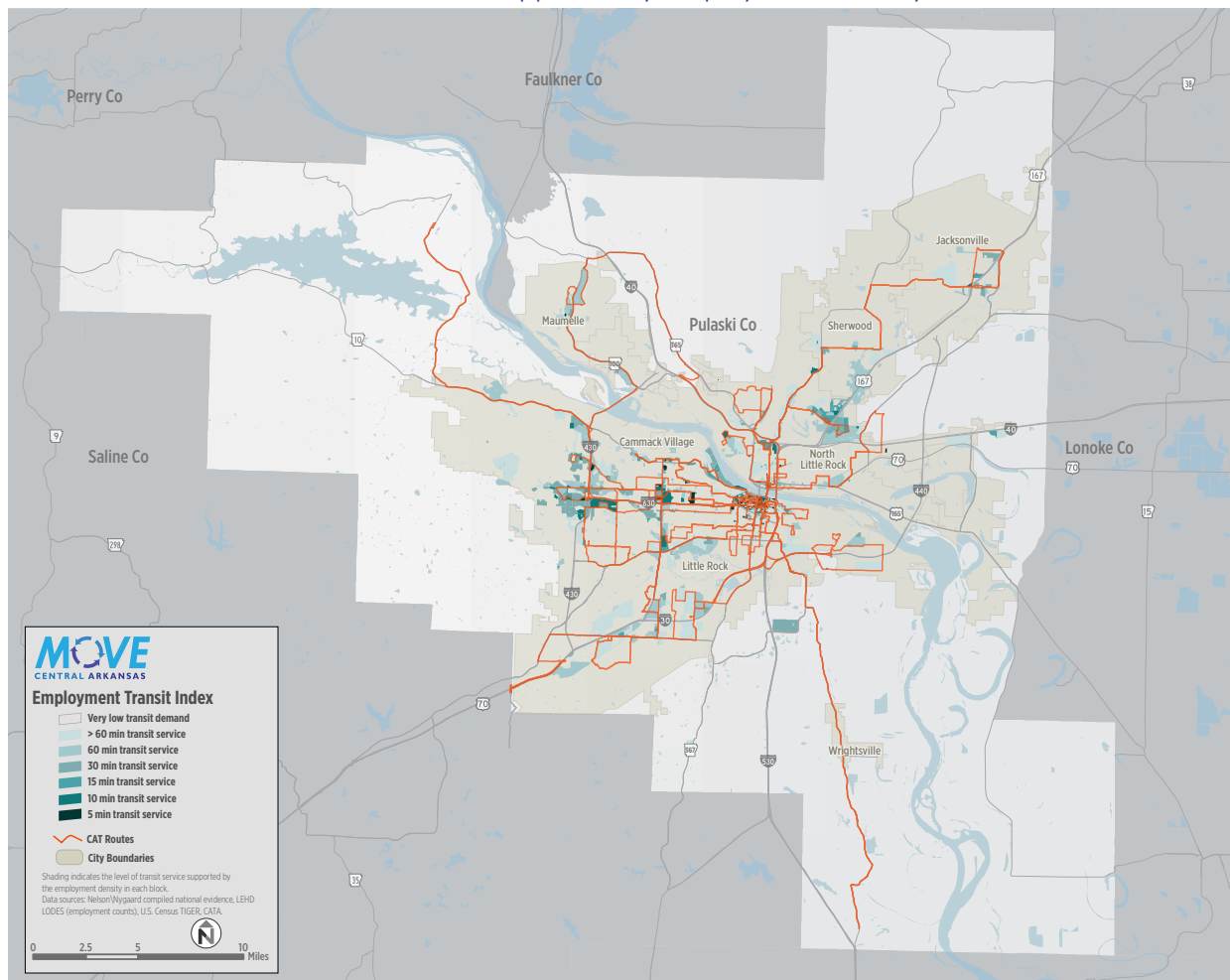


FIGURE 3-16: Level of Transit Service Supported by Population and Employment Density

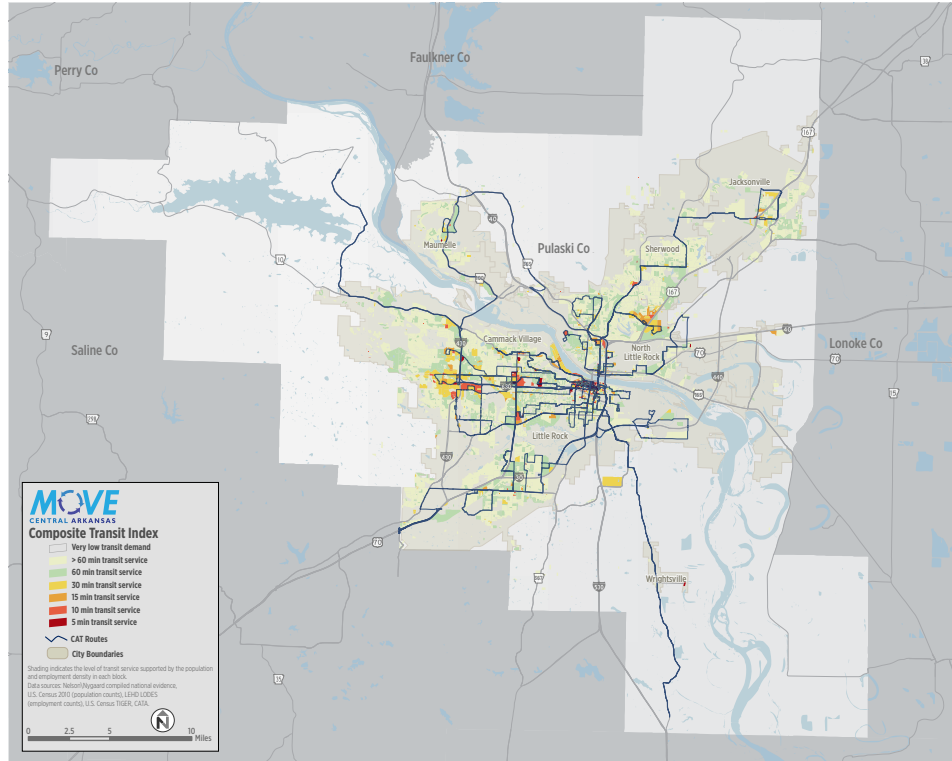
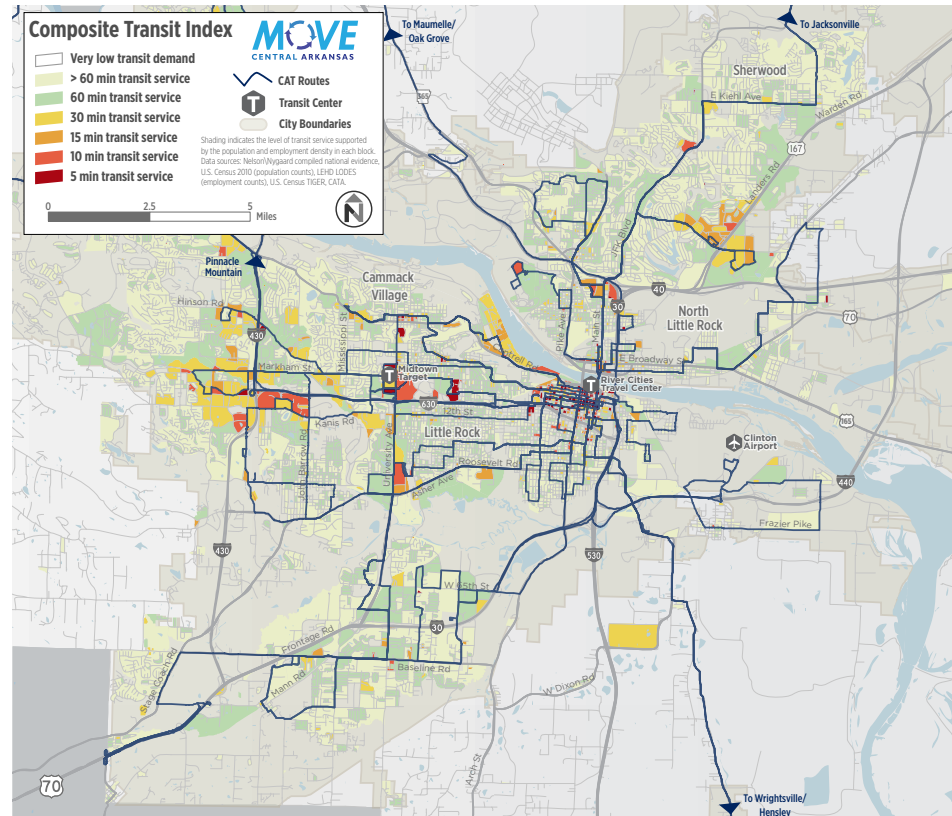


FIGURE 3-17: Level of Transit Service Supported by Population and Employment Density in Downtown Little Rock and North Little Rock



WHAT IS THE FUTURE MARKET POTENTIAL?

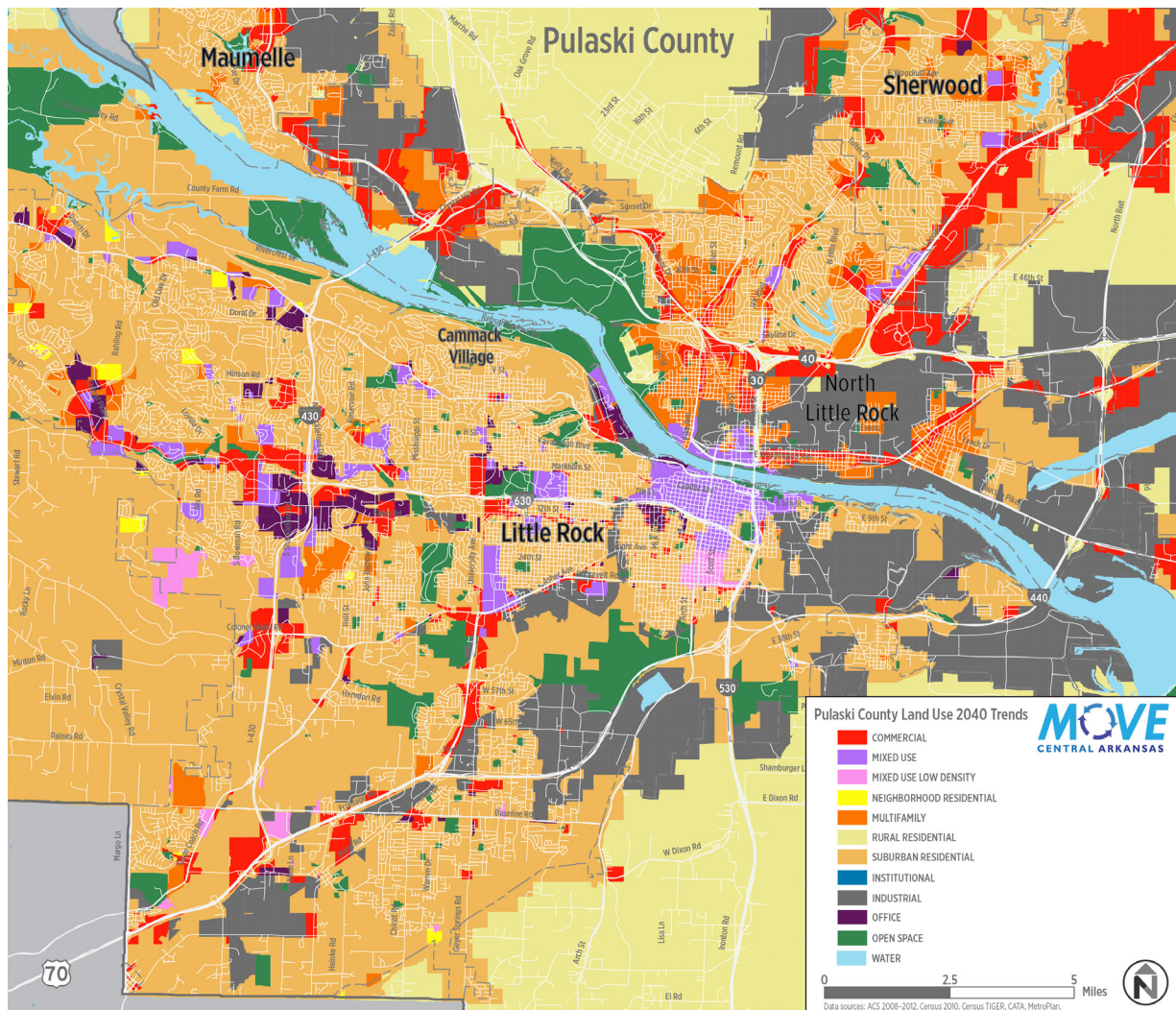
The future transit potential in Little Rock and North Little Rock will be driven by growth in population and employment and by changing transportation preferences by the growing populations of older adults and Millennials (as noted above). It will be imperative for CATA to address the changing needs of these travelers by investing in services that will meet these needs.

According to population and employment growth projections and regional forecasting, future areas of land use change will be primarily focused on downtown Little Rock, but also the neighborhoods west and northwest of Little Rock. Strong growth is also anticipated in north Little Rock including the

communities further north such as Sherwood and Jacksonville. Maumelle also shows significant growth. These northern communities will likely emerge as key markets for CATA services, both for people traveling into downtown Little Rock and for people traveling within and between the suburban communities.

By 2040, under current trends, downtown Little Rock is expected to transition from a commercial center to more of a mixed-use center; the area just east of the zoo south of Markham street is expected to transition to a mixed-use development area. Significant multifamily housing is also anticipated in North Little Rock (see Figure 3-18).

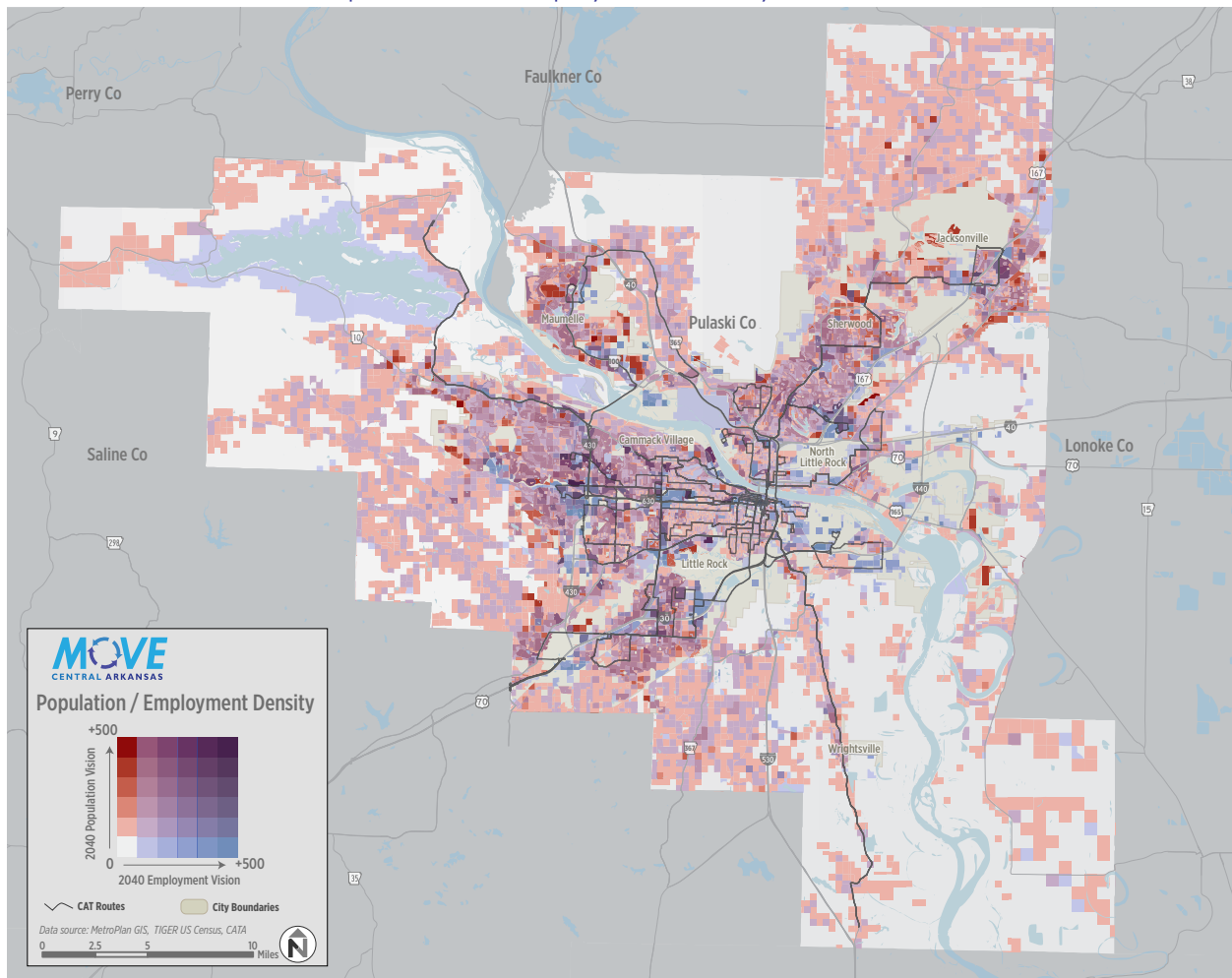
FIGURE 3-18: Future Land Use (2040)



Future transit potential in the region will be driven by growth in population and employment

Figure 3-19 shows the projected change in population and employment density in Little Rock and North Little Rock by 2040. By 2040, high employment and residential density is expected to fill in around the W. 12th Street corridor.

