



Mobility Greensboro Public Transportation Master Plan

Phase 2 - Implementation & Action Plan *Final Report*

Prepared for:
City of Greensboro/
Greensboro Transit Authority

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In Cooperation with:
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March 2006



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Prepared for:

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Section 1 - Introduction

A VISION FOR GREENSBORO (PHASE 1)

Phase 1 of Mobility Greensboro was initiated to develop a vision for public transportation's role in the City of Greensboro's future. This vision includes:

- clean, alternative-fueled buses coming by your home and destination every ten minutes...
- those same buses traveling directly to your destination in downtown or cross-town...
- strong partnerships between the Greensboro Transit Authority (GTA) and the universities, colleges, and employers throughout the Greensboro area...
- a revitalized downtown Greensboro that is pedestrian friendly and provides mobility through a downtown circulator bus...

- public transportation services that are integrated regionally to support convenient connections throughout the Triad region...
- the effective use of technology to improve customer service and enhance the availability of customer information...
- 11,000 daily bus trips on GTA within the next five years...
- 25,000 daily bus trips on GTA by the year 2025...

Phase 2 of Mobility Greensboro (this report) is the Implementation and Action Plan for making the Mobility Greensboro vision become a reality.



BACKGROUND

Public transportation is an important part of the transportation system in Greensboro and the entire Piedmont Triad area. GTA is the public transportation provider for the City of Greensboro. Established in 1991, GTA operates 14 fixed weekday bus routes between downtown and various areas of the city plus seven evening and weekend routes.

In August 2002, GTA and the City of Greensboro initiated a public outreach program to establish a vision for the future of public transportation. Since that time, GTA staff and its consultants have worked closely to develop a comprehensive vision for public transportation in the community.

OVERVIEW OF PHASE 1

The visioning process undertaken for the Mobility Greensboro Public Transportation Master Plan has resulted in an aggressive goal of doubling the number of transit trips in the next five years from two million in 2002 to more than four million in 2008. GTA and the Consultant Team worked cooperatively through the visioning and analytical process of Mobility Greensboro to identify a blueprint for how to achieve this objective.

A comprehensive program of service, marketing, and other improvements is outlined in this plan in an effort to achieve this objective. It is important to note that the focus of Mobility Greensboro was on fixed-route bus services. A major study of Specialized Area Community Transportation (SCAT) services was performed simultaneous to this study. Recommended improvements are highlighted as follows:

- partnering with universities and employers;
- focusing on marketing and education;

- increasing the frequency of bus service;
- adding cross-town routes;
- implementing a downtown circulator service;
- working more closely with Piedmont Authority for Regional Transportation (PART) on regional transit services and issues;
- enhancing transit infrastructure and technologies.

Through Mobility Greensboro, a comprehensive vision for transit has been developed and an enhanced understanding has been reached regarding its future role in the City of Greensboro.

Thousands of citizens and visitors have participated in Mobility Greensboro to help define the future of transit in our community. Public involvement efforts included:

- stakeholder interviews with **18 community leaders**, including face-to-face discussions with City Council members, County Commissioners, City staff, GTA Board members, and PART;
- non-user telephone survey of **505 households** in the Greensboro area;
- on-board user survey of **2,000 existing bus riders** on GTA;
- two Consensus-Building Workshops involving several hours of detailed, visionary discussions with **more than 80 participants**;
- a public outreach program that resulted in interaction with an **estimated 350 citizens, 40 major employers, and the Transportation Committee of the Chamber of Commerce**;



- distribution of a project brochure and four Issues of the *Mobility Talk* newsletter to a mailing list of **nearly 500 residents** of Greensboro and the Triad area;
- **three meetings** with the Project Steering Committee (approximately **15 members**);
- **four meetings** with the Project Technical Advisory Committee (TAC) (approximately **15 members**); and
- **many meetings and strategic discussions with GTA and City staff** regarding the direction of Mobility Greensboro.

Input received throughout the Mobility Greensboro public involvement process indicates a sincere interest in expanding transit to become a more viable mode of transportation, not only for individuals dependent upon transit, but also for individuals who may choose to use transit now and in the future.

GREENSBORO CONNECTIONS 2025 COMPREHENSIVE PLAN

Connections 2025, the first comprehensive plan in the city’s history, provides a guide for the citizens and leaders of Greensboro to respond to a fundamental challenge for the future— “how do we positively engage and manage change in a manner that best promotes the well being of the city and its residents?” According to the plan, Connections 2025:

- articulates an overall vision for Greensboro in the year 2025;
- establishes goals and policies in support of the vision; and
- lays out a specific action plan defining the

steps the city will take to achieve the desired future.

Public transportation is identified as playing a critical role in achieving the goals of Connections 2025 and is a major component of the plan. In recognition of this critical role, the City and GTA initiated Mobility Greensboro to further define the role of public transportation in the short-term, intermediate, and long-term planning horizons.

It will be important for the City to amend Connections 2025 in order to fully integrate the results of Mobility Greensboro.

ORGANIZATION OF THE PHASE 2 PLAN

Phase 2 of the Mobility Greensboro Plan is organized into six major sections including this introduction. The remaining sections are summarized below.

- **Section 2** presents the **Mobility Greensboro Service Implementation Plan**. The service implementation plan presents a service, capital, and staffing plan for three time periods: short-term (1-2 years), intermediate (3-7 years), and long-term (8-20 years). Detailed service planning is provided for each time period, with a greater level of detail for the short-term and intermediate planning horizons.
- **Section 3** is the **Mobility Greensboro Financial Plan**. Pursuant to the Federal Transit Administration’s (FTA) “Guidance for Transit Financial Plans” (June 2000) guidebook, a financial plan was prepared that links proposed improvements to existing revenue streams. The financial plan reconciles future operating and maintenance costs and capital costs with future revenue sources. As directed by FTA, the Financial Plan describes



GTA's financial health and documents projected costs and revenues for existing and future transit services.

- **Section 4** summarizes the **Transit Infrastructure Design Guidelines Handbook** prepared for GTA and created as a supplement to this report. The handbook provides detailed design specifications and guidelines for the placement and location of transit facilities in the Greensboro area. In addition to providing infrastructure design guidelines for GTA, the handbook is intended to support the City's Land Development Ordinance and the development review process.
- **Section 5** describes the mechanism for **integrating Mobility Greensboro with the transit components** of the City's Comprehensive Plan and the MPO's Long Range Transportation Plan (LRTP). Recent coordination meetings are documented, and key issues are identified for future consideration in the Mobility Greensboro Action and Monitoring Plan.

- **Section 6** presents the **Action and Monitoring Plan** for Mobility Greensboro. The Action Plan reflects plan elements, action items, responsible entities, and timeframes for implementation. The resulting Action Plan table serves as a checklist to be reviewed and updated on an annual basis. In addition to the Action Plan, a Plan Monitoring Process is identified to help facilitate the implementation of Mobility Greensboro.

For additional information about the Mobility Greensboro Plan, contact GTA at 336-373-2634 or visit www.greensboro-nc.gov/departments/gdot/divisions/gta.



Section 2 - Service Implementation Plan

The Greensboro Public Transportation Master Plan outlines short-term, intermediate, and long-term service plans. To continue to carry the momentum gathered through the preparation of the Master Plan, an implementation plan for the improvements identified in the service plans was completed. The implementation of the Master Plan improvements is divided into two components, a service plan and a staffing plan. Each of these components is discussed separately in this section.

The original Mobility Greensboro report developed several proposed actions and a preliminary implementation plan. That plan included a short-range element that prioritized improvements in the first two years of the plan. Since the completion of the Mobility Greensboro Plan, ridership has continued to grow, particularly on GTA's busiest routes. The cost of gasoline and diesel fuel has increased dramatically, encouraging more potential riders to try GTA but also driving up GTA's costs. This Mobility Greensboro Implementation Plan has been developed in response to changing priorities. Some elements were moved forward into the first

two years, while others have been deferred. The short-range improvements outlined in Mobility Greensboro are now divided into a short-range service plan and an intermediate service plan. A seven-year period was chosen for implementing the short-range and intermediate service plans in order to integrate Mobility Greensboro into the Greensboro MPO's Transportation Improvement Program. The intent in refining the original plan is to develop an action plan that best meets current needs for more frequent and new transit services. In addition, a staffing plan has been developed to support the implementation of new services.

SHORT-RANGE SERVICE PLAN

The service plan costs were updated to reflect anticipated unit costs of operation in FY 2007 and FY 2008. Fuel and maintenance costs were specifically included, at a level 10 percent above the most recent month's average. Ridership and revenue estimates are conservative, generally using 10 passengers per revenue hour and an average fare of approximately 50 cents per boarding for new or



expanded service.

This short-term implementation plan includes the following elements:

Fiscal Year (FY) 2007

- Improved 30-minute frequency during peak periods (6:00 to 9:00 a.m. and 4:00 to 7:00 p.m.) on all big-bus routes (Routes 1 through 14)
- Introduction of the University Connector Service - Higher Education Area Transit (HEAT)

Fiscal Year (FY) 2008

- Introduction of GTA’s first crosstown route along Holden Road

The service improvements in the short-term service plan are presented in detail below.

FY 2007 Service Enhancements

30-minute Peak Period Frequency on All Big-Bus Routes - Improve peak period frequency to 30 minutes on Routes 4, 7, 8, 9, 11, 13, and 14.

- **Justification** - This will standardize service levels on all routes during peak periods and should alleviate crowded conditions on hourly buses. A contributing factor to standing loads on top-of-the-hour buses is the greater number of transfer possibilities at the Douglas Galyon Depot for these passengers. Many riders use the hour bus instead of the half hour bus because of the need to transfer to an hourly route. Adding half-hour service on all routes would shift some of the demand from the overcrowded buses to the half-hour buses. In addition, ridership has increased on several of these routes (notably Routes 8 and 11) to the point where the bus on the hour is overcrowded during peak periods.

- **Service Hours** - Weekdays 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m.
- **Frequency** - Every 30 minutes in peak, all routes
- **Additional Buses** - 7 (plus 2 if Connector routes are included)
- **Annual Operating Costs** - See Table 2-1A.

Table 2-1A also shows the cost for two alternatives. The first would provide 30-minute peak period frequency on all routes, including the Connector routes. The second alternative includes 30-minute peak service on all routes and adds midday and Saturday service on Connector routes that do not currently operate at those times. Table 2-1B presents ridership, fare revenue, and net cost estimates

University Connector Service - Higher Education Area Transit (HEAT) - Implement a high quality transit service to Greensboro’s student population at UNCG, GTCC’s Jamestown campus, and other local colleges and universities.

Another proposed action in the original Mobility Greensboro report was implementation of a university/college pass program. GTA has moved forward with this proposal through establishment of steering, technical, and marketing committees composed of civic leaders, including university and college representatives, and through pursuit of funding for the program. GTA has been awarded a Congestion Mitigation and Air Quality (CMAQ) grant to fund the university/college pass program, and current plans call for the program, now known as HEAT (Higher Education Area Transit), to be implemented in August 2006.

HEAT is a cooperative program with participating colleges and universities that encourages transit use among college students. The CMAQ grant covers 80 percent of the costs for the first three years, and



Table 2-1A
Revenue Hours and Costs for 30-minute Peak Period Frequency

| Proposal | Total Annual Cost | Annual Operating Cost | Annual Fuel & Maint. Cost | Additional Peak Buses Required | Annual Revenue Hours | Weekday Revenue Hours | Saturday Revenue Hours | Sunday Revenue Hours |
|---|-------------------|-----------------------|---------------------------|--------------------------------|----------------------|-----------------------|------------------------|----------------------|
| All big-bus routes | \$709,046 | \$619,507 | \$89,539 | 7 | 11,013 | 43.19 | 0 | 0 |
| All routes, including Connectors | \$906,049 | \$791,632 | \$114,417 | 9 | 14,073 | 55.19 | 0 | 0 |
| All routes + midday/Sat service on Connectors | \$1,088,244 | \$950,819 | \$137,425 | 9 | 16,903 | 61.19 | 25.00 | 0 |

Notes: (1) Operating cost calculated at FY 07 rate of \$56.25 per revenue hour; fuel and maintenance costs calculated at \$8.13 per revenue hour.

(2) Revenue hours equal the difference in revenue hours between routes operating 30-minute peak service and routes operating 60-minute service all day

Table 2-1B
Passengers, Fare Revenue, and Net Costs for 30-minute Peak Period Frequency

| Proposal | Total Annual Cost | Estimated Annual Ridership Increase | Estimated Fare Revenue | Net Annual Cost |
|---|-------------------|-------------------------------------|------------------------|-----------------|
| All big-bus routes | \$709,046 | 113,418 | \$50,125 | \$658,921 |
| All routes, including Connectors | \$906,049 | 125,489 | \$58,556 | \$847,493 |
| All routes + midday/Sat service on Connectors | \$1,088,244 | 137,372 | \$64,442 | \$1,023,802 |

Note: (1) Ridership estimate based on existing half-hour ridership share; revenue estimate based on average revenue per passenger from current revenue and 2003 ridecheck calculations for pass revenue



participating institutions are providing the local operating match (the local capital match comes from NCDOT). HEAT partners include Bennett College, Elon University School of Law (opening a new campus in downtown Greensboro in 2006), Greensboro College, Guilford College, Guilford Technical Community College, and the University of North Carolina at Greensboro. Students enrolled at these schools will use their college identification cards or special semester passes to board any GTA bus.

A major element of the HEAT program is service enhancement. All HEAT services have been designed to meet the needs of students, but are open to the general public. Connecting east-west lines will serve as the backbone of the college service, meeting at the Depot in downtown. An inner circulator route will enhance frequency between UNCG and downtown. A feeder route serving residential areas with large student populations will provide an alternative to the automobile for travel to and from the UNCG campus, which has the largest proportion of students living off-campus. Current hourly service to and from the GTCC High Point campus will be improved during peak student commuting hours, and evening service will be offered to this campus. All HEAT service enhancements will operate for approximately 39 weeks per year, when classes are in session. HEAT service will feature stops on campus, making transit more visible and convenient for students than regular GTA routes that only pass by the edges of campus on major arterials.

