

City of Murfreesboro

Transit Service and Management Alternatives



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1. Introduction

The City of Murfreesboro Transit Feasibility Study, completed in October of 2000, identified potential transit routes and their associated operating and capital costs. As a result of the findings from that study, the Tennessee Department of Transportation (TDOT) approved a follow up study addressing the following tasks:

- Review and update of transit needs
- Review and refinement of service alternatives
- Identification of management and operations options

The work conducted as part of the above tasks is documented in this report. Existing transit needs are identified in Chapter 2. Service alternatives and their estimated ridership and costs are discussed in Chapter 3. The potential for future services is briefly discussed in Chapter 4. Management and operations options are identified in Chapter 5.

2. Transit Needs

The transit needs in the City of Murfreesboro were identified based on review of key demographic variables, analysis of existing services, and inputs obtained from focus group and individual meetings with local residents and stakeholders.

2.1 Demographics

Transit demand is usually high among individuals that do not drive and/or have limited or no access to private automobiles to meet their transportation needs. Individuals who are transit dependent are typically found in areas with demographic characteristics that include high population density and concentrations of households owning zero vehicles and of senior citizens, among others. In order to identify areas with potential transit users, maps identifying locations with concentrations of these three demographic indicators were developed. As shown in Figures 1 through 3, the downtown area contains the highest population density and concentrations of residents likely to be transit dependent due to lack of an automobile and/or age. In particular, the area bound by Memorial Boulevard to the west, Broad Street to the south, Highland Avenue to the east and Lokey Avenue to the north, has high concentrations of all three demographic indicators of potential transit need. The area bound by Old Fort Parkway, Broad Street and Old Salem Road has a high concentration of households without vehicles.

Another important factor in the success of transit is the household density of a given area. In general, fixed route services can be supported in areas of moderate to high-density development. In lower density areas, flexible routes and demand-response services generally provide a better match. Listed below are some basic industry guidelines for type of service by density (expressed as households per acre), derived from the *Transit Capacity and Quality of Service Manual*.

- Fixed Route: 3 hh/acre or more
- Fixed and Flexible Service: 2-3 hh/acre
- Demand Response or Flexible Service: 1-2 hh/acre
- Demand Response: 0-1 hh/acre

2002 data received from the City of Murfreesboro indicates few areas that are able to support traditional fixed route service based on these guidelines. Again, most of the areas that do support this type of service are confined to the downtown area. Data from 2025 was also analyzed and in addition to the downtown area, demand can be seen just south and west of I-24 extending south to Highway 99 and north to Manson Pike, incorporating the Gateway development.

2.2 Existing Transit Services

The transit options available to City of Murfreesboro residents are the Relax-&-Ride route to Nashville and the demand response service provided by Mid-Cumberland

Human Resource Agency. In addition, a limited number of vans are used by human service agencies, the Senior Center, and the Housing Authority to provide transportation for clients participating in selected programs. Middle Tennessee State University (MTSU) also operates a shuttle system serving university facilities and campus parking lots.

Relax-&-Ride Route

The Relax-&-Ride route provides commuter service to downtown Nashville with stops at park-n-ride lots in Smyrna and LaVergne. Within Murfreesboro, the route makes stops at Bridge Avenue/New Salem Road, Mercury Plaza, and MTSU. The service hours are limited to the weekday morning and afternoon commute hours. In the morning, there are two trips from Murfreesboro to Nashville and one trip from Nashville to Murfreesboro. In the afternoon, there are two trips from Murfreesboro to Nashville and two trips from Nashville to Murfreesboro. The average number of daily passengers on the route in October, 2004 was 132. Murfreesboro residents find the service to be too limited to be a realistic transportation alternative. Many indicated the service would need to be hourly to be a desirable transportation alternative.

Figure 1: Persons Per Square Mile
in the Murfreesboro, Tennessee Area (Year 2000)
By Census Block Group

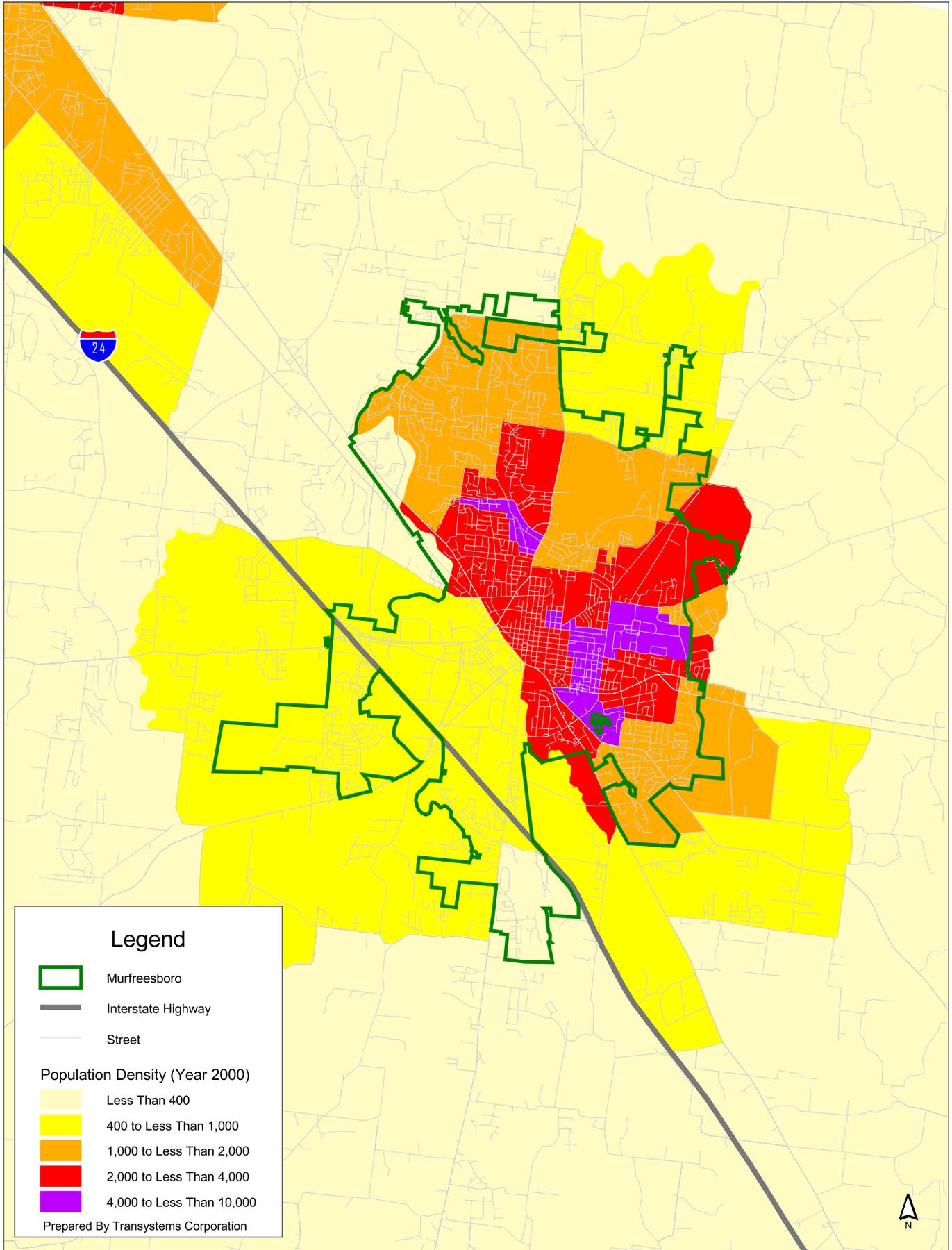


Figure 2: Percent of Households with Zero Vehicles in the Murfreesboro, Tennessee Area (2000)
By Census Block Group