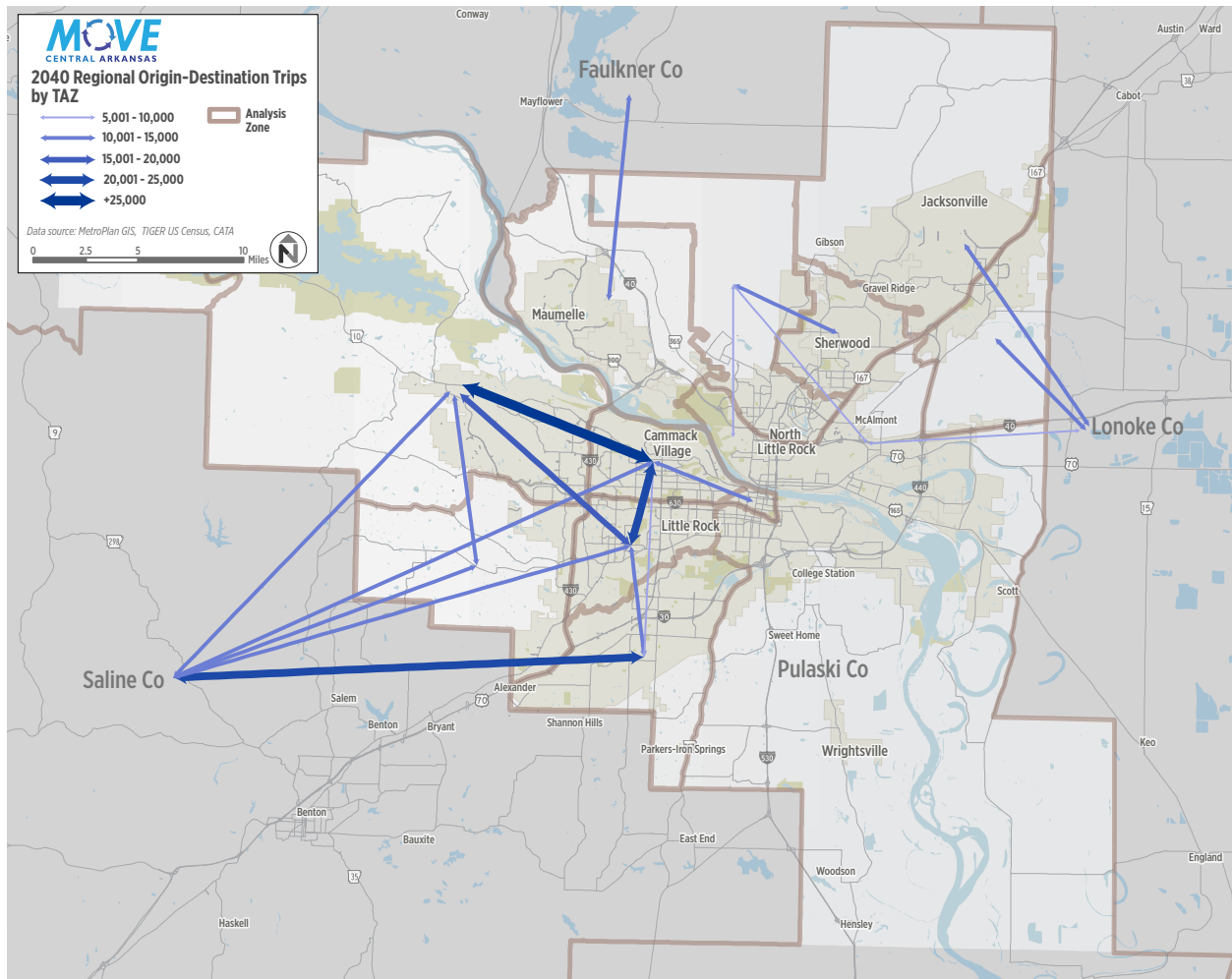
FIGURE 3-19: Projected Population and Employment Density (2040)



Where will People Travel in the Region in the Future?

Figure 3-20 below shows the likely origin and destination of trips in the future. Data in the map is summarized to describe travel demand between Little Rock and North Little Rock and the region. This analysis is based on MetroPlan's regional model using origin-destination data for the year 2040. Similar to the travel pattern today, the predominant travel pattern in the region is from the northwest and southwest into Little Rock. As CATA plans for future transit investment, it will be important to align transit service with how people are already traveling.

FIGURE X3-20: Future Origins and Destinations in the Region



WHAT DOES THIS MEAN FOR CATA?

As Central Arkansas positions itself as a great place for baby boomers and Millennials, adapts to growing population and employment, and supports the needs of the community's most vulnerable people, CATA will be increasingly pressured to provide frequent, comfortable, and convenient transit service.

Central Arkansas, especially the cities of Little Rock and North Little Rock, have invested in their downtowns with aggressive strategies to attract housing, employment, and retail into the downtown areas. As a result, there are more residential units in downtown than ever before, units that are renting faster than other parts of the region. Other communities in Central Arkansas, such as the City of Maumelle with its lakeside village environment are also having success in attracting retirees. This concentrated growth will be ripe for efficient and frequent transit service.

A critical mission for CATA is to provide transportation to the most vulnerable members of the community, including older adults, people with disabilities and people with low incomes. The data shows that the highest concentrations of these individuals are in the communities already served by CATA – Little Rock, North Little Rock, Jacksonville, Maumelle and Sherwood. However, there are ways that CATA may be able to better provide service, so people that are unable to drive, or do not always have access to a private car, can participate in society as easily as people who do drive.

To respond to these changing market trends, CATA will need to adapt and augment its service:

- **More Transit Service:** CATA provides transit service to the region's most important destinations but service is not frequent enough, does not operate long enough, and does not provide enough service on weekends. Supporting regional investments already made to attract young and aging professionals requires comparable investment in transit service.
- **Accessible Information:** We know technology is important to Millennials, but it is also important to other generations. Providing good information about the transit service, in real time and through sources that can be viewed on smart phones or accessed by cell phones is an important part of making transit service attractive.
- **High Quality Transit Facilities:** Bus shelters and benches are sorely needed in the CATA network. Currently only 6% of CATA's bus stops (or 99 of 1,616 stops) have shelters, and only eight of these shelters are maintained by CATA.²³ Implementing a system that installs stop amenities based on ridership data could ensure that popular destinations have comfortable and attractive waiting areas. Although CATA currently has some high amenity transit facilities, resources are limited.
- **More and Different Types of Transit Service:** As CATA becomes a viable transportation choice for more people, it will need to expand the types of service it offers the community. CATA needs to develop transit service that is fast and frequent to get people to Midtown, the University of Arkansas at Little Rock, and the Capitol Complex. In some cases this will be express services from the surrounding communities; in other cases, it will be high capacity transit service like bus rapid transit or streetcar service that operates on city streets. CATA's service portfolio also needs to include services that circulate through Central Arkansas' growing communities like Jacksonville and Sherwood, so that residents can get around locally and connect to regional services.
- **More Local Community Service:** Currently CATA's service is focused on getting people into downtown Little Rock. The demographic data suggests that many people, including people who traditionally rely on transit service are concentrated outside of downtown. Providing service that allows them to get around their local communities, including Sherwood and Jacksonville but also Maumelle, to go shopping, attend classes and community events and visit friends and family will improve their life.
- **Facilitate Transfers Outside of Downtown Little Rock:** Consistent with providing more local service, CATA may also restructure some services, so that members of the communities north of Little Rock, including Jacksonville, Sherwood and North Little Rock can travel to destinations, such as the McCain Mall without traveling into downtown first. This type of service may require a transfer between routes but would be faster and more convenient – as well as more logical – than traveling into downtown Little Rock first. CATA also needs to make transfers more efficient by timing connections and more comfortable by building mini-hubs or super stops where people are likely to transfer.
- **Improved Passenger Facilities:** Strengthening transit service for older adults, people with

disabilities, and people with low incomes requires that these riders have a safe and comfortable place for them to wait for the bus. Expanding CATA's passenger facilities, such as providing more shelters and benches, and making sure these waiting areas have lights and information about the bus service would greatly improve the usability of the service. Transit super stops or mini-hubs could be provided in high-ridership locations where people are expected to transfer between routes; they also have more amenities and provide more information than standard shelters.

- **Increased weekend service:** Many, but not all of CATA's routes operate on Saturdays, while only a handful operate on Sundays. However, we know many people continue to travel on weekend days for many reasons, including getting to work and attending to their personal errands. Part of making CATA's service more useful to more people will require operating more weekend service.

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**CATA's ridership has increased steadily,
rising from 2.3 million passenger trips
in 2009 to 2.8 million in 2012.**



[4]

CATA PERFORMANCE & PEER REVIEW

Analyzing existing data and information and comparing CATA's performance with other similarly-sized transit agencies helps identify agency strengths and opportunities for improvement. Every agency is different, but comparing a few key indicators between multiple agencies can provide valuable insight into an agency's efficiency and effectiveness.

This assessment begins by providing a snapshot of CATA's operating statistics, followed by a comparison between CATA and 13 other agencies. This analysis focuses on the performance of CAT fixed-route bus service (i.e. exclusive of the River Rail and the Links paratransit services). The fixed route bus service makes up the bulk of CATA's services.

This section uses terminology common in the transit industry such as:

- **Revenue hours:** The number of hours buses operate in scheduled service, actively picking up and dropping off passengers.
- **Revenue miles:** The number of miles buses operate in scheduled service, actively picking up and dropping off passengers.
- **Ridership:** Total number of passenger boardings.
- **Productivity:** A key metric of transit performance often defined as the ratio of ridership to revenue hours. Transit agencies also measure productivity in terms of cost per passenger and use cost per hour of service to measure cost efficiency.

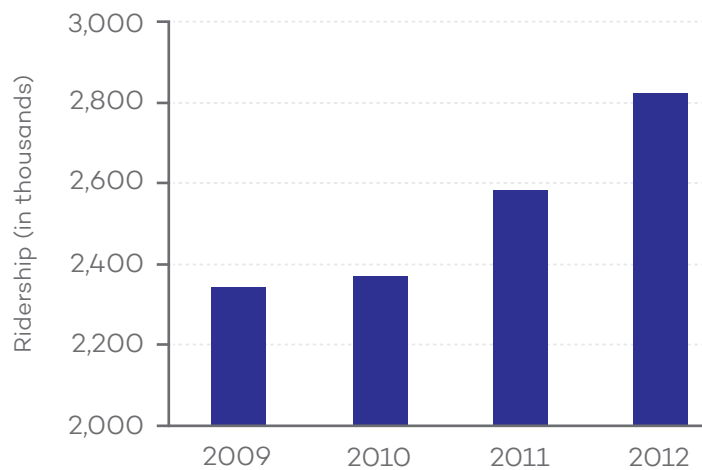


Stakeholders identify opportunities for CATA transit service.

HOW IS CATA DOING?

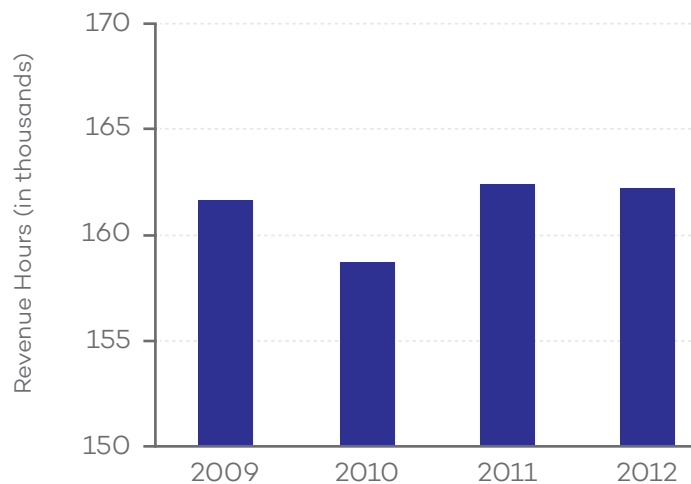
Each weekday, CATA carries approximately 10,000 riders on its 26 routes. During the past five years, CATA's ridership has increased steadily, rising from 2.3 million passenger trips in 2009 to 2.8 million in 2012. This marks a 20% increase in ridership, even though revenue hours remained steady at approximately 160,000 hours per year.

FIGURE 4-1: Annual ridership, 2009-2012



Source: NTD adapted by Nelson\Nygaard

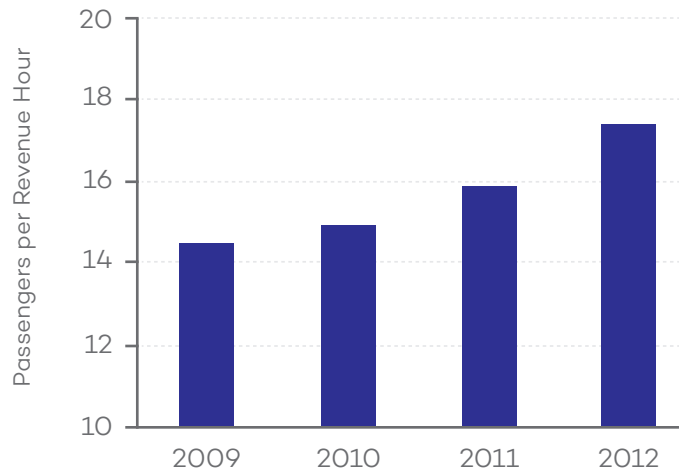
FIGURE 4-2: Annual revenue hours, 2009-2012



Source: NTD adapted by Nelson\Nygaard

The service effectiveness or productivity, defined in terms of passengers per revenue hour of service, likewise increased during these years. In 2009, CATA carried 14.5 passengers per hour, which increased to 17.4 in 2012. Increasing productivity is a promising trend for CATA.

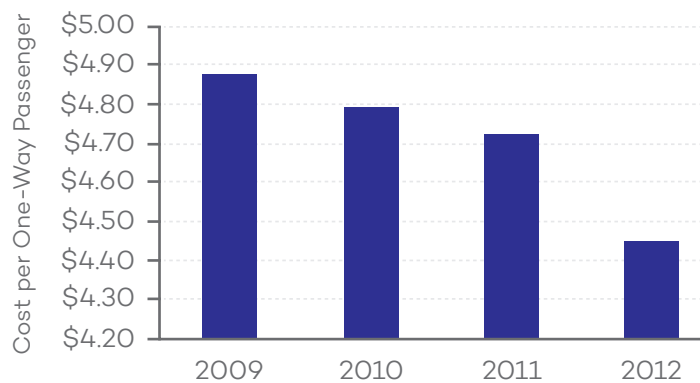
FIGURE 4-3: Passengers per revenue hour, 2009-2012



Source: NTD adapted by Nelson\Nygaard

Increasing productivity has led to decreasing expenditures per passenger trip. In 2009, CATA spent \$4.88 per passenger. This decreased to \$4.45 per passenger in 2012. Note these estimates do not include revenue earned through the farebox, if fares are included the cost per passenger in 2012 was \$3.74.

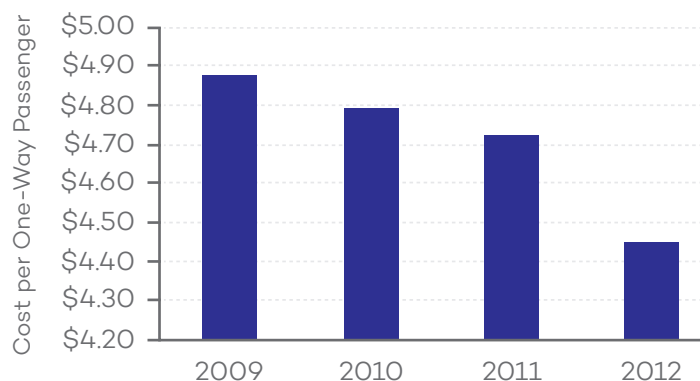
FIGURE 4-4: Operational cost per passenger trip, 2009-2012



Source: NTD adapted by Nelson\Nygaard

In terms of cost per revenue hour CATA spent \$70.71 per hour in 2009, increasing almost 10% to \$77.48 in 2012. This averages to an increase of about 3.2% each year – a little more than the 2.5% average annual increase of the Consumer Price Index for urban consumers in the South between 2009 and 2012.²⁴ As described later in this chapter, however, this increase is lower than many of CATA's peers.

FIGURE 4-5: Operating cost per revenue hour, 2009-2012



Source: NTD adapted by Nelson\Nygaard

WHO ARE CATA'S PEERS?

Peer cities and transit agencies were chosen based on their similarity to the CATA service area. The 13 peers were selected based on their population, service area size, and their location in the South or Midwest. The data used to compare these agencies come from the 2012 National Transit Database (NTD), the most recent complete year available. NTD is a government program established by Congress to uniformly collect financial and operating data from transit agencies that receive federal funding. The 13 peer cities and transit agencies are shown in Figure 4-6.

FIGURE 4-6: Overview of peer communities and transit agencies

| Community | Transit agency | Service area (sq mi) | Service area population | Population Density (per sq mi) | Bus routes | Annual revenue hours | Modes Operated | Annual Operating expenses (millions) |
|------------------------|-----------------|----------------------|-----------------------------|--------------------------------|------------|----------------------|--------------------------|--------------------------------------|
| Little Rock, AR | CATA | 94 | 360,331²⁵ | 1,752 | 26 | 161,616 | Bus Streetcar | \$11.46 |
| Baton Rouge, LA | CATS | 273 | 430,317 | 1,576 | 30 | 154,496 | Bus | \$11.99 |
| Birmingham, AL | MAX | 186 | 662,047 | 3,559 | 36 | 223,521 | Bus | \$19.68 |
| Chattanooga, TN | CARTA | 289 | 155,554 | 538 | 16 | 150,766 | Bus | \$12.99 |
| Des Moines, IA | DART | 163 | 369,143 | 2,265 | 27 | 184,626 | Bus | \$16.35 |
| Knoxville, TN | KAT | 104 | 184,802 | 1,777 | 25 | 217,085 | Bus | \$13.96 |
| Mobile, AL | The Wave | 117 | 238,516 | 2,039 | 13 | 92,831 | Bus | \$6.40 |
| Montgomery, AL | MATS | 135 | 201,568 | 1,493 | 15 | 84,916 | Bus | \$4.53 |
| Omaha, NE | Metro Transit | 178 | 579,212 | 3,254 | 30 | 292,650 | Bus | \$23.09 |
| Shreveport, LA | Sportran | 61 | 256,606 | 4,207 | 18 | 151,770 | Bus | \$11.10 |
| Tallahassee, FL | StarMetro | 102 | 162,310 | 1,591 | 14 | 181,869 | Bus | \$10.50 |
| Topeka, KS | Topeka Metro | 58 | 122,377 | 2,110 | 14 | 67,604 | Bus | \$5.36 |
| Tulsa, OK | Tulsa Transit | 196 | 512,645 | 2,616 | 18 | 176,352 | Bus | \$12.37 |
| Wichita, KS | Wichita Transit | 149 | 386,046 | 2,591 | 18 | 103,786 | Bus | \$9.14 |

Source: NTD adapted by Nelson\Nygaard

These peer cities are similar to the Little Rock region in several ways. Most operate a system of routes that converge into one central hub, usually the downtown core, and spread into outlying neighborhoods. Each has a service area population between 100,000 and 700,000 people, annual ridership between 1 and 5 million, and operating expenses primarily between \$10 and \$15 million.



