Cobb County
Department of Transportation

Transit Planning Study

Technical & Summary Reports

Transit Planning Study

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Cobb County
Transit Planning Study

Bus Stop Inventory and Improvement Plan

URS

April 2006

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1.0 INTRODUCTION

The Cobb County Department of Transportation undertook a Transit Planning Study (TPS) for Cobb Community Transit (CCT) during 2005-2006. The purpose of the study was to produce a Transit Service Enhancement Plan through collecting current detailed operations information, evaluating the information, and formulating recommended service and capital improvements for the system. A component of the study included establishment of a bus stop database and recommendations for bus stop improvements in signage, accessibility, and amenities. This document outlines the process by which the CCT bus stop signage improvements were developed and the analysis undertaken to identify the related improvements.

2.0 OBJECTIVES

The individual bus stop is often overlooked, but serves as the critical customer information and public relations element of any transit system. The stop location, accessibility, passenger amenities, and sign design should be periodically reviewed to ensure provision of the most customer friendly arrangement possible. The Bus Stop Signage Improvement Analysis included a review of the CCT bus stop sign, locations, and functions.

The general guidelines or goals of bus stop signage improvements are as follow:

- CCT bus stops should have a clear and distinct new identity;
- Stop locations should meet ADA requirements;
- CCT bus stops should fit into and be compatible with the existing environments; and
- CCT bus stops should be designed to be comfortable, safe, durable, and easy to maintain.

3.0 APPROACH

When the TPS commenced, one of the major tasks was the bus stop inventory. Once the RideCount and On-Board Survey tasks were completed, a systemwide bus stop inventory was undertaken. The GPS data points collected during the RideCount study combined with the CCT provided GIS route files were used to generate preliminary route and bus stop files for the data collection effort. The two person data collection team utilized a Tablet PC programmed with a bus stop inventory application to collect GPS coordinates, two digital images of each bus stop, and bus stop attributes for each stop found. A project website was developed for visualizing and auditing the inventory as it progressed. During that task, several data sets were created including bus stop information throughout the system. The two data sets were used for this effort, ridership data, and survey data. The ridership data set includes information on the ridership activities, which includes

boardings, and alightings. A total of 694 records are included in this table. The survey data set includes information on the physical characteristics at each bus stop in the CCT system and a total of 724 records are included in this table. The two tables are included in the CCT Bus Stop Inventory database.

The number of bus stop locations differs between the two tables as bus stops without daily boardings are excluded from the ridership data table. For this reason there is a variance of 30 bus stops between the two tables. Therefore the data set that was used to perform the analysis in this task consisted of 694 records. Those records consist of information regarding ridership and physical characteristics at the bus stop locations.

The database was used to perform an in-depth analysis of all bus stop locations and the amenities at each stop. Although it may be desirable to provide as many amenities as possible, most bus stops are not this elaborate. The recommendations focus primarily on bus stop signage, shelters and other amenities.

In addition to the physical characteristics, the analysis addressed pedestrian accessibility to transit stops, which is controlled by walking distance. Crossing busy streets or walking along roads without pedestrian facilities limits accessibility. By comparing locations with high demand and low accessibility, service changes can be prioritized.

4.0 FINDINGS

The objective of this analysis is to assess the condition of amenities and infrastructure at each bus stop and develop a bus stop improvement plan. Overall the bus stops in the CCT service area in good condition and provide the appropriate amenities for CCT's customers. However, there were some areas in need of improvement. The following section presents the findings of this analysis. The data collected in the bus stop inventory was grouped into two categories for the bus stop assessment: stop characteristics and stop accessibility.

4.1 Bus Stop Characteristics

The data analyzed consisted of 20,656 daily passenger boardings (weekday and Saturday) at 694 bus stops, 580 have bus stop signs, 530 have sidewalks, and 348 include shelters. Bus stop characteristics were grouped into four sections. These sections include: signage, shelters, lighting, and trash receptacles. The following presents the findings in each of these sections.

Bus stop signage was inventoried to identify any location without a sign. Of the 694 bus stops included in the database, 114 bus stops did not have a sign posted. However, 111 of those bus stops were at locations where a shelter was provided and CCT desires that a bus stop sign is placed at all shelter locations. There were only three locations where there was no sign and no shelter.

Daily passenger boardings were used to determine where to place additional shelters and benches. Any location with more than 25 daily boardings was a candidate for a shelter, and any location with between 10 and 25 daily boardings was a candidate for a bench.

Bus stop shelters are provided through an advertisement firm or owned by the county. The advertisement shelters are not installed based on passenger boardings, but primarily on the ability to provide a good location for advertisement exposure. Shelters contain additional amenities, of benches, lighting, and trash receptacles. The analysis conducted at the shelters included identifying the amenities at each location. A total of 348 shelters were identified in the bus stop inventory, with a remaining 346 stop locations without shelters. Of the 346 locations without shelters, 44 locations have greater than 25 daily boardings.

Benches were provided at 339 shelter locations. There were only nine shelters in the system without benches. Lighting was provided at 208 shelters, and 343 locations have trash receptacles.

It is CCT's goal to provide trash receptacles at all locations. Of the 694 locations (those with and without shelters) analyzed, 392 have trash receptacles. There are 302 locations without trash receptacles and 294 of the locations without trash receptacles are at locations without shelters. However, only 20 locations without trash receptacles have greater than 25 daily boardings.

4.2 Bus Stop Accessibility

GIS was used to assess the accessibility provided for customers accessing the bus stops. A quarter mile buffer was established for each bus stop. Proximal Land Use for acceptable types was assigned to each bus stop buffer based on ARC LandPro03 data. For the census blocks that intersect each bus stop buffer, population density was calculated from 2000 U.S. Census data. The population density values were then assigned to each bus stop buffer. Bus stops were assigned the data from their respective buffers. Though the GIS techniques each bus stop was indexed by combining the factors for: population density, sidewalk condition, bus stop connectivity, crosswalk accessibility, and the presence or absence of preferred proximal land use types. The accessibility factors are summarized at the conclusion of this section.

Population Density

The density number represents the number of people per acre within the quarter mile buffer. Population numbers are based on 2000 U.S. Census SF3 data. Acreage was computed from the GIS. The density values were quartiled and assigned an index from 1 to 4, with one being the lowest.

Sidewalk Condition

Sidewalk conditions were taken from bus stop database created during the bus stop inventory task. Index values were assigned as follows: for bus stops with no sidewalks a value of 1 was assigned; bus stops with sidewalks in poor condition were assigned a value of 2; bus stops with sidewalks in fair condition were assigned a value of 3; and bus stops with sidewalks in good condition were assigned a value of 4.

A total of 530 locations consist of sidewalks, with 72 of the sidewalks in need of repair. Twenty of the locations needing repair have greater than 25 daily boardings. In addition there are 164 locations without sidewalks, with 22 of those locations having greater than 25 daily boardings.

In addition to reviewing the sidewalk conditions to support the accessibility of the customers, it was also necessary to assess the sidewalk conditions as they relate to customers with disabilities. To assess these needs, data was collected on sidewalk physical design, number of bus stops with ADA compliant concrete pads, and curb ramps. Sidewalk design guidelines recommend a minimum width of five feet to accommodate the needs of persons in wheelchairs, as well as the installation of ADA compliant concrete pads to assist the visually impaired. Sidewalk widths were grouped into three categories: less than five feet, equal to five feet, and greater than five feet. Sidewalk width results showed that 70 percent of the sidewalks are five feet wide or greater. Only 179 sidewalks have widths less than five feet. The results of the assessment also showed that approximately 50 percent of the bus stops have ADA concrete pads, 57 percent have curb ramps, and three percent have physical obstructions.

Bus Stop Connectivity

Connectivity was derived from the bus stop database provided by CCT. Bus stops that connect to adjacent land uses were assigned a value of 2, bus stops that connect to an intersection were assigned a value of 3, bus stops that connect to a marked crosswalk were assigned a value of 4. Bus stops that had none of these types of connectivity were assigned a value of 1.

Proximity of a Crosswalk

Those bus stops near a crosswalk were given a plus one bonus. This data was taken from the survey data table.