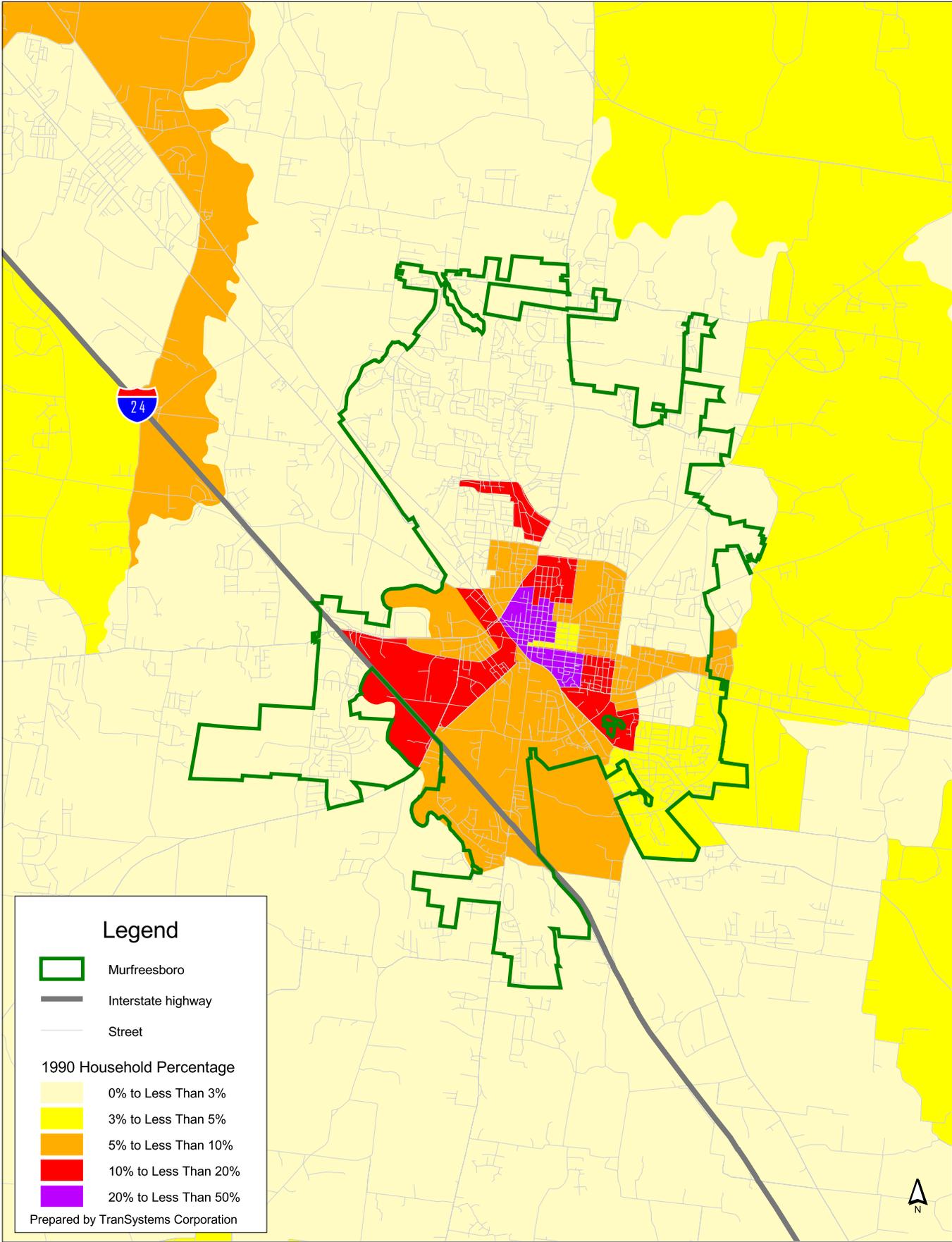
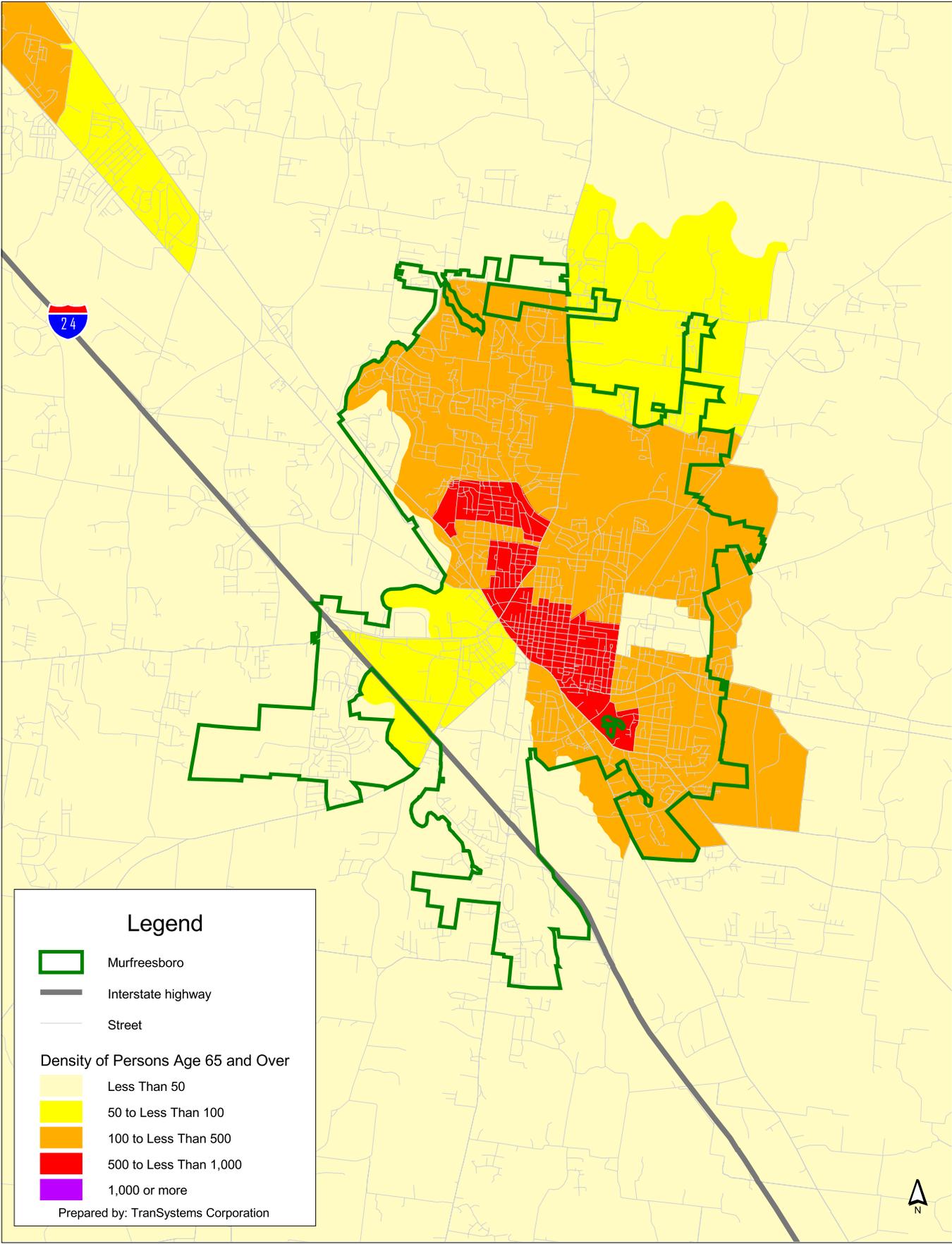


Figure 3: Persons Age 65 and Over per Square Mile in the Murfreesboro, Tennessee Area (2000)
By Census Block Group



Mid-Cumberland Human Resource Agency

Mid-Cumberland Human Resource Agency provides demand response service in the City of Murfreesboro and in Rutherford County. The service is provided Monday to Friday from 8:00am to 4:30pm, and has a base fare of one dollar. Reservations are required and must be made at least 3 days in advance. Although trip purposes are not restricted, riders may only travel 2 days per week – with exceptions allowed for medical trips. A total of ten vans are used to provide the service in Rutherford County – 1 van is used as a spare vehicle.

During fiscal year (FY) 2003-2004, a total of 19,609 one-way trips were provided in Rutherford County – with 93% of the trips provided for Murfreesboro residents. Table 1 provides a breakdown of trips by residence. Table 2 provides a breakdown of the types of trips occurring in Rutherford County.

Table 1: MCHRA Trips by Residence (Rutherford County)

Area Served	Number of Trips	Percent of Total
Murfreesboro	18,308	93%
Smyrna	588	3%
LaVergne	127	1%
All other County	586	3%
TOTAL	19,609	

Table 2: MCHRA Trip Types (Rutherford County)

Trip Type	Number of Trips	Percent of Total
Personal	6,356	32%
Medical	5,847	30%
Work	4,195	21%
Nutrition	2,469	13%
Educational	276	1%
Child Care	268	1%
Social/Recreational	116	1%
Miscellaneous	82	1%
TOTAL	19,609	

Since Mid-Cumberland does not publicize its services, many City of Murfreesboro residents and stakeholders are not aware that Mid-Cumberland Human Resource Agency is a provider of public transportation in the area. Among the residents who are aware of the service, many feel that the three-day advance reservation requirement and the restriction on the number of days that riders may travel per week severely limits Mid-Cumberland as a transportation alternative.

Mid-Cumberland recognizes its service is capacity constrained. It estimates that it would need five additional accessible vans to better meet the transportation needs in the City of Murfreesboro.

MTSU Service

MTSU provides shuttle service connecting campus parking areas and facilities. The service consists of three routes operated Monday to Friday. Service hours are 6:30am to 10:00pm Monday to Thursday, and 6:30am to 6:00pm on Friday. Additionally, shuttle service is provided for special events. There are 8 buses in operation during the peak hours and a total of 9 buses available to provide the service.

The shuttle service is used primarily by students traveling between the parking lots and buildings on campus. The service is provided to manage parking and is modified frequently as the location of parking lots and other campus changes occur. The combined daytime ridership on the three routes is approximately 1,300 daily trips. In the late afternoon and evening, the ridership drops to approximately 300 daily trips. On campus parking and the shuttle service are included in the access fee paid by students. Although student auto ownership is very high, there is excess overall parking capacity. Approximately 500 spaces, in the more remote lots, go unused each day.

Other Services

Various social service programs use vans to provide specific trips for their clients and/or members. The Department of Human Services contracts a van to transport Families First clients to educational/training facilities. The Housing Authority transports residents to the grocery store and to WALMART when vans for children and family programs are not being used. The Senior Center uses a van to provide visitation trips to long-term facilities and nursing homes. When it receives a new replacement van, the Senior Center is considering keeping the current van to provide transportation for the adult day care program. The Veteran's Administration (VA) operates a shuttle service to its facility in Nashville – trips are operated four times per day. It also uses a van to transport clients from group homes to the Community Care Clinic. Additionally, various private and volunteer van services bring clients to the VA from locations throughout the state and the region.

Taxi service is also available in the City of Murfreesboro. The taxi service, however, is considered to be too expensive for seniors and low-income residents.