FIXED ROUTE PERFORMANCE

The performance of CAT and other fixed routes can be measured in three primary ways:

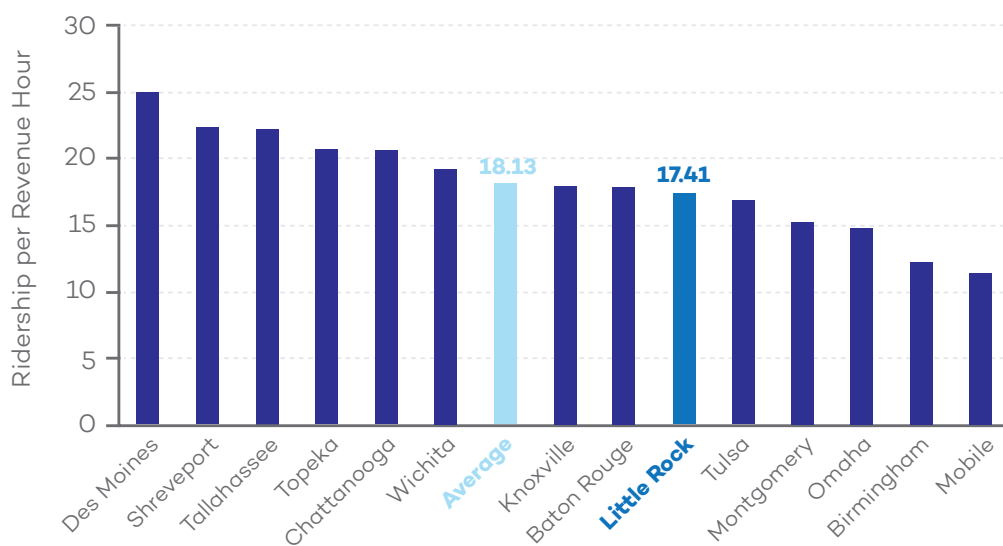
- **Service effectiveness** – Measures how well the service produced by an agency is consumed. Transit agencies measure service effectiveness in terms of riders per revenue hour and hours of service per capita. Higher values usually indicate more service supply and consumption.
- **Cost efficiency** – Measures the cost to provide a single unit of service such as an hour of service or a mile of service. Higher values indicate less efficient service because it is more expensive to operate per unit.
- **Cost effectiveness** – Measures how much resources the agency invests to carry each passenger trip, and what percent of total expenses are covered by transit fares. Higher costs per passenger indicate more costly service on a per-capita basis. Low fare recovery means the agency may be under-pricing its service or it relies heavily on subscription trips paid for in a lump sum by partner agencies.

Service Effectiveness

In 2012, CATA carried 17.4 riders per revenue hour. CATA's service effectiveness is slightly less than the peer city average (18.1), but not significantly lower. Most of the peer cities that carry more riders per hour also have greater population density. Other cities with similar productivity levels are Knoxville, Baton Rouge and Tulsa.

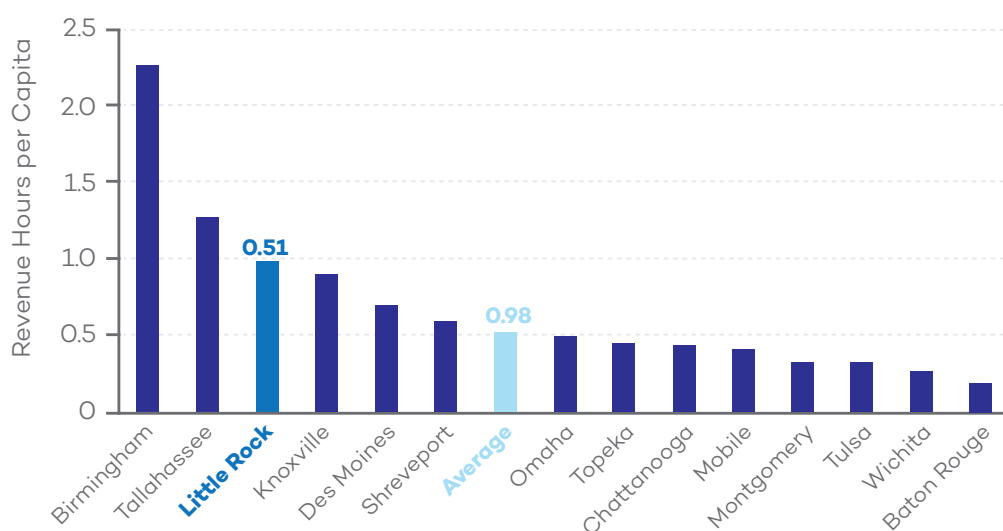
Another way of measuring and comparing service effectiveness between different cities is to look at the ratio of total service (annual revenue hours) to the population within the service area. In 2012, CATA provided almost one hour of service for each resident in the service area, ranking third among its peer. This rate is double the rate for all peer cities (0.51 hours per resident).

FIGURE 4-7: Ridership per revenue hour, 2012



Source: NTD adapted by Nelson\Nygaard

FIGURE 4-8: Annual revenue hours per capita, 2012



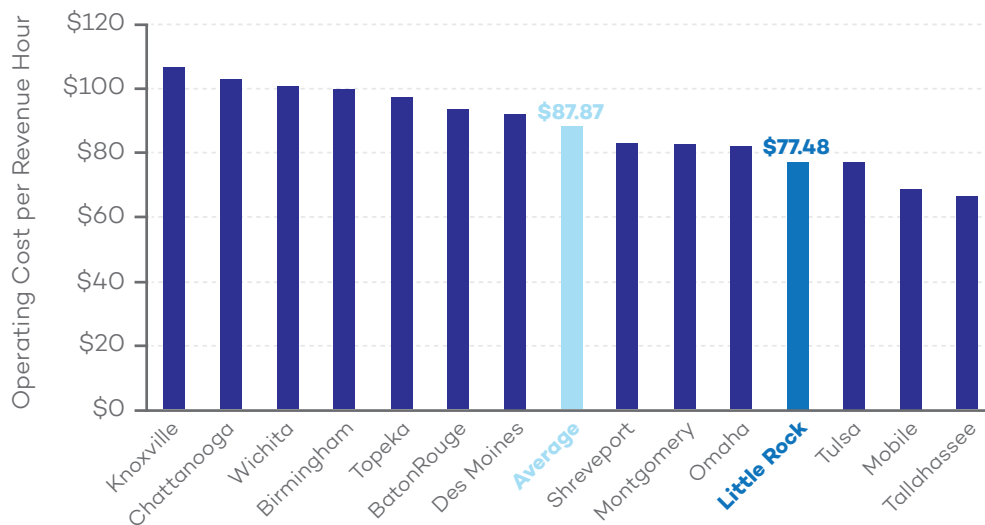
Source: NTD adapted by Nelson\Nygaard

**CATA ranked as the
fourth most cost efficient
of its peer group**

Cost Efficiency

Of the 13 peer cities, 2012 operating costs per revenue hour ranged from \$66 in Tallahassee to \$107 in Knoxville. The average cost was \$85, well above CATA's cost of \$77 per hour. CATA ranked as the fourth most cost efficient.

FIGURE 4-9: Operating cost per revenue hour, 2012



Source: NTD adapted by Nelson\Nygaard

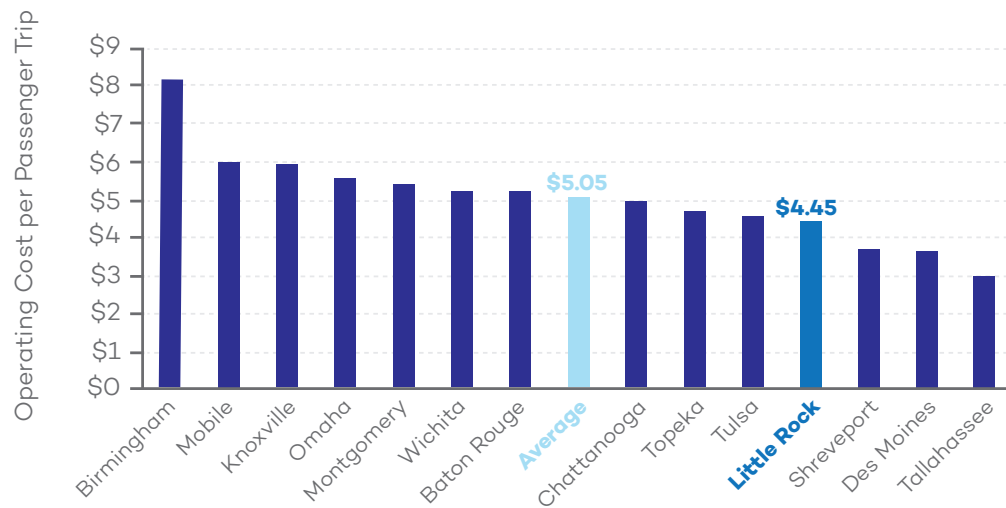
Cost Effectiveness

Cost of service per passenger in the Little Rock region is also lower than average and one of the lowest amongst its peer cities. In 2012, CATA spent \$4.45 for each one-way passenger trip, compared to the peer average of \$5.05 per trip. Most of CATA's service is located in the urban communities of Little Rock and North Little Rock, with fewer routes traveling

through lower density neighborhoods. CATA's lower hourly costs also contribute to a favorable cost per passenger.

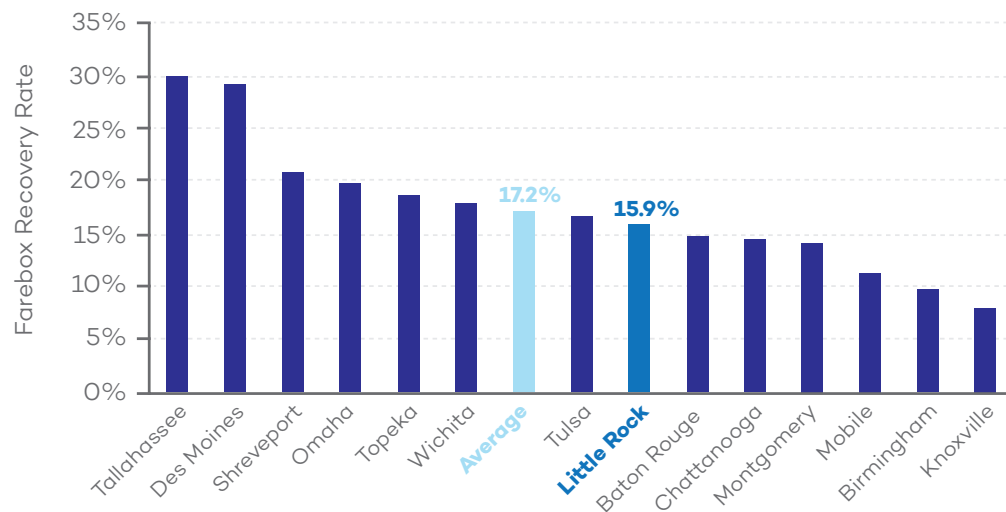
In 2012, CATA recovered 16% of its operational costs through fare revenue (also referred to as the farebox recovery ratio) which is close to the peer average of 17%.

FIGURE 4-10: Operating cost per one-way passenger trip, 2012



Source: NTD adapted by Nelson\Nygaard

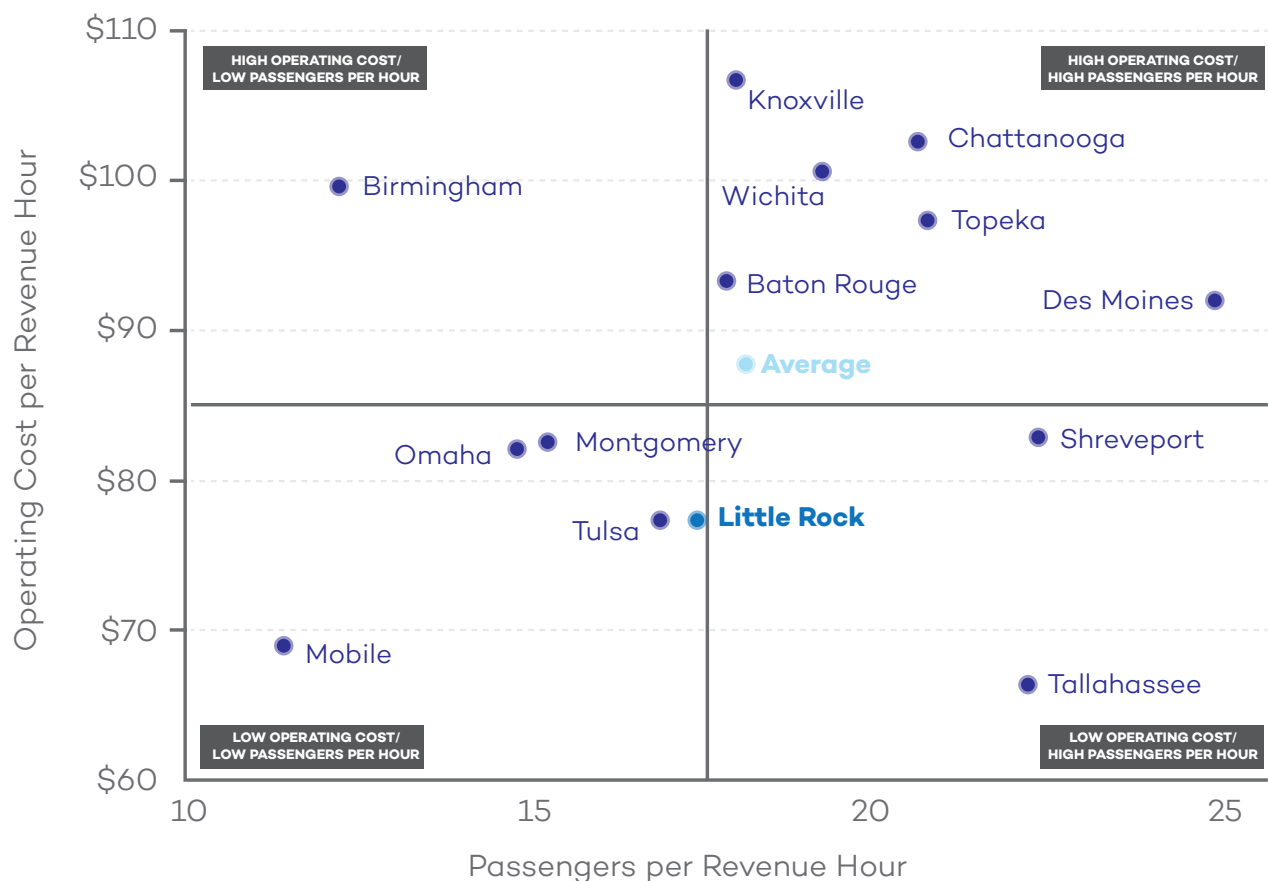
FIGURE 4-11: Farebox recovery ratio, 2012



Source: NTD adapted by Nelson\Nygaard

This chart compares the cost efficiency (cost per revenue hour) with the service effectiveness or productivity (passengers per revenue hour) for each of the peer cities. Generally, as productivity increases among the peer cities, so does cost effectiveness. CATA, with a productivity of 17.4 passengers per revenue hour, has a slightly lower operating cost than other peer cities with similar productivity rates, such as Knoxville and Baton Rouge. This indicates CATA is performing relatively well.

FIGURE 4-12: Comparison of cost efficiency and productivity



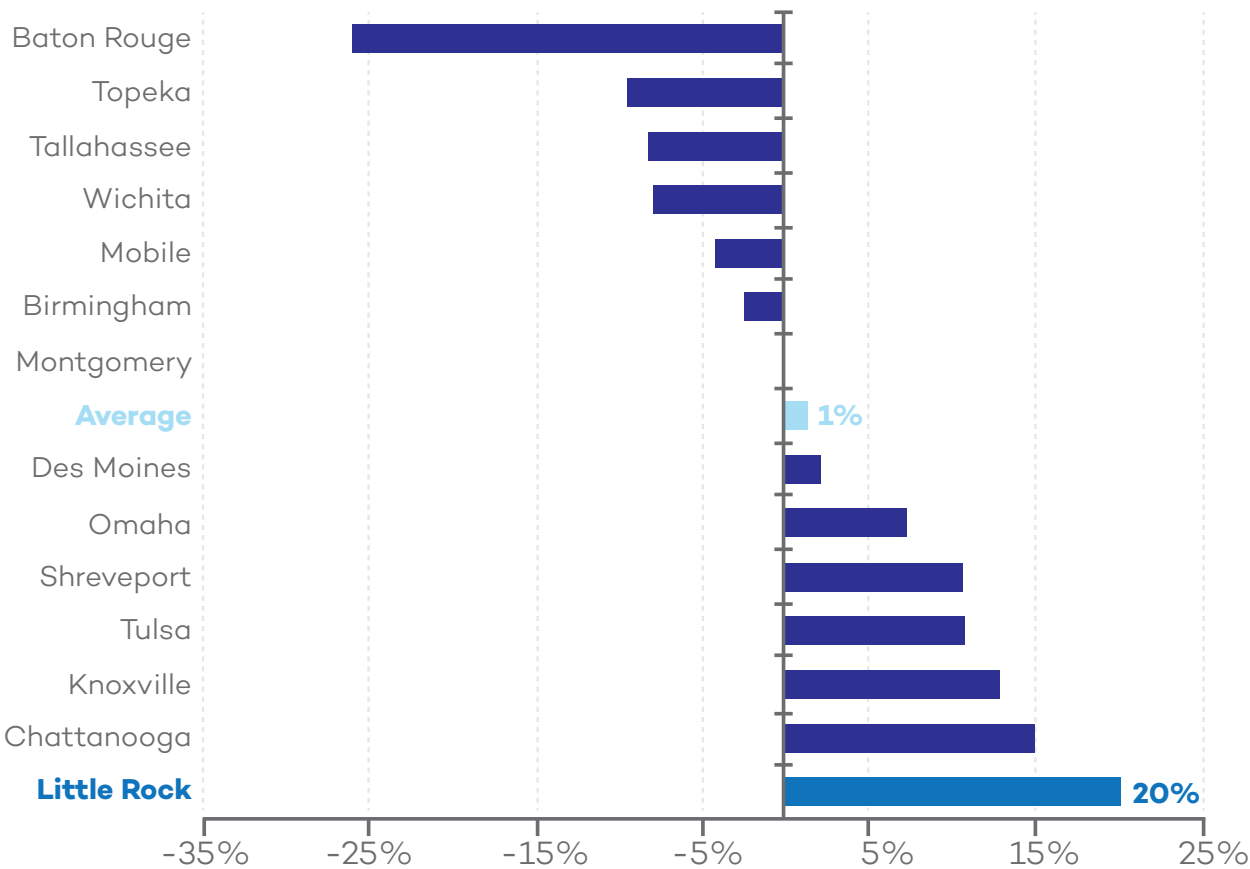
Source: NTD adapted by Nelson\Nygaard

CATA's productivity, in terms of passengers per revenue hour, increased by 20%.

Trends

Between 2009 and 2012, CATA's productivity in terms of passengers per revenue hour increased by 20%. This is the largest productivity increase among the peer agencies, and much larger than the average change of 1%.