Proximity of Preferred Land Use Types

Those bus stops with preferred proximal land use types (see list below) were given a plus one bonus. This data was assigned to each bus stop based on ARC's LandPro03 data.

Explanation of Preferred Land Use Types

Undeveloped areas and those deemed to be undevelopable were removed from the data set. A list of Preferred Land Use Types (from ARC's LU_Name Category) includes:

- Commercial
- Ind/Com
- Inst_Extensive
- Inst_Intensive
- Parks
- Park_Lands
- Res_High
- Res_Low
- Res_Med
- Res_Mobile
- Res_Multi

Cumulative Index Total

The base measures were averaged and then the bonus values, if applicable, were added. The resulting ranges of values, from 1 to 8, were categorized into four qualitative groups: excellent, good, fair, and poor; that represent the level of accessibility for a given bus stop. Following are the results from this analysis.

Accessibility Level	Bus Stop Count	Percent of Total
Excellent	149	21.47%
Fair	247	35.59%
Good	277	39.91%
Poor	21	3.03%
Grand Total	694	

5.0 RECOMMENDATIONS

The following recommendations were developed after assessing the bus stop inventory data and review with the TPS Project Management Team (PMT). These recommendations are designed to assist CCT in prioritizing improvements for implementation. Most of the short term improvements recommend reviewing the boardings at bus stops to prioritize implementation. The threshold used during this task for the installation of shelters, lighting, trash receptacles, and sidewalks was 25 or more daily boardings at the bus stop. For the installation of benches the threshold was between 10 and 25 boardings at the bus stop. The following recommendations focus on two areas: bus stop characteristics, and bus stop accessibility.

5.1 Bus Stop Characteristics

Recommendations in the bus stop characteristic section include improvements to signs, sidewalks, and shelters. The existing CCT bus stop sign design was modified to include an updated bus silhouette and phone number; the web address and space for route numbers; and ensuring an ADA compliant design. Although sidewalk improvements are recommended to improve access, it may be the local jurisdictions responsibility to make the necessary improvements. Therefore, sidewalk improvement recommendations should be used as suggestions from CCT to the local jurisdictions. Appendix A includes the modified bus stop sign.

Signage

The current CCT bus stop sign is 12" wide by 18" tall, has been utilized since the inception of the system in 1989, and contains limited information. Since this sign was developed, the Atlanta area received area code designation for all telephone numbers which is not included in the information. The sign was reviewed for modification with consideration given to image and compliance with the Americans with Disabilities Act (ADA).

The ADA contains prior requirements and those subsequently published in the *Federal Register* July 23, 2004 and amended August 5, 2005 that address:

- Finish and contrast
- Letter case
- Letter style
- Character height
- Letter stroke thickness
- Height of sign from ground level

The PMT indicated that the following elements should be included in a new sign concept:

- Correct CCT telephone number
- CCT website address
- Bus silhouette
- CCT logo
- Space for placement of individual route numbers
- Increased sign size

Three conceptual bus stop sign design options were developed and reviewed with the PMT. The modified design incorporates the ADA and PMT requirements to the maximum extent practicable. It is recommended that once the design is reviewed by the appropriate internal county units, that the new sign concept be presented to the CCT Access Advisory Committee and Transit Advisory Board for input prior to finalization. Once the design is approved, a program to replace the existing signs should commence to expeditiously complete the installations. The systemwide installation of new bus stop signs will provide an opportunity for a new and improved CCT identifier throughout the service area.

Sidewalks

It is recommended CCT discuss existing sidewalk deficiencies with the local applicable jurisdictions prior to discussions on installing any new sidewalks. There are 18 existing sidewalks needing repair. All bus stops adjacent to an intersection should have a curb ramp. Install sidewalks at each bus stop location with priority given the 22 installations at stops that exhibit over 25 daily passenger boardings. Using the available data on sidewalk connectivity, there are four locations where the bus stop is not connected to adjacent land uses, and 134 locations where the bus stop is not located near the intersection. Three heavily utilized stop locations were identified for needing crosswalk striping. These are potential areas of opportunity for improvement.

Shelters and Lighting

Installing shelters at the bus stops is one of the most costly items needed to provide for the comfort of the customers. Shelter installation is a difficult item to truly quantify the cost benefit. Some questions raised included: How long do people actually wait for a bus? How many people wait at the bus stop? Even with the answers to these questions, many shelters are empty for the majority of the day. This opens the discussion of advertisement, versus non-advertisement shelters. These discussions must be made at the agency level and appropriate decisions based on cost and benefit must be determine. Based on guidance from the PMT, a methodology to identify the most appropriate location for shelters was prepared. Shelters should be considered for placement at all bus stops that exceed 25 average weekday passenger boardings. This would require an additional 36 shelters. It is assumed that a number of these shelters would be placed by the advertising contractor and others would need to be procured and installed by the county.

Benches and Lighting

The bus stop inventory data identified a total of 367 benches at CCT bus stops. The majority of the benches are located at bus stops with shelters; however there are six stand-alone benches in the CCT system. There were only 9 shelters that did not have a bench. It may be advantageous to develop a bench identification process, where a standard design bench is implemented at stops with less than 25, but greater than 9 weekday passenger boardings which is 52 locations.

In addition to benches being provided at shelters, shelters also have lighting features. There were 33 shelters without lighting features of which 13 were county provided shelters and 20 were advertisement shelters. Lighting features should be installed at these locations. There are 8 stop locations that exceed 25 daily boardings that are in need of supplemental lighting.

Trash Receptacles

Trash receptacles are a benefit to everyone, and easy to implement at all bus stops. A total of 352 additional trash receptacles would be needed in order to have a container at every bus stop. As the associated cost of providing and maintaining this quantity of containers would be significant, it is recommended that containers initially be placed at the 24 stops without containers that exhibited over 25 daily boardings. All shelter locations should have a trash receptacle installed, and 1 needs to be installed at a county shelter and 4 at advertising shelters. Trash receptacles at transfer centers and major park

and ride lots should be durable and compliant with the Homeland Security directive on explosive resistant security cans. Existing trash receptacles at the two transfer facilities and the Acworth and Busbee park and ride lots should be considered for replacement with compliant security containers.

5.2 Bus Stop Accessibility

A bus stop is rated poor when the total index score for that bus stop is equal to or less than two. Index values were assigned as follows: for bus stops with no sidewalks a value of 1 was assigned; bus stops with sidewalks in poor condition were assigned a value of 2; bus stops with sidewalks in fair condition were assigned a value of 3; and bus stops with sidewalks in good condition were assigned a value of 4.

Twenty-one bus stops received poor ratings for accessibility. The low rating for these bus stops can be attributed to their low scores in the base measure category of bus stop connectivity and the lack of sidewalks. Sixteen of the bus stops had no sidewalk present resulting in a sidewalk index score of one. Of the twenty-one, no bus stop connected to adjacent land use, an intersection, or a marked crosswalk. This resulted in an index score of one in this category. Additionally, only four of the twenty-one bus stops received a crosswalk proximity bonus.

Improving the connectivity of these bus stops will result in an improved accessibility rating. Adding a marked crosswalk or installing a sidewalk would elevate every bus stop that rated poor into a category of at least fair. In fact making one of these changes would result in nine bus stops moving into the category of good. The recommendations for sidewalks identify 22 locations were sidewalks should be installed, in addition there are three locations were crosswalks should also be installed. Adding both a sidewalk and a marked crosswalk would move every bus stop that fell into the category of poor into the category of excellent.