2.3 Focus Group and Meeting Inputs

A series of focus groups and individual meetings were held in mid-2001 with residents and stakeholders representing various interests. Additional meetings with some of these groups were conducted in November, 2003. Meetings were held with:

- Senior Citizen Center
- Murfreesboro Housing Authority
- Department of Human Services
- State Employment Office
- Rutherford County Health Department
- Veteran's Administration
- Community Development Office

- Middle Tennessee State University (MTSU)

At the focus group and individual meetings, participants were asked to identify transit needs and indicate service preferences. The individual comments received during the meetings are summarized below.

Senior Citizen Center

The focus group held at the Senior Center was primarily attended by seniors and by staff at programs serving seniors. Participants at the focus group were primarily concerned with enhancing transportation to medical facilities and to shopping destinations. The medical destinations they felt needed to be served were:

- Medical Clinic
- Hospital
- Doctors and medical facilities in Nashville

The shopping destination that the seniors wanted to reach using public transportation were:

- Stones River Mall
- Target
- K-Mart

Seniors were interested in having transportation service from 8am to 5pm. They wanted service to be provided on weekdays and weekends, with Sunday service geared primarily to churches. They felt that most seniors would be able to walk 1 to 2 blocks to a bus. They wanted the service to be provided with small accessible buses. Suggested fares were \$0.50 to \$1.00 with senior citizen discounts.

Most seniors were unaware of the transportation service currently provided through Mid-Cumberland Human Resource Agency. Among the seniors aware of the Mid-Cumberland service, many felt that the 3-day advance reservation requirement and long in-vehicle travel times were deterrents to using the service. Seniors noted that taxis are unaffordable for them. It was also noted that the Relax-n-Ride service to Nashville is not a viable alternative for trips to Nashville because the trip times result in a very long day for seniors.

Murfreesboro Housing Authority

The focus group meeting at the Murfreesboro Housing Authority was attended by residents of the housing authority and by staff at human service agencies. Meeting participants stressed that individuals residing at Housing Authority properties want to be independent and want to make discretionary trips, just like everybody else. In particular, they identified the need to travel to Wal-Mart and K-Mart for shopping. They also requested more frequent service to Nashville – hourly service was suggested.

Meeting participants also indicated that the current transportation alternatives are very limited. They noted that the 3-day advance reservation requirement and the 4:00pm end time for the Mid-Cumberland service are very restrictive. They also noted that taxis are not an alternative due to the high cost. Meeting participants felt that scheduled bus service during daytime hours would be best suited to meet their needs.

Department of Human Services

Representatives from the Department of Human Services indicated that their clients lack transportation to employment, to employment related activities, to medical facilities, and to facilities with programs for children. Employment destinations identified as needing transportation service were Smyrna, LaVergne and Nashville. The Human Services Office and adult basic education sites were identified as needing transportation for employment related trips. Transportation to medical facilities such as the Health Department, Medical Clinic, Hospital and VA Hospital was also identified as needed. The YMCA and the Boys and Girls Club were the sites identified as needing transportation for childcare programs.

The staff at the Department of Human Services felt that the service provided by Mid-Cumberland was not meeting the transportation needs of their clients – particularly for work trips during non-traditional hours. They also felt that the Relax-n-Ride service was too limited to provide a transportation alternative. As a result of the transportation limitations faced by their clients, the Department of Human Services is contracting for van service for the clients served under the Families First program.

State Employment Office

Staff from the State Employment Office indicated that over 20% of their clients need transportation to the Employment Office and to jobs. Many clients are not able to accept employment outside of Murfreesboro due to lack of transportation – LaVergne and Smyrna are key employment destinations without transportation alternatives. Employment destinations along the I-24 corridor in southern Murfreesboro also need transportation service.

It was noted that the service provided by Mid-Cumberland is too limited to serve work trips and that taxis are too expensive. The Relax-n-Ride service was also identified as unable to serve work trips since it stops at park-n-ride facilities and not at the actual employment sites. A regular fixed route service linking low income areas and employers was identified as best suited to meet travel needs.

Rutherford County Health Department

Staff at the Health Department indicated that their patients have great difficulty in getting transportation to their facility, which is a full service medical center serving primarily women and children. The key trips needs identified were: home to Health Department and Health Department to the Hospital. Trips to medical facilities in Nashville were also identified as needed. It was also indicated that clients need transportation to stores accepting Women with Infant Children (WIC)

vouchers – a list of local stores accepting WIC vouchers was provided. The list indicates that WAL-MART, the Kroger on Tennessee Boulevard, and the Food Lion on Mercury Boulevard are the stores redeeming the greatest number of vouchers in Murfreesboro.

Veteran's Administration

The staff at the VA identified a variety of transportation needs. The VA Hospital identified the need for transportation between area group homes and the Community Care Clinic and between shelters, such as Room at the Inn and the Salvation Army, and the VA Hospital. Residents at the VA facility, who are employed in the City of Murfreesboro, would also benefit from public transportation.

Community Development Office

Staff at the Community Development Office indicated that surveys of low and moderate income residents indicate that childcare and transportation are their greatest needs. The transportation needs focus on trips to work, to human services offices, to community centers, to training centers, to childcare, and to MTSU.

Middle Tennessee State University (MTSU)

Staff from MTSU indicated that the university now has the largest undergraduate class in the state and that there are limited on-site residents for these students. There are large new apartment complexes where students live in corridors north and west of campus. Currently, eight to nine buses operate the internal campus circulator system, primarily providing access to and from remote parking sites. Many changes in development patterns at the University are anticipated in the near future. The proposed Murfreesboro system should make sure to maintain good connections to the MTSU shuttle system as changes take place.

In summary, the transportation needs identified by local residents and agency staff include transportation to jobs, to medical facilities, to grocery stores, to shopping destinations, and to facilities such as the Boys&Girls Club and the Patterson Center.

The main employment destinations identified were Smyrna, LaVergne, and Nashville. Additional local employers were also identified along the I-24 corridor in southern Murfreesboro. It was noted that most of the available jobs involve non-traditional hours. Lack of reliable transportation alternatives was identified as a major barrier to employment – particularly for the better paying jobs outside of the City of Murfreesboro. It was noted that the Relax-&-Ride service is not a viable alternative for most area residents because of the limited service provided and the lack to transportation to final destinations in Smyrna and LaVergne.

Transportation to employment related destinations, such as the Human Services Department, the Employment Office and adult educational facilities, was also identified as a need for many Murfreesboro residents. Currently, there are over 1,000 Families First open cases and another 1,000 closed cases that could be re-opened, if clients are unable to keep their jobs due to transportation or other reasons.

Transportation to medical facilities was mentioned as a key need in many of the meetings. The main destinations for medical trips include the Medical Center, the Medical Clinic, the Health Department, the VA Hospital, and facilities in Nashville. In addition to connections between patient's homes and these medical facilities, it was also noted that connections between the Health Department and the Medical Center are important – as patients are often referred for additional testing and examinations. Statistics provided by the Health Department indicate that in FY2000 there were over 27,300 visits to the facility in Murfreesboro from patients living in Rutherford County – with the majority of the patients residing in Murfreesboro and having great difficulty in getting transportation.

Shopping destinations identified as important for service by public transit included: WALMART, KMART, Target, and the Stones River Mall. Review of redemption records for Women with Infant Children (WIC) vouchers provided by the Health Department indicate that the area merchants most often used are: WALMART, Kroger on Tennessee Boulevard, and Food Lion on Mercury Boulevard.

Recreational destinations for youths included the Boys & Girls Club, the Patterson Center, and the YMCA. The main recreational destination for seniors is the Senior Center.

Focus group participants also noted that low-income residents and senior citizens would be the greatest beneficiaries of enhanced transportation alternatives. The most important residential areas to be served by public transportation include low income neighborhoods and Housing Authority properties such as Franklin Heights, Highland Heights, Mercury Court, Spring Valley, Rolling Acres, and Westbrook Apartments.

In general, the focus group and meeting participants indicated that service should be regularly scheduled service – avoiding the need for advance reservations. The maximum desirable walking distance to scheduled stops was 1 to 2 blocks. Small accessible buses were the preferred vehicles. Many felt that the City of Murfreesboro did not need large buses. Suggested service days included weekdays, weekdays and Saturdays, and weekdays and both Saturdays and Sundays. Suggested service hours were 8am-5pm. Fares of \$1.00, with discounts for youths and seniors, were mentioned.

2.4 Other Inputs

Meetings were also held with MTSU staff and with City of Murfreesboro administrators and elected officials. MTSU staff indicated that earlier efforts to provide transit service between area apartments housing students and the campus were unsuccessful in attracting ridership. It was acknowledged that transit could attract only a limited number students, with access to cars, if on-campus parking is available at no additional cost. MTSU, however, is interested in increasing the efficiency and effectiveness of the current shuttle system. MTSU is open to considering alternative management and operation structures.

There has been a continued awareness by City officials that transportation options in a growing city such as Murfreesboro will need to be provided at some point in the future. When the initial study was done in 2000, there was little support for moving the recommendations forward. In recent years, support for providing mobility options in Murfreesboro has grown, leading to this new project.

2.5 Summary

The existing public transportation alternatives in the City of Murfreesboro are very limited. The Relax-&-Ride route is not frequent enough to provide convenient connections to employment and medical facilities in Nashville. Additionally, stops in Smyrna and LaVergne are only at park-n-ride facilities – without additional services connecting to potential final destinations. The demand response service provided by Mid-Cumberland is capacity constrained and serves only a small number of residents. As a result of these limitations, area agencies have begun to provide van service to their clients for certain trips. These van services are restricted to agency clients and to specific trip purposes. The inputs received from local residents and stakeholders further indicate that low-income residents and seniors have unmet transportation needs for employment, medical, educational, and shopping trips. Transit service to MTSU, however, should be geared primarily to areas with residents lacking automobiles to access the campus.