Detailed schedules have been developed for HEAT service. The west route and the east route will offer hourly service beginning at 7:30 a.m. weekdays and 11:00 a.m. weekends. These routes will operate until 10:30 p.m. Monday through Wednesday, until 3:00 a.m. Thursday through Saturday, and until 6:30 p.m. Sunday. The inner circulator route will provide

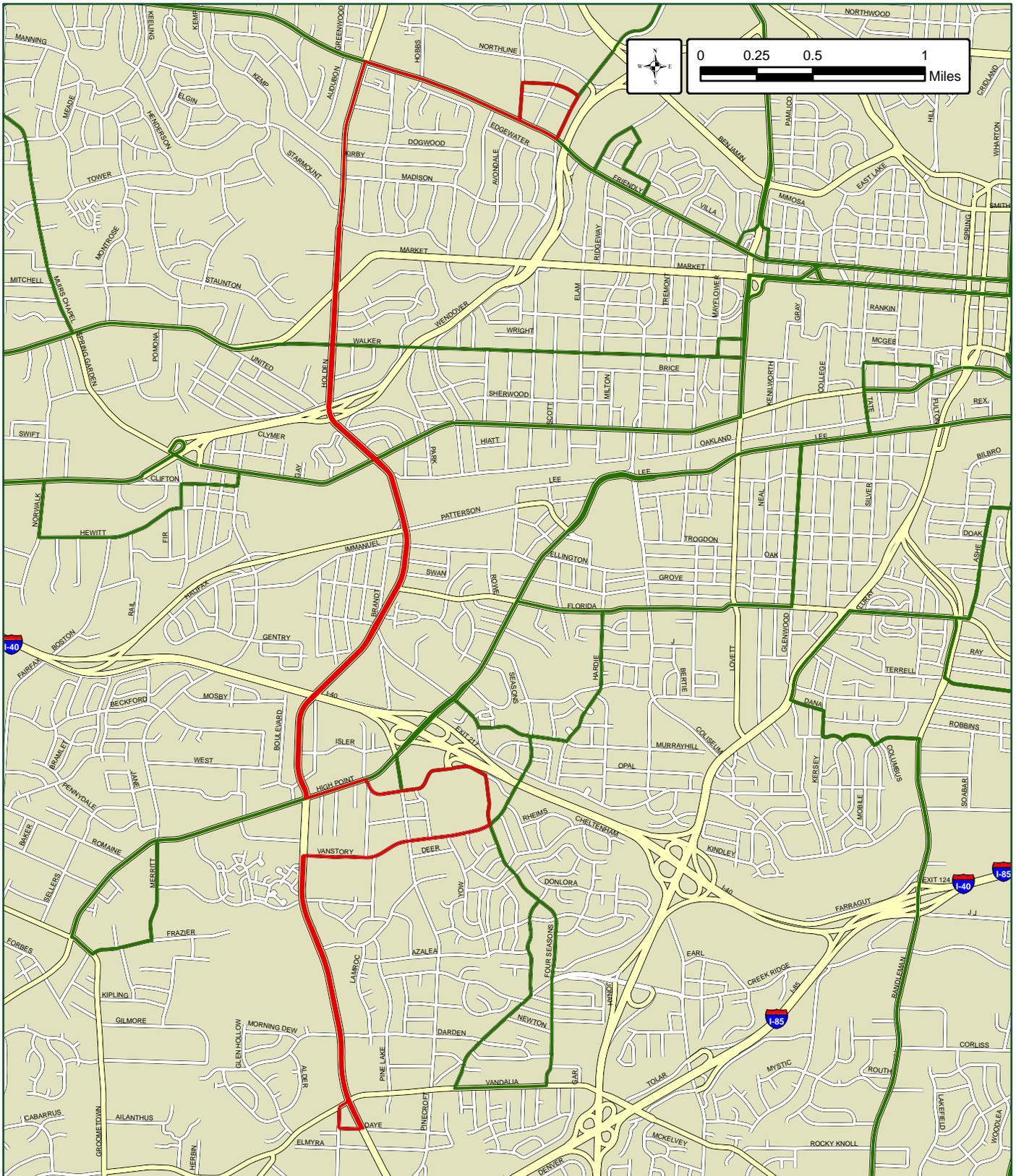
service every 30 minutes between UNCG and the Depot on weekdays and Saturday between 7:00 a.m. (11:00 a.m. on Saturday) and 6:00 p.m. The UNCG shuttle schedule is being revised in coordination with university representatives. Plans call for service every 6 minutes during peak morning commute times to campus and at least every 20 minutes at other times between 7:15 a.m. and 5:30 p.m. weekdays and 11:15 a.m. and 5:30 p.m. Saturday. Late evening service also will be provided on the UNCG shuttle route Thursday through Saturday. Eight daily express trips to and from the GTCC High Point campus will be added to the current Route 11 service on weekdays.

GTA is currently finalizing operations and marketing plans for service rollout in August 2006.

FY 2008 Service Enhancements

Holden Road Crosstown Route - Implement a crosstown route along Holden Road with its southern terminus at Osborne & Vandalia adjacent to the new Hemphill Branch library, then continue north (with a deviation to Four Seasons Town Centre) to Friendly Avenue and east to Friendly Center, the northern terminus of the route (See Map 2-1).

- ***Justification*** - The GTA transit network features a radial design that requires a transfer at the Depot for many trips. As Greensboro has grown, travel demand is increasingly focused on areas other than downtown. This route would be the first demonstration project to test the feasibility of crosstown routes that offer passengers a one-seat ride without the need to transfer. In addition, this new route would serve the new City library located at Osborne & Vandalia.
- ***Service Hours*** - Weekdays 5:15 a.m. to 7:00 p.m., Saturday 6:00 a.m. to 7:00 p.m.



**Mobility
Greensboro**

**GTA Short-Term
Service Plan**

- Proposed Holden Road Crosstown Route
- Existing Bus Routes
- Major Roads
- Minor Roads



Map 2-1

**Holden Road
Crosstown Route**



- **Frequency** - every 60 minutes
- **Annual Operating Cost** - See Table 2-2A.

Table 2-2A also shows the costs for the alternatives of providing 30-minute peak period service, 30-minute all-day service, and evening and Sunday service on this route. Table 2-2B presents ridership, fare revenue, and net cost estimates for all four scenarios.

Appendix A includes a proposed schedule for the Holden Road Crosstown route. This schedule could be modified to provide through service with the Lawndale Connector during peak hours, thus offering a one seat-ride to North Battleground Avenue.

Cost Summary for Short-Term Service Improvements

Table 2-7, which can be found at the end of this section, summarizes total and net operating costs, additional peak vehicles required, and estimated ridership for the most basic option within each proposal. Because the HEAT service will be funded through a separate program, costs for this service have been treated separately and are not reflected in Table 2-7. Total operating costs for the other short-term improvements would increase by \$0.93 million annually, and 8 new vehicles would be needed.

INTERMEDIATE SERVICE PLAN

The intermediate service plan includes service improvements for years 3 through 7 of the Mobility Greensboro Plan. These intermediate service plan improvements are listed below.

FY 2009

- A new South Elm/Eugene-Vandalia Road Connector serving the new Wal-Mart

FY 2010

- Expanded evening service, operating all 14 day routes in place of the 7 extended evening routes

FY 2011

- Expanded Sunday service, operating all 14 weekday routes in place of the 7 Sunday routes

FY 2012

- A new North Battleground Avenue Connector serving several locations north and west of the current Route 8

FY 2013

- Additional frequency improvements to 30 minutes all day on all big-bus routes

FY 2009 Service Enhancements

South Elm/Eugene/Vandalia Road/Four Seasons Connector - Implement South Elm/Eugene/Vandalia Road connector

- **Justification** - This connector route will provide more direct service to key employment locations in the area (UPS and other employers in the industrial park area) as well as to the new Wal-Mart store off South Elm/Eugene. This connector also will allow future modifications to Route 12 – South Elm-Eugene/Randleman Road, if necessary.

Map 2-2 shows the proposed route. The route will meet the outbound Route 12 at Creek Ridge and S. Elm/Eugene, then proceed east across S. Elm/Eugene via Industrial, and right on Executive, making a u-turn at the end of the street to serve UPS. It will continue north on Executive, left on Industrial continuing on to Creek Ridge, left on Randleman, left on



**Table 2-2A
Revenue Hours and Costs for Holden Road Crosstown**

| Proposal | Total Annual Cost | Annual Operating Cost | Annual Fuel & Maint. Cost | Additional Peak Buses Required | Annual Revenue Hours | Weekday Revenue Hours | Saturday Revenue Hours | Sunday Revenue Hours |
|---|-------------------|-----------------------|---------------------------|--------------------------------|----------------------|-----------------------|------------------------|----------------------|
| 60-minute headway, Mon. - Sat. | \$287,281 | \$250,810 | \$36,471 | 1 | 4,271 | 14.08 | 13.08 | 0 |
| 30-minute peak headway, 60-minute midday | \$393,120 | \$343,213 | \$49,907 | 2 | 5,844 | 20.25 | 13.08 | 0 |
| 30-minute all-day headway, Mon. - Sat. | \$494,671 | \$431,872 | \$62,799 | 2 | 7,354 | 26.17 | 13.08 | 0 |
| 60-minute headway, evening and Sunday service | \$437,123 | \$381,630 | \$55,493 | 1 | 6,498 | 19.16 | 17.17 | 13.08 |

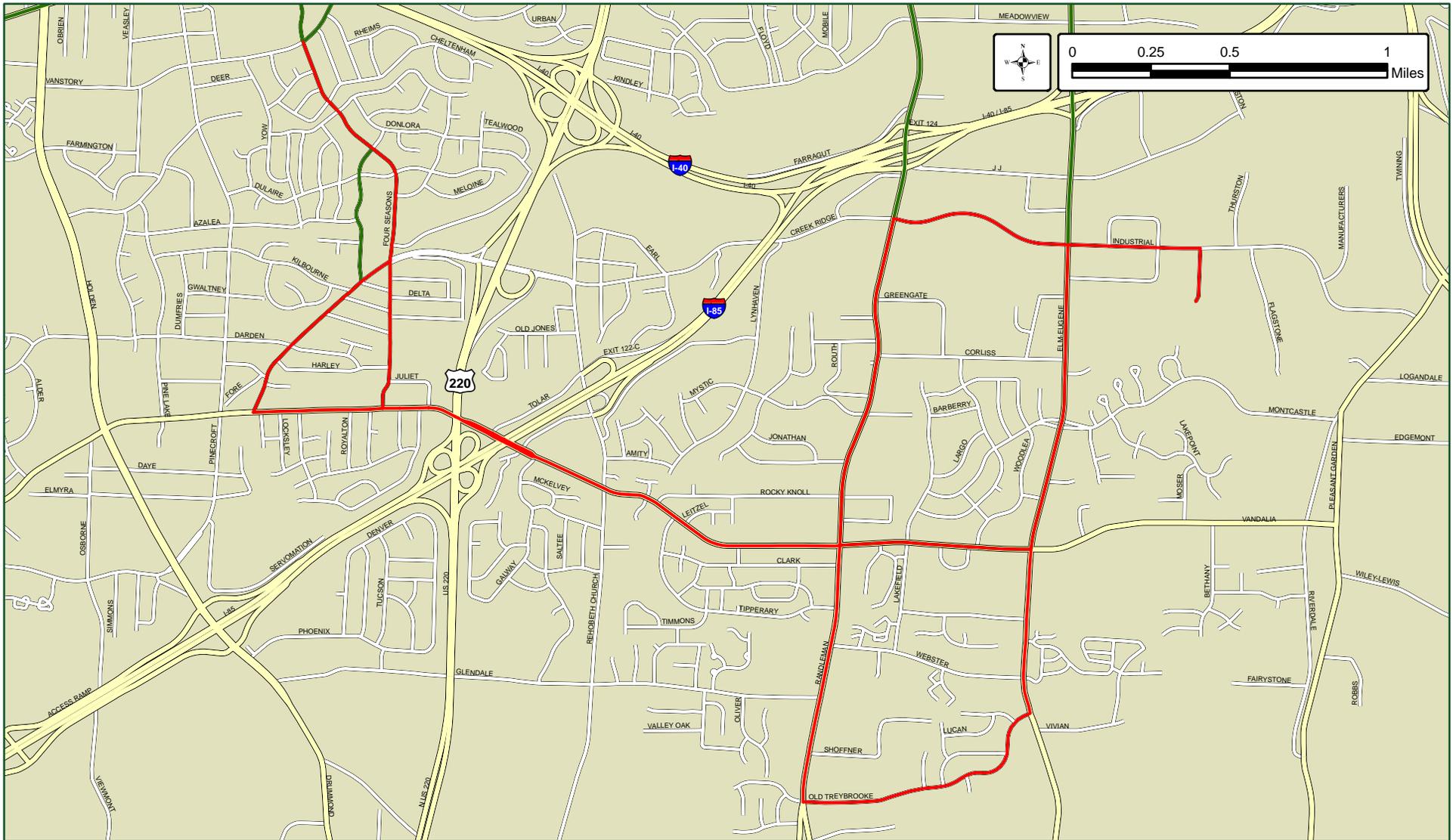
Notes: (1) Operating cost calculated at FY 08 rate of \$58.73 per revenue hour; fuel and maintenance costs calculated at \$8.54 per revenue hour.

(2) Revenue hours are based on revenue hours for similar big-bus service.

**Table 2-2B
Passengers, Fare Revenue, and Net Costs for Holden Road Crosstown**

| Proposal | Total Annual Cost | Estimated Annual Ridership Increase | Estimated Fare Revenue | Net Annual Cost |
|--|-------------------|-------------------------------------|------------------------|-----------------|
| 60-minute headway | \$287,281 | 38,150 | \$17,906 | \$269,375 |
| 30-minute peak headway, 60-minute midday headway | \$393,120 | 44,330 | \$20,806 | \$372,314 |
| 30-minute weekday headway | \$494,671 | 49,720 | \$23,336 | \$471,335 |
| 60-minute headway, evening and Sunday service | \$437,123 | 43,119 | \$20,238 | \$416,885 |

Note: (1) Ridership estimate based on average boardings per hour on Lawndale Connector and on ratio of evening/Sunday to weekday ridership; revenue estimate based on average revenue per passenger on Lawndale Connector.



**Mobility
Greensboro**

**GTA Short-Term
Service Plan**

- Vandalia Connector
- Existing Bus Routes
- Major Roads
- Minor Roads

Map 2-2

**Vandalia
Connector**





Vandalia, right on S. Elm/Eugene, right on West Elmsley to the stop at the new Wal-mart. The route then continues west on West Elmsley into Old Treybrooke, right on Randleman, left on Vandalia, right on Creek Ridge, left on Four Seasons, then left to the Four Seasons Town Center stop at Belk's. Leaving the mall, the route will go south on Four Seasons, left on Vandalia, right on Randleman, left on Old Treybrooke into West Elmsley with a stop at Wal-Mart, left on S. Elm/Eugene, left on Vandalia, right on Randleman, and right on Creek Ridge to S. Elm/Eugene.

Portions of the route may seem circuitous, but this routing meets two key route design considerations: provide connections to and from UPS, and operate bi-directionally on the same streets wherever possible, avoiding one-way loops. Outbound Route 12 riders bound for UPS will transfer to the connector at S. Elm/Eugene & Creek Ridge. An early route design had the connector turning left onto S. Elm/Eugene after serving UPS and proceeding to Wal-Mart, but this meant that there was no timely connection for riders coming from UPS and transferring to Route 12. Continuing the route west on Creek Ridge allows riders who board at UPS to connect to an inbound Route 12 at Creek Ridge & Randleman. This routing also restores service on Creek Ridge, which had been the southernmost extent of Route 12 before its extension to Vandalia. The only route segment that will not use the same street in both directions is between Vandalia and Four Seasons Town Center, where the connector will follow the routing of Route 2—north on Creek Ridge and south on Four Seasons.

Initial fieldwork indicates that the u-turn at the end of Executive Drive to serve UPS is

operationally feasible due to the wide radius of the turning circle at the end of this street. If there are problems with this route, an alternate routing could provide a stop at Pacific & Industrial, closer to UPS than the current Route 12.

The basic proposal would establish regular weekday and Saturday service hours for this route. Evening and Sunday service are shown as options in Tables 2-3A and 2-3B.

- **Service hours** - Weekdays 5:15 a.m. to 7:00 p.m., Saturday 6:00 a.m. to 7:00 p.m.
- **Frequency** - every 60 minutes
- **Annual Operating Cost** - See Table 2-3A

Table 2-3A also shows the costs for the alternatives of providing 30-minute peak period service, 30-minute all-day service, evening and Sunday service, and 60-minute service only during weekday peak periods on this route. Table 2-3B presents ridership, fare revenue, and net cost estimates for all four scenarios. Appendix A includes a proposed schedule for the South Elm-Eugene/Vandalia Road/Four Seasons Connector.

FY 2010 & FY 2011 Service Enhancements

Expand Extended Evening Service and Sunday Service

- Expand the number of extended evening and Sunday service routes.