6.0 COST ESTIMATE

The estimated cost of short-term bus stop improvements is summarized as follows:

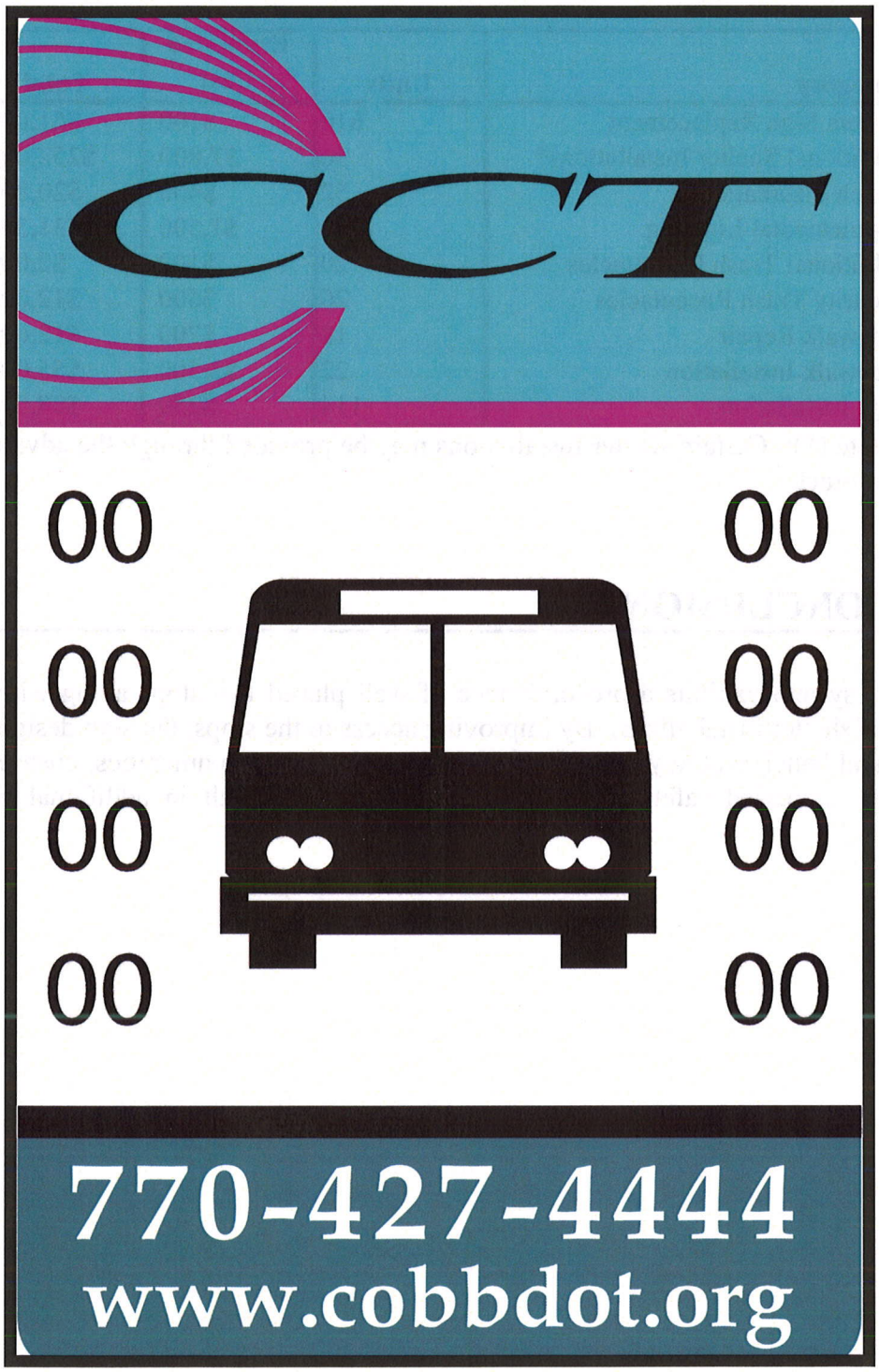
Category	Units	Estimated Cost	Total
System Sign Replacement	610	$100	$61,000
Additional Shelter Installations*	36	$7,000	$252,000
Bench Installation	52	$400	$20,800
Supplemental Lighting	21	$1,500	$31,500
Additional Trash Receptacles	20	$100	$2,000
Security Trash Receptacles	20	$600	$12,000
Sidewalk Repair	18	$700	$12,600
Sidewalk Installation	22	$2,500	$55,000
Sign Installation	114	$250	$28,500

Note (*): Certain shelter installations may be provided through the advertisement contract.

7.0 CONCLUSION

The CCT system exhibits a predominance of well placed bus stops along with a large number of shelter installations. By improving access to the stops, the sign design, adding shelters and benches at key boarding locations, and other stop amenities, customers will experience increased safety and comfort which should result in additional ridership.

APPENDIX A: MODIFIED BUS STOP SIGN



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Transit Planning Study

Customer Service Assessment

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January 2006

CCT

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Introduction

An assessment of Cobb Community Transit (CCT) customer service was included as an element of the Transit Planning Study (TPS). The purpose of this Technical Memorandum is to document the CCT Customer Service Assessment process, findings, and recommendations.

CCT inaugurated service in 1989 and operates 12 local and three express bus routes serving Cobb County with some routes connecting with downtown Atlanta and/or three outlying MARTA stations. In addition, CCT provides Americans with Disabilities Act (ADA) complementary paratransit service, operates two express and one local route between Cobb County and downtown Atlanta for the Georgia Regional Transportation Authority (GRTA), and operates a contract express route connecting Canton and Woodstock in Cherokee County with downtown Atlanta. The system's fleet consists of 60 buses and 15 vans. Service is provided through a multi-year contract which was recently renewed with Connex/ATC. The following customer service components are included in this assessment:

- Cobb County Customer Service Program
- Connex/ATC Customer Service Functions

Customer Service Review and Findings

A review of county and CCT customer programs and functions was conducted to gain insight into the emphasis placed on customer service as well as actual customer service practices. The assessment process included review of various county and system documentation, interviews and conversations with Cobb Department of Transportation (DOT), CCT, and Connex/ATC representatives, direct contact with customer service functions, and discussion with telephone equipment vendors.

Cobb County Customer Service Program

Cobb County continually emphasizes customer service to employees through a structured program. A high degree of emphasis is placed on customer service through the designation of *Cobb County...Expect the Best!,* and the Customer Service Mission Statement which states:

> ***Helping to make Cobb County the best place to be through efficient, effective and responsive government that delivers quality services is the mission of Cobb County.***[1]

Enhanced customer service is to be promoted as a five part criteria:

- **Promote** customer service beyond job descriptions of Cobb County employees
- **Create** programs to enhance customer service
- **Implement** the programs to enhance customer service
- **Monitor** the programs to measure customer service levels

[1] Cobb County Customer Service Program

- **Recognize** employees that exemplify enhanced customer service

A customer service council was created in 1991 to emphasize a strong commitment to service and recommend ways to improve service to internal and external customers. Formal bylaws were established to promote and reinforce customer service through the above criteria.

Connex/ATC Customer Service

The customer service function is included in the CCT service contract as a responsibility of the contractor. Connex/ATC previously held the CCT service contract. The contract went through the Cobb procurement process in mid-2005 and was awarded to Connex/ATC in July 2005 for a multi-year period. The contractor's customer service responsibilities are primarily included in the following the functions of operating a customer service call center and customer service kiosk at the Marietta Transfer Center.

Customer Service Center

The CCT Customer Service Center accepts calls Monday through Saturday from 4 a.m. to 12:00 a.m. The center responds to customer telephone calls and correspondence. The CCT telephone information number is included on various system materials such as time tables, maps, notices, CCT webpage, and on bus stop signs (the signs currently do not include the area code). The center is staffed by a manager and five agents, of which some are capable of providing information in Spanish. The center currently handles approximately 16,000 calls per month, and the peak call time is on weekdays between 3 p.m. and 4 p.m. Calls are categorized as service inquiries, complaints, compliments, or informational and are counted for each of six extensions. Of the monthly calls received, about 45-50 or 0.3 percent are actual complaints. Complaints are categorized as follow with courtesy typically exhibiting the highest number:

- Courtesy
- Late Bus
- Early Bus
- No Show
- Operator Action
- Safety
- ADA/Wheelchair
- Mechanical
- Schedule
- Service Area
- Stops/Shelters
- Evaluation
- Miscellaneous

A profile of the complaints received reveals:

- Sixty percent are controllable, and forty percent are non-controllable
- Of the controllable complaints,

- 1 of 10 is related to mechanical problems;
- 2 of 10 are related to operator actions;
- 3 of 10 are courtesy complaints; and
- 4 of 10 are regarding the bus being early, late or missing a stop.