Comparisons to similar size cities in Tennessee (for the year 2003) further indicate that the City of Murfreesboro has sufficient population to warrant transit service. As shown in Table 3, cities with smaller total population than Murfreesboro (Jackson, Johnson City and Kingsport) have local fixed route and demand response transit service. On average, the comparable size cities provide 5.08 transit trips per capita – ranging from 1.46 for Kingsport to 9.0 for Jackson. Using the ridership statistics from Rutherford County, since Murfreesboro statistics are not available, the transit trips per capita ratio in Murfreesboro is at most 0.24 – more than 6 times less than the lowest ratio among the comparable cities. Applying the transit trips per capita peer average to the Murfreesboro total population results in an estimated total potential transit ridership of over 373,000 annual trips. Applying separate average ratios for fixed route and demand response service results in estimated potential riderships of 343,000 fixed route trips and 21,000 demand response trips. **Based on the peer ratios, the estimated peak vehicle fleet for Murfreesboro would consist of 8 fixed route vehicles and 4 demand response vehicles.**

Table 3: Population and Transit Service Provided in Comparable Size Cities

City	Total Population	Senior Population	Fixed Route Trips	Demand Response Trips	Total Transit Trips	Total Transit Trips per Capita	Fixed Route Trips per Capita	Demand Response Trips per Seniors	Fixed Route Vehicles	Demand Response Vehicles
Clarksville	103,455	9,105	530,490	34,620	565,110	5.46	5.13	3.80	11	6
Jackson	59,643	9,004	445,347	28,109	473,456	7.94	7.47	3.12	9	4
Johnson City	55,469	10,229	322,872	32,620	355,492	6.41	5.82	3.19	6	8
Kingsport	44,905	10,476	69,306	17,161	86,467	1.93	1.54	1.64	4	5
Average						5.43	4.99	2.94		
Rutherford County (Mid-Cumberland)	182,023	16,683	0	16,522	16,522	0.09	0.00	1.81	0	5
Murfreesboro	68,816	7,172	0	n/a	n/a	0.24*	n/a	n/a	n/a	n/a
Murfreesboro - Estimated Demand	68,816	7,172	343,371	21,070	373,928				8	4

Source: TDOT Annual Report, Feb. 2003

* Assuming the total ridership in Rutherford County

Note: Percentages do not total 100% due to rounding.

3. Service Alternatives and Strategies

Service alternatives and strategies were developed based on the input received from the focus group meetings and from the review of the demographics and sample trip records from Mid-Cumberland Human Resource Agency. The service alternatives and strategies, projected ridership and farebox revenues, and costs and funding requirements are discussed in the following sections.

3.1 Service Alternatives and Strategies

A combination of local services, vanpools, and Relax-&-Ride improvements would address the transportation needs of the residents of Murfreesboro.

Local Services

Local flexible routes are proposed to meet the medical, shopping, educational, and recreational transportation needs of local residents. The local routes would provide service to medical facilities, grocery stores, shopping, government offices, recreation facilities, and MTSU. These services are proposed to operate using accessible small buses and to stop at designated locations along the route. Upon prior request, these services will also pick up or drop off riders at specific locations within a 3/4 mile buffer of the route. As flexible services, these proposed services would not require the provision of additional complementary paratransit service. The proposed local services are structured as a system of two routes with common transfer points.

Two-Route System: The two-route system would consist of a route connecting WALMART and MTSU and a route connecting KMART and Rolling Acres. The proposed routes and their service areas are illustrated in Figures 4 and 5. As shown in Figures 4 and 5, the proposed routes would serve most of the areas with high concentrations of low income residents and senior citizens. In addition to WALMART and MTSU, the destinations served by the WALMART-MTSU route would include: Stones River Mall, Franklin Heights, McFadden Center, City Hall, Health Department, Medical Center, and the Medical Clinic. The destinations served by the KMART-Rolling Acres route would include: KMART, the Boys&Girls Club, the Senior Center, the Housing Authority, the Medical Clinic, the Medical Center, the Health Department, the Employment Office, the Patterson Center, Highland Heights, Mercury Court, Kroger, Spring Valley and Rolling Acres. Transfers between the two routes could be made at any of the common stops: the Health Department, the Medical Center and the Medical Clinic. Service on both routes is proposed to operate every 30 minutes on weekdays from 7:00am to 6:30pm. Sample schedules are presented in Tables 4 and 5.

Figure 4: Murfreesboro Routes
and Percent of Households Without Access to a Vehicle (2000)
By Census Block Group

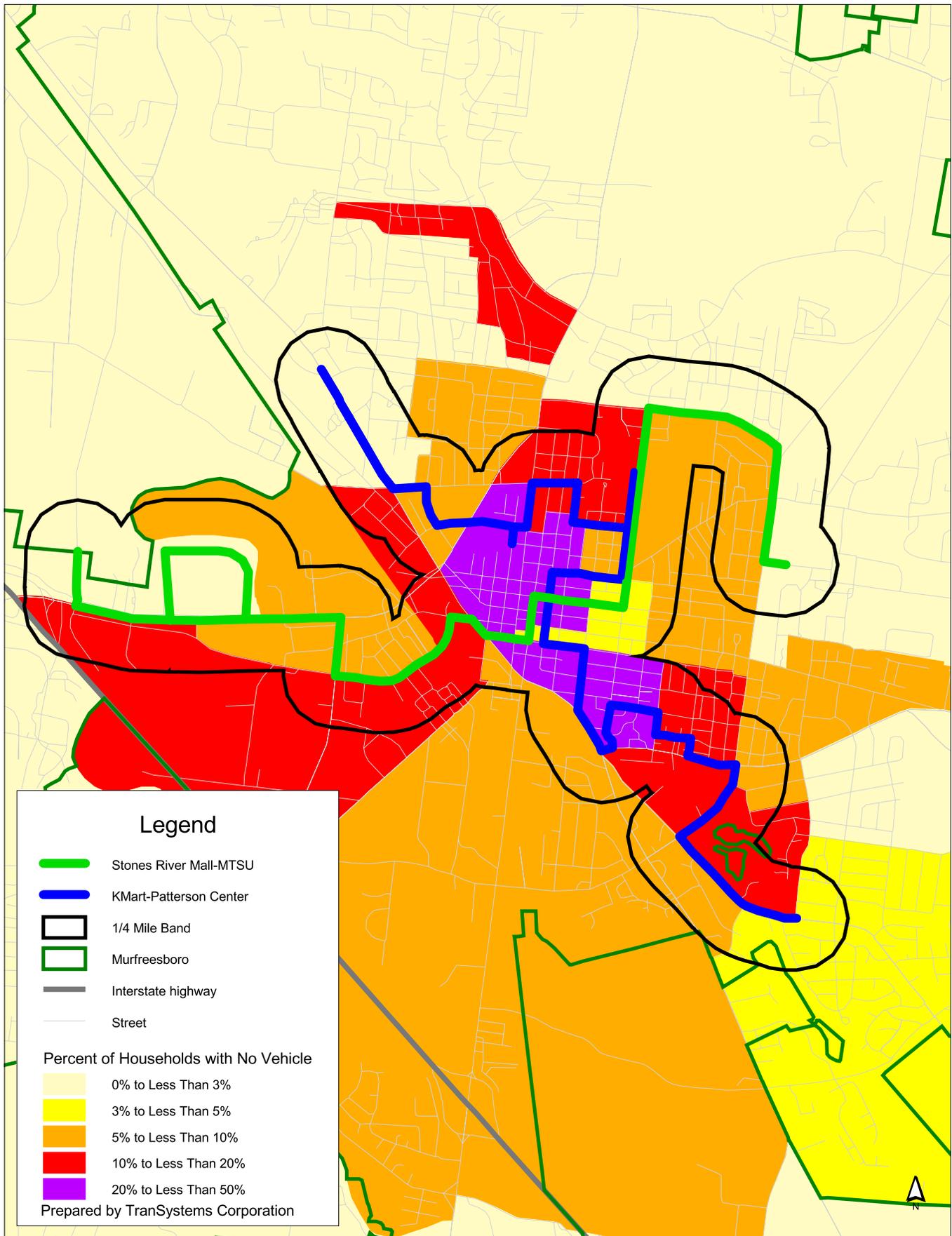


Figure 5: Murfreesboro Routes
and Persons Age 65 and Over per Square Mile (2000)
By Census Block Group