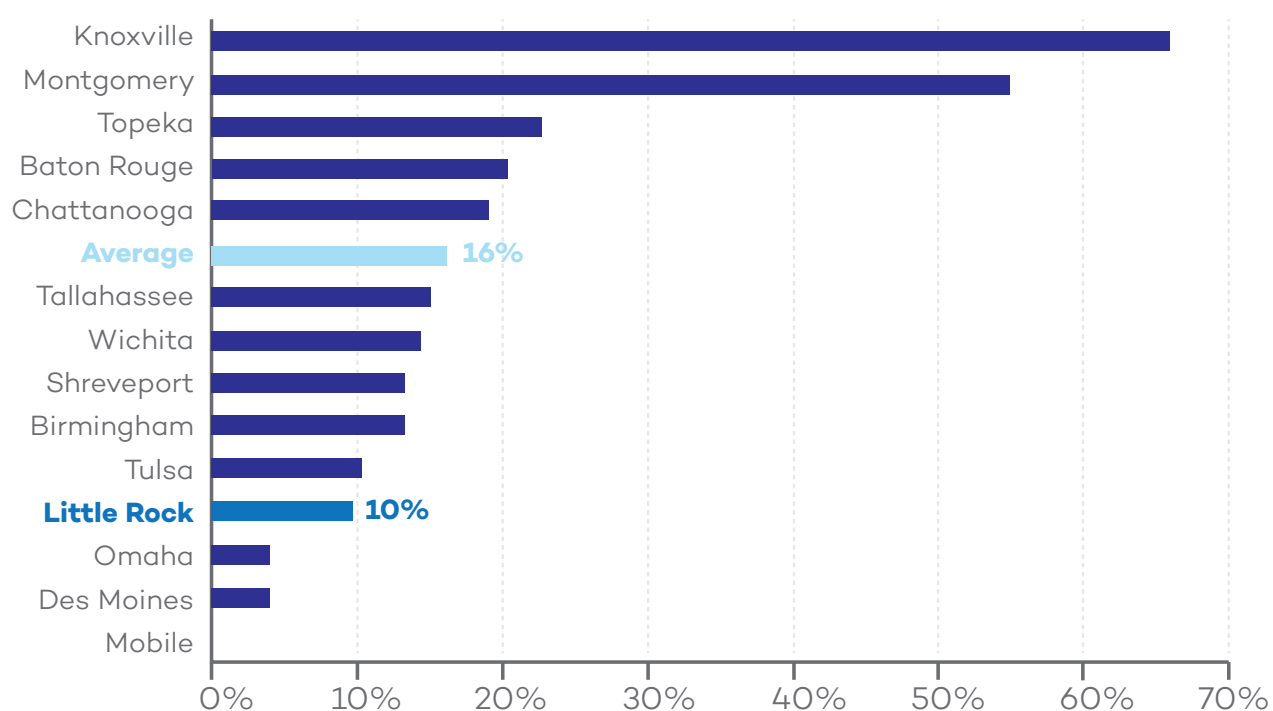
FIGURE 4-13: Change in ridership per revenue hour, 2009 to 2012



Source: NTD adapted by Nelson\Nygaard

With such a large increase in productivity, Little Rock also had one of the smallest increases in operating costs per revenue hour. Hourly operating costs increased by about 10%, less than the peer rate of 16%. CATA's increase was only slightly higher than the change in the Consumer Price Index for the South between 2009 and 2012 (7.4%). This indicates that cost increases for transit service are fairly consistent with macroeconomic changes regionally.

FIGURE 4-14: Change in operating cost per revenue hour, 2009 to 2012



Source: NTD adapted by Nelson\Nygaard



HOW IS CATA DOING?

Overall, CATA is performing average to above average for many transit metrics in relation to its peer agencies. The large increase in ridership and productivity in the past few years is an indicator of a transit system that is meeting the needs of current passengers. It also demonstrates existing local demand for public transportation.

Although CATA's productivity has increased in recent years, its productivity level in terms of passengers per revenue hour is below the peer average. If the upward ridership trend continues, Little Rock's productivity will likely meet or exceed the peer city average. But to keep this growth, CATA will need to improve service where there is the highest demand to capture more riders.

CATA's lower than average operational costs per passenger and per hour suggests CATA is operating an efficient service. Therefore, it has financial leverage to increase frequency or lengthen service hours.

As Arkansas' capital, largest city, and the state's economic hub, Little Rock should attempt to diversify its funding for operations and capital projects to ensure a supply of funds regardless of local economic changes or national funding priorities.

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**Expenses are outpacing revenues,
despite growing ridership.**



[5]

TRANSIT FUNDING IN CENTRAL ARKANSAS

In 2013, Central Arkansas spent roughly \$17 million providing transit service. The vast majority of CATA's funding comes from one of four sources: grants from the federal government via the Federal Transit Administration (FTA), funds provided by the State of Arkansas, contributions from local government members of CATA, and directly generated revenue (primarily passenger fares) (see Figure 5-1).

OVERVIEW

Revenue raised directly by CATA but not associated with fares accounts for 1% of CATA's revenue. These funds are generated through programs, such as interest on savings, advertisements on buses, and other miscellaneous sources.

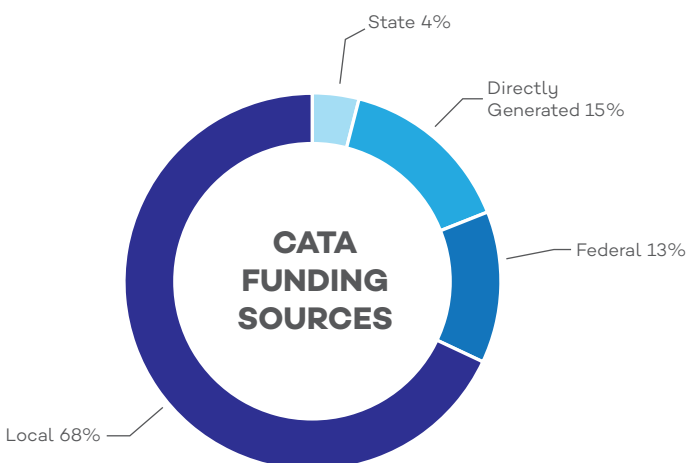
CATA's overall revenues increased between 2010 and 2014; most of the growth is associated with additional funds provided by local governments and revenues generated at the farebox.

Since 2010, CATA's expenses increased about 24% (see Figure 5-2), while total revenues increased 29% over the same period of time.

In addition to funding transit operations, CATA, like all transit agencies, is responsible for maintaining physical infrastructure and managing capital projects to support its service. For example, CATA must purchase and maintain a fleet of vehicles as well as build and install passenger facilities like bus shelters and information technology. Spending on capital improvements is project based and varies from year to year.

CATA has historically relied primarily on federal grants from the FTA to fund most of their capital projects.

FIGURE 5-1. Funding Sources for CATA Operations (2010-2013)



Holding revenue miles and hours steady, CATA has enjoyed a 20% increase in ridership since 2009; however, operating costs have increased nearly 30% during that time.

Source: CATA

CATA does not have any bonds or other forms of capital project financing in use.

FIGURE 5-2. CATA Operating Expenses and Revenues

| | 2010 | 2011 | 2012 | 2013 | 2014 (Estimated) | 2015 (Estimated) |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Expenses | | | | | | |
| Labor, Salaries & Fringe Benefits | \$9,561,927 | \$10,043,327 | \$10,190,292 | \$10,885,418 | \$11,542,306 | \$12,012,620 |
| Services, Marketing & Planning | \$1,073,496 | \$1,072,314 | \$1,189,518 | \$1,177,811 | \$1,405,644 | \$1,300,574 |
| Fuel, Materials & Supplies | \$2,544,175 | \$2,962,961 | \$3,127,246 | \$3,192,122 | \$3,370,150 | \$3,091,703 |
| Utilities, Insurance, Leases & Rentals, Misc. | \$763,184 | \$804,959 | \$805,321 | \$885,720 | \$901,012 | \$981,015 |
| Total Expenses | \$13,942,782 | \$14,883,561 | \$15,312,377 | \$16,141,071 | \$17,219,112 | \$17,385,912 |
| Revenues | | | | | | |
| Federal | \$1,897,169 | \$1,938,493 | \$2,041,334 | \$1,975,764 | \$2,130,504 | \$1,966,000 |
| State | \$464,307 | \$522,612 | \$521,170 | \$538,217 | \$482,601 | \$310,000 |
| Local | \$8,867,035 | \$9,800,524 | \$10,707,453 | \$11,784,420 | \$12,117,823 | \$12,648,017 |
| Directly Generated: | | | | | | |
| Passenger & Special Fares | \$1,976,755 | \$2,113,839 | \$2,264,196 | \$2,261,589 | \$2,215,833 | \$2,265,711 |
| Advertising | \$129,325 | \$81,723 | \$129,430 | \$152,632 | \$177,600 | \$177,652 |
| Interest | \$10,219 | \$6,205 | \$4,038 | \$4,367 | \$4,500 | \$5,000 |
| Miscellaneous | \$16,006 | \$17,911 | \$18,743 | \$20,245 | \$15,962 | \$16,500 |
| Total Revenues | \$13,360,816 | \$14,481,307 | \$15,686,364 | \$16,737,234 | \$17,144,823 | \$17,388,880 |
| Net Profit (Loss) | -\$581,966 | -\$402,254 | \$372,223 | \$592,978 | (\$77,257) | \$0 |

Source: CATA; Analysis by GCR Inc.

FTA funds require that 20% of the projects costs are matched with local funds. Local funds include any funding a source other than the U.S. Department of Transportation (USDOT).

CATA primarily uses funds from the State of Arkansas to match federal resources. Prior to 2011, local member contributions also helped support CATA's capital program to a small extent. However, since 2011, all non-federal share of capital costs have been covered by the State of Arkansas funds (see Figure 5- 3).



Funding Capital Projects

CATA has depended primarily on federal grants for capital projects, such as new buses and shelters. The typical 20% non-federal match required for these grants is met with funds from the State of Arkansas.

CATA does not have any bonds or other forms of capital project financing in use.

FIGURE 5-3. CATA Capital Fund Sources

| | 2010 | 2011 | 2012 | 2013 | 2014 (Estimated) | 2015 (Estimated) |
|----------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------------|
| Federal | \$7,721,758 | \$1,362,254 | \$1,423,566 | \$2,663,141 | \$1,632,200 | \$8,876,199 ¹ |
| State | \$1,481,110 | \$400,000 | \$534,400 | \$400,000 | \$400,000 | \$400,000 |
| Local | \$17,778 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Other Grant Funds | \$20,000 | \$27,777 | \$20,000 | \$20,000 | \$20,000 | \$20,000 |
| Total Capital | \$9,240,646 | \$1,790,031 | \$1,977,966 | \$3,083,141 | \$2,052,200 | \$9,296,199 |

Source: CATA

1. CATA is purchasing 15 CNG buses and 7 Links vans in 2015. This explains why the FTA capital contribution for that year will be much higher.

OVERVIEW OF CATA'S FUNDING RESOURCES

Transit, consistent with all form of transportation open to the public, is developed with support from government resources, typically including local, state, and federal sources. Each of these funding sources is used to support both transit operations and capital projects. This section provides additional information on CATA's individual funding resources.

Federal Transit Administration

The federal government, via the FTA, has traditionally been an important funding resource for transit agencies in urban and rural communities. The federal government's annual formula investment in transit nationally is roughly \$8.6 billion; in 2014, the federal government provided approximately \$30.5 million²⁵ to transit systems in the State of Arkansas. Of this amount, Central Arkansas received \$6.5 million or roughly 2.1%.

CATA's federal programs are allocated from three FTA grant programs: 5307 Urbanized Area Formula Grants (Section 5307), State of Good Repair (Section 5337), and Bus Facilities Grants (5339). The amount of funding allocated to CATA is based on a formula that takes into account population, ridership, poverty, and other demographic indicators.

Funds are transferred directly to CATA from the FTA in the form of grants; these grants can be used for both capital and specified operating expenses. Although federal program rules encourage transit agencies to use their federal grants for capital programs, medium



Limited Federal Funds

CATA depends on grants from the FTA to fund about 13% of operations and about 75% of capital projects.

The funds that can support operations remain relatively flat.

Federal grants for major capital projects like BRT or streetcars are limited and highly competitive.

sized cities, like Little Rock and North Little Rock, are able to use federal funds to support transit operations, up to half of the cost of operating service.

All federal grants require local matching funds, including sources provided through any source other than U.S. Department of Transportation resources. Generally speaking, operating projects require a 50% local match and capital projects require a 20% local match. CATA applies some if its federal funds to specific types of operating costs that relate to capital cost of operating – such as preventative maintenance – so it can use federal funds to pay for 80% of program costs. CATA receives approximately \$1.4 million from FTA in preventive maintenance funds annually to assist with operations of fixed route and paratransit service.

State of Arkansas

The State of Arkansas is also an important contributor to CATA's services, providing a minimum of \$710,000 annually through two programs: the Public Transit Trust Fund (\$650,000) and the Corporate Franchise Fee (\$60,000). These funds are allocated to CATA by the Arkansas State Highway and Transportation Department (AHTD). An overview of the State of Arkansas transit funding programs is provided below, including how funds are raised and funding trends.

CATA largely uses State funds to support its capital program. This approach allows CATA to use the shared resource to fund shared expenses. State funds, however, are not exclusively tied to capital expenditures. State funds not used by the capital program are used for operating expenses (see Figure 5-5).

FIGURE 5-4. Federal Transit Administration Funding by Use

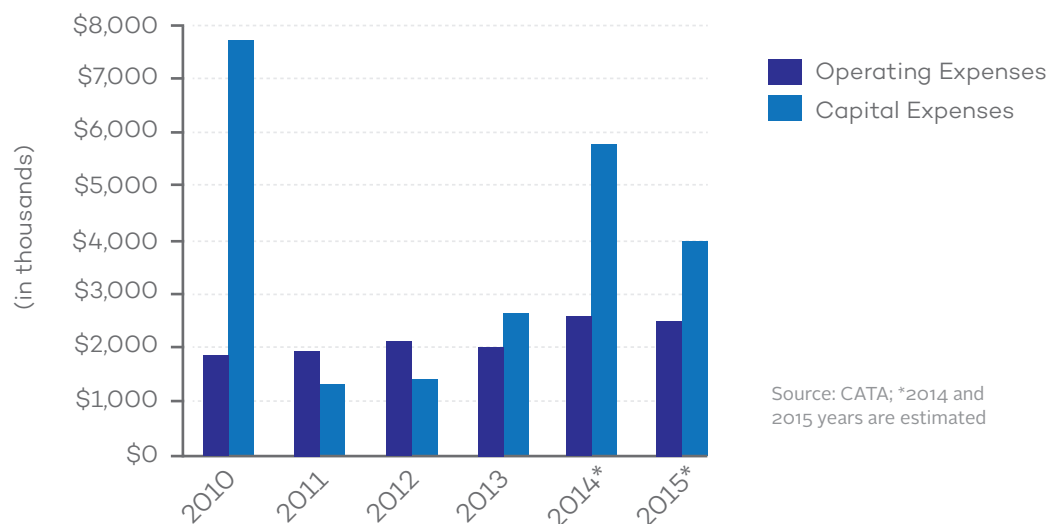
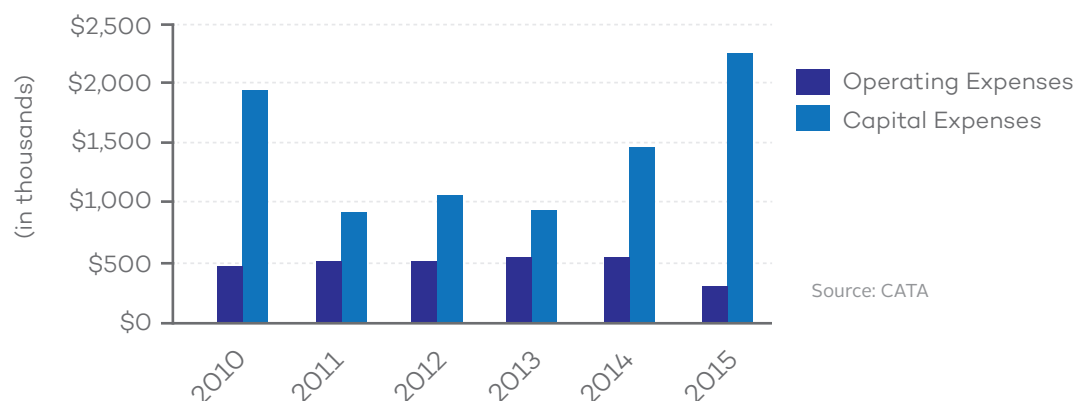


FIGURE 5-5. State Funding by Use



Public Transit Trust Fund

The Public Transit Trust Fund was created by the Arkansas State Legislature in 2001 and is funded by a 3.75% tax on short-term rental vehicles (a rental car tax). AHTD distributes these funds to transit programs across the state according to a formula based on ridership, operating costs and population. The funding formula also ensures some funds are distributed to both urban and rural communities.

In 2009, AHTD capped Central Arkansas’s allocation to \$650,000 annually due to its disproportionate size compared to other agencies in the state. Without a cap, AHTD’s formula would result in CATA receiving most of the funds. CATA’s share of the Public Transit Trust Fund is capped at \$650,000 rather than a percentage of the overall funds, thus, as rental vehicle tax revenue has increased over the last five years, CATA’s share has not increased.

Corporate Franchise Fee for Public Transit

Since 1982, the Arkansas State Legislature has allocated \$350,000 from the Corporate Franchise Fee to public transit. The funding allocation is made annually and has been unchanged since 1982. AHTD allocates \$60,000, or 17%, of this revenue to CATA.

Other State Grants

AHTD also distributes any additional or leftover federal transit grant funds to CATA as available. As an example, AHTD granted an additional \$279,280 from Job-Access Reverse Commute (JARC) program to restore night and Sunday service to North Little Rock. However, due to legislative changes at the federal level, these funds will expire in 2014. To maintain service, CATA will have to cover shortages with resources provided by local member communities.

Local Government Contributions

CATA largest revenue source is contributions from its five member jurisdictions: City of Little Rock, City of North Little Rock, Pulaski County, City of Sherwood and City of Maumelle.



Fixed State Transit Funds

State funding dedicated to CATA is fixed by AHTD at \$650,000. This funding level has been held steady since 2009 and is not adjusted for inflation or cost increases.

CATA depends primarily on State funding to support its capital program and match federal funding resources.