- **Justification** - As the demand for extended evening and Sunday service continues to grow, GTA would increase the number of routes from 7 to 14 routes. This service would require additional buses in service, but, since the change would occur in non-peak hours, it



Table 2-3A
Revenue Hours and Costs for South Elm-Eugene/Vandalia Road/Four Seasons Connector

| Proposal | Total Annual Cost | Annual Operating Cost | Annual Fuel & Maint. Cost | Additional Peak Buses Required | Annual Revenue Hours | Weekday Revenue Hours | Saturday Revenue Hours | Sunday Revenue Hours |
|--|-------------------|-----------------------|---------------------------|--------------------------------|----------------------|-----------------------|------------------------|----------------------|
| 60-minute headway, Mon. - Sat. | \$294,350 | \$256,680 | \$37,670 | 1 | 4,200 | 13.92 | 12.50 | 0 |
| 30-minute peak headway, Mon. - Sat. | \$401,588 | \$350,193 | \$51,395 | 2 | 5,730 | 19.92 | 12.50 | 0 |
| 30-minute all-day headway, Mon. - Sat. | \$508,825 | \$443,707 | \$65,119 | 2 | 7,260 | 25.92 | 12.50 | 0 |
| 60-minute headway Mon. - Sat., evening, and Sunday service | \$450,474 | \$392,823 | \$57,651 | 1 | 6,427 | 19.00 | 16.59 | 13.08 |
| Weekday peak service only; 60-minute headway | \$107,238 | \$93,514 | \$13,724 | 1 | 1,530 | 6.00 | 0 | 0 |

Notes: (1) Operating cost calculated at FY 09 rate of \$61.12 per revenue hour; fuel and maintenance costs calculated at \$8.97 per revenue hour.

(2) Revenue hours are based on revenue hours for similar Connector service.

Table 2-3B
Passengers, Fare Revenue, and Net Costs for South Elm-Eugene/Vandalia Road/Four Seasons Connector

| Proposal | Total Annual Cost | Estimated Annual Ridership Increase | Estimated Fare Revenue | Net Annual Cost |
|---|-------------------|-------------------------------------|------------------------|-----------------|
| 60-minute headway | \$294,350 | 59,802 | \$26,643 | \$267,707 |
| 30-minute peak headway | \$401,588 | 69,489 | \$30,959 | \$370,629 |
| 30-minute weekday headway | \$508,825 | 77,938 | \$34,723 | \$474,103 |
| 60-minute headway, evening and Sunday service | \$450,474 | 67,591 | \$30,113 | \$420,361 |
| Peak service only, 60-minute headway | \$107,238 | 13,709 | \$6,434 | \$100,803 |

Note: (1) Ridership estimate based on average boardings per hour on Wendover and Lawndale Connectors; revenue estimate based on average revenue per passenger on all connector routes.



would not affect the number of peak vehicles required. Ridership data from September 2005 indicate that evening ridership has increased by over 20 percent since September 2004. Under this proposal, the regular daytime routes would operate during evenings and Sundays.

Extended Evening Service Hours on Weekdays and Saturdays - Weekdays 7:30 p.m. to 11:30 p.m., Saturday 7:00 p.m. to 10:00 p.m.

- **Frequency** - Every 60 minutes

- **Annual Operating Cost** - See Table 2-4A

Extended Service Hours on Sunday - Sunday 6:00 a.m to 6:00 p.m.

- **Frequency** - Every 60 minutes
- **Annual Operating Cost** - See Table 2-4A

Table 2-4A also shows the costs for the alternatives of providing evening and Sunday service on the Wendover Connector and on all connector routes.

Table 2-4A
Revenue Hours and Costs for Extended Evening and Sunday Service

| Proposal | Total Annual Cost | Annual Operating Cost | Annual Fuel & Maint. Cost | Additional Peak Buses Required | Annual Revenue Hours | Weekday Revenue Hours | Saturday Revenue Hours | Sunday Revenue Hours |
|---|-------------------|-----------------------|---------------------------|--------------------------------|----------------------|-----------------------|------------------------|----------------------|
| All big-bus routes-evening, Mon. - Sat. | \$763,978 | \$664,535 | \$99,443 | 0 | 10,557 | 35.56 | 28.63 | 0 |
| All big-bus routes plus Wendover Connector-evening, Mon. - Sat. | \$873,118 | \$759,469 | \$113,649 | 0 | 12,065 | 40.64 | 32.72 | 0 |
| All routes, all Connectors-evening, | \$1,091,397 | \$949,336 | \$142,061 | 0 | 15,081 | 50.80 | 40.90 | 0 |
| All big-bus routes-Sunday | \$376,325 | \$326,521 | \$49,804 | 0 | 5,036 | 0 | 0 | 91.56 |
| All big-bus routes plus Wendover Connector-Sunday | \$430,086 | \$373,167 | \$56,919 | 0 | 5,755 | 0 | 0 | 104.64 |
| All routes, including all Connectors-Sunday | \$537,608 | \$466,459 | \$71,149 | 0 | 7,194 | 0 | 0 | 130.80 |

Notes: (1) Operating cost calculated at FY 10 & FY 11 rate of \$62.95 & \$64.84 per revenue hour; fuel and maintenance costs calculated at \$9.42 & \$9.89 per revenue hour.

(2) Revenue hours equal the difference in revenue hours between routes operating 30-minute service all day and routes



Table 2-4B
Passengers, Fare Revenue, and Net Costs for Extended Evening and Sunday Service

| Proposal | Total Annual Cost | Estimated Annual Ridership Increase | Estimated Fare Revenue | Net Annual Cost |
|---|-------------------|-------------------------------------|------------------------|-----------------|
| All big-bus routes, evening | \$763,978 | 59,555 | \$26,902 | \$737,076 |
| All big-bus routes plus Wendover Connector, evening | \$873,118 | 65,583 | \$29,626 | \$843,492 |
| All routes, including all connectors, evening | \$1,091,397 | 72,991 | \$32,972 | \$1,058,426 |
| All big-bus routes, Sunday | \$376,325 | 29,403 | \$13,924 | \$362,401 |
| All big-bus routes plus Wendover Connector, Sunday | \$430,086 | 32,379 | \$15,344 | \$414,752 |
| All routes, including all connectors, Sunday | \$537,608 | 36,036 | \$17,066 | \$520,542 |

Note: (1) Ridership estimate based on elasticity of +0.3 and ratio of evening/Sunday to weekday ridership; revenue estimate based on average evening and Sunday revenue per passenger.

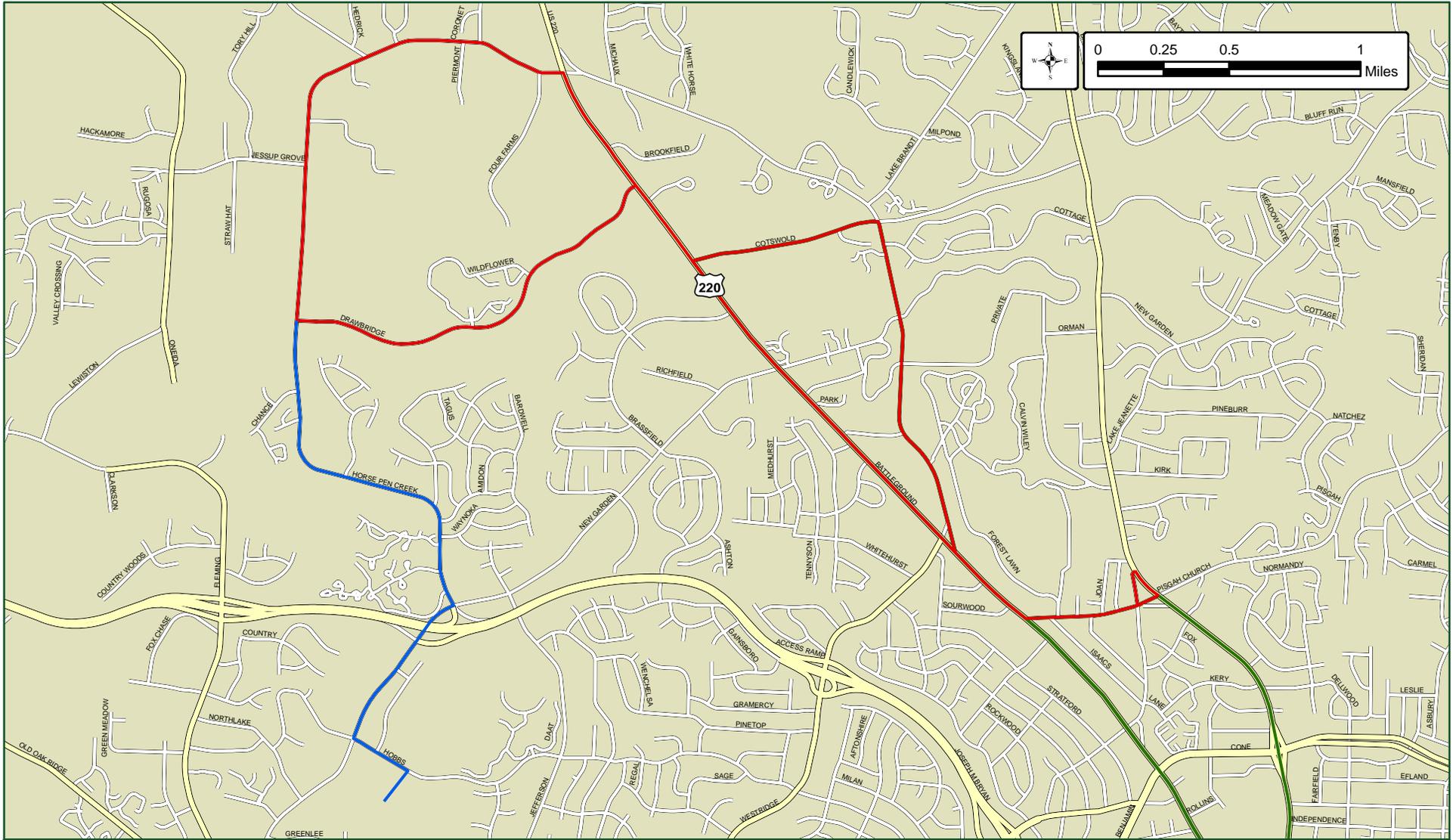
Table 2-4B presents ridership, fare revenue, and net cost estimates.

FY 2012 Service Enhancements

North Battleground Avenue Connector - Implement a North Battleground Avenue Connector

- Justification** - This proposal would allow for modification to the Route 8 Battleground Avenue route to improve schedule adherence. In addition, the connector would provide service to important locations such as the Goodwill Store, Wellspring, and Wal-Mart. Under the alternate scenario, this connector would also serve the new library off Hobbs Road in Price Park, although this location would be better served by the proposed West Market Connector in future years.

Map 2-3 shows the proposed route. The route will meet the outbound Route 8 at Martinsville & Pisgah Church (the restructured Route 8 will follow the route of the evening/Sunday Route 27: north on Lawndale, left on Pisgah Church, and left on Battleground). The connector will then proceed west on Pisgah Church, right on Battleground, left on Drawbridge past Well Spring Retirement Community. Under the basic scenario, the route will proceed right on Horse Pen Creek, right on Battleground, and left on Cotswold Avenue. The route will continue on Cotswold, right on Old Battleground, left on Battleground, left on Pisgah Church, left on Lawndale, and left on Martinsville to Martinsville & Pisgah Church, where it will meet Route 8. The alternate route would serve the Kathleen Clay Edwards Family Branch



**Mobility
Greensboro**

**GTA Short-Term
Service Plan**

- Proposed North Battleground Avenue Connector
- Proposed North Battleground Avenue Connector Additional Routing
- Existing Bus Routes
- Major Roads
- Minor Roads



Map 2-3

**North Battleground
Avenue Connector**



library off Hobbs Road by turning left on Horse Pen Creek, right on New Garden, left on Hobbs, right on Price Park, and left up to the library, then return via Hobbs, New Garden, and Horse Pen Creek to the basic route.

The basic proposal would establish regular weekday and Saturday service hours for this route. Evening and Sunday service are shown as options in Tables 2-5A and 2-5B.

- **Service hours** - Weekdays 5:15 a.m. to 7:00 p.m., Saturday 6:00 a.m. to 7:00 p.m.
- **Frequency** - every 60 minutes
- **Annual Operating Cost** - See Table 2-5A

Table 2-5A also shows the costs for the alternatives of providing 30-minute peak period service, 30-minute all-day service, evening and Sunday service, and 60-minute service only during peak periods on this route. Table 2-5B presents ridership, fare revenue, and net cost estimates for all four scenarios.

Appendix A includes a proposed schedule for the North Battleground Avenue Connector.

FY 2013 Service Enhancements

30-minute Frequency Systemwide on All Big-Bus Routes - Improve weekday frequency to 30 minutes on all routes.

- **Justification** - This will standardize and generally improve service levels on all routes throughout the day, and will result in more even distribution of demand between hour and half hour buses. Service frequency is the single most important factor in encouraging transit usage.
- **Service Hours** - Weekdays 5:15 a.m. to 7:00 p.m.

- **Frequency** - 30 minutes, all routes
- **Annual Operating Costs** - See Table 2-6A

Table 2-6A also shows the costs for the alternative of providing 30-minute frequency all day on all routes, including the Connector routes. Table 2-6B presents ridership, fare revenue, and net cost estimates.

LONG-TERM SERVICE PLAN

The long-term service plan includes service improvements for years 8 through 20 of the Mobility Greensboro Plan. These improvements are listed below and summarized in Table 2-9, which can be found at the of this section.

FY 2014

- West Market Connector (60 minute frequency)
- North Elm Connector (60 minute frequency)
- Lawndale Connector (Midday and Saturday services)

FY 2015

- Florida Avenue Crosstown (60 minute service weekdays/Saturday)
- 4 new express routes

FY 2016

- Cone Boulevard Crosstown (60 minute service weekdays/Saturday)
- Route 12 Limited Stop

FY 2017

- 30-minute peak period frequency on all connectors and crosstowns



Table 2-5A
Revenue Hours and Costs for North Battleground Avenue Connector

| Proposal | Total Annual Cost | Annual Operating Cost | Annual Fuel & Maint. Cost | Additional Peak Buses Required | Annual Revenue Hours | Weekday Revenue Hours | Saturday Revenue Hours | Sunday Revenue Hours |
|---|-------------------|-----------------------|---------------------------|--------------------------------|----------------------|-----------------------|------------------------|----------------------|
| 30-minute headway, Mon. - Sat. | \$324,083 | \$280,491 | \$43,592 | 1 | 4,200 | 13.92 | 12.50 | 0 |
| 60-minute headway, Alt. 2; Mon. - Sat. | \$324,083 | \$280,491 | \$43,592 | 1 | 4,200 | 13.92 | 12.50 | 0 |
| 30-minute peak headway, Alt. 2; Mon. - Sat. | \$442,153 | \$382,680 | \$59,473 | 1-2 | 5,730 | 19.92 | 12.50 | 0 |
| 30-minute weekday headway, Alt. 2; Mon. - Sat. | \$560,223 | \$484,869 | \$75,355 | 1-2 | 7,260 | 25.92 | 12.50 | 0 |
| 30-minute headway (60 Alt. 2); Mon. - Sat., evening, and Sunday service | \$495,978 | \$429,265 | \$66,713 | 1 | 6,427 | 19.00 | 16.59 | 13.08 |
| Peak service only, 30-minute headway | \$118,070 | \$102,189 | \$15,881 | 1 | 1,530 | 6.00 | 0 | 0 |
| Peak service only, 60-minute headway | \$118,070 | \$102,189 | \$15,881 | 1 | 1,530 | 6.00 | 0 | 0 |

Notes: (1) Operating cost calculated at FY 12 rate of \$66.79 per revenue hour; fuel and maintenance costs calculated at \$10.38 per revenue hour.
 (2) Revenue hours are based on revenue hours for similar Connector service.