To better understand the center's response to customers, a number of random sample calls were made to request information over various time periods. Calls made during the weekday afternoon period occassionally received a busy signal; however, calls made during other times were answered in a timely fashion. The agents addressed the inquiries in a knowledgeable and courteous manner.

MTC Customer Service Kiosk

A customer service kiosk with a service window for walk up customers is operated at the Marietta Transfer Center. The kiosk provides system information as well as fare media sales. The kiosk is operated from 6 a.m. to 6 p.m. on weekdays. Two positions are utilized to staff this function. Observations made at the kiosk revealed staff in place to address the significant customer activity.

CCT information and fare media sales are also available at the CCT headquarters office on Commerce Drive which is open on weekdays from 8 a.m. to 5.p.m.

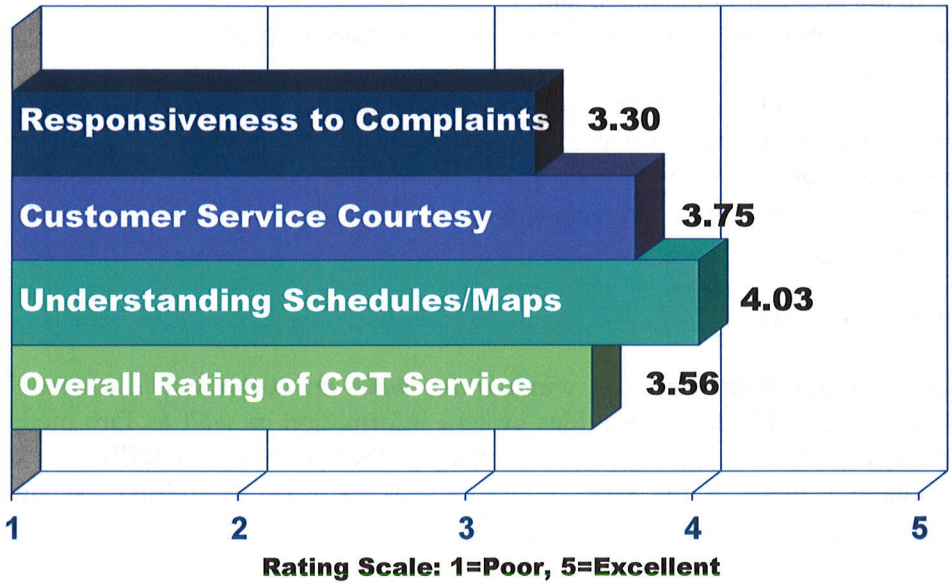
Customer Service Training

Customer service training is included in the Connex/ATC bus operator training program ,which is the firm's standard training element titled "The Art of Customer Service." The customer service manager recently initiated the practice of meeting directly with bus operators in an attempt to more effectively address complaints and raise the operator's awareness of excellent customer service.

Passenger Survey

The TPS included an on-board passenger survey that was conducted on all CCT routes through random weekday and Saturday trips. The survey form was printed in English and Spanish and offered to each boarding passenger on the affected trips. The survey contained a number of questions that directly related to CCT customer service. The results are displayed along with the overall CCT rating in Figure 1.

Figure 1 - Passenger Survey Results



Recommendations

As noted in the results of the passenger survey and the follow up assessment undertaken, CCT customer service is functioning in an above average range. However, to further enhance the CCT customer service experience, the following actions are recommended:

- Immediately determine funding availability and initiate procurement for a new telephone system component to more effectively accommodate and track incoming customer service calls. The new system should provide automated capability for:

  - Ability to install prompts for automated system information;
  - Summarize number of calls received by time periods;
  - Monitor and record actual calls;
  - Summarize average time to answer calls, track time on hold, and respond to inquiries;
  - Determine number and percentage of lost calls; and
  - Inclusion of caller ID display to document source of emergency or threatening calls.

It is estimated that a new telephone system with these capabilities would require a capital investment between $8,000 and $12,000.

- Include the county's customer service program as a part of the CCT service contractor's staff training and information functions. The CCT contract employees are daily representatives of the county to a broad public spectrum, and the county's customer service expectations should be shared with them.

- Once the new telephone system is implemented to complement the county's customer service program monitoring element, performance measures should be developed and continually applied to uniformly assess the individual and overall performance of the centers activities on a quarterly and annual basis.

- Consider opportunities to more effectively promote and enhance CCT services as well as excellent customer service. The customer service and marketing functions are typically within the same unit at transit agencies. Although CCT does not have a formal marketing program, a need exists to more effectively promote the system through new concepts which could include the establishment of a marketing unit with customer service included as a component.

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Fare Structure Evaluation

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April 2006

CCT

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1.0 Overview and Existing Fare Structure

Similar to the services provided, the fare structure in the Cobb Community Transit (CCT) system has slowly evolved over the years. As service has expanded, such as the introduction of express service, CCT has added new fare media to provide its customer base convenient methods of payment. The route system is heavily predicated upon offering free transfers to facilitate the exchange of passengers between local routes at the primary transfer center. There are also a number of patrons who transfer to and from other regional transit services. There is no distance based or zonal premium on the local service; however, express service which generally serves longer trip patterns has a higher fare consistent with the distance traveled.

CCT utilizes GFI fareboxes (relatively standard in the industry) and sixteen different types of fare payment dispositions in addition to cash, which include:

- Elderly/Handicapped Fare (Local);
- Student Fare (Local);
- 10-Ride Pass (Local);
- Monthly Pass AM (Express);
- CCT Transfer (Local/Express);
- MARTA Transfer;
- Child under 42";
- Shorts/Misreads;
- Express One-way;
- Tickets;
- MARTA Tokens;
- 31-Day Pass (Express);
- 31-Day Pass (Local);
- 10-Ride Pass (Express);
- 20-Ride Pass (Express); and
- Local 10-Ride Pass (Express).

The number of inputs indicates the complexity of the fare structure that has evolved since the inception of service in 1989, and though there are instances of use for all fare media, the on-board survey and farebox data analysis revealed a definite preference for type of fare media depending on whether a passenger is using local or express service. Paying the cash fare is the clear preference for local service users (76%), while 57% of express service passengers either use a monthly pass or the 20-trip pass. This pattern of fare media use supports the general characteristics of each type of service. Express riders have higher disposable incomes and generally choose to make the more sizable cash outlay for a pass, while local riders tend to be lower income and less willing to make larger payments in advance for fare media.

2.0 Fare Analysis

The primary purpose of a fare structure is to balance the desire to provide convenient methods of payment for system users and encourage ridership with the goal to maximize the income generated in the farebox. There are no public transit systems in the United States that generate enough revenue from the farebox to pay for their operating costs. In fact, there are very few individual fixed route that are autonomous. Generally, the goal for farebox recovery ranges from 25% to 50% depending on the system. The average farebox recovery is 37% nationally, but this number includes the large metropolitan areas like New York, Chicago, Los Angeles and Philadelphia where major heavy rail systems push the farebox recovery closer to 45-50%. Systems that operate at levels closer to CCT typically generate farebox revenues equivalent to 30% of operating expenses. A closer look at peer systems is included in the next section.

A focal point of a fare structure is maintaining a certain amount of fare revenue per unlinked trip. Passengers make an unlinked trip every time they board a bus, but as shown among the farebox inputs, they may not be adding revenue to the fare box every time they board. As an example, a passenger who rides a bus to the Marietta Transfer Center and pays the base fare and then transfers to another route to complete their trip has completed two unlinked trips and paid 62.5¢ per unlinked trip. The current fare revenue per unlinked trip at CCT is approximately 68¢ or 54% of the base fare. Several factors contribute to the level of revenue generated per unlinked trip.

1. Despite the high number of passengers paying the base fare, approximately 40% are transferring to a second bus route to complete their trip. Therefore, those paying the base fare are contributing on average 75¢ per unlinked trip. (60%*1.25+40%*0).
2. The use of half fare cards and transfers brings the average down.
3. Express trips are generally paid for using passes, so even though the fare is higher than that of the local service riders, they contribute a deeply discounted amount of revenue from the base fare. Revenues attributable to the use of a pass are calculated to be the monthly pass price divided by the most probable number of trips made during the month. The average month has 21 business days; therefore the average express rider will make 42 one-way trips during the month. CCT express riders are averaging $1.64 in fare revenue per unlinked trip. This number improves the overall average revenue for the system, and as the express service ridership grows, CCT will experience a natural growth in the average fare per unlinked trip.
4. The MARTA Reciprocal Agreement also affects the fare revenue. Passenger exchange from MARTA to CCT generates unlinked trips with no attributable revenue for CCT. The reverse is true for trips in the other direction. The agreement is critical to customer service, but it reduces the average fare per unlinked trip.