Participation in CATA requires member communities to appropriate funds annually to CATA as defined in the governing Inter-local Agreement.²⁶ Member assessments are estimated after all other funding sources are subtracted from CATA's operating expenses.²⁷ The amount assessed to each community is based on the number of total miles of transit service CATA operates in each community. Since not all jurisdictions receive all types of service, CATA assesses contributions for each community by mode to ensure equitable contributions. For example, only Pulaski County and the cities of Little Rock and North Little Rock contribute to the River Rail service.

As CATA's costs increase annually – in line with increasing costs largely associated with wages, fuel prices, and insurance – federal and state revenue sources have largely remained flat. As a result, assessments paid by member communities have risen steadily over the past several years (see Figure 5-6).

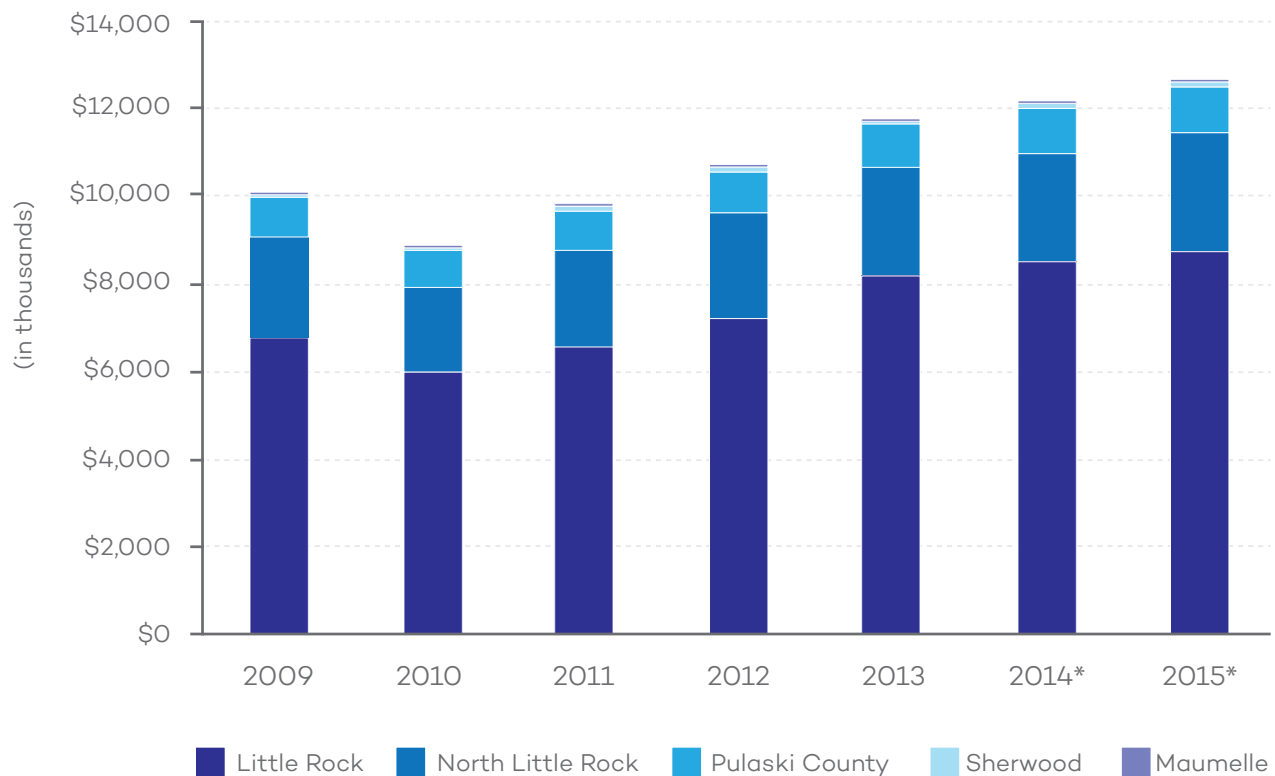


Central Arkansas communities pay for most of CATA's expenses

CATA has five member jurisdictions. Together they cover the gap between CATA's operating expenses and federal and state revenues.

Typically, member communities pay roughly 68% of CATA's operating expenses. In 2014, this amounted to about \$11.5 million.

FIGURE 5-6. Local Member Contributions (2009–2015)



Source: CATA; *Years 2014 and 2015 are estimated

Little Rock is the largest local member contributor, providing nearly \$8.5 million in 2014 or 50% of CATA's total operating expenses. The City of North Little Rock is the next largest contributor, followed by Pulaski County, Maumelle and Sherwood.

One exception to this formula is the City of Jacksonville. Rather than participate in CATA's Inter-Local Agreement, the City of Jacksonville pays CATA directly based on a service contract the City holds with CATA. In 2014, the City of Jacksonville paid roughly \$57,000 and was assessed a fee of \$62,484 in 2015. Under this arrangement, the City of Jacksonville does not sit on CATA's board.

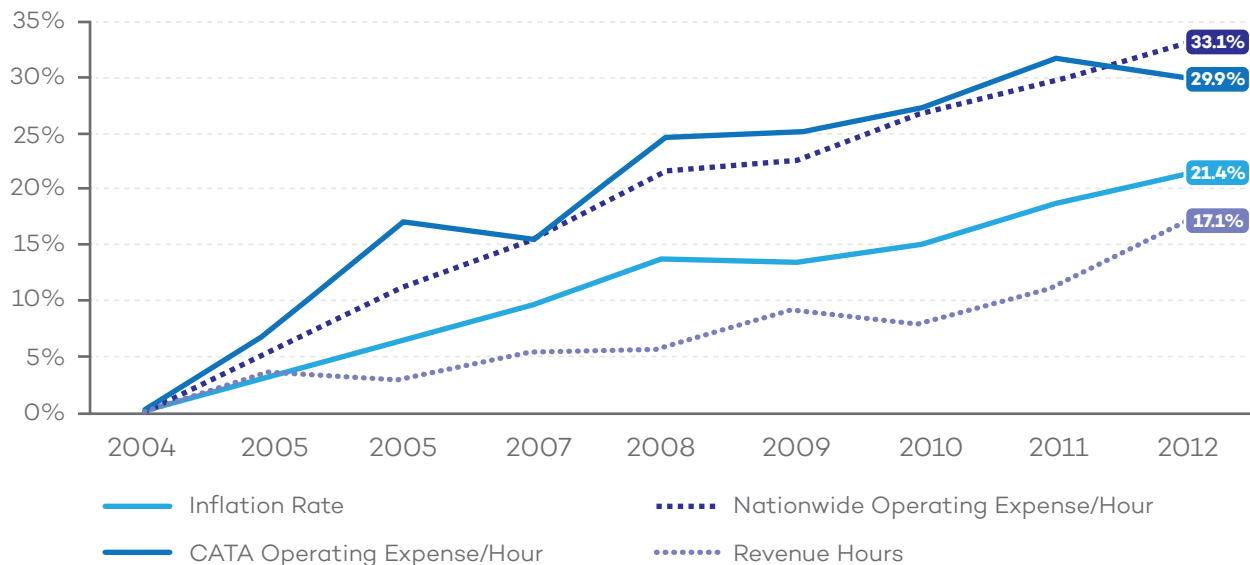
FUNDING TRENDS

CATA's budget has been increasing for several years, but in recent years it has leveled off. In 2009, CATA's annual budget was roughly \$14 million; by 2014 its

budget increased to \$17.4 million, roughly 24% over the five year period. An exception occurred in 2010, as a result of funding provided through the American Recovery and Reinvestment Act (ARRA, also known as the Stimulus). ARRA funds were primarily available for capital projects; CATA used them largely for vehicle replacement.

Most of CATA's budget increase reflects increasing costs with only a small portion of the increase associated with service expansion. The cost to provide transit is largely driven by driver wages, insurance and fuel. Each of these three resources have historically risen faster than inflation. As a result, while the amount of service provided (revenue hours) increased by 17%, the cost of service increased by nearly 30%, in line with national trends (see Figure 5-7).

FIGURE 5-7. Transit Operating Costs vs Inflation



Source: Inflation rate from Bureau of Labor Statistics: Consumer Price Index; Hourly operating expense rate and revenue hours for demand response and bus from National Transit Database

CHALLENGES WITH CATA EXISTING FUNDING MECHANISM

Generally speaking, CATA has been level funded for several years. This means that the amount of money CATA receives each year is roughly equivalent to what it received in previous years. While the local members must appropriate funds to cover any gaps in the operating budget, in practice, local members control budget increases. For the past several years, for a variety of reasons, including challenging budgets at the municipal level, members have not been inclined to support major budget increases. As a result, public transit in Central Arkansas has been – and continues to be – challenged to substantially improve or expand its service. Funding challenges include:

- **Lack of control:** A key challenge with CATA's funding mechanism is that CATA has minimal control over how much money it gets from state and federal programs. In both cases, federal and state transit programs are determined by legislative bodies. As discussed, CATA can work with member communities to increase funding, but the member communities are already funding nearly 70% of CATA's operating budget and have little capacity to increase resources. CATA is able to raise some funds through passenger fares, but without a significant improvement in the quality of service, it is challenging to attract more riders or ask existing riders to pay higher fares.
- **Member assessment formula limits service design:** Member community assessments are determined by a formula that reflects the amount of service they provide. While this is an equitable approach to allocating funds, it also means that some communities are resistant to service expansions because doing so increases their assessments. In addition, any major changes in revenue miles to one jurisdiction would require a proportionate increase in funding to all partners, a scenario not likely to be supported under the current system. As a result, special funding streams have been carved out for specific service improvements. For example, the successful 2011 referendum for a 5/8% sales tax increase in Little Rock for operating funds specifically called out CATA service improvements to John Barrow Blvd and Pulaski Technical College (Routes 9 and 23).²⁸

- **Limited access to capital funds for major system upgrades:** With member contributions used exclusively to cover operating shortfall, CATA relies on state funds to meet federal grant match requirements to fund capital improvements. Additional dedicated funding would allow CATA to exercise its existing bonding authority²⁹ to fund projects.

CATA last pursued a service expansion and vehicle improvements through a sales tax that was proposed to voters in 2002. The voters did not approve this tax and since this time CATA has focused on maintaining and improving existing services. A temporary solution was provided by ARRA grants that allowed CATA to replace vehicles. At the same time, a lean operation has maximized efficiency in the face of financial constraints.

Other transit agencies around the country have had success establishing dedicated funding sources. Dedicated funding sources – through some sort of tax or fee – allows transit agencies to exert more control on their system growth and development and respond to regional service needs without competing against other important local services.

FUNDING OPPORTUNITIES

Transit investment supports economic growth in Central Arkansas's urban communities and ensures that as many people as possible have access to commercial and employment centers; likewise transit ensures Central Arkansas' commercial centers are as accessible as possible. At the same time, public transportation is an essential resource for Central Arkansas' most vulnerable individuals, including older adults, people with disabilities, youth, and people with low incomes. National experience also suggests that investment in transit systems, in combination with investments in pedestrian and bicycle facilities, are an important strategy to ensure metropolitan areas are positioned to attract and retain both the young (Millennials) and aging (Baby Boomers), the nation's largest demographic groups. The following section highlights how other communities have funded transit service (see Figure 5- 8).

FIGURE 5-8. Local Funding Opportunities for Central Arkansas

| Funding Type | What is it? | Where has it been done? | What is the impact? |
|---|---|---|---|
| Property Tax | A millage applied to assessed property in jurisdictions with transit service. | Many agencies and public service providers. Central Arkansas Public Library has a fund of 1-3.3 mils ⁷ | CAPL's approximate 3mil tax generated about \$14.7 million in 2013 |
| Sales Tax | Added tax to sale of goods and allowable services dedicated specifically to transit. | LA County, 2009, ½ cent; Orange County (NC); 2011, ½ cent; Houston, 1978, 1 cent | 0.25% sales tax for all Pulaski County generated about \$20 million in 2013 |
| Fare Increase and Restructuring | An increase in regular fare and optimizing the price of passes. Many agencies use policies for regular hikes. | Most transit agencies regularly raise fares, sometimes using structured policies to allow routine fare hikes | A base fare hike from \$1.35 to \$1.50 could generate between \$126,000 and \$201,000 annually. ⁸ |
| Tourism Tax "Hamburger Tax" | Advertising and Promotion Commission levy a tax on food purchases at restaurants. | Locally, 2% of a 3% state mandated max is utilized. 2013 voters approved re-allocation within 2% max to support bonds for Robinson Center renovation Used in West Memphis to support transit. | 1% available increase would generate about \$5.5million |
| Parking Sales Tax | Sales tax collected on parking transactions. | Chicago collects flat fee for parking: \$0.75-\$2/day, \$3.75-\$10/week, \$15 to \$40/month | Low opportunity for revenue, but also encourages transit ridership |
| Employer payroll tax | Payroll tax in Municipality or special transportation district. | Not very common; Louisville, 0.2%; Cincinnati, 0.3% | \$40 million, about 60% of annual operating budget, in Louisville |
| Special Assessment or Improvement District ⁹ | Additional property tax or fee within a limited boundary, typically to finance major capital investments and service. | Seattle, WA; Fairfax County, VA; Miami, FL; Los Angeles, CA; Denver, CO | South Lake Union streetcar in Seattle (opened in 2007) will generate \$27 million to cover 57% of project costs ¹⁰ . |
| Tax Increment Financing (TIF) ¹¹ | Identification and capture of property tax increases in a defined area due infrastructure investment | Portland, OR | Portland used \$7.5 million of TIF funds for streetcar expansion |
| Flexible Highway (FHWA) Funds | The U.S.DOT allows some Federal highway funds to be used for specific transit uses ¹² | From 1992-2006 \$12 billion, or 13%, of available funds have been spent on eligible transit uses | No requests for flexible funds to transit used to date |

7. CAPL millage rate varies by jurisdiction. The largest rate of 3.3mils is for Little Rock, also generating the largest amount of revenue; North Little Rock is 3mils; Maumelle is 2.1mils and Sherwood and unincorporated Pulaski County are 1.6mils.

8. Fare hikes will almost always cause a reduction in ridership, but they usually do result in increased revenue for the agency. Research suggests that a 10% fare increase on average increases revenue 5-8% over the short run and 1-4% over the long run. (Victoria Transport Policy Institute. "Local Funding Options for Public Transportation". 2014)

9. CATA is Interlocal Agreement Section 1.02(j).

10. Washington County, OR assesses a larger Traffic Impact Fee program that generates a total of \$17 million, of which transit set aside is about 32%.

12. Impact fees for are authorized under Arkansas Code, § 14-56

13. Eligible transit uses are detailed in each type of FHWA grant and include planning, capital costs of vehicles, 3-year operating expenses for new service (CMAQ

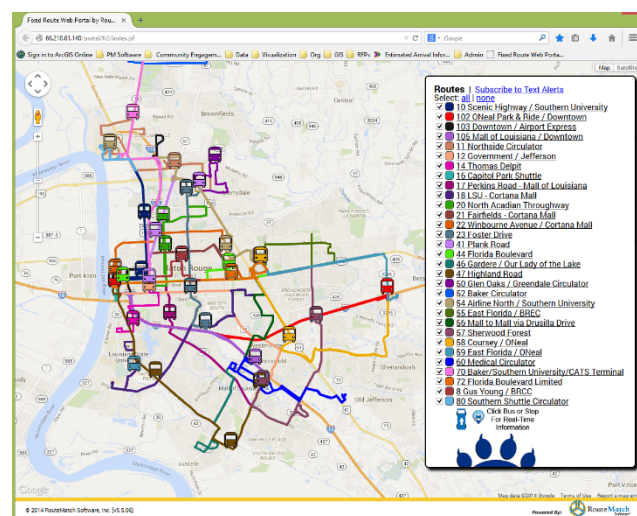
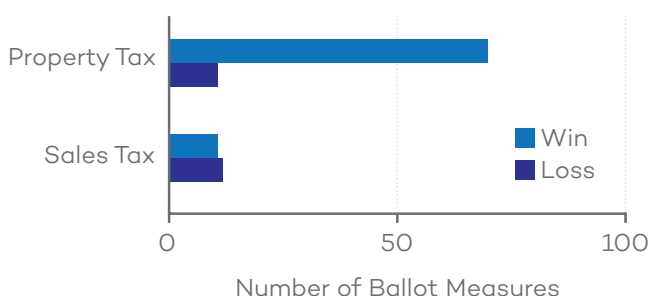
CASE STUDIES ON SELECTED FUNDING OPTIONS

Property Tax

Communities around the country dedicate a portion of their property tax to support public transit.³⁰ The funding source is stable and is generally viewed as an equitable tax that distributes the burden fairly among people of varying wealth, ability or need. Transit property taxes have also been extremely successful with voters in recent years (see Figure 5 9). This trend suggest voters do support local tax initiatives in spite of fiscal challenges and debates at the Federal level.

- Capital Area Transit System (CATS) - Baton Rouge, LA:** CATS serves multiple jurisdictions within East Baton Rouge Parish.³¹ CATS sought its first dedicated funding source through a property tax initiative in 2012. Each municipality served had to pass the ballot initiative: the City of Baton Rouge and the City of Baker approved; the City of Zachary did not. The successful measure created a 10.6mil property tax resulting in an annual budget increase from \$14 million in 2011 to \$23 million in 2013. Paramount to the successful measure was a well-developed package of improvements to the system that included a reconfigured route network, increased service hours and frequency, and new express routes.
- LexTran – Lexington, KY:** LexTran passed a 6mil property tax in 2004, its first dedicated funding source. The annual budget went from \$9.1 million in 2005 to \$19.3 in 2010. Service hours increased from 143,339 in 2005 to 270,676 in 2010.
- Central Arkansas Library System (CALS):** CALS serves a local population of 317,457 in the City of Little Rock, Pulaski County (Wrightsville, Jacksonville, Sherwood, and Maumelle, AR), and Perry County (Perryville, AR). In 2012, Little Rock voters renewed their dedicated property tax of 3.3mils. Little Rock has the highest rate with North Little Rock at 3mils; Maumelle at 2.1mils and Sherwood and unincorporated Pulaski County at 1.6mil. Collectively, CALS generated \$14.7 million in revenue from the local property taxes.