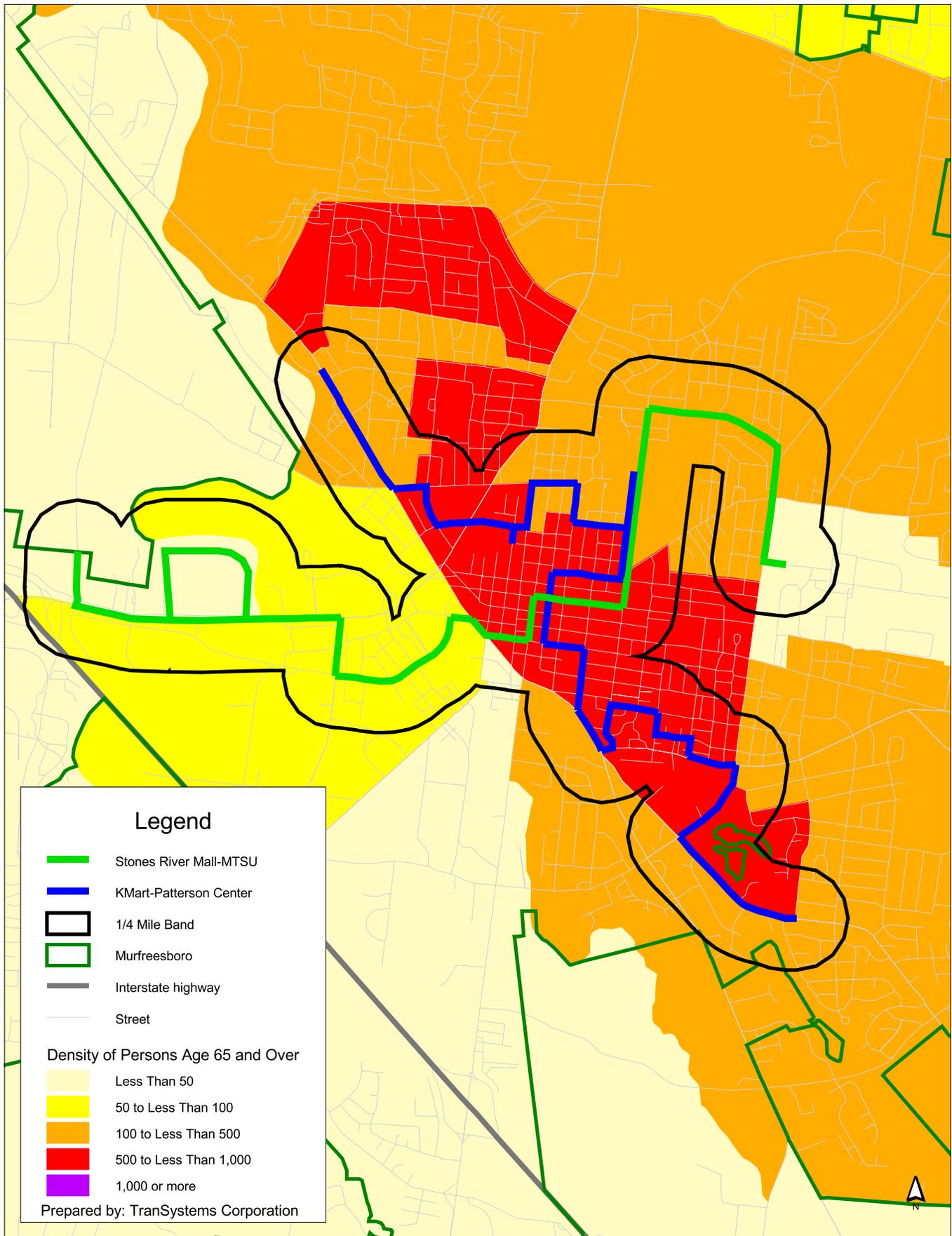


Table 4: Sample WALMART-MTSU Schedule

	Start	Trip2	Trip3	Trip4	Trip5	Trip6	Trip7	Trip 8	Trip 9	Trip 10	Trip 11	Trip 12	Trip 13	Trip 14	Trip 15	Trip 16	Trip 17	Trip 18	Trip 19	Trip 20	Trip 21
To: MTSU																					
Walmart	--	7:30 AM	8:00 AM	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM
Target	--	7:34 AM	8:04 AM	8:34 AM	9:04 AM	9:34 AM	10:04 AM	10:34 AM	11:04 AM	11:34 AM	12:04 PM	12:34 PM	1:04 PM	1:34 PM	2:04 PM	2:34 PM	3:04 PM	3:34 PM	4:04 PM	4:34 PM	5:04 PM
Franklin Heights	7:15 AM	7:42 AM	8:12 AM	8:42 AM	9:12 AM	9:42 AM	10:12 AM	10:42 AM	11:12 AM	11:42 AM	12:12 PM	12:42 PM	1:12 PM	1:42 PM	2:12 PM	2:42 PM	3:12 PM	3:42 PM	4:12 PM	4:42 PM	5:12 PM
McFadden Center	7:18 AM	7:45 AM	8:15 AM	8:45 AM	9:15 AM	9:45 AM	10:15 AM	10:45 AM	11:15 AM	11:45 AM	12:15 PM	12:45 PM	1:15 PM	1:45 PM	2:15 PM	2:45 PM	3:15 PM	3:45 PM	4:15 PM	4:45 PM	5:15 PM
City Hall	7:23 AM	7:50 AM	8:20 AM	8:50 AM	9:20 AM	9:50 AM	10:20 AM	10:50 AM	11:20 AM	11:50 AM	12:20 PM	12:50 PM	1:20 PM	1:50 PM	2:20 PM	2:50 PM	3:20 PM	3:50 PM	4:20 PM	4:50 PM	5:20 PM
Health Department	7:25 AM	7:52 AM	8:22 AM	8:52 AM	9:22 AM	9:52 AM	10:22 AM	10:52 AM	11:22 AM	11:52 AM	12:22 PM	12:52 PM	1:22 PM	1:52 PM	2:22 PM	2:52 PM	3:22 PM	3:52 PM	4:22 PM	4:52 PM	5:22 PM
Medical Center	7:29 AM	7:56 AM	8:26 AM	8:56 AM	9:26 AM	9:56 AM	10:26 AM	10:56 AM	11:26 AM	11:56 AM	12:26 PM	12:56 PM	1:26 PM	1:56 PM	2:26 PM	2:56 PM	3:26 PM	3:56 PM	4:26 PM	4:56 PM	5:26 PM
Medical Clinic	7:32 AM	7:59 AM	8:29 AM	8:59 AM	9:29 AM	9:59 AM	10:29 AM	10:59 AM	11:29 AM	11:59 AM	12:29 PM	12:59 PM	1:29 PM	1:59 PM	2:29 PM	2:59 PM	3:29 PM	3:59 PM	4:29 PM	4:59 PM	5:29 PM
MTSU	7:44 AM	8:11 AM	8:41 AM	9:11 AM	9:41 AM	10:11 AM	10:41 AM	11:11 AM	11:41 AM	12:11 PM	12:41 PM	1:11 PM	1:41 PM	2:11 PM	2:41 PM	3:11 PM	3:41 PM	4:11 PM	4:41 PM	5:11 PM	5:41 PM
To: WalMart																					
MTSU	7:45 AM	8:15 AM	8:45 AM	9:15 AM	9:45 AM	10:15 AM	10:45 AM	11:15 AM	11:45 AM	12:15 PM	12:45 PM	1:15 PM	1:45 PM	2:15 PM	2:45 PM	3:15 PM	3:45 PM	4:15 PM	4:45 PM	5:15 PM	5:45 PM
Medical Clinic	7:57 AM	8:27 AM	8:57 AM	9:27 AM	9:57 AM	10:27 AM	10:57 AM	11:27 AM	11:57 AM	12:27 PM	12:57 PM	1:27 PM	1:57 PM	2:27 PM	2:57 PM	3:27 PM	3:57 PM	4:27 PM	4:57 PM	5:27 PM	5:57 PM
Medical Center	8:00 AM	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM	5:30 PM	6:00 PM
Health Department	8:04 AM	8:34 AM	9:04 AM	9:34 AM	10:04 AM	10:34 AM	11:04 AM	11:34 AM	12:04 PM	12:34 PM	1:04 PM	1:34 PM	2:04 PM	2:34 PM	3:04 PM	3:34 PM	4:04 PM	4:34 PM	5:04 PM	5:34 PM	6:04 PM
City Hall	8:06 AM	8:36 AM	9:06 AM	9:36 AM	10:06 AM	10:36 AM	11:06 AM	11:36 AM	12:06 PM	12:36 PM	1:06 PM	1:36 PM	2:06 PM	2:36 PM	3:06 PM	3:36 PM	4:06 PM	4:36 PM	5:06 PM	5:36 PM	6:06 PM
McFadden Center	8:11 AM	8:41 AM	9:11 AM	9:41 AM	10:11 AM	10:41 AM	11:11 AM	11:41 AM	12:11 PM	12:41 PM	1:11 PM	1:41 PM	2:11 PM	2:41 PM	3:11 PM	3:41 PM	4:11 PM	4:41 PM	5:11 PM	5:41 PM	6:11 PM
Franklin Heights	8:14 AM	8:44 AM	9:14 AM	9:44 AM	10:14 AM	10:44 AM	11:14 AM	11:44 AM	12:14 PM	12:44 PM	1:14 PM	1:44 PM	2:14 PM	2:44 PM	3:14 PM	3:44 PM	4:14 PM	4:44 PM	5:14 PM	5:44 PM	6:14 PM
Stones River Mall	8:23 AM	8:53 AM	9:23 AM	9:53 AM	10:23 AM	10:53 AM	11:23 AM	11:53 AM	12:23 PM	12:53 PM	1:23 PM	1:53 PM	2:23 PM	2:53 PM	3:23 PM	3:53 PM	4:23 PM	4:53 PM	5:23 PM	5:53 PM	6:23 PM
Walmart	8:29 AM	8:59 AM	9:29 AM	9:59 AM	10:29 AM	10:59 AM	11:29 AM	11:59 AM	12:29 PM	12:59 PM	1:29 PM	1:59 PM	2:29 PM	2:59 PM	3:29 PM	3:59 PM	4:29 PM	4:59 PM	5:29 PM	5:59 PM	6:29 PM