5. The handling of cash will probably always be a necessity for transit systems. As technology improves, however, systems are looking for ways to reduce the handling of cash wherever possible. The cash fare produces the highest recovery per unlinked trip so as systems get away from using cash fares, the average recovery rate could experience small declines. Strategically, it may become advantageous to using smart cards and other technological advances in fare media because systems can then implement distance base fares or other fare structures that maintain a desired level of revenue per unlinked trip.

It is possible to realize small incremental changes in revenue per unlinked trip by making alterations to the fare structure. This is something that will be explored in the recommendations section of this report.

Why is important to reduce the use of cash on transit systems?

- As fares become pre-paid, this allows transit providers to deposit revenues and draw interest faster.
- Cash is expensive to handle and takes time to accounting.
- Cash slows the boarding process since the driver must verify that the fare has been paid in full.
- The need for exact change is eliminated – improves customer service.
- New technology aids in the planning process – smart cards allow systems to learn more about their ridership base, travel patterns and usage which is useful for route improvements and setting discounts on fare media.
- If discounts offered on passes are optimized, this can generate higher revenue per unlinked trip.

3.0 Review of MARTA Reciprocal Transfer Activity

To coincide with the 1989 implementation of CCT service, MARTA and Cobb County entered into a reciprocal free transfer agreement to allow riders of either system to transfer without charge between the systems. This agreement continues to be in effect and MARTA has extended similar agreements to other regional transit systems.

As a part of the Transit Planning Study (TPS), all CCT trips were monitored during April/May 2005 to obtain boarding and alighting activity at all system bus stops. Through this process, CCT ridership activity related to MARTA stations was recorded and summarized. Four CCT local routes (10/30/65/70) interface with MARTA at three stations including Arts Center, Hamilton E. Holmes, and Dunwoody. The Arts Center and Dunwoody stations allow transfers through the free intermodal area and Holmes station transfers occur externally through issued/collected transfers. Three CCT express/reverse commuter routes (100/10A-101/10B/102/10C) provide passenger access to and from a number of downtown Atlanta MARTA stations through issued/collected transfers.

To determine the estimated relationship of Cobb area riders transferring to MARTA and MARTA area riders transferring to CCT, the following steps were undertaken:

- The subject transfer information pertains to the percentage of rider transfers between CCT and MARTA specifically in relation to Cobb area residents and MARTA area residents and is not relative to total transfers or system ridership factors.
- For the four CCT local routes, a comparison was made between passengers arriving and departing the MARTA stations during the weekday morning peak time period
- The three CCT express routes and three reverse commute routes were evaluated differently due to the numerous MARTA downtown station opportunities for transfers to and from CCT. The same comparison and time period (as above) were summarized, however, since not all downtown area CCT riders transfer to MARTA, results from the TPS On-Board survey were utilized for estimating the CCT express/MARTA related boardings and alightings.
- The local and express numbers were combined to provide an estimated system factor of 58% from Cobb to MARTA and 42% from MARTA to Cobb. (See summary below)
- The weekday morning peak time period was utilized as typically the vast majority of riders during this period arriving from Cobb at MARTA stations are Cobb residents and the vast majority of riders leaving MARTA stations on CCT services are MARTA area residents. While the term "residents" is referenced, there are obviously some persons in both categories who are visitors or out-of-area riders. If any other time period(s) is used, it would be more subject to distortion as rider travel patterns change or mix over the day, thus the morning portion is the clearest indicator for the purpose of evaluating the subject CCT/MARTA transfer pattern. A further explanation is that during the morning

peak period, most riders traveling to MARTA are Cobb residents. There are obviously a few exceptions such as night workers etc. Likewise, most MARTA riders transferring to CCT would be predominantly MARTA area residents. There could be a few from Clayton or Gwinnett that travel on MARTA or some Cobb riders who stayed overnight in the MARTA service area, but the vast majority would fit into the predominant categories during this time period. As the day progresses, the transferees in both directions become more mixed as to their individual category.

This estimate was prepared from "snapshot" data, as the data was only a one day sample of activity which was collected earlier in 2005.

MARTA periodically collects information on this subject. A review of their most recent weekday activity revealed that approximately 6,300 CCT passengers transferred to/from MARTA and that 46% of the morning peak passengers were MARTA riders going to Cobb and 54% were Cobb passengers going to MARTA. This comparison is relatively close to the percentage obtained from the TPS data.

To obtain additional or ongoing information for comparison on this subject would require monitoring the passenger transfer activity between CCT and MARTA through periodic and specific data collection activities followed by detailed analysis to accurately determine current trends. The new MARTA fare collection system will possess various tracking capabilities for system usage which may provide the ability to obtain this information on an ongoing basis.

The transfer activity is summarized by individual CCT routes as shown in the table below.

Weekday Morning Peak Passengers Transferring Between CCT and MARTA

Route	Boardings (From MARTA to CCT)	Alightings (From CCT to MARTA)
10	324	455
30	146	184
65	6	2
70	39	50
100/10A	44	79
101/10B	49	84
102/10C	49	37
Total:	657	891
Percent:	42%	58%

4.0 Comparison to Peer Transit Systems

As shown in the following table, CCT's fare structure and its associated revenue level compare favorably to that of its peer systems (based on 2004 NTD Data). Examining systems that have similar mix of services provided, shows that Cobb County is consistent in terms of their farebox recovery and the discounts for trips using passes. Farebox recovery for CCT (29%) is very close the average for the peer systems, even though the discount offered on pass sales is slightly below average.

Several of these systems have similar base fares as CCT and with the exception of Richmond, VA and San Joaquin Valley, CA; they all generate higher farebox recovery. For the most part, this can be attributed to moderately higher route productivity and possibly lower transfer rates. Without a more in depth analysis of their ridership statistics, it is difficult to determine why systems with the same base fare are able to generate higher farebox recoveries. Santa Barbara has very high revenue per unlinked trip (79¢), which most likely attributable to a lower transfer rate and higher ridership productivity in general.

The Capital Area Transit System (CATS) in Baton Rouge (LA) just raised fares as of January 1, 2006. The base fare is now $1.75 and their monthly pass prices rose to $56.00. The primary reason for the increase is the rising cost of fuel, especially in the Gulf Coast region and Baton Rouge is still experiencing increased demand due to the number of people relocated there as a result of Hurricane Katrina. With such a large increase in fare, demand should decrease significantly, but average fare revenue per unlinked trip will increase considerably.

FY 2004 statistics for Gwinnett County Transit (GCT) are somewhat misleading because the system was almost exclusively express bus transit and ridership had not yet matured. Nevertheless, GCT still offered a 25% discount per trip through their monthly pass, which combined with the base fare, generated an average fare revenue per unlinked trip of $1.50. The farebox recovery rate is low, as trip length is much higher than the other peer systems, so their cost is higher.