FIGURE 5-9. U.S. Transit Success at the Ballot Box (2012-2014)



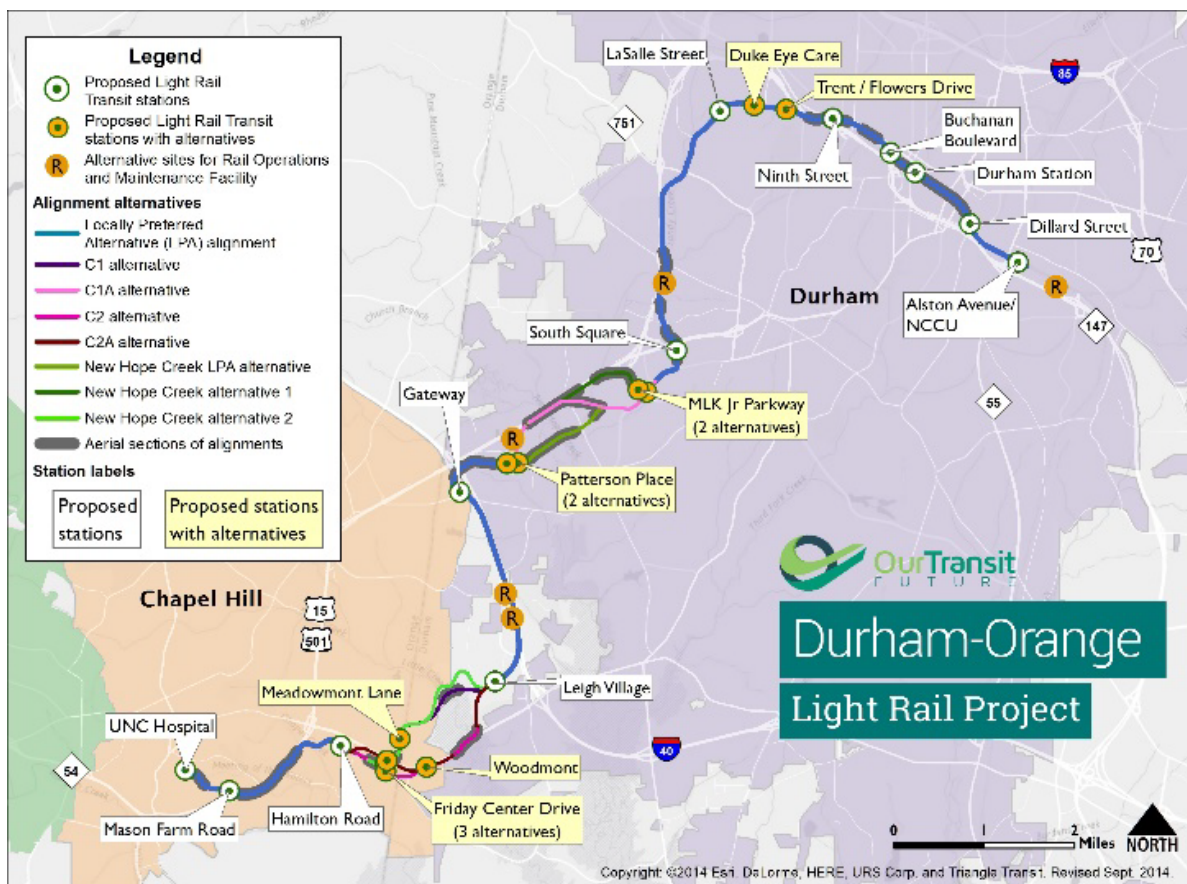
Real-time tracking, expanding routes and frequencies, were just some of the improvements CATS in Baton Rouge implemented in exchange for dedicated property tax in 2012

Source: www.brcats.com

Sales Tax

Sales tax is another common strategy to create a local revenue source to fund transit operations. Examples of recent successful sales tax initiatives include:

- Research Triangle Region (Orange and Durham Counties), North Carolina:** In 2011 voters in Durham County approved a half-cent sales tax to fund an expansion of transit service in the region, including a light rail connection with neighboring Orange County. Orange County approved a similar sales tax in 2012. In both cases, the plan hinged on developing regional connections. Durham County's ballot measure included language to link the implementation of the tax to the passage of a ballot measure in Orange County. Orange County passed the corresponding half cent sales tax
- Flagstaff, Arizona:** In a 2008 ballot initiative known as the "Flagstaff Five," the Northern Arizona Intergovernmental Transportation Authority chose to place five different options on the ballot and let voters choose which items they wished to approve. Every measure received voter approval: 1) renewal of existing sales tax; 2) fund upgrade to hybrid electric fleet; 3) build BRT route through the central business district; 4) expand coverage; and 5) increased frequencies.



Dedicated sales tax for transit in Durham and Orange County funded immediate bus improvements and a future light rail project, now in the planning stage

Image from Triangle Transit

Local Transportation Benefits District or Improvement District

The establishment of an improvement district is specifically permitted in the enabling legislation of CATA.³² Arkansas law³³ allows for improvement districts to be established for the purchase and operation of buses along with a wide range of other construction projects that could be attractive to CATA. According to the state regulations, the establishment of a Central Business Improvement District requires a petition with the support of landowners holding 2/3 of assessed property values in the proposed district. While it is possible to fund operations with special improvement district, it is more common to use them to pay for capital projects that directly benefit the improvement area such as BRT or streetcars:

- **Fairfax County, Virginia:** In 2009 a petition to create the Phase II Dulles Rail Transportation Improvement District. In Virginia it is only necessary to get 51% of property owners to sign the petition, but it is then necessary to get

approval of the petition from residents of the proposed district through a ballot measure, which passed successfully in November of 2009. Phase II of the Dulles rail project is a \$2.8 billion project and Fairfax County would need to provide \$330 million of that funding. The district established a property tax that would start off at 5 mils in the first year and then climb to as high as a 25 mil cap for as long as necessary to pay off the debt. Revenue created in the district would not be used to pay for operations.

Employee Payroll Tax

- **Louisville, Kentucky:** An Occupational License Fee has funded the Mass Transit Trust Fund since the Transit Authority of River City (TARC) was started in 1974. This license fee is currently 0.2% of every individual's income in the metro area, generating about \$40 million annually and funding about 60% of the agency's operations. (TARC. Long Range Plan Update. 2009).



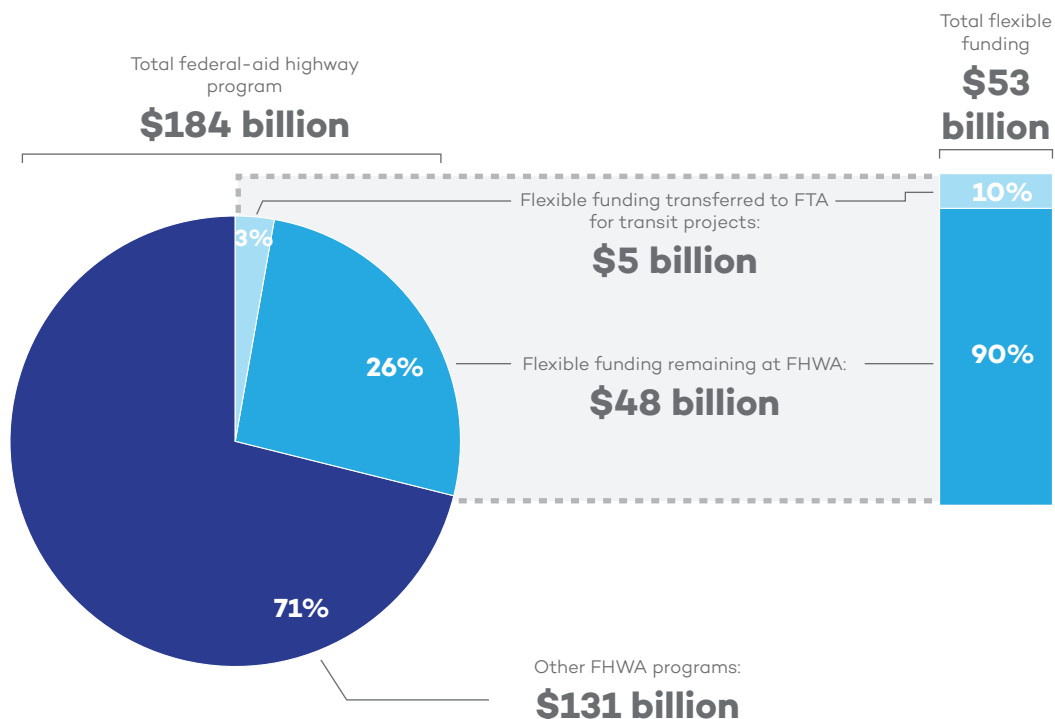
Fairfax County, VA used a Transportation Improvement District to generate its share of the Silver Line rail extension in metro Washington, DC

Photo by Chuck Samuelson, Dulles Corridor Metrorail Project

Using (Flexing) Highway Funds to Support Transit

In recent years, states have been granted more flexibility for how they use their federal transportation dollars and in particular, states are able to use funds allocated through the Federal Highway Transportation Administration (FHWA) for transit, bicycles and pedestrians. Flexed FHWA funds have similar requirements as FTA funds, meaning they must be matched with 20% local money for capital projects and 50% for operating. Using flexible FHWA funds for transit usually occurs when there is consensus in the community regarding the importance of a transit project.

In the State of Ohio, for example, state budget pressures eroded the availability of General Revenue Fund used to support transit. As a way to mitigate the impact of lost revenues, the Ohio Department of Transportation (ODOT) began flexing highway funds for transit. Today, ODOT flexes roughly \$20 million annually to urban transit agencies in the state. The funds are primarily used to support capital projects and in particular, vehicle replacement



**Bus rapid transit creates rail-like
operating environments for both
the vehicle and the passenger.**



[6]

BEST PRACTICES

The public transportation industry – like all industries and services – evolves and changes as agencies try new ways to provide, operate, and manage services. Successful ideas help advance the industry overall as other agencies apply these business models to their own unique, local circumstances. It is also easier to convince policy makers and members of the public that something will work if it has worked in other places.

This chapter highlights a handful of best practice strategies that are being used by transit agencies across the country. The list includes both new opportunities for CATA as well as improvements to existing services and practices already in place. The strategies are grouped into three categories:

- Enhancing Transit Operations
- Improving the Passenger Experience
- Flexible Service to Match Community Needs

ENHANCING TRANSIT OPERATIONS

One of the main criticisms of transit, especially bus transit, is that travel is much longer and is less reliable as compared with the private automobile. However, transit services have made considerable strides in improving the speed and reliability of traveling by bus. More intensive strategies, like bus rapid transit, create rail-like operating environments for both the vehicle and the passenger. There are also other strategies that are less expensive but effectively improve roadway and intersection design to give buses the advantage in traffic.



Enhanced station along the Health Line in Cleveland, OH.

ENHANCED BUS/BRT



What is it?

Bus Rapid Transit (BRT) refers to bus service designed and operated to provide a level of service comparable to rail. The idea is to create fast and reliable service by operating in a road lane, reserved (or dedicated) for the bus. Combined with fewer stops and more frequency, BRT can be as easy and convenient as rail. BRT systems also typically try to provide similar amenities as rail systems by serving “stations” rather than stops and equipping the stations with amenities such as ticket vending machines and information that tell passengers when the next vehicle will run.³⁴

The main advantage of a BRT system over rail is cost. BRT typically has much lower capital and operating costs than light rail or street car services. In addition, BRT systems can be constructed much faster, so the service is available sooner.

One key feature of BRT systems that tends to be associated with success is providing a dedicated operating facility, such as bus-only lanes that

provide transit vehicles with priority on congested roadways. Bus-only lanes are most often curb lanes, meaning they run alongside the curb. Some BRT stations also run in the middle – or median – of the road. Median BRT services have been successfully implemented across the United States, with buses that have bus with doors on either both sides of the buses or on the left side. In a handful of cases, BRT systems will run against or “contra-flow” to the primary travel direction.

Transit agencies often incorporate BRT elements into their most popular routes first to accommodate large passenger loads efficiently. As the highest ridership line in the system, Route 5 West Markham makes a good candidate for BRT. The next four high-ridership lines – Route 3 to Baptist Medical Center, Route 10 to McCain Mall, Route 14 to Rosedale and Route 13 serving Pulaski Tech – are also productive routes. Together, the five routes carry nearly half of all riders on CAT, thus bus enhancements or BRT would reach a majority of riders.

Why do it?

BRT increases ridership. In a survey of 15 BRT systems across the United States, 13 of 15 reported increased ridership over the transit service BRT replaced. Of the 13 BRT projects with increased ridership, more than half (7 of 13) reported increases of 30% or more during the first year of service, with increases continuing into following years.³⁵

Most transit systems build Bus Rapid Transit systems to attract riders, but BRT has also demonstrated value in encouraging economic development. For instance, in Cleveland, OH officials estimate that between \$4-\$5 billion worth of investment has occurred in the corridor since the HealthLine BRT was built. BRT systems can also help attract other investments from the federal government. Local officials in Kansas City, MO, for example, attribute the receipt of a \$25 million dollar federal grant for urban improvements to the city's investment in BRT.³⁶

The advantages of BRT/ Bus-ways include:

- **Cost.** BRT projects generally have lower capital costs than rail transit projects. Median costs for BRT is \$36.1 million in contrast to \$575.5 million for rail transit projects. Cleveland RTA officials reported that the HealthLine BRT cost roughly one-third of what a comparable light rail project would have cost.
- **Travel Times.** BRT vehicles operating on dedicated running ways can save two to three minutes per mile, while those same vehicles driven on arterial streets normally save one to two minutes per mile when compared to regular bus lines. Greater time savings are realized during peak congested hours— Pittsburgh's BRT line reports a time savings of five minutes per mile during peak hours. Austin's Metro Rapid has reduced passenger travel times by as much as 29%, with ridership increases of nearly 40%.
- **Permanence.** Public capital investments in stops, stations, and/or dedicated right-of-way help demonstrate a public commitment to a BRT line and convey a sense of permanence, helping to leverage private investment.

How does it work?

BRT uses various tools (dedicated running ways, longer distances between stations, off-vehicle fare collection, ITS, "clean" vehicles, frequent service) to produce a fast and convenient method of transportation. Following is a list of the key features of rapid transit, in increasing order of investment. These represent a continuum of enhancements that would support a rapid transit system, regardless of vehicle type:

- | | |
|---|---|
| ▪ Unique branding | ▪ Low-floor vehicles with multi-door boarding and alighting |
| ▪ Widely-spaced station stops with superior amenities | ▪ Pre-payment—allows all-door boarding |
| ▪ Good pedestrian and bike connections | ▪ Improvements focused on speed/reliability |
| ▪ High level of coordination with connecting services | ▪ Timed signals to favor transit |
| ▪ Frequent service—no schedule needed | ▪ Queue jumps |
| ▪ Real-time passenger information | ▪ Bus bulbs |
| ▪ Sleek, attractive vehicles | ▪ Dedicated lanes |

Where is it being done?

Several cities across the United States have BRT. Service types ranges in investment levels from bus-only lanes (dedicated running ways) to operating in the same lanes as passenger vehicles (non-dedicated running ways) to a mix of both at different places along the route (semi-dedicated running ways).

DEDICATED RUNNING WAYS:

- Healthline (Cleveland, OH)
- Franklin EmX (Eugene, OR)
- Gateway EmX (Eugene, OR)
- Silver Line (Boston MA)
- CTfastraks (Hartford, CT)

SEMI-DEDICATED RUNNING WAYS:

- RapidRide A (Seattle, WA)
- M15 (New York, New York)
- Main Street MAX (Kansas City, MO)

NON-DEDICATED RUNNING WAYS:

- RTC Rapid (Reno, NV)
- BusPlus (Albany, NY)
- Boulder Hwy, Express (Southern NV)
- Troost MAX (Kansas City, MO)
- The Rapid (Livermore, CA)
- RapidRideB (Seattle, WA)
- Mountain Links (Northern AZ)
- Metro Rapid Gap Closure (Los Angeles, CA)
- Metro Rapid 741 (Los Angeles, CA)

QUEUE JUMPS



What is it?

Queue jumps give transit vehicles priority by creating a special lane at the intersection that allows a bus to move to the front of stopped traffic. The lanes are restricted to transit vehicles only; this allows a bus to skip to the front of the line at a stop light. When combined with Transit Signal Priority (TSP) (see below) a queue jump lane can help buses stay on schedule and travel faster.

Why do it?

Queue jumps improve transit's speed and reliability by helping buses move through intersections and stay on schedule. The use of queue jumps alone can result in travel time improvements of 5-25%. When paired with other bus treatments, additional travel time savings have been recorded.³⁷

How does it work?

An intersection with a queue jump includes an additional travel lane segment, which can be transit-only or shared, on the approach to a signal. Another common queue jump design element is

advanced stop bars, which facilitate operations in the following ways:

- Help buses re-enter the traffic stream
- Allow buses to jump to the front of a queue at a traffic signal after they have picked up passengers at a bus stop
- Assist buses in crossing lanes ahead of other traffic to reach a left-turn lane

Where is it being done?

In DeKalb County, GA, two queue jumps were installed to support transit service along Memorial Drive in 2010. These were constructed along with Transit Signal Priority, which gives the buses preferential treatment before other vehicles.³⁸ Travel times along the entire route decreased between 9.4 and 21.5%. The project led DeKalb County and MARTA to consider implementing additional projects.³⁹

In Chandler, AZ, the city implemented queue jumps at several intersections along Arizona Avenue in 2006. These queue jump lanes were originally used by local fixed route service, but today also support the operations for a limited-stop bus route as well.⁴⁰

BUSES ON SHOULDERS



What is it?

Operating buses on roadway shoulders of freeways and major arterial streets during peak times dates back nearly half a century. Yet only in recent decades has it become a more common strategy in transit operations enhancements. More than ten states across the country currently operate Bus on Shoulder (BOS) programs.

Why do it?

Utilizing shoulders to move buses marks a cost-effective way of lowering travel times on congested corridors and increasing transit capacity. If shoulders meet the criteria to handle bus operations –minimum of 10 feet wide – the cost to implement this strategy ranks low and only requires elements such as new signage. Cost increases if shoulders must be expanded or upgraded. In Minnesota, which has the oldest BOS program, roadways are built to accommodate the extra weight and width of a bus during any repaving and reconstruction.⁴¹ Minneapolis-St. Paul's Metro Transit now has 300 miles of bus-only shoulders, which saves riders between 5 and 15 minutes per trip.

The BOS concept is also popular with the public. A study of cities operating BOS systems found that “communities tend to like the BOS concept, as it is not obtrusive, requires no additional right-of-way, is low cost, and be implemented relatively quickly... BOS safety experience has been excellent.”⁴²

How does it work?