Table 5: Sample KMART-Rolling Acres Schedule

	Start	Trip2	Trip3	Trip4	Trip5	Trip6	Trip7	Trip 8	Trip 9	Trip 10	Trip 11	Trip 12	Trip 13	Trip 14	Trip 15	Trip 16	Trip 17	Trip 18	Trip 19	Trip 20	Trip 21
To: KMart																					
Rolling Acres	7:00 AM	7:30 AM	8:00 AM	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM
Krogers	7:07 AM	7:37 AM	8:07 AM	8:37 AM	9:07 AM	9:37 AM	10:07 AM	10:37 AM	11:07 AM	11:37 AM	12:07 PM	12:37 PM	1:07 PM	1:37 PM	2:07 PM	2:37 PM	3:07 PM	3:37 PM	4:07 PM	4:37 PM	5:07 PM
Patterson Center	7:12 AM	7:42 AM	8:12 AM	8:42 AM	9:12 AM	9:42 AM	10:12 AM	10:42 AM	11:12 AM	11:42 AM	12:12 PM	12:42 PM	1:12 PM	1:42 PM	2:12 PM	2:42 PM	3:12 PM	3:42 PM	4:12 PM	4:42 PM	5:12 PM
Employment Office	7:20 AM	7:50 AM	8:20 AM	8:50 AM	9:20 AM	9:50 AM	10:20 AM	10:50 AM	11:20 AM	11:50 AM	12:20 PM	12:50 PM	1:20 PM	1:50 PM	2:20 PM	2:50 PM	3:20 PM	3:50 PM	4:20 PM	4:50 PM	5:20 PM
Health Department	7:22 AM	7:52 AM	8:22 AM	8:52 AM	9:22 AM	9:52 AM	10:22 AM	10:52 AM	11:22 AM	11:52 AM	12:22 PM	12:52 PM	1:22 PM	1:52 PM	2:22 PM	2:52 PM	3:22 PM	3:52 PM	4:22 PM	4:52 PM	5:22 PM
Medical Center	7:24 AM	7:54 AM	8:24 AM	8:54 AM	9:24 AM	9:54 AM	10:24 AM	10:54 AM	11:24 AM	11:54 AM	12:24 PM	12:54 PM	1:24 PM	1:54 PM	2:24 PM	2:54 PM	3:24 PM	3:54 PM	4:24 PM	4:54 PM	5:24 PM
Medical Clinic	7:27 AM	7:57 AM	8:27 AM	8:57 AM	9:27 AM	9:57 AM	10:27 AM	10:57 AM	11:27 AM	11:57 AM	12:27 PM	12:57 PM	1:27 PM	1:57 PM	2:27 PM	2:57 PM	3:27 PM	3:57 PM	4:27 PM	4:57 PM	5:27 PM
Housing Authority	7:32 AM	8:02 AM	8:32 AM	9:02 AM	9:32 AM	10:02 AM	10:32 AM	11:02 AM	11:32 AM	12:02 PM	12:32 PM	1:02 PM	1:32 PM	2:02 PM	2:32 PM	3:02 PM	3:32 PM	4:02 PM	4:32 PM	5:02 PM	5:32 PM
Senior Center	7:36 AM	8:06 AM	8:36 AM	9:06 AM	9:36 AM	10:06 AM	10:36 AM	11:06 AM	11:36 AM	12:06 PM	12:36 PM	1:06 PM	1:36 PM	2:06 PM	2:36 PM	3:06 PM	3:36 PM	4:06 PM	4:36 PM	5:06 PM	5:36 PM
Boys&Girls Club	7:40 AM	8:10 AM	8:40 AM	9:10 AM	9:40 AM	10:10 AM	10:40 AM	11:10 AM	11:40 AM	12:10 PM	12:40 PM	1:10 PM	1:40 PM	2:10 PM	2:40 PM	3:10 PM	3:40 PM	4:10 PM	4:40 PM	5:10 PM	5:40 PM
KMart	7:45 AM	8:15 AM	8:45 AM	9:15 AM	9:45 AM	10:15 AM	10:45 AM	11:15 AM	11:45 AM	12:15 PM	12:45 PM	1:15 PM	1:45 PM	2:15 PM	2:45 PM	3:15 PM	3:45 PM	4:15 PM	4:45 PM	5:15 PM	5:45 PM
To: Rolling Acres																					
KMart	7:45 AM	8:15 AM	8:45 AM	9:15 AM	9:45 AM	10:15 AM	10:45 AM	11:15 AM	11:45 AM	12:15 PM	12:45 PM	1:15 PM	1:45 PM	2:15 PM	2:45 PM	3:15 PM	3:45 PM	4:15 PM	4:45 PM	5:15 PM	5:45 PM
Boys&Girls Club	7:50 AM	8:20 AM	8:50 AM	9:20 AM	9:50 AM	10:20 AM	10:50 AM	11:20 AM	11:50 AM	12:20 PM	12:50 PM	1:20 PM	1:50 PM	2:20 PM	2:50 PM	3:20 PM	3:50 PM	4:20 PM	4:50 PM	5:20 PM	5:50 PM
Senior Center	7:54 AM	8:24 AM	8:54 AM	9:24 AM	9:54 AM	10:24 AM	10:54 AM	11:24 AM	11:54 AM	12:24 PM	12:54 PM	1:24 PM	1:54 PM	2:24 PM	2:54 PM	3:24 PM	3:54 PM	4:24 PM	4:54 PM	5:24 PM	5:54 PM
Housing Authority	7:58 AM	8:28 AM	8:58 AM	9:28 AM	9:58 AM	10:28 AM	10:58 AM	11:28 AM	11:58 AM	12:28 PM	12:58 PM	1:28 PM	1:58 PM	2:28 PM	2:58 PM	3:28 PM	3:58 PM	4:28 PM	4:58 PM	5:28 PM	5:58 PM
Medical Clinic	8:03 AM	8:33 AM	9:03 AM	9:33 AM	10:03 AM	10:33 AM	11:03 AM	11:33 AM	12:03 PM	12:33 PM	1:03 PM	1:33 PM	2:03 PM	2:33 PM	3:03 PM	3:33 PM	4:03 PM	4:33 PM	5:03 PM	5:33 PM	6:03 PM
Medical Center	8:06 AM	8:36 AM	9:06 AM	9:36 AM	10:06 AM	10:36 AM	11:06 AM	11:36 AM	12:06 PM	12:36 PM	1:06 PM	1:36 PM	2:06 PM	2:36 PM	3:06 PM	3:36 PM	4:06 PM	4:36 PM	5:06 PM	5:36 PM	6:06 PM
Health Department	8:08 AM	8:38 AM	9:08 AM	9:38 AM	10:08 AM	10:38 AM	11:08 AM	11:38 AM	12:08 PM	12:38 PM	1:08 PM	1:38 PM	2:08 PM	2:38 PM	3:08 PM	3:38 PM	4:08 PM	4:38 PM	5:08 PM	5:38 PM	6:08 PM
Employment Office	8:10 AM	8:40 AM	9:10 AM	9:40 AM	10:10 AM	10:40 AM	11:10 AM	11:40 AM	12:10 PM	12:40 PM	1:10 PM	1:40 PM	2:10 PM	2:40 PM	3:10 PM	3:40 PM	4:10 PM	4:40 PM	5:10 PM	5:40 PM	6:10 PM
Patterson Center	8:18 AM	8:48 AM	9:18 AM	9:48 AM	10:18 AM	10:48 AM	11:18 AM	11:48 AM	12:18 PM	12:48 PM	1:18 PM	1:48 PM	2:18 PM	2:48 PM	3:18 PM	3:48 PM	4:18 PM	4:48 PM	5:18 PM	5:48 PM	6:18 PM
Krogers	8:23 AM	8:53 AM	9:23 AM	9:53 AM	10:23 AM	10:53 AM	11:23 AM	11:53 AM	12:23 PM	12:53 PM	1:23 PM	1:53 PM	2:23 PM	2:53 PM	3:23 PM	3:53 PM	4:23 PM	4:53 PM	5:23 PM	5:53 PM	6:23 PM
Rolling Acres	8:30 AM	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM	5:30 PM	6:00 PM	6:30 PM

Vanpools

Vanpool provides an effective transportation solution for long distance commuters who work fairly regular hours weekly. Vanpools typically consist of seven to fifteen people who commute together on a regular basis in a van. The van is typically owned by a transportation organization, usually a transit agency or a department of transportation. Van riders usually pay a monthly fee that covers the operating costs (gas, maintenance, insurance) and the depreciation of the van.

It is recommended that a vanpool program be started in Murfreesboro to serve employment trips to Smyrna, to LaVergne, and to Nashville. Employment trips to the major employers in Murfreesboro could also be well served by vanpools. Working in conjunction with employers, vanpool programs can be successfully implemented and can provide transportation to destinations not well suited for public transit service due to their hours and/or location.

Relax-&-Ride

The potential for expanding the service between Nashville and Murfreesboro should be explored further. More frequent trips are necessary to make the service a viable transportation alternative for trips other than traditional work trips. Many residents indicated they need to travel to Nashville for medical trips and for personal business. Additionally, the connection between Nashville and MTSU would be enhanced by more frequent service.

Other Strategies

In addition to above services, the following strategies are suggested to promote transit use.