Fare Revenue and Structure at Peer Systems

Agency	Fare Revenue Recovery			Fare Structure				
	Operating Expenses	Fare Revenue	Fare Recovery %	Base	Monthly Pass	7 or 10-trip Pass	15 or 20-Trip Pass	Pass Discount
Cobb County Transit	$8,395,590	$2,440,288	29%	$1.25	$45.00	10 / $11.25	20 / $36.00	$1.07
Regional Peer Agency								
Gwinnett County Transit	$8,654,557	$1,368,896	16%	$1.75	$55.00	10 / $14.00	n/a	$1.31
Other Peer Agencies								
Santa Barbara Metropolitan Transit District (CA)	$14,078,462	$5,547,712	39%	$1.25	$41.00	10 / $10.00	n/a	$0.98
Greater Bridgeport Transit Authority (CT)	$10,634,738	$4,077,259	38%	$1.25	n/a	n/a	n/a	n/a
Montebello Bus Lines (CA)	$15,478,471	$5,666,925	37%	$0.90	$58.00	n/a	n/a	$1.38
Capital Transportation Corporation (LA)	$10,177,517	$3,706,698	36%	$1.25	$44.00	7 / $14.00	15 /$18.75	$1.05
City of Tallahassee (FL)	$9,405,042	$3,036,507	32%	$1.25	$41.25	7 / $10.00	n/a	$0.98
Monterey-Salinas Transit (CA)	$15,645,561	$4,588,054	29%	$2.00	$60.00	n/a	20 / $40.00	$1.43
Greater Richmond Transit Company (VA)	$26,595,285	$7,301,828	27%	$1.25	n/a	10 / $10.00	n/a	n/a
San Joaquin Regional Transit District (CA)	$22,841,193	$4,186,546	18%	$1.25	$50.00	10 / $12.50	n/a	$1.19
Average	$14,190,642	$4,192,071	30%	$1.34	$49.28	n/a	n/a	$1.17

5.0 Fare Recovery Objectives

In order to maintain consistency in the budgeting process many transit systems set a goal for farebox recovery, usually based on some percentage of the overall cost of the system. MARTA for instance, has a goal of 35% mandated in their enabling legislation. This has placed the Authority into the unenviable position of being forced into small fare increases and budget reductions on a number of occasions. Each instance has resulted in strained customer relations and reduced long term ridership.

Cobb County has taken a much different approach to this issue than most systems. Considering that CCT has had only one fare increase since its inception in 1989, it is a credit to the County that they have been able to effectively control the system's budget while providing a wide range of services for so many years. Steady increases in ridership, especially in recent years, without major increases in services have contributed to the success of the system. As mentioned earlier, a key statistic for transit system's to track is the revenue per unlinked trip. Currently, CCT generates 68¢ per unlinked trip. This number will always be well below the base fare rate due to the large percentage of transfers within the system. However, there are number of trends and policy decisions that could contribute to increased fare revenue per unlinked trip.

CCT's growth market is in its express services which generally exhibits higher fare revenue per trip. According to CCT's September 2005 ridership figures, less than nine percent of the overall ridership in the system rides express services. Even though, many of these patrons use monthly passes or ticket programs, the revenue generated per trip ranges from $1.64 to $1.80 per trip. Taking this a step further, trips in this category are also generating a higher farebox recovery ratio than local service trips. As more express service is added to the system and ridership matures on these routes, CCT should experience modest gains in its fare revenue per unlinked trip.

The policy decisions that can benefit fare revenue center on discount rates offered on multiple trip fare media. Transit systems must strike a balance between encouraging customers to purchase more convenient advance fare media and the negative impact discounted passes and tickets can have on revenue. Based on the 42 trip average for monthly passes, Cobb County is discounting these trips by 45% and 15% on the express and local services, respectively. Reducing the discounts to a level that will not overly discourage their use could result in substantial increases in the fare revenue per unlinked trip.

Another policy decision is to allocate capital funds to increase the number of outlets at which transit fare media can be purchased. Lack of access to outlets was cited by the project focus group and the system survey as a reason why patrons do not use passes or tickets.

6.0 Focus Group Meeting

As a part of the fare structure task, a focus group meeting of selected community and transportation representatives was held in December. The purpose of the meeting was to seek input for obtaining guidance in developing study recommendations, specifically for making revisions to the current CCT fare structure. Twenty four participants were identified and invited and 15 actually attended. The information discussed and input from the group is summarized as follows:

- CCT operating funding sources include: 51% Local, 29% Fares, 18% federal, and 2% state
- Time of day limitations on senior fare seems to be confusing
- Need to obtain number of passes by type sold per month
- It would be good to reduce cash fares (even though difficult to achieve due to many low income users) as it slows the boarding process and is expensive to process
- A goal should be to increase fare recovery above 30%, but group felt that any change(s) should be done as "package" in conjunction with service changes
- Marketing needs to be undertaken to help users understand fare information from a community friendly perspective and consider fare as a "gift certificate" format
- The regional transit study is going to review regional fares and any CCT change should wait on results from of this effort
- There should not be a transfer charge as it was viewed as a penalty for riders who must transfer to complete their entire trip
- Largest bus operator fare concern is boarding passengers who do not have the entire fare amount required
- Should consider special transfer to allow off bus to shop and then use transfer to continue trip on same route
- If CCT express fare made consistent with GRTA Xpress fares, it could be viewed as a penalty to existing riders
- Methods to increase express usage should be explored such as increased pass sales outlet locations
- Any fare increase should consider timing, package approach, and a more simplified structure

7.0 Recommendations

7.1 Eliminate Fare Media

The on-board survey and the data generated by the GFI fare collection system indicate that there are several under-utilized fare media. This presents an opportunity to CCT to reduce the different types of media, simplify the fare payment system overall and begin preparations for the implementation of regional smart cards. Less than 4% of all unlinked trips are paid for using one-way trip tickets, 10-ride express bus tickets, 10-ride local bus tickets, MARTA tokens and local bus monthly passes combined. It is recommended that all of these fare media, with the exception of the local bus monthly pass, be phased out from use. MARTA is in the process of phasing out their token program and the other ticket programs at CCT do not have enough usage to justify the expense of printing and maintaining an inventory of the tickets.

It is not recommended to eliminate the monthly pass program for the local bus service for following five reasons:

1. Should CCT pursue a base fare increase in the future, offering a discount through the monthly pass program will lessen the impact of the higher fare on the riding public.
2. The monthly pass will support the goal of reduced cash handling.
3. Transition to a regional smart card will be easier for patrons since they will be used to using monthly passes.
4. CCT can formalize their policy for using a local bus service pass plus cash to ride the express service.
5. Maintaining the monthly pass will allow CCT to continue its support services (i.e. sale outlets, accounting, etc.) which ease the transition into a regional smart card system.

7.2 Improve Recovery Rate on Pass Programs

The discounts per trip on CCT's monthly pass programs differ greatly. The 15% discount of the local monthly pass compares favorably to other systems and sets the rate at a level that encourages patrons to utilize the pass with just a modest impact to fare revenue per unlinked trip. The express service monthly pass, however, offers a 45% discount on the regular base fare. The $70 rate translates to $1.66 per one-way trip based on 42 one-way trips per month on average. The $80 price for a GRTA pass translates into $1.90 per one-way trip.

Both of these rates are too low to generate the revenue to needed to reach a standard recovery rate. A strategy to increase the pass prices should be pursued but only at a rate that not create major ridership decreases. The service is still new and productivity on these routes should be more important than revenue until the service matures and

establishes itself. There is a case for CCT to change their monthly pass price to match that of GRTA, if that has not occurred already.

7.3 Allow Half-fare Programs during All Service Hours

Currently, CCT does not allow those eligible for the use of half-fare cards during peak hours of service. One of the findings of the on-board survey was that elderly use of the system is very low. Since elderly ridership is a target market and a growing sector of the population, eliminating the restrictions on the half-fare card may encourage usage. This is a simple change in policy and will reduce the burden on operators as they verify fares for boarding passengers.

7.4 Increase the Number of Fare Media Sales Outlets

Explore opportunities to increase CCT pass availability and customer convenience through expansion of media sales outlets. Grocery stores, mall information desks, recreation centers and other County facilities all make good outlets for the public to purchase fares.

7.5 Revenue/Cost Projections

Trends in transit, like every other industry, point toward higher expenses, the need for increased budgets and the commitment to maintaining or expanding service. All of these factors contribute to the challenge of generating enough revenue from the farebox to keep CCT affordable for the County. Based on the past 4 years of data the following trends face CCT:

- Operating costs are projected to rise 6.8% annually through service expansion and inflation (2005 Dollars);
- Annual operating cost will exceed $15M in 2011;
- Ridership is projected to increase 4.8% annually;
- The existing fare structure nets a 3.9% annual increase in farebox revenue; and
- The farebox recovery rate dips below 25% of operating costs in 2008 and drops to 22.38% in 2015.