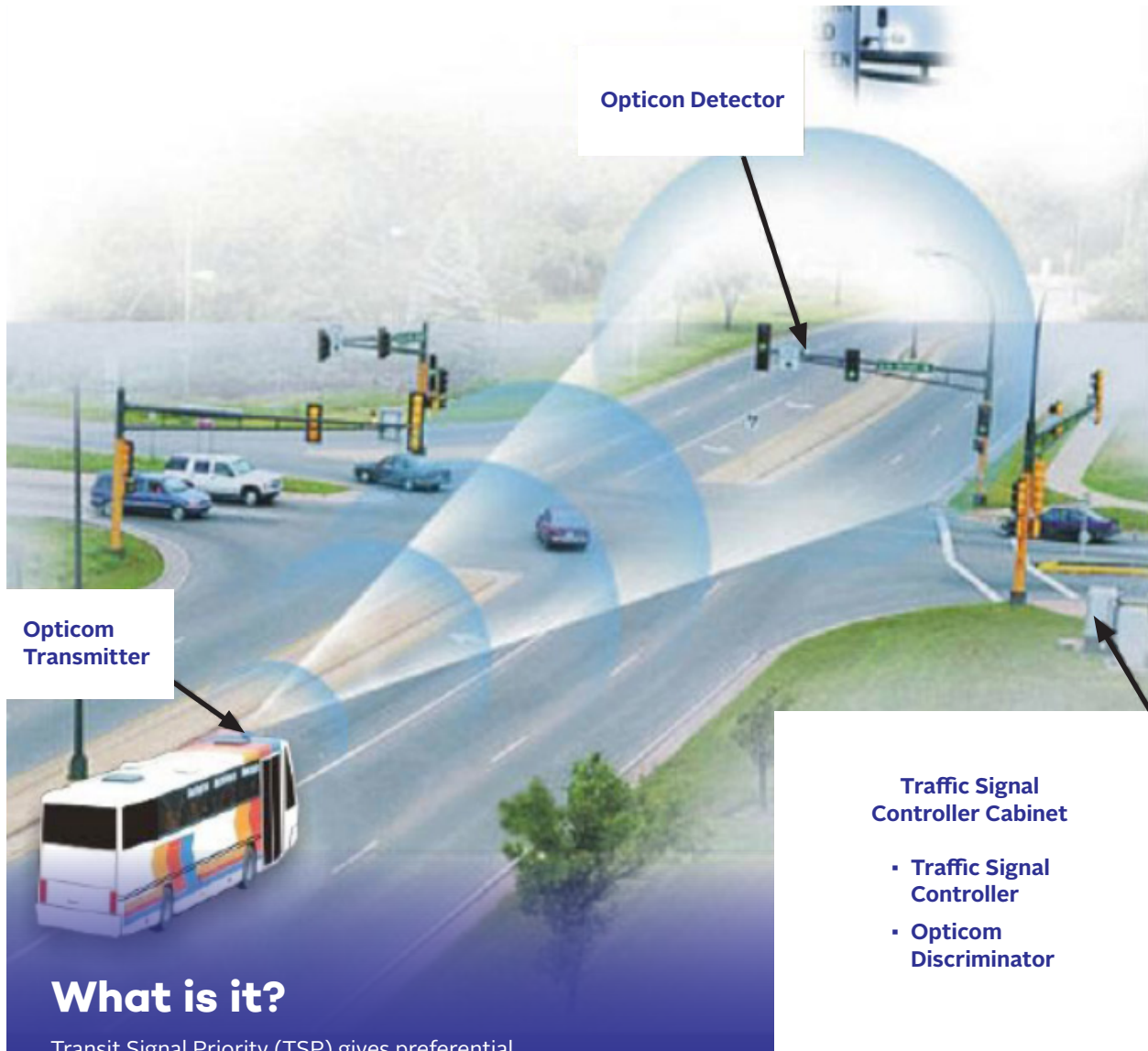
BOS programs establish criteria for when operators can use shoulders. In Raleigh, bus operators have discretion to decide when to shift onto shoulders, and if they do buses cannot operate more than 15 mph faster than the current travel speed in the adjacent lane. In Minneapolis, traffic must be delayed (moving less than 35 mph) on the route at least once a week and using the shoulder must save the bus more than 8 minutes per mile in travel time. Also, the roadway must be used by more than six buses per day.

Since Arkansas voters passed a half-cent sales tax for highway improvements, upgraded shoulders funded through this measure could be used for transit service.

Where is it being done?

More than ten states across the country currently operate Bus on Shoulder (BOS) programs, including Florida, Georgia, North Carolina, New Jersey, Delaware, Maryland, Virginia, Ohio, Minnesota, Illinois, Kansas, California and Washington. Minnesota was the first state to use a Bus on Shoulder program, starting in 1991.

TRANSIT SIGNAL PRIORITY



What is it?

Transit Signal Priority (TSP) gives preferential treatment to buses at traffic signals. The queue jump signal works similar to the way a signal changes for an emergency vehicle – by either holding the green light a bit longer (extension) or changing the light earlier to let the vehicle pass (truncation). This same treatment can be applied to transit vehicles.

Signal priority measures include passive, active, real-time priority, and pre-emption strategies to trigger, extend, or override traffic signals when a transit vehicle approaches. Some systems rely on transit operator intervention or activation, while others have automated systems that use transponders to connect with street equipment.

Why do it?

TSP can reduce travel times from 5% - 23%, depending upon levels of system investment. Signal priority systems vary in complexity. At its simplest, TSP is operated through pre-timed signals to accommodate transit schedules. More complex TSP systems rely on real-time information including on-time performance, passenger loads, arrival of automobiles at the intersection, and other factors.

TSP implementation costs range from \$8,000 to \$35,000 per intersection.⁴³

How does it work?

Passive strategies accommodate transit operations by timing signals based on the average operating speed of the buses, rather than the presence of a transit vehicle. They can also include special signal phases for buses using transit-only lanes.

Active strategies adjust the signal timing after a transit vehicle is detected approaching the intersection. This can extend a green light, truncate a red light, or skip non-priority signal phases.

Depending upon whether a transit vehicle is equipped with Automatic Passenger Counting systems, active strategies grant transit priority based upon factors such as whether the bus is behind schedule and by how much, passenger load, and how recently another bus at that intersection was given priority.

Real-time strategies consider both automobile and bus arrival at a single intersection to reduce overall delay, meaning transit might not always get priority if a long queue of cars wait on the cross street.

Pre-emption strategies interrupt normal signal phasing and sequencing of traffic signals to return to the bus phase. Pre-emption provides a clear path through an intersection, without the vehicle stopping, and is also commonly used by emergency vehicles.

Where is it being done?

Transit signal priority is used widely with varying levels of complexity, outlined by the strategies above. Four example cities using TSP are shown in Figure 6-1 together with their reported travel time savings.

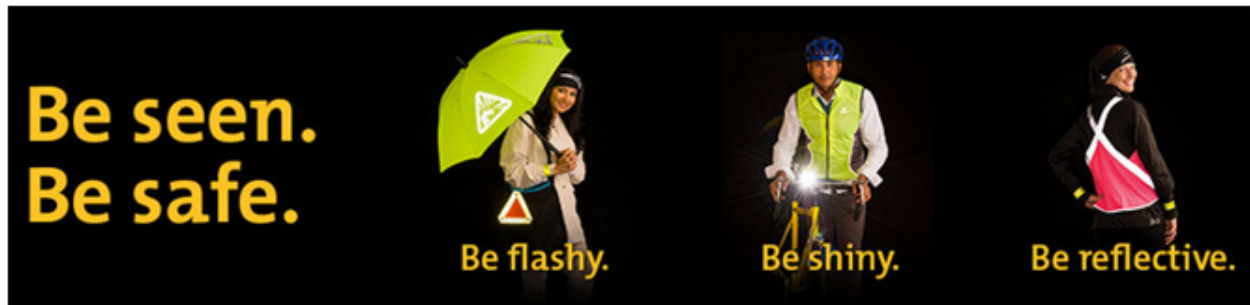
FIGURE 6-1. Reported Benefits Associated with Transit Signal Priority⁴⁴

| LOCATION | REPORTED BENEFITS | TYPE OF PRIORITY |
|------------------------|--|-------------------------------|
| Los Angeles, CA | 7% of bus travel time reduction | Active: Extension, Truncation |
| Chicago, IL | 12 to 23% bus travel time reduction | Active: Priority, Pre-emption |
| Bremerton, WA | Average 10% bus travel time reduction | Los Angeles, CA |
| Portland, OR | 5 to 12% bus travel time reduction | Active: Extension, Truncation |
| Ann Arundel County, MD | 13 to 18% bus travel time reduction, 4 to 9% impact on other traffic | Pre-emption |

Source: Transportation Research Board, 2003

IMPROVING THE PASSENGER EXPERIENCE

There are at least two important aspects to successful transit services – operating and providing transit service and making sure people know how to use it. Surveys conducted by CATA and across the country underscore the fact that many people do not know how to ride the bus. They are unsure where to get information and are not clear where to catch the bus or what time it will come. The more convenient and comfortable transit service can be, the more people will use it. Improved passenger information and amenities can make transit attractive to a broader constituency of customers.



TriMet's "Be Seen, Be Safe" campaign focuses upon visibility and eye contact between street users

Source: TriMet



Santa Monica's proposed super stops will have high quality amenities such as an attractive shade shelters, benches, bicycle parking, wayfinding maps and real-time arrival information.

Source: Nelson\Nygaard



At stops with lower ridership levels, agencies use bus stop IDs that allow riders without smart phones to receive arrival information via text message.

Source: Nelson\Nygaard

REAL-TIME PASSENGER INFORMATION

OKLAHOMA CITY



Learn

fares, how to ride,
rules, parking

Use

schedules, maps,
outlets, stops

Connect

customer care,
news, apps

search

Home > Use > Real Time Next Bus

Bus Departure Information

1953

ROBINSON @ SHERIDAN

Bus is more than 30 mins away

011

29TH ST CROSSTOWN

due at 12:37

automatically reloaded less than a min ago

*schedule times only

The display only shows the next buses within 30 minutes

ROBINSON @ SHERIDAN (Stop ID 1953)

Routes Served:

Colcord

Cox Convention Center

Oklahoma City Amtrak

Map

Satellite

What is it?

Advances in technology have profoundly changed the way people move. Electronic information signs at transit stops, online trip planning software, and mobile applications make switching to new transportation options easier while increasing customer awareness and satisfaction.

Why do it?

Measures such as real-time arrival information and service updates via text message give transit riders instant access to the most crucial element of successful service – reliability. Studies have shown that transit riders without real-time information perceive their wait time at stops to be 50% longer than reality.⁴⁵ With the introduction of mobile apps that deliver information on arrival of next buses, 92% of users of the OneBusAway app, a product of a consortium of transit agencies, nonprofits, and app developers, reported being more satisfied with public transit despite no changes in actual service.⁴⁶

How does it work?

As more transit vehicles became equipped with GPS, the next step was translating satellite

information into a public format. Many agencies have installed electronic signs at major transit stations that updates with real-time arrival information. At lower ridership stops, signs provide the stop ID number and a phone number that riders can call or text to receive information about the next bus

Transit agencies can also capitalize upon the private market to create the most user-friendly smart phone apps. For example, TriMet in Portland, OR provides open source data on vehicle location, allowing private individuals or companies to step in and harness that data into travel apps. Local app developers have used the data to package transit information in different ways.

Where is it being done?

IAs of 2000, 291 transit agencies provide automated transit information systems. Denver's Regional Transportation District (RTD) was one of the first public transportation agencies to use a GPS-based system to provide real time information. In December of 1999, RTD introduced Talk-n-Ride, a telephone service that provides real time bus and light rail arrival information. The model continues today, but has evolved to smart phones and systems in which riders can call or text a number with a stop ID to receive real time information.

CHAPTER 6: BEST PRACTICES

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SAFE ACCESS TO TRANSIT



What is it?

Every transit trip starts and ends with a walking trip. Safe, convenient, and comfortable access to transit stops and stations is fundamental to serving existing transit customers and attracting new riders. Seamless and integrated pedestrian infrastructure supports all forms of multimodal transportation including walking, biking, carsharing, carpooling, and park-and-ride facilities. Lighting at and en route to transit stops ensures that passengers feel secure.

Why do it?

Well-designed, pedestrian-oriented infrastructure increases the safety, comfort, and enjoyment of the entire transit trip. Gaps in the sidewalk network, stops along high speed roads, and insufficient waiting areas all contribute to less attractive transit facilities and can deter transit riders.

Studies report that improving pedestrian conditions can decrease the frequency of short automobile trips and increase transit mode share. Research by the Transit Cooperative Research Program found that many pedestrians are willing to walk between 0.5 and 1 mile to access transit.⁴⁷ Walkable communities also provide public health benefits by increasing physical activity.

How does it work?

A number of design strategies increase the visibility of pedestrians to motorists and heighten the safety and comfort of trips for those on foot.

- Require a safe crossing at all transit stops.
- Colored or raised paving at crosswalks assist in calming traffic and increase driver awareness that they are in a zone where pedestrians are expected to be crossing.
- Pedestrian-only crossing phases at very busy locations where pedestrians must cross diagonally for a transfer allow pedestrians to cross the intersection in any direction.
- Leading pedestrian intervals gives pedestrians a few seconds of “head start” to claim the crosswalk ahead of turning traffic.
- “Curb bulbs” or curb extensions reduce crossing widths by extending a section of the sidewalk into the road at an intersection. Bulbs are often placed at the end of an on-street parking lane. Pedestrians standing on the bulb can see and be seen by drivers before crossing.
- Lighting designed for pedestrians increases perceived and actual safety and security. Pedestrian-scale lighting typically stands lower than auto lighting, at 14-15 feet, to illuminate the sidewalk.
- Continuous sidewalks at least 5 feet wide on both sides of the street a half-mile from any transit stop helps capture the geographic area where people will be walking to transit.

Where is it being done?

In 2006, New Jersey began a pedestrian safety initiative focused on creating safe access to transit. Administered by NJDOT, the program provides grant funding to counties and municipalities to improve safety and access to transit facilities. All improvements must be made within a half-mile of a transit stop. Typical projects have included:

- Intersection improvements to eliminate pedestrian barriers
- Constructing new sidewalks, curb ramps, or sidewalk widening
- Pedestrian signals and push buttons at key intersections
- Traffic control devices that benefit pedestrians

BICYCLE-TRANSIT INTEGRATION



What is it?

Connecting bicycle riders with transit routes significantly increases the geographic area that transit can serve. For many, bus stops are located more than the 0.5-1 mile distance from home that most people are willing to walk to a bus stop. Bicyclists are willing to ride 2-3 miles to access transit, making bicycle access an effective way to extend the range of first/last mile connections to transit.⁴⁸ Central Arkansas already has a lot of cyclists, including many who also ride the bus. By connecting and coordinating investments Central

Arkansas has already made and is continuing to make in bike facilities with transit can strengthen both travel choices.

Bicycle access strategies include safe travel conditions to access transit, via on-street facilities or trails, and stop amenities such as bike parking. CATA vehicles are already equipped to carry bicycles; the next step lies in better integrating bicycle design into stops and stations.

Why do it?

Transit agencies find that bicyclists are more willing to take transit when the system provides bicycle routes to transit and parking facilities at trip ends. The Portland, OR Bureau of Transportation (PBOT) offers secure bicycle lockers for rent throughout downtown Portland and bicycle parking staples at transit stations. All buses are equipped with bicycle racks and there are no time restrictions for when bicyclists can load their bikes on buses or light rail cars. PBOT's Bicycle Program estimates that these programs increase the geographic service reach of transit investments 12-fold.⁴⁹

How does it work?

Similar to how car drivers need a place to park, bicycle users also require safe and secure parking. Bike parking can range from basic staples on a sidewalk or parking lot to individual bike lockers accessible only to the bicyclists. To provide the most security and protection from weather, bicycles may be stored in bicycle lockers or inside transit stations. Large-scale bike centers, often located at multimodal transit hubs, feature secure access, bike shops, showers, lockers, or bike valet parking.

Roadway design features geared toward pedestrians, such as lighting, shelters, wayfinding, traffic calming, and road diets, also support bicycle access transit stops. Studies have found that neighborhoods with high degrees of walking have higher levels of bicycling and transit use than those that do not.⁵⁰

Where is it being done?

Integration of bicycles and transit has become common practice for transit agencies. In a 2005 poll of 56 transit agencies across the United States, 80% reported bicycle-friendly services such as bicycle racks on buses, bicycles allowed on trains, bike parking and lockers at transit stations, or staffed bicycle parking facilities at major hubs.⁵¹ Buses fitted with front bicycle racks is the most common bike-focused amenity, as this strategy is relatively inexpensive and does not affect passenger capacity. Many agencies offer training videos or in-person clinics to teach riders how to properly mount their bike. One of the most commonly cited challenges for bicycle-on-bus programs was limited capacity during peak periods. Many agencies reported having to turn riders with bicycles away due to a lack of available racks.⁵²

Denver's transit agency, Regional Transit District (RTD), has an extensive "Bike-N-Ride" program for accessing transit through bicycling. The Bike-N-Ride website provides information and instructions about how to load bikes, rent bike lockers, use unusual bike parking structures (bike trees), and connect to the city's bicycle sharing program, B-Cycle. This full-scale approach has paid off: between 2000 and 2004, bicycle boardings on RTD increased 68%.⁵³

BUS STOP AMENITIES



What is it?

Bus stop amenities encompass the infrastructure present at transit stops. They include physical infrastructure such as seating, shelters, and lighting, and informational infrastructure such as transit maps or real-time information. Bus stops with higher levels of activity typically have more intensive infrastructure. Transit centers where many bus routes or other modes intersect may also have commercial amenities such as a transit information booth, coffee kiosks, or convenience stores.

Why do it?

Waiting for the bus is a significant part of nearly every transit rider's transit experience. If transit stops provide a comfortable waiting environment, people traveling to and from that area will be more likely to use transit. Conversely, if bus stops do not provide a comfortable environment, people will be less likely to use transit. Research shows that "the quality of the customer experience while waiting for transit vehicles is a crucial determinant of both overall satisfaction and general community attitudes towards transit...[and] the cost of better amenities is often more than offset by increased ridership."⁵⁴

How does it work?