Table 2-5B
Passengers, Revenue, and Net Costs for North Battleground Avenue Connector

| Proposal | Total Annual Cost | Estimated Annual Ridership Increase | Estimated Fare Revenue | Net Annual Cost |
|---|-------------------|-------------------------------------|------------------------|-----------------|
| 30-minute headway | \$324,083 | 37,516 | \$17,608 | \$306,475 |
| 60-minute headway, Alt. 2 | \$324,083 | 37,516 | \$17,608 | \$306,475 |
| 30-minute peak headway, Alt. 2 | \$442,153 | 43,593 | \$20,461 | \$421,693 |
| 30-minute weekday headway, Alt. 2 | \$560,223 | 48,893 | \$22,948 | \$537,275 |
| 30-minute headway (60 Alt. 2); evening and Sunday service | \$495,978 | 42,403 | \$19,902 | \$476,076 |
| Peak service only; 30-minute headway | \$118,070 | 13,709 | \$6,434 | \$111,636 |
| Peak service only; 30-minute headway | \$118,070 | 13,709 | \$6,434 | \$111,636 |

Note: (1) Ridership estimate based on average boardings per hour on Lawndale Connector; revenue estimate based on average revenue per passenger on Lawndale Connector.



Table 2-6A
Revenue Hours and Costs for 30-minute Frequency All Day

| Proposal | Total Annual Cost | Annual Operating Cost | Annual Fuel & Maint. Cost | Additional Peak Buses Required | Annual Revenue Hours | Weekday Revenue Hours | Saturday Revenue Hours | Sunday Revenue Hours |
|----------------------------------|-------------------|-----------------------|---------------------------|--------------------------------|----------------------|-----------------------|------------------------|----------------------|
| All big-bus routes | \$1,203,000 | \$1,038,454 | \$164,546 | 0 | 15,096 | 59.2 | 0 | 0 |
| All routes, including connectors | \$1,446,852 | \$1,248,951 | \$197,900 | 0 | 18,156 | 71.2 | 0 | 0 |

Notes: (1) Costs in this table reflect the marginal cost of adding 30-minute service in the midday period, assuming that 30-minute peak service has been introduced on all routes in FY 07.
 (2) Operating cost calculated at FY 13 rate of \$68.79 per revenue hour; fuel and maintenance costs calculated at \$10.90 per revenue hour.
 (3) Revenue hours equal the difference in revenue hours between routes operating 30-minute service all day and routes operating 30-minute service in peak periods.

Table 2-6B
Passengers, Fare Revenue, and Net Costs for 30-minute Frequency All Day

| Proposal | Total Annual Cost | Estimated Annual Ridership Increase | Estimated Fare Revenue | Net Annual Cost |
|----------------------------------|-------------------|-------------------------------------|------------------------|-----------------|
| All big-bus routes | \$1,203,000 | 203,724 | \$89,380 | \$1,113,621 |
| All routes, including connectors | \$1,446,852 | 228,271 | \$100,316 | \$1,346,536 |

Note: (1) Ridership estimate based on existing half-hour ridership share; revenue estimate based on average revenue per passenger from current revenue and 2003 ridecheck calculations for pass revenue



FY 2018

- Evening Service on all connectors and crosstowns
- Sunday service on all connectors and crosstowns

FY 2019

- 30-minute midday service on all connectors and crosstowns

FY 2020

- Routes 1 - 14 (15 minute peak service)

It should be noted that service planning for the long-term service plan does not reflect the same level of detail as the short-term and intermediate service plans. Detailed service planning should be completed at a point when the implementation timeframe is much closer. At this time, new service improvements in the long-range service plan are considered unfunded and are treated as unfunded improvements in the financial plan found in Section 3 of this report.

SUMMARY OF SERVICE PLAN

Tables 2-7 through 2-9 provide a summary of service improvements for each of the three time periods. Information in the table includes:

- description of the service improvement
- operating cost projection
- ridership projection
- additional vehicle needs during peak service
- projected cost by time period

Table 2-10 provides a summary of the Mobility Greensboro service plan for all time periods.

MOBILITY GREENSBORO STAFFING PLAN

The implementation plan for Mobility Greensboro specifies phased improvements to the GTA transit network over the next several years. The original Mobility Greensboro plan called for additional staff in the areas of marketing, operations, supervision, maintenance, and dispatch. In the interim, GTA made the decision to contract out the marketing function. Also, under the current structure, supervisors also serve as dispatchers.

The project team used National Transit Database (NTD) data to calculate the additional number of employees needed for implementation. The ratios of employees of various types to revenue hours was evaluated for three subsets of the data, including North Carolina transit systems, transit systems in the Southeast, and transit systems with a peak vehicle requirement between 25 and 50. The mid-range of these three ratios was then applied to the projected annual revenue hour increase for GTA. The results are summarized as follows:

- Operators: 1 operator per 2,000 revenue hours
- Supervisors: 1 supervisor per every 16 operators (provided by GTA)
- Maintenance: 1 vehicle maintenance position per 10,000 revenue hours; 1 non-vehicle maintenance position per 90,000 revenue hours
- Administration: 1 administration position per every 20,000 revenue hours.

A second tool used to estimate operators was provided by ATC, the contractor that operates all



Table 2-7
Mobility Greensboro Short-Term Service Plan (2007-2008)

| Proposal and Year | Total Annual Cost | Net Annual Cost | Estimated Annual Ridership Increase | Estimated Cost per Rider | Peak Vehicle Change | | |
|---|-------------------|------------------|-------------------------------------|--------------------------|---------------------|----------|----------|
| | | | | | Wkday | Sat | Sun |
| FY 2007 | | | | | | | |
| 30-minute peak service; big bus routes | \$709,046 | \$658,921 | 113,418 | \$5.81 | 7 | 0 | 0 |
| FY 2008 | | | | | | | |
| Holden Road Crosstown; 60-minute headway, weekday/Saturday only | \$287,281 | \$269,375 | 38,150 | \$7.06 | 1 | 1 | 0 |
| Short-Term Service Plan Totals | \$996,327 | \$928,296 | 151,568 | \$6.12 | 8 | 1 | 0 |

transit services in Greensboro. This tool is more precise than reliance on NTD averages, and produced very similar estimates.

Table 2-11 shows the staffing needs to accommodate increased service in FY 2007 through FY 2020. Additional operators account for the majority of new

positions needed. All of these positions will be filled by ATC (with the possible exception of a few administrative positions), and the cost of these new hires has already been accounted for within the operating cost per revenue hour used to estimate overall costs.



Table 2-8
Mobility Greensboro Intermediate Service Plan (2009-2013)

| Proposal and Year | Total Annual Cost | Net Annual Cost | Estimated Annual Ridership Increase | Estimated Cost per Rider | Peak Vehicle Change | | |
|--|--------------------|--------------------|-------------------------------------|--------------------------|---------------------|----------|----------|
| | | | | | Wkday | Sat | Sun |
| FY 2009 | | | | | | | |
| S. Elm/Eugene-Vandalia Road-Four Seasons Connector (60-minute frequency) | \$294,350 | \$267,707 | 59,802 | \$4.48 | 1 | 1 | 0 |
| FY 2010 | | | | | | | |
| Regular evening service on big bus routes plus Wendover Connector | \$873,118 | \$843,492 | 65,583 | \$12.86 | 0 | 0 | 0 |
| FY 2011 | | | | | | | |
| Regular Sunday service on big bus routes plus Wendover Connector | \$430,086 | \$414,752 | 32,379 | \$12.81 | 0 | 0 | 8 |
| FY 2012 | | | | | | | |
| North Battleground Avenue Connector (60-minute frequency) | \$324,083 | \$306,475 | 37,516 | \$8.17 | 1 | 1 | 0 |
| FY 2013 | | | | | | | |
| 30-minute all day service on big bus routes | \$1,203,000 | \$1,113,621 | 203,724 | \$5.47 | 0 | 0 | 0 |
| Intermediate Service Plan Totals | \$3,124,637 | \$2,946,047 | 399,004 | \$7.39 | 2 | 2 | 8 |



Table 2-9
Mobility Greensboro Long-Term Service Plan (2014-2026)*

| Proposal and Year | Total Annual Cost | Net Annual Cost | Estimated Annual Ridership Increase | Estimated Cost per Rider | Peak Vehicle Change | | |
|--|--------------------|--------------------|-------------------------------------|--------------------------|---------------------|----------|-----------|
| | | | | | Wkday | Sat | Sun |
| FY 2014 | | | | | | | |
| West Market Connector (60-minute frequency) | \$349,106 | \$333,338 | 33,597 | \$9.92 | 1 | 1 | 0 |
| North Elm Connector (60-minute frequency) | \$349,106 | \$334,915 | 30,237 | \$11.08 | 1 | 1 | 0 |
| Lawndale Connector (midday and Saturday services) | \$211,940 | \$206,362 | 11,883 | \$17.37 | 0 | 1 | 0 |
| FY 2015 | | | | | | | |
| Florida Avenue Crosstown (60-minute service weekdays/Saturday) | \$349,246 | \$331,341 | 38,150 | \$8.69 | 1 | 1 | 0 |
| 4 new express routes | \$500,494 | \$471,118 | 48,960 | \$9.62 | 4 | 0 | 0 |
| FY 2016 | | | | | | | |
| Cone Boulevard Crosstown (60-minute service weekdays/Saturday) | \$359,709 | \$341,803 | 38,150 | \$8.96 | 2 | 2 | 0 |
| Route 12 limited stop | \$128,872 | \$107,299 | 47,974 | \$2.24 | 1 | 0 | 0 |
| FY 2017 | | | | | | | |
| 30-minute peak period frequency on all connectors and crosstowns | \$1,073,226 | \$1,046,598 | 56,732 | \$18.45 | 8 | 0 | 0 |
| FY 2018 | | | | | | | |
| Evening service on all connectors and crosstowns | \$1,347,620 | \$1,330,736 | 37,377 | \$35.60 | 0 | 0 | 0 |
| Sunday service on all connectors and crosstowns | \$677,921 | \$669,110 | 18,604 | \$35.97 | 0 | 0 | 10 |
| FY 2019 | | | | | | | |
| 30-minute midday service on all connectors and crosstowns | \$1,120,937 | \$1,091,134 | 63,498 | \$17.18 | 0 | 0 | 0 |
| FY 2020 | | | | | | | |
| Routes 1 - 14 (15-minute peak service) | \$2,084,766 | \$1,938,980 | 329,868 | \$5.88 | 28 | 0 | 0 |
| Long-Term Service Plan Totals | \$8,552,943 | \$8,202,734 | 755,030 | \$10.87 | 36 | 0 | 10 |

*Improvements in the long-range service plan are unfunded at this time.



Table 2-10
Mobility Greensboro Service Plan Summary (2007-2026)

| Proposal and Year | Total Annual Cost | Net Annual Cost | Estimated Annual Ridership Increase | Estimated Cost per Rider | Peak Vehicle Change | | |
|---|---------------------|---------------------|-------------------------------------|--------------------------|---------------------|----------|-----------|
| | | | | | Wkday | Sat | Sun |
| FY 2007 | \$709,046 | \$658,921 | 113,418 | \$5.81 | 7 | 0 | 0 |
| FY 2008 | \$287,281 | \$269,375 | 38,150 | \$7.06 | 1 | 1 | 0 |
| Short-Term Service Plan Totals | \$996,327 | \$928,296 | 151,568 | \$6.12 | 8 | 1 | 0 |
| FY 2009 | \$294,350 | \$267,707 | 59,802 | \$4.48 | 1 | 1 | 0 |
| FY 2010 | \$873,118 | \$843,492 | 65,583 | \$12.86 | 0 | 0 | 0 |
| FY 2011 | \$430,086 | \$414,752 | 32,379 | \$12.81 | 0 | 0 | 8 |
| FY 2012 | \$324,083 | \$306,475 | 37,516 | \$8.17 | 1 | 1 | 0 |
| FY 2013 | \$1,203,000 | \$1,113,621 | 203,724 | \$5.47 | 0 | 0 | 0 |
| Intermediate Service Plan Totals | \$3,124,637 | \$2,946,047 | 399,004 | \$7.39 | 2 | 2 | 8 |
| FY 2014 | \$910,152 | \$874,615 | 75,717 | \$11.55 | 2 | 3 | 0 |
| FY 2015 | \$849,740 | \$802,459 | 87,110 | \$9.21 | 5 | 1 | 0 |
| FY 2016 | \$488,581 | \$449,102 | 86,124 | \$5.22 | 3 | 2 | 0 |
| FY 2017 | \$1,073,226 | \$1,046,598 | 56,732 | \$18.45 | 8 | 0 | 0 |
| FY 2018 | \$2,025,541 | \$1,999,846 | 55,981 | \$35.72 | 0 | 0 | 10 |
| FY 2019 | \$1,120,937 | \$1,091,134 | 63,498 | \$17.18 | 0 | 0 | 0 |
| FY 2020 | \$2,084,766 | \$1,938,980 | 329,868 | \$5.88 | 28 | 0 | 0 |
| Long-Term Service Plan Totals | \$8,552,943 | \$8,202,734 | 755,030 | \$10.87 | 46 | 6 | 10 |
| Mobility Greensboro Service Plan Total | \$12,673,907 | \$12,077,077 | 1,305,602 | \$9.25 | 56 | 9 | 17 |



Table 2-11
Mobility Greensboro Staffing Plan

| Plan Phase | Fiscal Year | Operators | Supervisors | Maintenance | Administration | Total Additional Employees |
|---------------------|--------------------|------------------|--------------------|--------------------|-----------------------|-----------------------------------|
| Short-Term | 2007 | 6 | 0 | 2 | 1 | 9 |
| | 2008 | 2 | 1 | 0 | 0 | 3 |
| Intermediate | 2009 | 2 | 0 | 0 | 0 | 2 |
| | 2010 | 5 | 0 | 1 | 1 | 7 |
| | 2011 | 3 | 0 | 1 | 0 | 4 |
| | 2012 | 2 | 0 | 1 | 0 | 3 |
| | 2013 | 8 | 1 | 2 | 1 | 13 |
| Long-Term | 2014 | 6 | 0 | 1 | 0 | 7 |
| | 2015 | 6 | 1 | 1 | 1 | 9 |
| | 2016 | 3 | 0 | 1 | 0 | 4 |
| | 2017 | 7 | 0 | 1 | 1 | 9 |
| | 2018 | 14 | 1 | 2 | 1 | 18 |
| | 2019 | 6 | 0 | 1 | 1 | 8 |
| | 2020 | 12 | 1 | 3 | 1 | 17 |
| Total | | 83 | 5 | 17 | 8 | 113 |



Section 3 - Financial Plan

This section includes the financial plan for the service improvements outlined in Mobility Greensboro. The financial plan was prepared using the guidelines from FTA’s *Guidance for Transit Financial Plans* (June 2000). This plan reconciles operating costs and capital costs for Mobility Greensboro service improvements with future revenue streams. As directed by FTA, the financial plan describes GTA’s financial health and documents GTA’s ability to fund the identified transit service expansions. Detailed financial plan tables are provided at the end of the section.

INTRODUCTION

Section 2 of this report outlines short-term, intermediate, and long-term service plans for future GTA service expansions. The short-term and intermediate service plans include improvements to be implemented by GTA in the first seven years of Mobility Greensboro. The long-term service plan

includes improvements beyond the seven-year planning horizon of the short-term and intermediate service plans. The focus of the financial plan included in this section is the seven-year short-term and intermediate service plan planning horizon.