The most significant issue represented by these statistics is that the increases in farebox revenue are growing at a slower rate than operating expenses. A fare increase(s) some time in the future could change this trend. However, rather than recommend the amount of the fare increase and when it should be implemented, the following tables for 2008 and 2015 have been developed to project the amount of fare increase relative to a desired farebox recovery rate.

Table 1: 2008 Projected Net Operating Cost and Farebox Recovery Rate

2008 Net Operating Cost (Recovery Rate)	Base Fare $1.25/2.00	Base Fare $1.50/2.50	Base Fare (#) $1.75/3.00
w/o Service Improvements	$9.39M (24.79%)	$8.75M (29.92%)	$8.16M (34.62%)
With Service Improvements	$9.58M (24.77%)	$8.88M (29.91%)	$8.26M (34.46%)

Table 2: 2015 Projected Net Operating Cost and Farebox Recovery Rate

2015 Net Operating Cost (Recovery Rate)	Base Fare $1.25/2.00	Base Fare $1.50/2.50	Base Fare (#) $1.75/3.00
w/o Service Improvements	$13.19 (22.51%)	$12.49 (26.65%)	$11.64 (30.85%)
With Service Improvements	$14.52 (22.38%)	$13.58 (27.09%)	$12.90 (30.77%)

- Projected revenues do not reflect a more sizeable loss in ridership for large fare increase.

A number of factors can influence future costs, ridership, and revenues. The recent cost escalation in fuel prices was not included as future trends are unknown at this time. The projected operating cost and ridership estimates were determined from evaluating recent CCT trends. With the projected cost, ridership, and service level assumptions, the trend of the continuance of an even spread between increased costs and farebox revenues are anticipated to remain fairly constant which means that even through service improvements are periodically implemented, passenger revenues will continue to stay relatively constant.

Table 3 outlines the required fare amounts to achieve desired farebox recovery rates. All of these figures are based on straight line trends from the previous 3 years of service. Direct costs are based on the contract between the county and the management service provider, administrative costs increased by a 3.5% per year multiplier based on inflation and the potential for wage increases and fuel costs are increased by 3% per year. Ridership estimates are based on a conservative trend lines from previous years of service and ridership estimates for new recommended services. The horizon year of 2008 was selected to test different fare structures since the existing fare structure dips below 25% in that year.

Table 3: Fare Requirements to Achieve Projected Recovery Rates

Projected Recovery Rate in 2008	30%	35%	40%	45%
Base Fare	$1.50	$1.75	$2.05	$2.30
Half Fare	$0.75	$0.85	$1.00	$1.15
Monthly Pass – rev. rate	$1.30	$1.48	$1.70	$1.96
Transfers	$0.00	$0.00	$0.00	$0.00
Express Base Fare	$2.50	$3.00	$3.30	$3.50
Express Pass – rev. rate	$2.27	$2.55	$2.80	$2.97

These rates take into consideration loss of ridership due to fare increases that are offset by service expansion and improvements and the general trend of increased ridership. If the structure in the 30% column were implemented the farebox recovery will increase 6.7% through the year 2015, which is more in line with the 6.8% rise annually in operating costs. The farebox recovery rate remains above 27% through the year 2015. A table is included in the appendix that outlines the data supporting these figures.

Fare increases for CCT are a policy decision of the Cobb County Board of Commissioners. The County has developed a track record of avoiding fare increases by virtue of the implementation of only one fare increase since 1989. By providing the farebox revenue amounts and straight-line trend estimates for operating costs for the system, enough information about the financial condition of CCT will be available to make a decision on any future fare increases. Should the County decide to raise fares, it is recommended to package the fare increase with service improvements if at all possible. Increased transit service offers a reasonable condition requiring increased revenues and can be more palatable to the riding public when undertaken concurrently.

Appendix A – Fare Analysis Data

Revenue / Cost Projection - Without Fare Increase

A	B	C	D	E	F	G	H	I	J	K	L	M
	Revenue Hours	Admin Cost	Fuel Cost	Contract Cost	Unit Cost	Operating Cost	Farebox Revenue	Unlinked Trips	Farebox Recovery Rate	Base Fare	Fare per Unlnkd Psgr.	Psgr. / Revenue Hour
2003	122,810	--	--	--	$ 68.36	$ 8,395,590	$ 2,440,288	3,087,934	29.07%	1.25	$ 0.790	25.14
2004	139,499	--	--	--	$ 70.38	$ 9,818,219	$ 2,785,230	3,413,314	28.37%	1.25	$ 0.816	24.47
2005	145,655	$ 10.90	$ 6.58	$ 55.50	$ 72.98	$ 10,629,628	$ 2,912,147	3,793,253	27.40%	1.25	$ 0.768	26.04
2006	153,990	$ 11.28	$ 6.78	$ 57.17	$ 75.23	$ 11,584,498	$ 2,944,086	4,080,224	25.41%	1.25	$ 0.722	26.50
2007	153,990	$ 11.68	$ 6.98	$ 58.88	$ 77.54	$ 11,939,934	$ 2,998,233	4,155,267	25.11%	1.25	$ 0.722	26.98
2008	158,470	$ 12.09	$ 7.19	$ 60.65	$ 79.93	$ 12,665,741	$ 3,137,534	4,348,325	24.77%	1.25	$ 0.722	27.44
2009	168,610	$ 12.51	$ 7.41	$ 62.47	$ 82.38	$ 13,890,741	$ 3,385,687	4,692,242	24.37%	1.25	$ 0.722	27.83
2010	175,750	$ 12.95	$ 7.63	$ 64.34	$ 84.91	$ 14,923,601	$ 3,581,910	4,964,188	24.00%	1.25	$ 0.722	28.25
2011	178,228	$ 13.40	$ 7.86	$ 66.27	$ 87.53	$ 15,599,545	$ 3,694,042	5,119,592	23.68%	1.25	$ 0.722	28.72
2012	180,741	$ 13.87	$ 8.09	$ 68.26	$ 90.22	$ 16,306,536	$ 3,808,838	5,278,689	23.36%	1.25	$ 0.722	29.21
2013	183,290	$ 14.35	$ 8.34	$ 70.31	$ 93.00	$ 17,045,664	$ 3,926,356	5,441,558	23.03%	1.25	$ 0.722	29.69
2014	185,874	$ 14.86	$ 8.59	$ 72.41	$ 95.85	$ 17,816,199	$ 4,046,654	5,608,279	22.71%	1.25	$ 0.722	30.17
2015	188,495	$ 15.38	$ 8.84	$ 74.62	$ 98.84	$ 18,630,537	$ 4,169,791	5,778,935	22.38%	1.25	$ 0.722	30.66

Revenue / Cost Projection - With Fare Increase

A	B	C	D	E	F	G	H	I	J	K	L	M
Year	Revenue Hours	Admin Cost	Fuel Cost	Contract Cost	Unit Cost	Operating Cost	Farebox Revenue	Unlinked Trips	Farebox Recovery Rate	Base Fare	Fare per Unlnkd Psgr.	Psgr. / Revenue Hour
2003	122,810	--	--	--	$ 68.36	$ 8,395,590	$ 2,440,288	3,087,934	29.07%	1.25	$ 0.790	25.14
2004	139,499	--	--	--	$ 70.38	$ 9,818,219	$ 2,785,230	3,413,314	28.37%	1.25	$ 0.816	24.47
2005	145,655	$ 10.90	$ 6.58	$ 55.50	$ 72.98	$ 10,629,628	$ 2,912,147	3,793,253	27.40%	1.25	$ 0.768	26.04
2006	153,990	$ 11.28	$ 6.78	$ 57.17	$ 75.23	$ 11,584,498	$ 2,944,086	4,080,224	25.41%	1.25	$ 0.722	26.50
2007	153,990	$ 11.68	$ 6.98	$ 58.88	$ 77.54	$ 11,939,934	$ 2,998,233	4,155,267	25.11%	1.25	$ 0.722	26.98
2008	158,470	$ 12.09	$ 7.19	$ 60.65	$ 79.93	$ 12,665,741	$ 3,787,785	4,273,946	29.91%	1.50	$ 0.886	26.97
2009	168,610	$ 12.51	$ 7.41	$ 62.47	$ 82.38	$ 13,890,741	$ 4,091,401	4,616,531	29.45%	1.50	$ 0.886	27.38
2010	175,750	$ 12.95	$ 7.63	$ 64.34	$ 84.91	$ 14,923,601	$ 4,331,211	4,887,121	29.02%	1.50	$ 0.886	27.81
2011	178,228	$ 13.40	$ 7.86	$ 66.27	$ 87.53	$ 15,599,545	$ 4,467,716	5,041,146	28.64%	1.50	$ 0.886	28.28
2012	180,741	$ 13.87	$ 8.09	$ 68.26	$ 90.22	$ 16,306,536	$ 4,607,471	5,198,839	28.26%	1.50	$ 0.886	28.76
2013	183,290	$ 14.35	$ 8.34	$ 70.31	$ 93.00	$ 17,045,664	$ 4,750,547	5,360,279	27.87%	1.50	$ 0.886	29.24
2014	185,874	$ 14.86	$ 8.59	$ 72.41	$ 95.85	$ 17,816,199	$ 4,897,014	5,525,545	27.49%	1.50	$ 0.886	29.73
2015	188,495	$ 15.38	$ 8.84	$ 74.62	$ 98.84	$ 18,630,537	$ 5,046,946	5,694,720	27.09%	1.50	$ 0.886	30.21