Each bus stop should have a minimum level of amenities, with a bus stop sign and schedule information. Stops with increasing levels of ridership should have a corresponding level of amenities. Some common bus stop amenities include:

- **Bus Stop Signs.** Bus stop signs should present a uniform look that identifies the stop, route numbers, names, direction of the routes, and a phone number to call for additional information.
- **Schedule Information.** Providing schedule information can help reduce some of the uncertainty associated with taking a bus. While many riders now have smart-phones, other transit-dependent riders still rely on physical transit schedules. Information can be mounted in shelters, on walls or through free-standing signs.
- **Paved and Accessible Waiting Areas.** Stops should have a paved waiting area that is ADA accessible where riders can sit or stand. In most cases, a sidewalk can serve this purpose, although on busy streets a bus stop may have colored or stylized pavers to differentiate the waiting area from the pedestrian through route. The waiting area should be large enough so that a bus can extend its wheelchair lift.
- **Seating.** Seating should be provided wherever possible. Benches are the most typical type of seating, but alternatives such as low walls or bollards can also be used. Seating can be an opportunity to incorporate public art into a stop, or generate advertising revenues on benches.
- **Lighting.** During early morning and at night passengers will feel more comfortable waiting at a bus stop if it is well-lit; this also help drivers see waiting passengers. In urban areas, stops can be lit from street lights or adjacent businesses. In less populated areas, stops can be lit through solar mounted lights or within shelters.
- **Shelters.** Shelters help identify stop locations and offer refuge from the elements. Aside from vehicles, shelters are the most visible elements of the transit system. As such, well designed, attractive shelters can provide a strong positive image and brand for the transit system. While shelters with three-sided enclosures offer the most protection, they should also have visually permeable walls so that waiting passengers are easily seen by approaching vehicle drivers. Riders also prefer clear walls for security reasons.
- **Real-Time Passenger Information.** Real time passenger information presents information on when buses will actually arrive or depart from stations. This reduces uncertainty and perceived waiting time for riders. Information can be presented via variable message signs, through online trip planners, smart phone applications, or via text message.
- **Off-board payment.** Off-board payments feature ticket kiosks that allow passengers to pay for their ride before boarding the transit vehicle. Although off-board payments are commonly associated with light or heavy rail, many bus rapid transit systems are incorporating off-board payments for faster passenger boarding.
- **Bicycle Racks.** Bicycle racks help extend the range of transit service by enabling riders to come from a longer distance. While many pedestrians will walk about a half mile, bicyclists will ride up to two miles to access transit.⁵⁵ Bicycle racks can become an opportunity for public art by installing whimsical or culturally meaningful designs.
- **Art.** The inclusion of art into bus stops can make them more attractive, improve the character of the surrounding area, accentuate neighborhood themes, and make transit more appealing. They can be freestanding pieces, or incorporated into shelter, seating or bicycle rack design.
- **Landscaping.** Attractive landscaping and public art can add aesthetic quality to the bus stop and make waiting a more pleasant experience.
- **Special Amenities.** Some transit agencies are adding special amenities to high ridership stops like plugs so riders can charge their cell phones at the bus stop, or bike repair equipment so cyclists can fix a flat or adjust their bikes while they wait for the bus.

Where is it being done?

All transit systems strive to offer high quality environments to their riders, but some make them a matter of policy. The Charlotte Area Transit System (CATS), for example, has a mission to “contribute to the development of a livable and sustainable community for both riders and non-riders.” To implement that mission, CATS commits 1% of design and construction costs to the integration of art into their transit stops, stations, park and ride lots, and facilities.⁵⁶

MINI-HUBS/SUPER STOPS



What is it?

In any transit network, some stops will have higher numbers of passengers boarding and alighting, such as stops at transfer points or that serve major destinations. Given the higher activity levels at these stops, transit agencies can designate them as “super-stops” or “mini-hubs,” adding an extra layer of passenger amenities to handle large volumes of customers.

Why do it?

Super stops provide pleasant and convenient transfers between services, and include attractive amenities that increase rider satisfaction. Super stops are also useful for locating where modes intersect. For example, a mini-hub may connect the end of a fixed rail station to several regional buses or feature storage for bicycles.

How does it work?

Super stops feature more space for multiple buses to queue or dwell, large shelters to accommodate many waiting passengers, radiant heaters, real-time passenger information, and ticket vending machines.

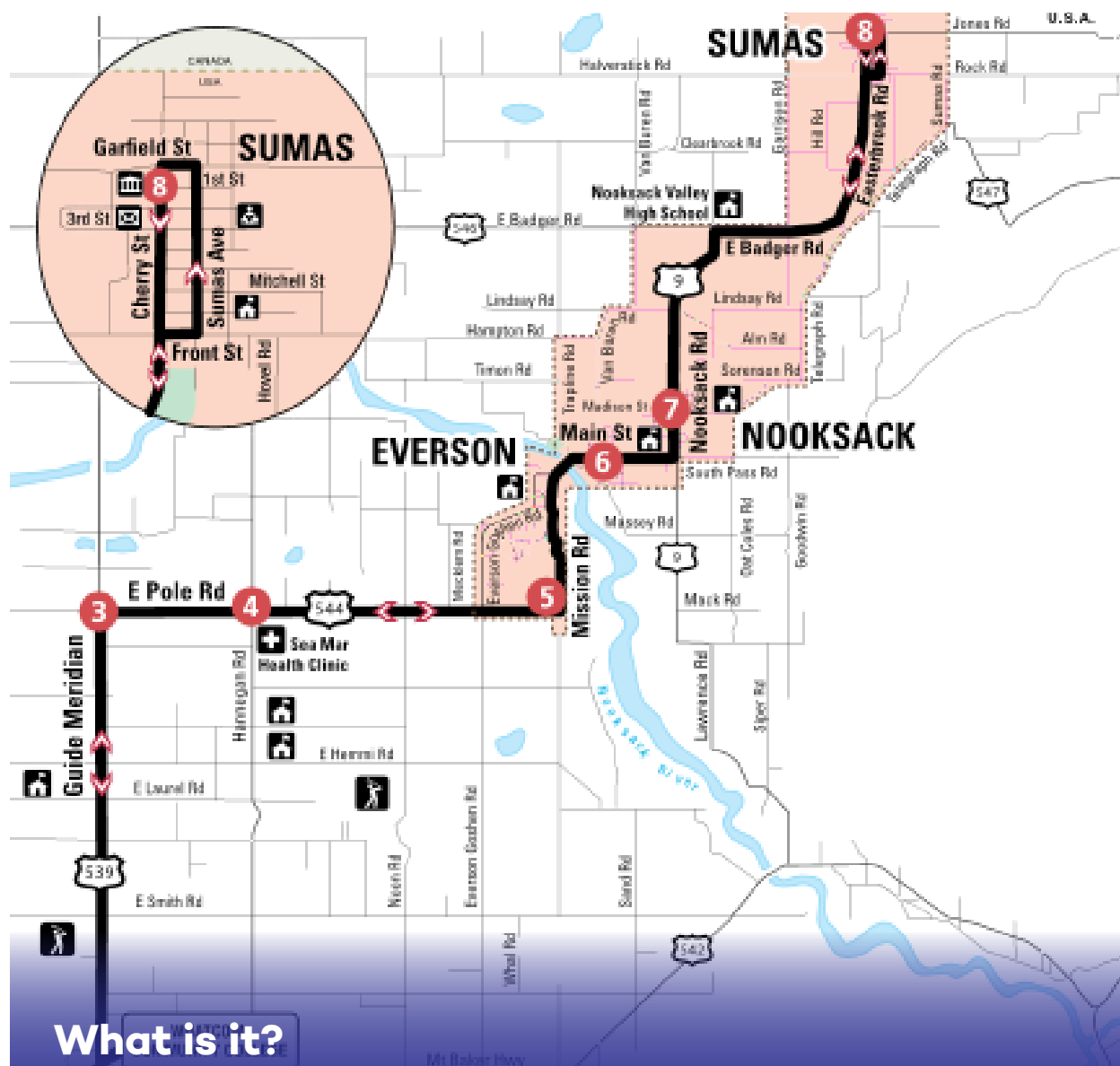
FLEXIBLE SERVICE TO MATCH COMMUNITY NEEDS

Many people think of transit service as buses operating along a fixed path on a set schedule, but bus service can be provided in a variety of ways in order to match the need and land uses in a community. Transit service that is designed to bring commuters from the suburbs into downtown, for example, should be different than service that operates within either the suburban communities or downtown. Likewise, many small towns and rural areas may have residents that want or need transit service, but to serve them efficiently transit agencies will need to create special services.



The Rhode Island Public Transit Authority (RIPTA) serves the entire state of Rhode Island. In many of the rural areas of the state, RIPTA uses flex routes to extend transit service off major roadways. These flex routes are based off several fixed stops within a defined geographical area.

FLEX SERVICE



What is it?

Flexible service, or “flex service,” refers to route-deviated service or point-deviated service that combines the reliability and predictability of fixed-route service with the curbside convenience of demand response. Flex routes that operate as route-deviated service follow a generally defined route but can deviate to pick up passengers who call ahead for a pick-up from their home. Flex route that operate as a point deviated service begin and end their trips at a particular location and time but travel anywhere in the service between those scheduled points. Flex services often use small vehicles that can travel along neighborhood streets and through residential areas.

STUDY AREA - FLEX SERVICE AREA

Why do it?

Flex service allows a transit agency to meet multiple market needs. For example, deviations can be built into an existing fixed-route to accommodate infrequent demand from customers who live a short distance off the route. Point deviations offer a combination of connections to fixed route services and neighborhood connections. Flex routes can also increase cost-effectiveness by reducing the need for paratransit or demand-response service while maintaining mobility. A typical flex service allows drivers to deviate up to $\frac{3}{4}$ of a mile from the defined route – the same distance as ADA paratransit. The major difference is that anyone can ride flex service, providing increased transportation options for customers who do not qualify for ADA service.

This type of service is optimal for communities that have low densities and infrequent or irregular transit demand. For example, communities approaching 500 persons per square mile are good candidates.⁵⁷ Additionally, fixed-route systems with productivity rates between 5 and 16 passengers per hour “are strong candidates for flexible public transportation service options.”⁵⁸

How does it work?

Flex routes allow bus operators to deviate a certain distance from the defined route to serve a passenger. This deviation can be an out-and-back deviation, meaning the driver returns to the point where the vehicle left the published route, or it can be a timepoint-based route where the vehicle is always scheduled to serve specific locations at specific times, but will serve other locations between these points on an as-needed basis. As long as the buses can stay on schedule, dispatchers will schedule deviations for any trip purpose or to any customer.

Where is it being done?

In a survey of transit agencies, 39% of respondents indicated they provide some type of flex service.⁵⁹ Examples of flex service include:

- The Hillsborough Area Regional Transit Authority in Tampa, Florida operates five HARTFlex routes. Passengers may schedule a trip three days to two hours in advance by phone.⁶⁰
- In Whatcom County, WA, the local transit agency operates three routes that have a mix of fixed-route and flex service on the same route. Most trips allow for flex service, but certain trips (usually the first or last of the day) are fixed and do not deviate.⁶¹
- The Rhode Island Public Transit Authority (RIPTA) serves the entire state of Rhode Island, with most service focused on the Providence metro area. In many of the rural areas of the state, RIPTA uses flex routes to extend transit service off major roadways. These flex routes are based off several fixed stops within a defined geographical area.⁶²

PARK-AND-RIDE SERVICES AND FACILITIES



What is it?

Park-and-ride lots are parking lot or parking garage used by transit riders or carpoolers. Park-and-rides are primarily used by traditional commuters who park in the morning, board a transit vehicle, and return in the evening. Park-and-rides can be served by a single route, or several routes serving multiple destinations. Carpoolers and vanpoolers may also use park-and-ride lots to meet and start their trip.

Why do it?

Park-and-rides are ideal for communities that have a large number of commuters who travel to the same concentrated area (such as a downtown or other high-density employment district). Park-and-rides reduce demand for parking in the downtown area, decrease roadway congestion, and decrease the operational costs of providing transit service to dispersed residential communities on the edges of urbanized areas. Downtown areas with a high cost for parking have more successful park-and-rides.

Park-and-rides work well at attracting choice riders and people who primarily use automobiles to try transit. These facilities are best located away from the city center and in catchment areas of less 6,000 people per square mile (4-5 dwelling units per net acre).⁶³

How does it work?

In the case of rail service park-and-rides, transit agencies often own a parking field next to the station. For bus service, often times the transit agency works with local businesses to secure a certain number of parking spaces not typically used during the weekday for transit.

For a park-and-ride to attract riders, the facility needs to feel safe and secure. Shelters and amenities should protect passengers from the elements. Lighting of transit facilities and the full parking area helps passengers feel secure. Park-and-rides should be located close to freeways and arterial roads to provide easy access for passengers.

Where is it being done?

Many communities throughout the country use park-and-rides. In Louisville, KY, TARC has numerous park-and-ride facilities located throughout the region. For example, an express route uses a church as a park-and-ride and provides non-stop service along a highway into downtown.⁶⁴

- In Charlotte, NC, CATS (Charlotte Area Transit System) uses several park-and-ride facilities for its express routes. These routes use highways to connect suburban neighborhoods with the central Charlotte area.⁶⁵
- In Savannah, GA, Chatham Area Transit operates two express routes, one of which provides service between a park-and-ride and downtown. Route 114X uses the Savannah Mall as the park-and-ride location and provides direct, non-stop service to downtown Savannah.⁶⁶

VANPOOL



What is it?

Vanpools take carpools to the next level and unite groups of commuters into passenger vans. Similar to carpooling, a designated member of the pool picks participants up at their doors each morning and drops everyone off at their place of work or in a central location.

Why do it?

Many vanpool programs began during the 1970s energy crisis in response to associated gasoline shortages and high prices. More recently, public agencies such as Metropolitan Planning Organizations (MPOs), transit agencies, or even state legislatures have begun subsidizing vanpool programs to lower commuter drive-alone rates and reduce congestion.

The Federal Transit Administration (FTA) considers vanpools a type of transit thus are eligible for reimbursement when miles are reported to the National Transit Database (NTD). These funds cycle back through the sponsoring agency, most of whom reinvest the money back into the vanpooling program. Vanpool users become eligible for commuter pre-tax benefits as well.

As communities strive to offer more transportation options to their constituents, weaving flexibility into the network matches service type to demand. For suburban neighborhoods and job sites outside downtown Little Rock, vanpools provide a form of transit that is well-matched to lower density communities.

How does it work?

Vanpool service's organizational structure varies by community; some are run through private agencies while others operate via a transit agency. In some cases the riders themselves own the van. Typically a person interested in a vanpool contacts the operating agency, who matches where the person lives and works with an existing vanpool. The cost per month ranges widely depending upon the level of public subsidy and number of people in the vanpool, but in general the average commuter ends up paying around 5 - 10 cents per mile for their commute.⁶⁷ The vanpool driver(s) receives a significant discount.

Vanpooling tends to be most successful in markets where activity or employment centers are not well served by transit. It also succeeds in areas with heavy congestion and/or tolling and HOV lanes, saving commuters time and money. The provision of Guaranteed Ride Home programs – an allowance for a cab home a certain number of times per year in case of an emergency – is part of many vanpool programs and provides reassurance to vanpool participants at low cost.

Where is it being done?

Central Arkansas already has an active vanpool program that is run by the state. However, it is not widely used by other commuters. Examples of vanpool programs managed by transit agencies include all vanpooling programs in Washington State and Baldwin Rural Area Transit in Baldwin County, AL.

As of 2005, an estimated 10,000 vanpools operate across the country, accounting for between .2%-5% of commute trips nationwide. Washington State has the most robust vanpooling program due to its strong policy backing and financial support from the state legislature. In 2003, the state legislature developed a 10-year transportation plan to expand vanpool programs statewide. Administered through the Vanpool Investment Program (VIP), funding has increased to \$6 million per year. The state covers capital costs, including 80% of the cost of vans for agencies that start a new program or expand an existing program.⁶⁸

In Vermont, the Go! Vermont program is a partnership between the state and transit agencies, non-profits, and businesses. The program subsidizes vanpools at up to \$700 per month. GO! Vermont estimates that subsidizing 10 vanpools is more cost effective than operating a fixed route transit bus along a low-density corridor.⁶⁹

COMMUNITY SHUTTLES

| Days | Every | Every | Every | 1st | 2nd 4th | 3rd | Every | Every |
|-------------|-------|-------|-------|------|---------|------|-------|-------|
| From | Mon | Tues | Wed | Wed. | Wed. | Wed. | Thur | Fri. |
| Boiceville | | X | | | | | | |
| Clintondale | | | | | | | X | |
| Connelly | | | | | | | | X |
| Ellenville | | | | X | | | | |
| Gardiner | | | | | | | X | |
| Highland | | | | | X | X | | |
| High Falls | | | X | | | | | |
| Marlboro | | | | | X | X | | |
| Mt. Marion | | X | | | | | | |

What is it?

Community shuttles provide circulator or destination service. These shuttles might serve a particular community every day by circulating past major destinations, or provide destination specific service – such as to the grocery store – on a certain day of the week.

Why do it?

All communities have certain major destinations that everyone needs to access, such as shopping malls, grocery stores and medical facilities. Although fixed routes serve those destinations, people living in areas without access to fixed routes cannot make the trip. Community shuttles transport residents from their homes or a central point to a major destination, combining elements of demand-response and fixed-route service.

Community shuttles can also reduce costs, by grouping demand-response trips with common destinations into one consolidated route. Additionally, community shuttles are typically

open to all residents, going above and beyond the letter of ADA paratransit to give mobility options to all residents.

How does it work?

For destination-specific shuttles, passengers who wish to be picked up are required to call ahead of time to schedule a pick-up. On the designated day and time, the vehicle will pick up passengers and take them to a common destination.

Another type of community shuttle consists of a single bus serving a defined area for one day each week and operating as demand -response. Each day, the bus will be in a different part of the city only serving trips within the specified zone.

Where is it being done?

In Ulster County, NY, the Department of Public Transportation provides Rural Route services to specified service areas on specific days of the week.⁷⁰

DIAL-A-RIDE



What is it?

Many communities provide dial-a-ride services or curb-to-curb buses in addition to federally-required ADA paratransit services. These dial-a-rides are open may be open to the general public or may have certain stipulations such as older adults who do not qualify for ADA services, and cover a city, metro region, or county. Dial-a-ride services can also be an effective way to provide transit service to rural areas that have some residents who need transit service.

determining the fare, time window for advance reservations, and geographic scope of trips (for example, many services do not transport passengers outside the service boundaries of the sponsoring agency). Customers call schedulers, who strive to group trips to the extent possible into a logical route before the day's service begins. Often dial-a-ride services and paratransit services are operated jointly, including for the scheduling of customers' trips. This bundling of services reduces costs and increases the efficiency of transportation services

Why do it?

Providing dial-a-ride services ensures that all residents in a transit service area have some form of mobility option. For people with disabilities or older adults, dial-a-ride helps to maintain independence and dignity. For a family with limited transportation options, dial-a-ride provides a safety net if a car breaks down.

How does it work?

Dial-a-ride services operate through pre-scheduled trips, with the sponsoring agency

Where is it being done?

Many communities provide dial-a-ride service beyond the $\frac{3}{4}$ mile minimum requirement:

- In Oklahoma City, EMBARK is the ADA paratransit service and EMBARK Plus goes beyond the ADA $\frac{3}{4}$ mile buffer on a first-come, first-serve basis.⁷¹
- Ride in Kane provides door-to-door transit service for eligible passengers in Kane County, IL . The service is funded by local jurisdictions but operated by Pace Suburban Bus.⁷²

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