- Fare subsidies through employers
- Fare subsidies through social service agencies
- Fare subsidies through local merchants
- Extensive service information and marketing materials

3.2 Ridership and Farebox Revenue Estimates

The daily and annual ridership estimates for the proposed local services and the associated farebox revenues are presented in Table 8. The ridership estimates are based on a national average trip rate for local services. Using an average of 6 riders per revenue hour, the two flexible routes combined are expected to attract over 100,000 trips per year and generate approximately \$80,000 in farebox revenues – assuming a \$1.00 base fare and discounts for seniors and youths.

The total vanpool ridership will depend on the number of vanpools that are organized. As noted earlier, each vanpool generally consists of seven to fifteen riders. The rider payments vary depending on the distance the vanpool travels, but generally range from \$35 to \$100 per month.

Additional Relax-&-Ride ridership will also depend to the service enhancements implemented and the level of promotion they receive. In 2004, the Relax-&-Ride service attained just over 6 riders per hour. The fare ranges from \$2.00 to \$2.25 per one-way trip.

3.3 Operating Costs and Funding Requirements

Operating cost estimates were developed for the proposed local service strategy with an assumed service start up date of July 1, 2006. Operating cost estimates were based on the hours required by each service and estimated operating costs per hour of service. Hours of service were estimated based on the proposed route corridors, service hours, frequency of service and estimated average speed. The operating cost estimates assume a rate of \$45 per hour – consistent with regional and national averages. As shown in Table 8, annual operating costs are just over \$807,000 for the two flexible routes. As noted earlier, fares revenues are projected to be \$80,000, leaving a total net cost for the services of \$726,570.

Table 8: Alternative Transit Services

	Level of Service				Daily Ridership	Annual Ridership	Operating Cost (\$45.00)	Revenue Fare (\$1.00)	Net Cost/ Passenger	Net Cost Total	Operating Costs		
	Service Days	Service Hours	Headway	Vehicles							State Funds (25%)	Federal Funds (50%)	Local Funds (25%)
WALMART-MTSU	5 days per week	7:00am-6:30pm	30 min	3	207	53,820	\$403,650	\$40,365	\$6.75	\$363,285	\$90,821	\$181,643	\$90,821
KMART-Rolling Acres	5 days per week	7:00am-6:30pm	30 min	3	207	53,820	\$403,650	\$40,365	\$6.75	\$363,285	\$90,821	\$181,643	\$90,821
Total	5 days per week	7:00am-6:30pm	30 min	6	414	107,640	\$ 807,300	\$ 80,730	\$ 6.75	\$ 726,570	\$ 181,643	\$ 363,285	\$ 181,643

NOTE: A total of 8 vehicles are needed for the proposed system (see page 13). 6 vehicles to operate service with 2 spare vehicles.

TABLE 9: MURFREESBORO URBAN AREA - SECTION 5307 URBAN TRANSIT FUNDS

		TEA 21		SAFETEA			
PROJECT DESCRIPTION	PROJECT PHASE	Federal FY 03	Federal FY 04	Federal FY 05	Federal FY 06	Federal FY 07	
Year Description				10/04 - 9/05	10/05 - 9/06	10/06 - 9/07	COMMENTS
SE Corridor Alternatives Analysis Study Contract with Parsons Brickerhoff Quade & Douglas dated January 20, 2004	Original Contract		\$ (301,007.00)				Not brought forward
	Contract Amendment			\$ (96,000.00)			Not brought forward
MCHRA	Operating			\$ (139,302.61)	\$ (139,302.61)	\$ (139,302.61)	Brought forward each year
	Capital			\$ (175,100.00)			Not brought forward
Relax & Ride	Operating			\$ (86,973.50)	\$ (86,973.50)	\$ (86,973.50)	Brought forward each year
Murfreesboro Local Services	Operating			\$ -	\$ (90,821.25)	\$ (363,285.00)	FY 06 includes 3 mos. cost, FY 07 includes full yearly cost of service.
	Capital			\$ -	\$ (1,074,850.00)		Mid range point of estimated Capital costs for Federal Share (83%).
TOTAL EXPENDITURE		\$ -	\$ (301,007.00)	\$ (497,376.11)	\$ (1,391,947.36)	\$ (589,561.11)	
ALLOCATION		\$ 422,276.00	\$ 422,212.00	\$ 734,880.00	\$ 734,880.00	\$ 734,880.00	
BAL. BROUGHT FORWARD		\$ -	\$ 422,276.00	\$ 543,481.00	\$ 780,984.89	\$ 123,917.53	
BALANCE		\$ 422,276.00	\$ 543,481.00	\$ 780,984.89	\$ 123,917.53	\$ 269,236.42	

NOTES: Assumes a start up date of July 1, 2006.

The 5307 funding allocation would increase with the introduction of service. However, in order to maintain a conservative estimate, the allocation remains the same in FY07.

Operating Cost funding is determined by the following formula:

- Federal: 50% of the net operating cost
- State: 25% of the remaining cost
- Local: 25% of the remaining cost

Capital Cost funding is determined by the following formula:

- Federal: 83.0%
- State: 8.5%
- Local: 8.5%

Operating funding for the proposed services (\$726,570/year) can be obtained through Federal, State, and Local sources. Based on the current formula, 50% of the net operating costs can be covered with Federal dollars, with the remaining 50% split between state and local dollars. The allocations for the proposed services are shown in the last three columns in Table 8.

For Federal fiscal year 2005 (October, 2004 – September, 2005), the Murfreesboro Urban Area has a balance of \$780,985 in Section 5307 Urban transit funds (see Table 9). This amount includes anticipated expenditures (MCHRA, Relax-&-Ride route, and other obligations), the yearly allocation, and the balance brought forward from previous years.

Once Federal fiscal year 2006 begins in October, 2005, the balance will be increased further with another yearly allocation. The yearly allocations are based on a formula that includes population and number of vehicles operating in the area. Both the Relax & Ride and MCHRA operating dollars are brought forward and shown in fiscal years 2006 and 2007. From discussions with MCHRA staff, it is clear that with the introduction of new local Murfreesboro services, MCHRA would be able to better serve unmet trips in other locations in the Urban Area, including LaVergne and Smyrna. Therefore, the MCHRA operating costs remain intact and are not reduced with the introduction of new service in Murfreesboro.

Beginning in fiscal year 2006, operating costs appear in Table 9 for the proposed services. It is important to note that because the assumed start up date for service is July, 2006, FY 06 Federal operating costs are estimated at \$90,821.25, or enough for 3 months of service (July, August, and September 2006 completing FY 06).

State revenues are projected to be available to fund approximately 25% of the non-federally funded net operating costs. Local revenues will be required to fund the remaining 25% portion of operating costs. Table 10 below details the operating funding allocations required for a July 1, 2006 start up date and for FY 07.

Table 10: Operating Cost Funding Allocations

Source	July, 2006 Start-Up (FY 06)	Annual Cost (FY 07)
Federal	\$90,821.25	\$363,285.00
State	\$45,410.63	\$181,643.00
Local	\$45,410.63	\$181,643.00
TOTAL	\$181,642.50	\$726,570.00

Given the assumed federal and state operating assistance, the local contribution to the FY 06 operating costs would likely be \$45,000 for the two flexible routes. In addition to general fund revenues, local revenues may be obtained from:

- Advertising
- Purchase of service agreements

- Private donations and corporate sponsorships
- Employer-subsidized pass or voucher programs

Vanpool expenses vary depending on the length of the commute served by the vanpool. Payments from vanpool participants generally cover the operating costs and the vehicle depreciation. Contributions from sponsoring employers and local entities are also often used to help offset the cost of the vanpools to the users. The administrative tasks associated with setting up and managing the vanpool program can be funded through the rider fees, employer sponsorships, and local revenues.

The operating cost of any enhancements to the Relax-&-Ride would mostly likely be determined through negotiations with the RTA and the MTA – the current operator of the service. The MTA has indicated that its marginal bus operating costs are approximately \$43 per revenue hour. It, however, would likely want to recover the full cost of providing service – which is in the range of \$65 to \$70 per revenue hour. The net cost of operation for the Relax-&-Ride service is funded with federal, state, and local sources (including the City of Murfreesboro, the Town of Smyrna, the City of LaVergne, MTSU, Rutherford and Davidson Counties).

3.4 Capital Costs and Funding Requirements

The capital costs for the local services will include the purchase of vehicles and communications equipment – unless a contracting option with vendor provided vehicles is pursued – and the acquisition of passenger amenities such as shelters and benches. The capital cost for the purchase of the 8 ADA accessible, lift-equipped buses (6 peak vehicles and 2 spare vehicles) required for the two local routes would be approximately \$1.2 million (assuming a cost of \$150,000 per 20 to 25 seat bus). Additional administrative and start up costs would range between \$60,000 and \$130,000 for the purchase of computers, phones and office space. The start-up costs would depend on the operating model chosen (see Chapter 5). The estimated total capital costs are between \$1.26 and 1.33 million. Using a mid-point figure of \$1.295 million, capital expenses can be funded through federal, state and local dollars.

Because ADA-accessible buses would be used for this service, the allocation formula for capital costs is 83% Federal, 8.5% State, and 8.5% Local. Table 11 below details the capital funding allocations required for a July 1, 2006 start up date.

Table 11: Capital Cost Funding Allocations

Source	July, 2006 Start-Up (FY 06)	%
Federal	\$1,074,850	83%
State	\$110,075	8.5%
Local	\$110,075	8.5%
TOTAL	\$1,295,000	

The Federal capital costs can be covered by the remaining Section 5307 Urban transit funds (see Table 9), leaving an unexpended balance for FY 06 of \$123,917.53.