The financial plan compares the additional costs of providing the new transit services to existing revenue sources and summarizes any surpluses and/or shortfalls.

CAPITAL PLAN

The capital plan documents GTA’s capital spending plans and funding sources and describes the existing funding for capital improvements associated with the Mobility Greensboro service plan. As noted previously, FTA’s *Guidance for Transit Financial Plans* (June 2000) was followed in preparing this capital plan.



Vehicle Capital Costs

A vehicle capital expansion and replacement plan was developed based on the required number of vehicles needed to meet the new service expansions.

- A total of 68 buses will be needed to implement the new services.
- An additional 15 vehicles will be needed to continue the new service operations through FY 2026. Consistent with FTA guidelines, this figure includes a spare ratio factor of 20 percent.
- Total vehicle expansion costs for the short-term and intermediate service plans are \$2.6 million and \$0.5 million, respectively.

A vehicle replacement and expansion schedule for the new service improvements is provided in Table 3-1. The vehicle replacement schedule assumes a life cycle of 12 years and a unit cost of \$260,000 (in 2006 dollars).

In addition to expanding the existing fleet, GTA will need to consider appropriate storage facilities for the new vehicles. The current facilities at 320 East Friendly Avenue are nearing capacity and will not be sufficient to house and maintain the total number of fleet vehicles needed to meet current service plus the service plan improvements. The development of cost estimates for a new vehicle storage and maintenance facility will require an additional study and capital cost estimates for such a study or facility are not incorporated into this financial plan.

Other Capital Costs

Replacement vehicle and other capital costs not associated with the new service expansions also are included in the capital financial plan. These costs are based on information provided in the Greensboro Urban Area Metropolitan Planning Organization

**Table 3-1
Vehicle Expansion & Replacement Schedule**

| Year | Buses | | Vehicle Costs (2006\$) |
|------------------|-----------|-----------|------------------------|
| | Replace | New | |
| 2007 | 0 | 9 | \$2,340,000 |
| 2008 | 0 | 1 | \$260,000 |
| Sub-Total | 0 | 8 | \$2,600,000 |
| 2009 | 0 | 1 | \$260,000 |
| 2010 | 0 | 0 | \$0 |
| 2011 | 0 | 0 | \$0 |
| 2012 | 0 | 1 | \$260,000 |
| 2013 | 0 | 0 | \$0 |
| Sub-Total | 0 | 2 | \$520,000 |
| 2014 | 0 | 3 | \$780,000 |
| 2015 | 0 | 6 | \$1,560,000 |
| 2016 | 0 | 4 | \$1,040,000 |
| 2017 | 0 | 10 | \$2,600,000 |
| 2018 | 0 | 0 | \$0 |
| 2019 | 9 | 0 | \$2,340,000 |
| 2020 | 1 | 33 | \$8,840,000 |
| 2021 | 1 | 0 | \$260,000 |
| 2022 | 0 | 0 | \$0 |
| 2023 | 0 | 0 | \$0 |
| 2024 | 1 | 0 | \$260,000 |
| 2025 | 0 | 0 | \$0 |
| 2026 | 3 | 0 | \$780,000 |
| Sub-Total | 15 | 56 | \$18,460,000 |

(MPO) FY 2006-FY 2012 Metropolitan Transportation Improvement Program (TIP) and the Mobility Greensboro Phase 1 report. The TIP is the official fiscally constrained funding schedule for state and federally funded highway, public transportation, rail, bicycle, and pedestrian facilities in the urbanized area for the next seven years.

Capital costs in the TIP and Mobility Greensboro that are incorporated into the capital financial plan



include vehicle replacement, capitalized maintenance, Intelligent Transportation System (ITS), planning studies, and other related capital costs. Expansion vehicle costs are based on the needs outlined in the service plans.

Capital Funding Forecasts

The TIP identifies several sources of funding for transit capital improvements. These capital funding sources are categorized in the TIP as follows:

- Federal (FED)
- Urbanized Area Formula Program (5307)
- Local (L)
- State Maintenance Assistance Program (SMAP)
- State (STAT)

Table 3-2 summarizes capital funding revenues by source. Capital funding sources are divided into two categories, federal and non-federal. Projected

revenues for unfunded transit projects in the FY 2006-2012 TIP were not included in this summary. Total non-federal capital funds are estimated at \$3.9 million through the planning horizon year of the TIP. Total federal capital funds for the same period are estimated at \$16.5 million. The combined total capital funds are estimated to be \$20.5 million between FY 2006 and FY 2012.

Other Funding Sources

In addition to the capital funding sources identified in the TIP, two other capital funding sources were identified by GTA staff. GTA plans to spend federally earmarked funds on expansion vehicles. Earmarked funds anticipated for GTA total \$4.8 million, of which a portion will be available each year beginning in FY 2006 through FY 2009.

GTA also has been successful in obtaining CMAQ funds. CMAQ funding can be utilized to meet both transit operations and capital needs. GTA will be using available CMAQ funding to operate the new

**Table 3-2
TIP Transit Capital Funding Revenues**

| FY | Non-Federal Capital Funds | | | Total | Federal Funds | | Total | Grand Total |
|-------|---------------------------|-----------|------|-------------|---------------|-----|--------------|--------------|
| | Local (L) | STAT | SMAP | | 5307 (FUZ) | FED | | |
| 2006 | \$461,000 | \$63,000 | \$0 | \$524,000 | \$2,221,000 | \$0 | \$2,221,000 | \$2,745,000 |
| 2007 | \$480,000 | \$71,000 | \$0 | \$551,000 | \$2,301,000 | \$0 | \$2,301,000 | \$2,852,000 |
| 2008 | \$505,000 | \$48,000 | \$0 | \$553,000 | \$2,301,000 | \$0 | \$2,301,000 | \$2,854,000 |
| 2009 | \$556,000 | \$13,000 | \$0 | \$569,000 | \$2,301,000 | \$0 | \$2,301,000 | \$2,870,000 |
| 2010 | \$515,000 | \$41,000 | \$0 | \$556,000 | \$2,301,000 | \$0 | \$2,301,000 | \$2,857,000 |
| 2011 | \$512,000 | \$79,000 | \$0 | \$591,000 | \$2,513,000 | \$0 | \$2,513,000 | \$3,104,000 |
| 2012 | \$545,000 | \$73,000 | \$0 | \$618,000 | \$2,593,000 | \$0 | \$2,593,000 | \$3,211,000 |
| Total | \$3,574,000 | \$388,000 | \$0 | \$3,962,000 | \$16,531,000 | \$0 | \$16,531,000 | \$20,493,000 |



**Table 3-3
Additional Capital Revenues**

| Fiscal Year | CMAQ | Earmark |
|--------------|---------------------|---------------------|
| 2006 | \$ 44,800 | \$ 1,111,378 |
| 2007 | \$ 2,692,800 | \$ 1,159,699 |
| 2008 | - | \$ 1,256,341 |
| 2009 | - | \$ 1,304,662 |
| Total | \$ 2,737,600 | \$ 4,832,080 |

HEAT services connecting the universities and colleges participating in the college pass program. Available CMAQ funding for the new HEAT service totals \$8,202,695. The federal share of that total is \$6,562,156. Of that federal share, \$2,737,600 will be allocated to capital costs. Because CMAQ funds will be used to fund the new HEAT service only, CMAQ funds are not included in this financial plan. Table 3-3 summarizes the earmarked vehicle expansion allocations and the federal capital portion of the CMAQ funding by year through FY 2009.

Mobility Greensboro Short-Term & Intermediate Capital Plan

Tables 3-5 and 3-6, which can be found at the end of this section, include the estimated capital revenues and expenditures, respectively, for each year in the capital plan through FY 2013. Capital revenues are divided into two major categories, non-federal and federal. Revenue estimates for the general fund, 5307 formula funds, and the “other” categories were obtained from the Greensboro MPO’s FY 2006 - 2012 TIP and from GTA staff. “Other” funding consists of State funding listed under the STAT category in the TIP. As noted in Table 3-6, a cumulative surplus of \$0.4 million is evident in FY 2013.

OPERATING AND MAINTENANCE PLAN

The operating and maintenance plan documents GTA’s operating and maintenance funding sources and describes the existing funding for current service and operational improvements associated with the Mobility Greensboro service plan. As noted previously, FTA’s *Guidance for Transit Financial Plans* (June 2000) was followed in preparing this operating and maintenance plan.

Operating and Maintenance Costs

GTA staff provided a FY 2007 & FY 2008 Maintenance and Operations Budget detail that included a line-item budget detail for future transit operations expenditures. The budget detail specifies salary, fringe benefit, and other administrative and maintenance line-items for which GTA is responsible each year. Based on that budget detail, operating and maintenance expenditures were forecasted for each year in the financial plan.

In addition to the operating and maintenance costs in the GTA budget detail, the operating costs for the short-term, intermediate, and long-term service plan improvements are included in their corresponding implementation years. An annual inflation rate of 3 percent was used to estimate future operating and maintenance costs.

Table 3-7, located at the end of this section, summarizes operating and maintenance expenditures through FY 2013.

Fare Revenues

A ridership estimate was prepared for each new transit service improvement included in Mobility Greensboro. Ridership estimates are provided by year for the first year of each planned service expansion. These first year estimates can be found in Section 2 of this report.



Over the last several years, GTA has experienced a significant increase in transit ridership. Between FY 2003 and FY 2005, ridership increased by an average of 17 percent each year. Although the expansion of transit service is expected to increase system ridership, it is unlikely that GTA will be able to maintain this trend over the 20-year planning horizon of this financial plan. For this reason, an annual growth factor of 5 percent was applied to ridership each year beyond 2008 in the financial plan.

Based on the ridership estimates, future fare revenues were calculated. An average fare of \$0.45 was utilized to estimate total fare revenues each year through FY 2013. That fare represents the average fare per rider for new service improvements in the Mobility Greensboro short-range plan. Table 3-8, located at the end of this section, includes forecasts for status quo system trips, new start system trips, and new start fare revenue projections. Fare revenue projections for status quo transit services are included with the operating and maintenance budget described in the previous subsection.

Operating & Maintenance Revenues

GTA staff provided an FY 2006 & FY 2007 Maintenance and Operations Budget detail that included a line item budget detail for funding future transit operations. The budget detail specifies local revenue sources, including fare revenue estimates, general fund, interest earnings, and other local, state, and federal operating funding sources. Based on that budget detail, operating revenues were forecasted for each year in the financial plan. An annual inflation rate of 3 percent was used to estimate future operating and maintenance revenues.

**Table 3-4
CMAQ Operating Funds by Year**

| Fiscal Year | CMAQ |
|--------------|---------------------|
| 2006 | \$ 471,426 |
| 2007 | \$ 1,413,023 |
| 2008 | \$ 1,013,628 |
| 2009 | \$ 926,479 |
| Total | \$ 3,824,556 |

Other Operating Revenues

Other operating revenues include CMAQ funds obtained by GTA for the proposed college pass service. The total federal operating share of the CMAQ funding equals \$3.8 million. Table 3-4 summarizes the federal operating portion of the GTA CMAQ funding by year. The 20 percent match for obtaining those funds will be provided by the colleges. As indicated in the capital plan, CMAQ funds are not included in this financial plan because they will be utilized to fund the HEAT service only.

Mobility Greensboro Short-Term & Intermediate Operating & Maintenance Plan

Table 3-9, located at the end of this section, includes the estimated operating and maintenance revenues and expenditures for each year in the operating plan through FY 2013. As noted in that table, a shortfall in operating revenues is evident beginning in FY 2007. The operating shortfall is expected to rise each year thereafter. As service improvements are added, the cumulative fund balance shortfall for the operating plan is \$33.3 million. The annual shortfall ranges from about \$2.8 million in FY 2007 to \$7.1 million in FY 2013. A large portion of the anticipated shortfall can be attributed to the implementation of new service improvements in the short-term and intermediate service plans.



MOBILITY GREENSBORO FINANCIAL PLAN

The Mobility Greensboro financial plan is included in Table 3-10, which can be found at the end of this section. That table includes all capital and operating revenue and cost estimates through FY 2013. A summary of the financial plan is provided in Table 3-11.

Based on this analysis, GTA operating expenditures are expected to exceed operating revenues in the first year of Mobility Greensboro. The operating deficit in Mobility Greensboro can be attributed to shortfalls for both new and existing services. Figure 3-1, found at the end of this section, illustrates the share of total operating costs between new and existing services. Figure 3-2, also found at the end of this section, illustrates the share of the total operating shortfall between new and existing services. The estimated operating shortfall for new services is \$14.7 million and the estimated operating shortfall for existing services is \$18.6 million through FY 2013.

Operating costs are generally met through local contributions. In order to meet future operating needs, GTA will need to increase local funding support for transit operations.

A small surplus is estimated for the capital side of the financial plan. As shown in Table 3-10, there are some years in the financial plan where capital revenues are expected to meet, or exceed, capital needs. Fiscal years that indicate a shortfall in capital revenues are years where large numbers of additional vehicles are scheduled to be purchased. Surpluses in other years make up for those shortfalls. The total cumulative surplus is estimated at \$0.4 million through FY 2013.

In addition to the short-term and intermediate financial planning phases noted in Table 3-11, capital and operating costs are estimated through FY 2026. This horizon year was chosen in order to be consistent with FTA financial plan guidelines. Those guidelines recommend a 20-year planning horizon for transit financial plans. Estimates for years beyond FY 2013 include long-term service plan improvements. Table 3-12 includes a summary of all three phases of the Mobility Greensboro financial plan. Improvements in the long-term service plan are considered unfunded at this time, consequently, no revenues for this time period are reflected in the table.

**Table 3-5
Mobility Greensboro Short-Term & Intermediate Capital Funding Revenues**

| Fiscal Year | Budget 2007 | Budget 2008 | Budget 2009 | Budget 2010 | Budget 2011 | Budget 2012 | Budget 2013 |
|----------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <u>Non-Federal Capital Funds</u> | | | | | | | |
| General Fund* | \$ 480,000 | \$ 505,000 | \$ 556,000 | \$ 515,000 | \$ 512,000 | \$ 545,000 | \$ 561,350 |
| Other* | \$ 71,000 | \$ 48,000 | \$ 13,000 | \$ 41,000 | \$ 79,000 | \$ 73,000 | \$ 75,190 |
| Total Non-Federal Funds | \$ 551,000 | \$ 553,000 | \$ 569,000 | \$ 556,000 | \$ 591,000 | \$ 618,000 | \$ 636,540 |
| <u>Federal Capital Funds</u> | | | | | | | |
| 5307 Formula Funds* | \$ 2,301,000 | \$ 2,301,000 | \$ 2,301,000 | \$ 2,301,000 | \$ 2,513,000 | \$ 2,593,000 | \$ 2,670,790 |
| Vehicle Replacement Earmark*** | \$ 1,159,699 | \$ 1,256,341 | \$ 1,304,662 | \$ - | \$ - | \$ - | \$ - |
| Total Federal Funds | \$ 3,460,699 | \$ 3,557,341 | \$ 3,605,662 | \$ 2,301,000 | \$ 2,513,000 | \$ 2,593,000 | \$ 2,670,790 |

*Based on the FY06 - FY12 TIP

**Assumed 20% local contribution to obtain CMAQ funds

***Source: GTA staff

^Capital fund growth rate for FY 2013 is 3%.

**Table 3-6
Mobility Greensboro Short-Term & Intermediate Capital Financial Plan**

| Fiscal Year | Budget 2007 | Budget 2008 | Budget 2009 | Budget 2010 | Budget 2011 | Budget 2012 | Budget 2013 |
|-----------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <u>Capital Expenditures</u> | | | | | | | |
| Existing Bus* | \$ 459,000 | \$ 598,000 | \$ - | \$ 508,000 | \$ 982,000 | \$ 791,000 | \$ 546,571 |
| Proposed New Start | \$ 2,340,000 | \$ 267,800 | \$ 275,834 | \$ - | \$ - | \$ 301,411 | \$ - |
| Other Capital*^ | \$ 2,538,940 | \$ 2,541,175 | \$ 2,240,949 | \$ 2,954,203 | \$ 2,122,000 | \$ 2,320,000 | \$ 2,580,960 |
| Total Capital Expenditures | \$ 5,337,940 | \$ 3,406,975 | \$ 2,516,783 | \$ 3,462,203 | \$ 3,104,000 | \$ 3,412,411 | \$ 3,127,531 |
| <u>Capital Funding Sources</u> | | | | | | | |
| Total Non-Federal Sources | \$ 551,000 | \$ 553,000 | \$ 569,000 | \$ 556,000 | \$ 591,000 | \$ 618,000 | \$ 636,540 |
| Total Federal Funds | \$ 3,460,699 | \$ 3,557,341 | \$ 3,605,662 | \$ 2,301,000 | \$ 2,513,000 | \$ 2,593,000 | \$ 2,670,790 |
| Total Capital Revenue | \$ 4,011,699 | \$ 4,110,341 | \$ 4,174,662 | \$ 2,857,000 | \$ 3,104,000 | \$ 3,211,000 | \$ 3,307,330 |
| Beginning Cash Balance | \$ - | \$ (1,326,241) | \$ (622,875) | \$ 1,035,005 | \$ 429,802 | \$ 429,802 | \$ 228,391 |
| Change to Cash Balance | \$ (1,326,241) | \$ 703,366 | \$ 1,657,879 | \$ (605,203) | \$ - | \$ (201,411) | \$ 179,799 |
| Closing Cash Balance | \$ (1,326,241) | \$ (622,875) | \$ 1,035,005 | \$ 429,802 | \$ 429,802 | \$ 228,391 | \$ 408,189 |

*Based on the FY06 - FY12 TIP. Replacement vehicles only.

Growth rate assumption for capital items in FY 2013 is 3%.

**Table 3-7
Mobility Greensboro Short-Term & Intermediate Operating & Maintenance Expenditures**

| Fiscal Year | Budget 2007 | Budget 2008 | Budget 2009 | Budget 2010 | Budget 2011 | Budget 2012 | Budget 2013 |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <u>Operating & Maintenance Expenses</u> | | | | | | | |
| Existing Bus O&M* | \$ 15,840,184 | \$ 16,632,856 | \$ 17,131,842 | \$ 17,645,797 | \$ 18,175,171 | \$ 18,720,426 | \$ 19,282,039 |
| Proposed New Start O&M | \$ 709,046 | \$ 1,017,598 | \$ 1,342,476 | \$ 2,255,868 | \$ 2,753,630 | \$ 3,160,322 | \$ 4,458,132 |
| Total O&M Expenses | \$ 16,549,230 | \$ 17,650,454 | \$ 18,474,317 | \$ 19,901,665 | \$ 20,928,801 | \$ 21,880,748 | \$ 23,740,171 |
| Annual % Change | 34.8% | 6.7% | 4.7% | 7.7% | 5.2% | 4.5% | 8.5% |

*Assumes no new service expansion.

**Table 3-8
Mobility Greensboro Short-Term & Intermediate Estimated Fare Revenues**

| Fiscal Year | Budget 2007 | Budget 2008 | Budget 2009 | Budget 2010 | Budget 2011 | Budget 2012 | Budget 2013 |
|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Trips - Existing | \$ 3,496,792 | \$ 4,021,310 | \$ 4,222,376 | \$ 4,433,495 | \$ 4,655,170 | \$ 4,887,928 | \$ 5,132,324 |
| Trips - New Start | \$ 113,418 | \$ 157,239 | \$ 224,903 | \$ 301,732 | \$ 349,198 | \$ 404,174 | \$ 628,106 |
| Total Ridership | \$ 3,610,209 | \$ 4,178,549 | \$ 4,447,279 | \$ 4,735,227 | \$ 5,004,367 | \$ 5,292,102 | \$ 5,760,431 |
| Annual % Change | 19% | 16% | 6% | 6% | 6% | 6% | 9% |
| Fare Revenues - New Start* | \$ 50,125 | \$ 72,023 | \$ 101,670 | \$ 136,938 | \$ 159,305 | \$ 184,228 | \$ 282,231 |
| Total New Fare Revenue | \$ 50,125 | \$ 72,023 | \$ 101,670 | \$ 136,938 | \$ 159,305 | \$ 184,228 | \$ 282,231 |
| Annual % Change | 0% | 44% | 41% | 35% | 16% | 16% | 53% |

*Average fare estimated at \$.45.

**Table 3-9
Mobility Greensboro Short-Term & Intermediate Operating & Maintenance Financial Plan**

| Fiscal Year | Budget 2007 | Budget 2008 | Budget 2009 | Budget 2010 | Budget 2011 | Budget 2012 | Budget 2013 |
|---|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <u>Operating Revenue</u> | | | | | | | |
| Operating Revenue** | \$ 13,694,601 | \$ 14,090,938 | \$ 14,513,666 | \$ 14,949,076 | \$ 15,397,548 | \$ 15,859,475 | \$ 16,335,259 |
| Proposed New Start Fares | \$ 50,125 | \$ 72,023 | \$ 101,670 | \$ 136,938 | \$ 159,305 | \$ 184,228 | \$ 282,231 |
| Total Operating Revenues | \$ 13,744,726 | \$ 14,162,961 | \$ 14,615,336 | \$ 15,086,014 | \$ 15,556,854 | \$ 16,043,703 | \$ 16,617,490 |
| Annual % Change | 13% | 3% | 3% | 3% | 3% | 3% | 4% |
| <u>Operating & Maintenance Expenses</u> | | | | | | | |
| Existing System O&M | \$ 15,840,184 | \$ 16,632,856 | \$ 17,131,842 | \$ 17,645,797 | \$ 18,175,171 | \$ 18,720,426 | \$ 19,282,039 |
| New Start O&M | \$ 709,046 | \$ 1,017,598 | \$ 1,342,476 | \$ 2,255,868 | \$ 2,753,630 | \$ 3,160,322 | \$ 4,458,132 |
| Total O&M Expenses | \$ 16,549,230 | \$ 17,650,454 | \$ 18,474,317 | \$ 19,901,665 | \$ 20,928,801 | \$ 21,880,748 | \$ 23,740,171 |
| Beginning Cash Balance | \$ - | \$ (2,804,504) | \$ (6,291,997) | \$ (10,150,978) | \$ (14,966,629) | \$ (20,338,576) | \$ (26,175,622) |
| Change to Cash Balance | \$ (2,804,504) | \$ (3,487,493) | \$ (3,858,982) | \$ (4,815,650) | \$ (5,371,947) | \$ (5,837,045) | \$ (7,122,680) |
| Closing Cash Balance | \$ (2,804,504) | \$ (6,291,997) | \$ (10,150,978) | \$ (14,966,629) | \$ (20,338,576) | \$ (26,175,622) | \$ (33,298,302) |
| Operating Ratio | 83% | 80% | 79% | 76% | 74% | 73% | 70% |

*Growth rate assumption for FY 2013 is 3%.

**Based on FY 06 & FY 07 budget request.

***Revenue figures provided by GTA staff.

****20% local contribution to obtain CMAQ funds will be provided by local colleges and is not included in the operating revenue total.

Table 3-10
Mobility Greensboro Short-Term & Intermediate Financial Plan

| Fiscal Year | Budget 2007 | Budget 2008 | Budget 2009 | Budget 2010 | Budget 2011 | Budget 2012 | Budget 2013 |
|----------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <u>Operating</u> | | | | | | | |
| Operating Revenues | \$ 13,744,726 | \$ 14,162,961 | \$ 14,615,336 | \$ 15,086,014 | \$ 15,556,854 | \$ 16,043,703 | \$ 16,617,490 |
| Operating & Maintenance Expenses | \$ 16,549,230 | \$ 17,650,454 | \$ 18,474,317 | \$ 19,901,665 | \$ 20,928,801 | \$ 21,880,748 | \$ 23,740,171 |
| Balance | \$ (2,804,504) | \$ (3,487,493) | \$ (3,858,982) | \$ (4,815,650) | \$ (5,371,947) | \$ (5,837,045) | \$ (7,122,680) |
| <u>Capital</u> | | | | | | | |
| Capital Revenue | \$ 4,011,699 | \$ 4,110,341 | \$ 4,174,662 | \$ 2,857,000 | \$ 3,104,000 | \$ 3,211,000 | \$ 3,307,330 |
| Capital Expenditure | \$ 5,337,940 | \$ 3,406,975 | \$ 2,516,783 | \$ 3,462,203 | \$ 3,104,000 | \$ 3,412,411 | \$ 3,127,531 |
| Change in Capital Funds | \$ (1,326,241) | \$ 703,366 | \$ 1,657,879 | \$ (605,203) | \$ - | \$ (201,411) | \$ 179,799 |

**Table 3-11
Mobility Greensboro Short-Term & Intermediate Financial Plan Summary**

| Plan Phase | Short-Term (FY 2007 - FY 2008) | Intermediate (FY 2009 - FY 2013) | Total |
|---|---|---|------------------------|
| Operating & Maintenance Costs | | | |
| Existing Bus O&M | \$ 32,473,040 | \$ 90,955,274 | \$ 123,428,314 |
| Proposed New Start O&M | \$ 1,726,644 | \$ 13,970,428 | \$ 15,697,072 |
| Total Operating & Maintenance Costs | \$ 34,199,684 | \$ 104,925,702 | \$ 139,125,386 |
| Operating & Maintenance Revenues | | | |
| Operating Revenue | \$ 27,785,539 | \$ 77,055,025 | \$ 104,840,564 |
| Proposed New Start Fares | \$ 122,148 | \$ 864,372 | \$ 986,520 |
| Total Operating & Maintenance Revenues | \$ 27,907,687 | \$ 77,919,397 | \$ 105,827,084 |
| Capital Costs | | | |
| Existing Bus | \$ 1,057,000 | \$ 2,827,571 | \$ 3,884,571 |
| Proposed New Start | \$ 2,607,800 | \$ 577,245 | \$ 3,185,045 |
| Other Capital | \$ 5,080,115 | \$ 12,218,111 | \$ 17,298,226 |
| Total Capital Costs | \$ 8,744,915 | \$ 15,622,928 | \$ 24,367,843 |
| Capital Revenues | | | |
| Total Non-Federal Funds | \$ 1,104,000 | \$ 2,970,540 | \$ 4,074,540 |
| Total Federal Funds | \$ 7,018,040 | \$ 13,683,452 | \$ 20,701,492 |
| Total Capital Revenues | \$ 8,122,040 | \$ 16,653,992 | \$ 24,776,032 |
| Total Costs and Revenues | | | |
| Financial Plan Operating & Maintenance Balance | \$ (6,291,997) | \$ (27,006,305) | \$ (33,298,302) |
| Financial Plan Capital Balance | \$ (622,875) | \$ 1,031,064 | \$ 408,189 |

Figure 3-1
Short-Term & Intermediate Service Plans Total Operating Costs—FY 2007-2013
 (in millions of \$)

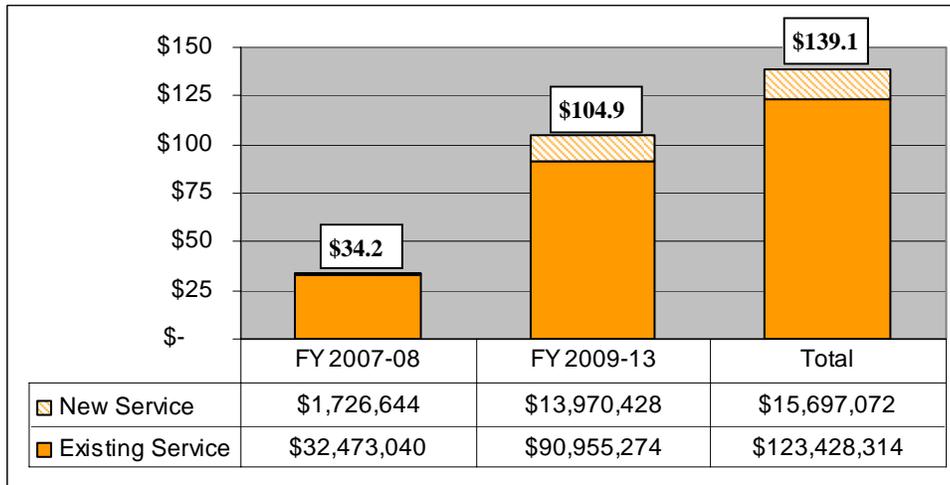
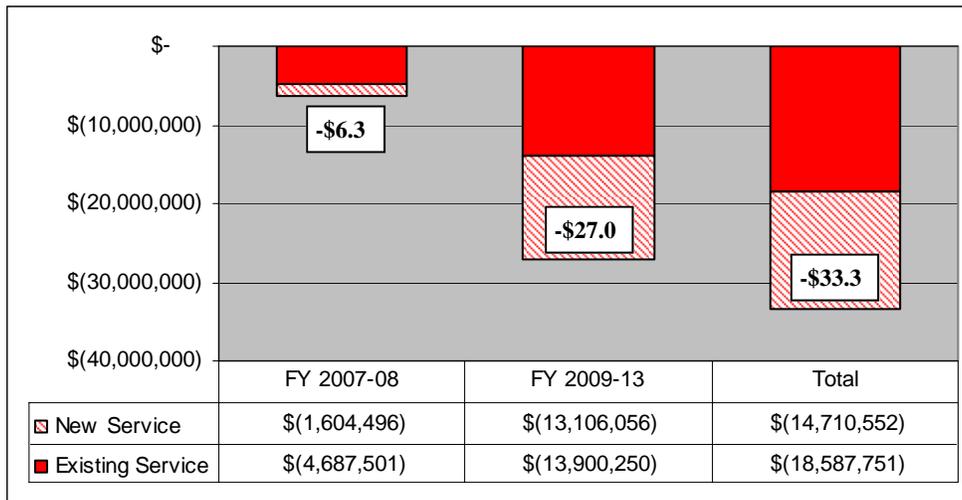


Figure 3-2
Short-Term & Intermediate Service Plans Total Operating Shortfall—FY 2007-2013
 (in millions of \$)



**Table 3-12
Mobility Greensboro Twenty-Year Financial Plan Summary**

| Plan Phase | Short-Term (FY 2007 - FY 2008) | Intermediate (FY 2009 - FY 2013) | Long-Term (FY 2014 - FY 2026) | Total |
|---|---|---|--|-------------------------|
| Operating & Maintenance Costs | | | | |
| Existing Bus O&M | \$ 32,473,040 | \$ 90,955,274 | \$ 310,177,126 | \$ 433,605,440 |
| Proposed New Start O&M | \$ 1,726,644 | \$ 13,970,428 | \$ 162,794,439 | \$ 178,491,511 |
| Total Operating & Maintenance Costs | \$ 34,199,684 | \$ 104,925,702 | \$ 472,971,564 | \$ 612,096,951 |
| Operating & Maintenance Revenues | | | | |
| Operating Revenue | \$ 27,785,539 | \$ 77,055,025 | \$ - | \$ 104,840,564 |
| Proposed New Start Fares | \$ 122,148 | \$ 864,372 | \$ - | \$ 986,520 |
| Total Operating & Maintenance Revenues | \$ 27,907,687 | \$ 77,919,397 | \$ - | \$ 105,827,084 |
| Capital Costs | | | | |
| Existing Bus | \$ 1,057,000 | \$ 2,827,571 | \$ 8,792,325 | \$ 12,676,897 |
| Proposed New Start | \$ 2,607,800 | \$ 577,245 | \$ 26,295,477 | \$ 29,480,522 |
| Other Capital | \$ 5,080,115 | \$ 12,218,111 | \$ 41,518,159 | \$ 58,816,385 |
| Total Capital Costs | \$ 8,744,915 | \$ 15,622,928 | \$ 76,605,961 | \$ 100,973,804 |
| Capital Revenues | | | | |
| Total Non-Federal Funds | \$ 1,104,000 | \$ 2,970,540 | \$ - | \$ 4,074,540 |
| Total Federal Funds | \$ 7,018,040 | \$ 13,683,452 | \$ - | \$ 20,701,492 |
| Total Capital Revenues | \$ 8,122,040 | \$ 16,653,992 | \$ - | \$ 24,776,032 |
| Total Costs and Revenues | | | | |
| Financial Plan Operating & Maintenance Balance | \$ (6,291,997) | \$ (27,006,305) | \$ (472,971,564) | \$ (506,269,867) |
| Financial Plan Capital Balance | \$ (622,875) | \$ 1,031,064 | \$ (76,605,961) | \$ (76,197,772) |



Section 4 - Transit Infrastructure

As part of the Mobility Greensboro, Phase 2 project, the GTA developed a Transit Infrastructure Guidelines Handbook. The handbook provides design standards and guidelines for bus stops and other transit-supportive infrastructure elements throughout the GTA service area. That handbook was prepared as a supplement to this report.