3.5 Summary

In combination, the three proposed services: local flexible services, vanpools and enhancements to the Relax-&-Ride route address basic mobility needs for transit dependent City of Murfreesboro residents. The proposed flexible services address the local trip needs – serving medical, social service, educational, shopping and recreational trip needs within the City of Murfreesboro. The vanpools provide an economical means of accessing jobs – particularly jobs in Smyrna, LaVergne and Nashville and jobs with non-traditional work hours. Frequency improvements in the Relax-&-Ride service will make public transportation a feasible alternative for both traditional work trips and non-work trips to Nashville. The implementation of the proposed services should also reduce the demand for the Mid-Cumberland service in Murfreesboro – allowing additional service to be provided to other areas of Rutherford County. The availability of Federal 5307 funding indicates the services can be sustained and perhaps expanded into the near future. In order to implement the transit services proposed in July, 2006, the City of Murfreesboro would need a local match of approximately \$155,485 to cover the combined local share for operating costs (\$45,410) and capital costs (\$110,075).

4. Potential for Future Services

The proposed services recommended in the previous chapter constitute a base system that will address today's mobility needs. Over time, the proposed services recommended may be expanded or enhanced to take advantage of increased development. For instance, the proposed two flexible routes may evolve into traditional fixed route services with increased demand over time. This would require ADA compliance, likely resulting in an increase in costs by approximately 20%.

As discussed in Chapter 2, demographics and the associated transit demand were analyzed using 2002 and 2025 data. The analysis indicated that most demand for traditional fixed route type of transit services resides in the downtown area. Future demand for traditional transit service can be seen southwest of I-24 extending south to Highway 99 and north to Manson Pike, incorporating the Gateway development.

Murfreesboro Gateway Development

The 350-acre Murfreesboro Gateway project is strategically located only 1 ½ miles from I-24 via the new Manson Pike/Medical Center Parkway interchange, and is only minutes from downtown Murfreesboro and the campus of Middle Tennessee State University. The proposed local service described in Chapter 3 calls for a route operating between Stones River Mall (directly south of the Gateway development) and MTSU. Once implemented and travel patterns are established, the route could be extended or a shuttle could be operated between the terminus of the route and businesses and offices located in the development. As noted in Table 8, the current operating cost for the WALMART-MTSU route is estimated at \$403,650 annually. An extension to the Gateway development would likely result in an increase of about \$30,000 - \$40,000 to begin providing service.

Other Opportunities

Data analysis also indicated increased development to the southwest of I-24, extending south to Highway 99. While not able to support transit services presently, this area could be served by a demand response service in the future. The demand response service in this area could provide connections to the flexibly routed service at Stones River Mall or the Gateway development. Potential service could pick up passengers at origins and take them to designated stops at Stones River Mall or the Gateway development. It is likely that the area could be covered by one lift-equipped vehicle operating throughout the entire day (for example, 7:00 a.m. to 6:30 p.m.). Based on industry standards, a preliminary cost estimate for this type of service would range between \$60,000 - \$75,000 per year.

The potential may also exist for developing a sub-regional type of service that would further connect Murfreesboro with LaVergne and Smyrna (today connected by some trips on the Relax-&-Ride route). Additional opportunities should also be explored, including additional park-n-ride lots along the Relax-&-Ride route as well as additional coordination with the bus services operating on the MTSU campus.

5. Management and Operations Options

The local transit services and vanpools proposed for the City of Murfreesboro may be provided under a variety of arrangements, ranging from direct management and operation by the City of Murfreesboro to contracted management and operations to a private transportation provider.

Each alternative management operation has advantages and disadvantages. While direct management and operation provides the greatest control over the service, it is likely to result in the greatest operating cost and requires investment in facilities and equipment. Contracted management and operation typically results in lower operating costs but requires close contract monitoring to ensure service quality and reliability. Direct management and contracted operation provides an intermediate alternative – providing direct control over management and administrative issues while avoiding direct involvement in operational issues.

Potential management and operations alternatives for the local services and vanpools are identified in the following sections. Each alternative includes a brief description along with more detailed advantages and disadvantages. The advantages and disadvantages were developed in part through peer interviews with officials of similar sized cities operating local transit services. Regardless of the approach pursued by the City of Murfreesboro, the implementation of local transit service and vanpools will require a staff person dedicated to the start-up and administration of the services.

5.1 City of Murfreesboro Management and Operation

The City of Murfreesboro could directly manage and operate the service by either incorporating transportation within an existing department or creating a new transportation department. The responsibilities of the transportation division, or department, would include:

- operation and supervision of the local routes
- vehicle maintenance for the buses and vans
- administrative and support activities such as planning, customer service, marketing, grants management and federal and state reporting compliance
- Other administrative activities such as personnel, risk management, procurement, and accounting could be addressed by existing city departments already responsible for such functions.

Under this approach, the transit vehicles and vans would need to be owned by the City of Murfreesboro. The responsibility for ensuring that the transit vehicles and vans are properly maintained would rest with transportation, but the actual servicing and maintenance of the vehicles could be performed at City of Murfreesboro facilities (through the Fleet Services Department) already serving other city vehicles or through contracts with local vendors.

Advantages

- Having a direct stake in the success or failure of the system
- Direct control over services provided, especially during start-up
- Direct control over employees' time and priorities
- Existing City departments could be used to handle administrative functions such as accounting, human resources, and maintenance
- Establishing community partnerships, thereby creating spillover benefits from transit to the community, was seen by peers as easier to accomplish
- During start-up, the increased focus and participation by City Council was perceived as a positive by peers

Disadvantages

- Investment in staff
 - Transportation Manager
 - Supervisors
 - Drivers
 - Support Staff
- Investment in equipment
 - ownership of transit vehicles and vans
- Investment in facilities
 - transportation office with communications equipment

5.2 City of Murfreesboro Management with Contracted Operation

The City of Murfreesboro could retain management and oversight responsibility for the local routes and vanpools but contract the operation and maintenance of the service. In addition to contract oversight, the responsibilities retained by the City of Murfreesboro could include administrative and support activities such as:

- planning
- customer service
- marketing
- grants management
- federal and state reporting compliance

As in the previous alternative, these responsibilities could be incorporated into an existing department or a new transportation department could be created. Under this approach, the transit vehicles and vans could be owned by the City of Murfreesboro or provided by the service operator. Separate operations contracts could be awarded for the local service and the vanpools.

The local service operator could be either an existing local or regional transportation provider, such as Mid-Cumberland Human Resource Agency and the Metropolitan

Transit Authority (MTA), the TMA Group in Franklin, or other groups interested in operating the service. The vanpool operator could be an area provider, such as the RTA or the TMA Group, or a national entity specializing in vanpools. The local service provider and the vanpool operator could be obtained through a competitive procurement process open to all qualified transportation providers. The service contracts would stipulate the service levels and requirements and the price to be paid for the service.

Advantages

- Direct control over management and administrative decisions
- Limits number of staff positions to be added
- Eliminates the need to invest in an operating facility
- Competitive bidding contracts for local transit service operation and maintenance should result in a lower operating cost
 - this is due to the use of existing staff and facilities by local and regional providers

Disadvantages

- Less control over provision of transit service
 - requires clear specification of expectations/actions of contractor
- According to peers, contractors sometimes view provision of service in terms of costs and revenues rather than providing service that is appropriate
- Vehicle ownership will require a Capital investment
 - City would be required to comply with vehicle utilization and useful life requirements associated with the use of federal and state funds for vehicle acquisition
 - City would need to ensure the operator is properly maintaining the vehicle fleet

5.3 City of Murfreesboro Contracted Management and Operation

The City of Murfreesboro could also contract out both the management and operation of the local service and the vanpools. Under this alternative, the City of Murfreesboro would only retain responsibility for the oversight of the management and operation contract. The contractor would have responsibility for the following:

- vehicle operation and supervision
- vehicle maintenance
- all administrative and support activities, including planning, customer service, marketing, grant management and state reporting compliance.

The contractor could directly operate the service and maintain the buses and vans or could sub-contract these functions to other providers – possibly separate providers for the local service and the vanpools. As in the previous alternative, the transit vehicles and vans could be owned by the City of Murfreesboro or provided by the service operator.

Potential contractors include The TMA Group, Mid-Cumberland Human Resource Agency, the MTA, the Regional Transit Authority (RTA), and private providers.

Advantages

- Smallest investment in staff and fixed facilities of the three alternatives
- Provides the City with the greatest flexibility in making adjustments in service levels and programs
- Competitive bidding contracts for local transit service operation and maintenance should result in a lower operating cost

Disadvantages

- Monitoring of the management contract
- Less control over provision of transit service
- According to peers, contractors sometimes view provision of service in terms of costs and revenues rather than providing service that is appropriate

Regardless of the management alternative selected, coordination with other providers of service will be important going forward. As mentioned in the report, the City will need to work with the MTA on any modifications or expansions to the current Relax-&-Ride route and coordinate with MTSU to see how the services can be most efficiently provided in that area. Most importantly however, will be coordination with MCHRA now that Murfreesboro falls into a newly designated urbanized area as a result of the 2000 census.

The local transit services proposed in this report may be provided under any of these management operation alternatives, each having unique advantages and disadvantages. The next step in this process should include dialogue with City leaders to understand and determine the best approach for the City of Murfreesboro. Once an approach is selected, detailed costs can be further developed for the eventual implementation of transit services in Murfreesboro.