The specifications and physical design criteria found in the handbook are depicted in user-friendly graphic and tabular formats. Some of the guidelines have been developed for application to specific bus stop types, while other design guidelines enable more flexibility to allow particular infrastructure elements to adapt to the surrounding character and environment of the areas being served.

PURPOSE OF THE HANDBOOK

In creating the handbook, GTA endeavors to fulfill a number of goals related to the provision of its transportation services throughout the City of

Greensboro. Included in these goals are the following:

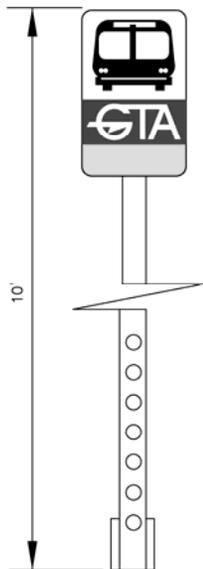
- improve the level and quality of transit supportive infrastructure throughout the City of Greensboro;
- improve operation of and access to multi-modal transportation services;
- promote safety and security on transit vehicles and at stops;
- increase the comfort and satisfaction of existing system patrons;
- improve the overall attractiveness of transit as a commute alternative;
- promote local government and private sector partnerships; and
- coordinate land use with the provision of transportation services.

The handbook includes an assortment of topics. The bus stop section in the handbook addresses the classification of bus stops, the placement and spacing of bus stops, bus stop design, and stop infrastructure. Other sections of the handbook address design standards for vehicles and related vehicle maneuverability issues. In addition, a section on Transit-Oriented Development (TOD) has been included.

Ultimately, it is envisioned that the guidelines will be incorporated into the local Land Development Code regulations. Inclusion into the site plan and subdivision approval process will provide the implementation tool needed to ensure transit infrastructure is constructed as the Greensboro area continues to grow and develop in the future.



Transit-Oriented Development



POST
 1. SIGN POST BLACK POWDER COAT. 1 3/4" x 1 3/4" x 10' SQUARE TUBING, 14 GAUGE HOLES SHALL BE 7/16" ON 1" CENTERS. POST TO BE PUNCHED ON ALL FOUR SIDES. TO BE TELES PAR 16 D-12-10QP OR EQUAL.

ANCHOR
 2. 12 GAUGE 2"x2" SINGLE ANCHOR 1/3/4" SIGN POST. TO BE TELES PAR 20F12-PG 30" OR EQUAL. ITEM OFFERED: MFG. UNISTRUT STK.# 20F12-PG

NOTE: IF THE ANCHOR IS TO BE LOCATED WITHIN A CONCRETE AREA A 2 1/2" SQUARE HOLE SHOULD BE LEFT FOR ANCHOR INSTALLATION.

GTA Bus Stop Signage Specifications



Section 5 - Integration With Other Plans

An important part of Mobility Greensboro is the coordination with City of Greensboro and MPO staff regarding the transit components of the City’s Comprehensive Plan and the MPO’s Long Range Transportation Plan (LRTP). The ultimate objective is to integrate Mobility Greensboro into these broader planning activities and ensure consistency with these plans.

COORDINATION MEETINGS

Meetings were held with representatives of the MPO and the City of Greensboro Planning Department to discuss Mobility Greensboro and its relationship to their recent planning activities. More specifically, a meeting was held with MPO staff regarding the Greensboro Urban Area 2030 LRTP and another meeting was held with Planning Department staff to discuss Mobility Greensboro and the Greensboro Connections 2025 Comprehensive Plan. The City’s efforts to update its Land Development Ordinance also were discussed in the context of the “Transit Infrastructure Guidelines Handbook,” also developed as part of Mobility Greensboro.

PLANNING ACTIVITIES

Greensboro Urban Area 2030 Long Range Transportation Plan (meeting with Tyler Meyer, AICP, Division Manager, and Jeff Sovich, AICP, MPO Planner)

A meeting was held with MPO staff to discuss the recently updated 2030 LRTP and its relationship with Mobility Greensboro. A summary of key issues discussed at this meeting is provided below.

- The LRTP essentially used the Phase 1 report for Mobility Greensboro as the source for the Transit Element of the 2030 plan. The assumption is made that the transit improvements identified in the Mobility Greensboro financial plan will be implemented by 2015.
- Based on the potential funding sources suggested in the Phase 1 Mobility Greensboro Plan, additional revenue to fund transit improvements



was identified as potentially coming from the following sources:

- ◇ Increasing the millage for transit to the cap by 2007.
- ◇ Increasing the motorpool tax for transit to \$10.00 in 2010.
- ◇ Increasing the cash fare by 25 percent in 2010.
- Transit improvements beyond 2015 are not identified in the LRTP.
- The additional detail provided by Phase 2 of Mobility Greensboro will likely result in the need for amendments to the LRTP. The MPO noted that there will be an opportunity to include amendments as part of the air quality conformity process being performed by April 2006.
- MPO staff noted that some other projects may be relevant to Mobility Greensboro. These projects include:
 - ◇ Development of a Bicycle, Pedestrian, and Greenways Plan
 - ◇ Upgrades to the traffic signal systems (Intelligent Transportation Systems program)
 - ◇ Evaluation of parking policies
 - ◇ Update for the Land Development Ordinance
- A study should be initiated to evaluate the size and location for a new GTA administrative and maintenance facility.

Greensboro Connections 2025 Comprehensive Plan (meeting with Dick Hails, AICP, Planning Director, and Heidi Galanti, AICP, Comprehensive Planner)

A meeting was held with City planning staff to discuss the Comprehensive Plan and its relationship to Mobility Greensboro. A summary of key issues discussed at this meeting is provided below.

- The status of implementing the Comprehensive Plan was discussed, with staff indicating that three projects had been completed in the first year following its adoption. These projects included:
 - ◇ Enhancements to GTA service
 - ◇ Establishment of parking standards
 - ◇ Downtown parking strategy
- Areas of potential future coordination between the Comprehensive Plan and Mobility Greensboro include:
 - ◇ Transit implications for the Land Development Ordinance that is being updated (transit infrastructure design, site plan review process, transit oriented development, etc.)
 - ◇ Intelligent Transportation System applications (signal system upgrade and potential for transit signal priority)
 - ◇ Identification of sidewalk improvements
 - ◇ Revision of the City’s parking policies
- There is need for GTA to coordinate with City planning staff, particularly as it relates to the



annual process for monitoring and reporting on the implementation status of various projects (including Mobility Greensboro) identified in the Comprehensive Plan.

GREENSBORO LAND DEVELOPMENT ORDINANCE

Consistent with the Comprehensive Plan, the City of Greensboro is currently rewriting its Land Development Ordinance (LDO). When completed, the LDO “will provide one source for standards and regulations relating to land use and development in the City.” The new LDO will replace the current ordinance that was adopted in 1992. According to the City, the following goals were identified to guide the update:

- A user-friendly, well-organized document with compelling illustrations and graphics that are easy-to-use for all parties that are subject to or affected by the land development process.
- Ordinances that are easy-to-enforce and administer by the City.
- Regulations that conserve the City’s natural resources.
- Innovative planning solutions that fit the many parts of Greensboro from the rural countryside to the urban core.
- Neighborhood protection while streamlining development review.
- A solid growth management tool that incorporates incentives and regulations for compliance, including but not limited to:
 - ◊ providing standards that support infill development,
 - ◊ reducing the number of residential zoning

districts,

- ◊ establishing well-defined user-friendly mixed-use districts,
- ◊ developing standards that will support transit oriented developments and activity centers, and
- ◊ developing performance based regulations that will address design standards.

The goals identified above are consistent with Mobility Greensboro. It will be important, however, for GTA staff to continue their involvement in the review of the ordinance as it continues to be developed. The Mobility Greensboro Transit Infrastructure Guidelines Handbook should be provided to City staff and their LDO consultant for review and consideration for the final LDO.

PIEDMONT AUTHORITY FOR REGIONAL TRANSPORTATION (PART)

In addition to integrating Mobility Greensboro into other local transportation plans, GTA should continue to coordinate with other agencies providing transit service to the Greensboro area. PART operates regional express services that connect Greensboro, High Point, and Winston-Salem. PART recently expanded its express services to include a Kennerly/Dell connection. PART also plans to open several new park-and-ride lots in the Greensboro area. As PART continues to develop its regional services, GTA should look for opportunities to integrate PART services with the local GTA bus system. GTA also should continue coordination activities with PART as longer term regional transit solutions continue to be evaluated, e.g., commuter rail.



Section 6 - Action & Monitoring Plan

Mobility Greensboro is the first long range public transportation master plan ever developed by GTA and the City of Greensboro. The purpose of this report is to define the details and provide guidance for the implementation of the plan. Included in this effort is the development of an Action Plan and a Plan Monitoring Process. The Action Plan reflects plan elements, action items, responsible entities, and timeframes for implementation. The resulting Action Plan table serves as a checklist that will need to be reviewed and updated on an annual basis. In addition to the Action Plan, a Plan Monitoring Process is identified to again help facilitate the implementation of Mobility Greensboro. The Action Plan and Plan Monitoring Process are presented below.

ACTION PLAN

To maintain consistency and compatibility, the Action Plan is formatted in a manner consistent with the Action Plan in the “Greensboro Connections 2025 Comprehensive Plan.” Figure

6-1, provided at the conclusion of this section, illustrates the Action Plan for Mobility Greensboro.

The action items are organized into eight plan elements, including:

- Financial Plan
- Service Plan
- Capital Plan
- Technology Plan
- Staffing Plan
- Marketing Plan
- Infrastructure Plan
- Security Plan

For each plan element, specific action items are identified for three time periods:

- Short-term actions (1-2 years)
- Intermediate actions (3-5 years)
- Long-term actions (6-15 years)

In addition, the entities responsible for implementation also are identified for each action item. Responsible entities in the Action Plan include the following:

- Greensboro Transit Authority (GTA)
- City of Greensboro
- Contract operator
- Implementation Committee

An Implementation Committee will help facilitate the implementation process and is discussed in more detail as part of the Plan Monitoring Process.

PLAN MONITORING PROCESS

The most important component of the Plan Monitoring Process is the establishment of an entity that will lead the implementation and monitoring effort. As a result, it is recommended that GTA and the City establish the Mobility Greensboro Action Committee (MGAC). MGAC should include representation from:

- GTA
- Other City staff
- Contract operator

The committee will be responsible for:

- Meeting quarterly to discuss the status of the Action Plan.
- Coordinating with GTA staff in the implementation of the Action Plan.
- Using the Action Plan table as a checklist to monitor the implementation of the Action Plan.
- Holding responsible entities accountable for action items assigned in the Action Plan.
- Updating the Action Plan table on an annual basis to specify actions that were completed in the previous year and revisions that should be made to actions that have not been completed.
- Preparing an annual status report to assist the City in monitoring the transit element of the City's Comprehensive Plan.

**Table 6-1
Mobility Greensboro Public Transportation Master Plan**

| Plan Element | Short-Term Actions FY 2006/07 - FY 2007/08 | | | Intermediate Actions FY 2008/09 - FY 2012/13 | | | Long-Term Actions FY 2013/14 - FY 2024/26 | | |
|----------------|--|--------------------------------|-----------|---|----------------|--|--|----------------|-----------|
| | Action | Responsibility | Checklist | Action | Responsibility | Checklist | Action | Responsibility | Checklist |
| Financial Plan | Secure funding for short-term service expansion. | GTA, City | | Secure funding for intermediate service expansion. | GTA, City | | Secure funding for long-term service expansion. | GTA, City | |
| | Secure funding for short-term capital expansion. | GTA, City | | Secure funding for intermediate capital expansion. | GTA, City | | Secure funding for long-term capital expansion. | GTA, City | |
| | Secure funding for technology implementation. | GTA, City | | Secure funding for technology implementation. | GTA, City | | Secure funding for technology implementation. | GTA, City | |
| | | | | Secure funding for land needed for new administrative and maintenance facility. | GTA, City | | Secure funding for the design and construction of a new administrative and maintenance facility. | GTA, City | |
| | | | | Evaluate fare policy and increase full-cash fare \$1.25 for each boarding. | GTA, City | | | | |
| Service Plan | Implement university and college service. | GTA, City, Technical Committee | | Implement new South Elm/Eugene-Vandalia Road Connector to serve the new Wal-Mart. | GTA | | Improve 30-minute frequency during peak periods (6-9 am, 4-7 pm) on all crosstown and connector routes | GTA | |
| | Improve 30-minute frequency during peak periods (6-9 am, 4-7 pm) on Routes 1 through 14. | GTA | | Expand evening service to match the day-time service on Routes 1 through 14. | GTA | | Expand evening service to match the day-time service on all crosstown and connector routes | GTA | |
| | Implement crosstown route along Holden Road (first GTA crosstown route). | GTA | | Expand Sunday service to match the day-time service on Routes 1 through 14. | GTA | | Expand Sunday service to match the day-time service on all crosstown and connector routes | GTA | |
| | Integrate PART and GTA transit services as future regional services are developed. | GTA, City | | Implement new North Battleground Avenue Connector to serve several locations north and west of current Route 8. | GTA | | Provide 15 minute frequency during peak periods (6-9 am, 4-7 pm) on Routes 1 through 14 | GTA | |
| | | | | Implement all-day, 30-minute frequencies on Routes 1 through 14. | GTA | | Implement West Market Connector and truncate Route 9 | GTA | |
| | | | | Integrate PART and GTA transit services as future regional services are developed. | GTA, City | | Implement North Elm Connector and truncate Route 3 | GTA | |
| | | | | | | | Provide midday and Saturday service on Lawndale Connector | GTA | |
| | | | | | | | Implement crosstown route along Florida Avenue | GTA | |
| | | | | | | Implement crosstown route along Cone Boulevard | GTA | | |

**Table 6-1
Mobility Greensboro Public Transportation Master Plan**

| Plan Element | Short-Term Actions FY 2006/07 - FY 2007/08 | | | Intermediate Actions FY 2008/09 - FY 2012/13 | | | Long-Term Actions FY 2013/14 - FY 2024/26 | | |
|--|---|-------------------------------|-----------|---|---|-----------|---|--|-----------|
| | Action | Responsibility | Checklist | Action | Responsibility | Checklist | Action | Responsibility | Checklist |
| | Capital Plan | Acquire replacement vehicles. | GTA | | Identify site for future administrative and maintenance facility. | GTA, City | | Construct new administrative and maintenance facility. | GTA, City |
| Acquire new vehicles for short-term service expansion. | | GTA | | Acquire land for future administrative and maintenance facility. | GTA, City | | Acquire replacement vehicles. | GTA | |
| Continue implementing bench and shelter program. | | GTA, City | | Design new administrative and maintenance facility. | GTA, City | | Acquire new vehicles for long-term service expansion. | GTA | |
| Initiate feasibility study for future administrative and maintenance facility. | | GTA, City | | Acquire replacement vehicles. | GTA | | Continue implementing bench and shelter program. | GTA, City | |
| | | | | Acquire new vehicles for intermediate service expansion. | GTA | | | | |
| | | | | Continue implementing bench and shelter program. | GTA, City | | | | |
| Technology Plan | Install surveillance cameras on big buses. | GTA | ✓ | Implement an Automatic Vehicle Location (AVL) System. | GTA | | Evaluate the use of alternative-fueled vehicles. | GTA, City | |
| | Acquire and install Automatic Passenger Counters on big buses. | GTA | | Install Solar Lighting at bus stops with the greatest passenger activity. | GTA | | | | |
| | | | | Upgrade the dispatching software. | GTA, Contract Operator | | | | |
| | | | | Provide real-time customer information at major transfer locations (kiosks) and through the Internet. | GTA | | | | |
| Staffing Plan | Hire 8 drivers to support service plan implementation. | Contract Operator | | Hire 20 drivers to support service plan implementation. | Contract Operator | | Hire 54 drivers to support service plan implementation. | Contract Operator | |
| | Hire 1 supervisors to support service plan implementation. | Contract Operator | | Hire 1 supervisor to support service plan implementation. | Contract Operator | | Hire 3 supervisors to support service plan implementation. | Contract Operator | |
| | Hire 2 maintenance employees to support service plan implementation. | Contract Operator | | Hire 5 maintenance employees to support service plan implementation. | Contract Operator | | Hire 10 maintenance employees to support service plan implementation. | Contract Operator | |
| | Hire 1 administrative employees to support service plan implementation. | Contract Operator | | Hire 2 administrative employee to support service plan implementation. | Contract Operator | | Hire 5 administrative employees to support service plan implementation. | Contract Operator | |

**Table 6-1
Mobility Greensboro Public Transportation Master Plan**

| Plan Element | Short-Term Actions FY 2006/07 - FY 2007/08 | | | Intermediate Actions FY 2008/09 - FY 2012/13 | | | Long-Term Actions FY 2013/14 - FY 2024/26 | | |
|---------------------|---|----------------------------------|-----------|--|------------------|-----------|--|------------------|-----------|
| | Action | Responsibility | Checklist | Action | Responsibility | Checklist | Action | Responsibility | Checklist |
| Marketing Plan | Retain professional services from a transit public relations/marketing firm. | Completed in 2004. | ✓ | | | | | | |
| | Continue pursuing the Univeristy and College Service Program. | GTA, City, Technical Committee | | | | | | | |
| | Expand Corporate Connections program. | GTA, Public Relations Firm | | | | | | | |
| | Continue promoting GTA and transit in the community (e.g., Dump the Pump). | GTA, City, Public Relations Firm | | | | | | | |
| Infrastructure Plan | Meet with City staff to review Transit Infrastructure Guidelines. | GTA, City | | Review and update Transit Infrastructure Guidelines Handbook as appropriate. | GTA, City | | Review and update Transit Infrastructure Guidelines Handbook as appropriate. | GTA, City | |
| | Adopt Transit Infrastructure Guidelines Handbook. | GTA Board | | Implement infrastructure guidelines (incrementally). | GTA, City | | Implement infrastructure guidelines (incrementally). | GTA, City | |
| | Integrate Transit Infrastructure Guidelines into City's Land Development Ordinance. | GTA, City | | | | | | | |
| | Implement infrastructure guidelines (incrementally). | GTA, City | | | | | | | |
| Security Plan | Update GTA security plan. | GTA | | Update GTA security plan. | GTA | | Update GTA security plan. | GTA | |
| | Implement security plan recommendations. | GTA, City, Other | | Implement security plan recommendations. | GTA, City, Other | | Implement security plan recommendations. | GTA, City, Other | |
| | Define GTA's role in non-transit related emergencies. | GTA, City, Other | | | | | | | |
| | Profie security training to employees. | GTA, Contract Operator | | | | | | | |



Appendix
Short-Term Service Plan Proposed Schedules



**Table A-1
Proposed Schedule – Holden Road Crosstown Route**

| Friendly Center | Holden & Spring Garden | Four Seasons Town Center | Osborne & Vandalia | Four Seasons Town Center | Holden & Spring Garden | Friendly Center |
|-----------------|------------------------|--------------------------|--------------------|--------------------------|------------------------|-----------------|
| | | 5:35 a.m. | 5:42 a.m. | 5:51 a.m. | 6:01 a.m. | 6:07 a.m. |
| 6:12 a.m. | 6:20 a.m. | 6:30 | 6:38 | 6:48 | 6:59 | 7:06 |
| 7:12 | 7:20 | 7:30 | 7:38 | 7:48 | 7:59 | 8:06 |
| 8:12 | 8:20 | 8:30 | 8:38 | 8:48 | 8:59 | 9:06 |
| 9:12 | 9:20 | 9:30 | 9:38 | 9:48 | 9:59 | 10:06 |
| 10:12 | 10:20 | 10:30 | 10:38 | 10:48 | 10:59 | 11:06 |
| 11:12 | 11:20 | 11:30 | 11:38 | 11:48 | 11:59 | 12:06 p.m. |
| 12:12 p.m. | 12:20 p.m. | 12:30 p.m. | 12:38 p.m. | 12:48 p.m. | 12:59 p.m. | 1:06 |
| 1:12 | 1:20 | 1:30 | 1:38 | 1:48 | 1:59 | 2:06 |
| 2:12 | 2:20 | 2:30 | 2:38 | 2:48 | 2:59 | 3:06 |
| 3:12 | 3:20 | 3:30 | 3:38 | 3:48 | 3:59 | 4:06 |
| 4:17 | 4:25 | 4:35 | 4:43 | 4:53 | 5:04 | 5:11 |
| 5:22 | 5:30 | 5:40 | 5:48 | 5:58 | 6:09 | 6:16 |
| 6:37 | 6:45 | 6:55 | 7:03 | 7:13 | 7:24 | 7:31 |

- Note:*
- (1) Timed transfer with OB Route 7 arriving at Friendly Center at :08.
 - (2) IB Route 7 arrives at Friendly Center at :40.
 - (3) Timed transfer with Route 2 arriving at Four Seasons Town Center at :30.

Southbound route:

Leave Friendly Center stop eastbound on Grandview, R on Green Valley, R on Friendly, L on Holden, L on High Point, R on Veasley, bear L on Koury to Four Seasons stop at Belk. Continue R on Four Seasons Boulevard, R on Vanstory, L on Holden, R on Daye, R on Osborne to stop at near side of Vandalia (across from Hemphill Branch Library driveway). Alternate route: Holden R on Vandalia, L into Library to stop outside library door, assuming that we receive permission from the library to enter its parking area.

Northbound route:

Leave Osborne & Vandalia via R on Vandalia, L on Holden, R on Vanstory, and L on Four Seasons Boulevard to Four Seasons stop at Belk. Continue L on Koury into Veasley, L on High Point, R on Holden, R on Friendly, L on Pembroke, and R on Grandview to Friendly Center stop.



Table A-2
Proposed Schedule – South Elm/Eugene/Vandalia Road/Four Seasons Connector

| Creek Ridge & S. Elm/Eugene | UPS | Creek Ridge & Randleman | Wal-Mart | Vandalia & Randleman | Four Seasons Town Center | Vandalia & Randleman | Wal-Mart | Randleman & Vandalia | Creek Ridge & S. Elm/Eugene |
|-----------------------------|------------|-------------------------|------------|----------------------|--------------------------|----------------------|------------|----------------------|-----------------------------|
| 5:26 a.m. | 5:28 a.m. | 5:31 a.m. | 5:39 a.m. | 5:45 a.m. | 6:22 a.m. | 6:31 a.m. | 6:36 a.m. | 6:42 a.m. | 6:45 a.m. |
| 6:50 | 6:52 | 6:56 | 7:04 | 7:10 | 7:22 | 7:31 | 7:36 | 7:42 | 7:45 |
| 7:50 | 7:52 | 7:56 | 8:04 | 8:10 | 8:22 | 8:31 | 8:36 | 8:42 | 8:45 |
| 8:50 | 8:52 | 8:56 | 9:04 | 9:10 | 9:22 | 9:31 | 9:36 | 9:42 | 9:45 |
| 9:50 | 9:52 | 9:56 | 10:04 | 10:10 | 10:22 | 10:31 | 10:36 | 10:42 | 10:45 |
| 10:50 | 10:52 | 10:56 | 11:04 | 11:10 | 11:22 | 11:31 | 11:36 | 11:42 | 11:45 |
| 11:50 | 11:52 | 11:56 | 12:04 p.m. | 12:10 p.m. | 12:22 p.m. | 12:31 p.m. | 12:36 p.m. | 12:42 p.m. | 12:45 p.m. |
| 12:50 p.m. | 12:52 p.m. | 12:56 p.m. | 1:04 | 1:10 | 1:22 | 1:31 | 1:36 | 1:42 | 1:45 |
| 1:50 | 1:52 | 1:56 | 2:04 | 2:10 | 2:22 | 2:31 | 2:36 | 2:42 | 2:45 |
| 2:50 | 2:52 | 2:56 | 3:04 | 3:10 | 3:22 | 3:31 | 3:36 | 3:42 | 3:45 |
| 3:50 | 3:52 | 3:56 | 4:04 | 4:10 | 4:22 | 4:31 | 4:36 | 4:42 | 4:45 |
| 4:50 | 4:52 | 4:56 | 5:04 | 5:10 | 5:22 | 5:31 | 5:36 | 5:42 | 5:45 |
| 5:50 | 5:52 | 5:56 | 6:04 | 6:10 | 6:22 | 6:31 | 6:36 | 6:42 | 6:45 |
| 6:50 | 6:52 | 6:56 | 7:04 | 7:10 | 7:22 | 7:31 | 7:36 | 7:42 | 7:45 |

- Note:*
- (1) Timed transfer with OB Route 12 arriving at S. Elm/Eugene & Creek Ridge at :50 (half-hour bus).
 - (2) Timed transfer with IB Route 12 arriving at Creek Ridge and Randleman at approximately :57 (half-hour bus).
 - (3) Timed transfer with Route 2 leaving at Four Seasons Town Center at :30.
 - (4) Truncated Route 2 should arrive at Four Seasons Town Center at :20 for timed transfer with Connector route.
 - (5) First bus held for connection with Route 2 at Four Seasons Town Center.

Westbound route:

Leave Creek Ridge near side of South Elm/Eugene traveling east across South Elm/Eugene via Industrial, R on Executive making a U-turn at the end of the street to serve UPS. Continue north on Executive, L on Industrial continuing on Creek Ridge, L on Randleman, L on Vandalia, R on South Elm/Eugene, R. on West Elmsley to on-street stop at Wal-Mart. Continue west on West Elmsley into Old Treybrooke, R on Randleman, L on Vandalia, R on Creek Ridge, L on Four Seasons, and L to the Four Seasons Town Center stop at Belk’s.

Eastbound route:

Leave Four Seasons Town Center via R on Four Seasons, L on Vandalia, R on Randleman, L on Old Treybrooke continuing on West Elmsley to on-street stop at Wal-Mart. Continue east on West Elmsley, L on South Elm/Eugene, L on Vandalia, R on Randleman, R on Creek Ridge to stop near side of South Elm/Eugene.



**Table A-3
Proposed Schedule – North Battleground Connector**

| Martinsville & Pisgah Church | Battleground & Cotswold | Drawbridge & Wells Spring II | Hobbs Library | Horse Pen Creek & Battleground | Cotswold & Battleground (Wal-Mart) | Martinsville & Pisgah Church |
|------------------------------|-------------------------|------------------------------|---------------|--------------------------------|------------------------------------|------------------------------|
| 5:30 a.m. | 5:36 a.m. | 5:39 a.m. | 5:49 a.m. | 6:00 a.m. | 6:03 a.m. | 6:12 a.m. |
| 6:30 | 6:36 | 6:39 | 6:49 | 7:00 | 7:03 | 7:12 |
| 7:30 | 7:36 | 7:39 | 7:49 | 8:00 | 8:03 | 8:12 |
| 8:30 | 8:36 | 8:39 | 8:49 | 9:00 | 9:03 | 9:12 |
| 9:30 | 9:36 | 9:39 | 9:49 | 10:00 | 10:03 | 10:12 |
| 10:30 | 10:36 | 10:39 | 10:49 | 11:00 | 11:03 | 11:12 |
| 11:30 | 11:36 | 11:39 | 11:49 | 12:00 p.m. | 12:03 p.m. | 12:12 p.m. |
| 12:30 p.m. | 12:36 p.m. | 12:39 p.m. | 12:49 p.m. | 1:00 | 1:03 | 1:12 |
| 1:30 | 1:36 | 1:39 | 1:49 | 2:00 | 2:03 | 2:12 |
| 2:30 | 2:36 | 2:39 | 2:49 | 3:00 | 3:03 | 3:12 |
| 3:30 | 3:36 | 3:39 | 3:49 | 4:00 | 4:03 | 4:12 |
| 4:35 | 4:41 | 4:44 | 4:54 | 5:05 | 5:08 | 5:17 |
| 5:40 | 5:46 | 5:49 | 5:59 | 6:10 | 6:13 | 6:22 |
| 6:55 | 7:01 | 7:04 | 7:14 | 7:25 | 7:28 | 7:37 |

Note: Timed transfer with Route 8 at Martinsville & Pisgah Church at :30.

The route will continue on Cotswold Avenue, right on Old Battleground, left on Battleground, left on Pisgah Church, left on Lawndale, and left on Martinson to Martinson & Pisgah Church, where it will meet Route 8. The alternate route would serve the library off Hobbs Road by turning left on Horse Pen Creek, right on New Garden, left on Hobbs, right on Price Park, and left up to the Katleen Clay Edwards Family library, then return via Hobbs, New Garden, and Horse Pen Creek to the basic route.

Westbound route:

Leave Martinsville & Pisgah Church via R on Pisgah Church, R on Battleground, L on Drawbridge past Wells Spring Retirement community, L on Horse Pen Creek, R on New Garden, L on Hobbs, R on Price Park, L to library.

Eastbound route:

Leave Hobbs Library via access road, R on Price Park, L on Hobbs, R on New Garden, L on Horse Pen Creek, R on Battleground, L on Cotswold to the existing Route 8 Wal-Mart stop. Continue east on Cotswold, R. on Old Battleground, L on Battleground, L on Pisgah Church, L on Lawndale, and L on Martinsville to stop at Martinsville & Pisgah