Cobb County
Transit Planning Study

Fixed and Express Route Service Review

URS

January 2006

CCT

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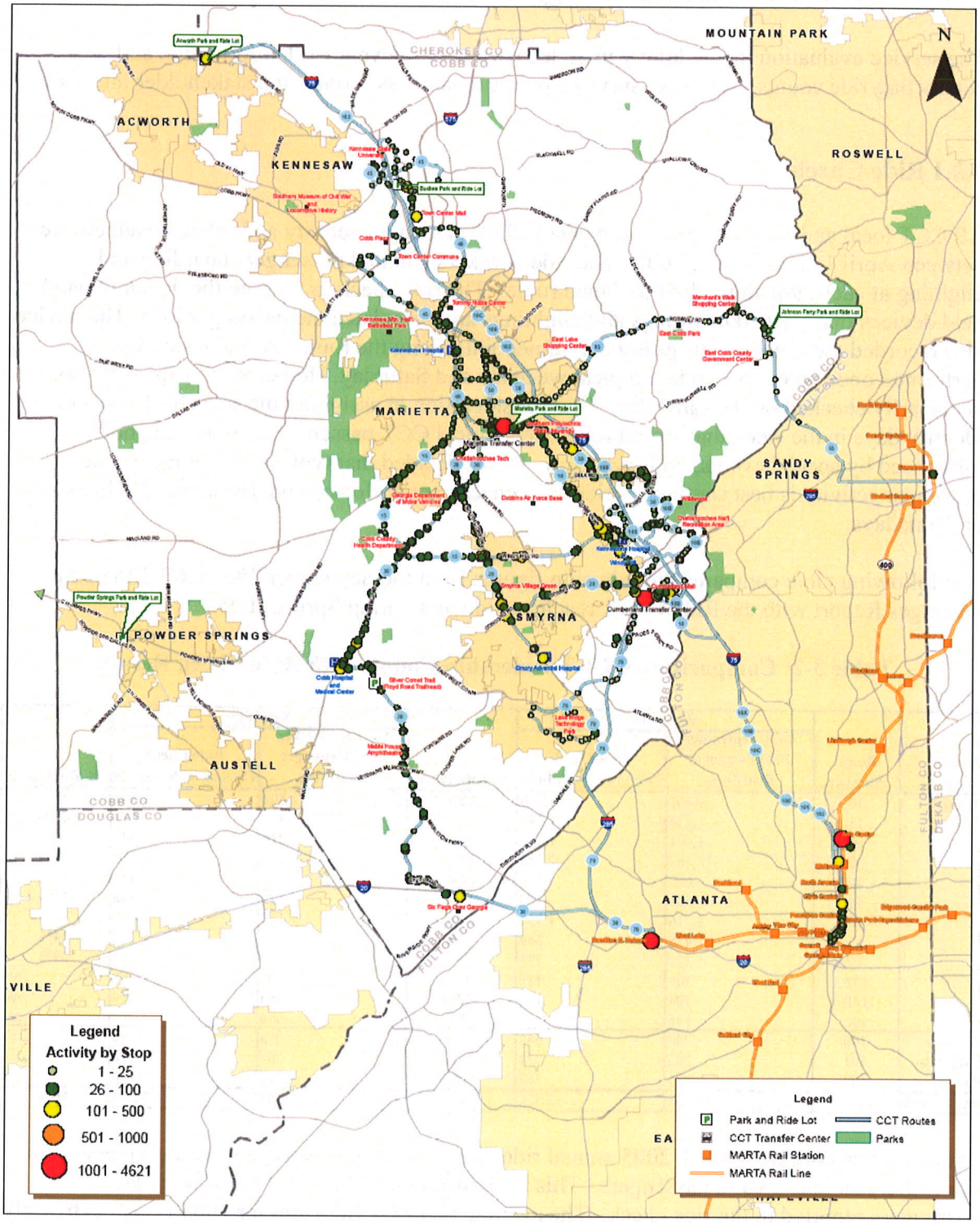
Figure 3-2: CCT System Activity by Stop



January 2006

0 2.5 5 Miles

3.2 Service Evaluation Methodology

The service evaluation methodology included review of relevant CCT information and conducting ride counts, passenger surveys, public awareness forums and stakeholder interviews.

3.2.1 Ride Check

All CCT local and express routes were checked for passenger activity and schedule adherence between April 14 and June 5, 2005. The ride checkers counted passengers boarding and alighting at each stop along their assigned route. The ride checkers entered the data into hand held devices that tracked boardings and alightings and calculated the passenger load. The devices also recorded the time the bus passed key timepoints along the route. A ride check was performed once on every trip in a typical weekday and Saturday. However, all trips were not necessarily checked on the same day. One consideration in assigning the ride checks was to identify days in the week that would reflect the typical CCT passenger activity (i.e., not influenced by special events, holidays, etc.). It was decided that typical or average weekday passenger activity is best captured if ridership checks are performed on Tuesdays, Wednesdays or Thursdays.

The following table compares the ridership figures from the September 2005 CCT Ridership Averages Report with the Ride Check results conducted during Spring 2005.

Table 3-2: Comparison of CCT Ridership Counts with Ride Check Results

Route Type	Route Number	Weekday			Saturday		
		CCT September 2005 Passenger Boardings	Ride Check Passenger Boardings	% Difference	CCT September 2005 Passenger Boardings	Ride Check Passenger Boardings	% Difference
Local	10	4,468	3,926	12%	2,802	2,542	9%
	15	1,314	1,242	5%	546	679	-24%
	20	1,401	1,354	3%	816	802	2%
	30	2,567	2,140	17%	1,661	1,364	18%
	40	699	529	24%	438	371	15%
	45	608	527	13%	323	242	25%
	50	1,716	1,551	10%	1,112	985	11%
	65	436	369	15%	207	178	14%
	70	312	291	7%	133	81	39%
	10A	106	139	-31%	n/a	n/a	n/a
	10B	104	154	-48%	n/a	n/a	n/a
	10C	176	183	-4%	n/a	n/a	n/a
Express (Weekday Only)	100	789	665	16%	n/a	n/a	n/a
	101	265	221	17%	n/a	n/a	n/a
	102	225	187	17%	n/a	n/a	n/a
Daily Totals:		**15,186**	**13,478**	**11%**	**8,038**	**7,244**	**10%**

In addition, according to CCT 2005 annual ridership figures, the average weekday ridership for the entire year was 13,396 passengers. This is almost identical to the 13,478 weekday passengers reported in the ride check. The average Saturday ridership for 2005 is also extremely close, with 7,011 reported by CCT and 7,244 reported by the ride check. This is a difference of approximately 3%.

3.2.2 Passenger Survey

The passenger survey methodology consisted of a random sample of weekday and Saturday trips that covered every route and every time period based on the results of the ride check. The survey was conducted among CCT local and express route riders during the months of June and July 2005. The same checkers who worked on the ride check also distributed the survey. The survey was designed to collect origin and destination data, access and egress mode, fare payment method, demographic data, and service evaluation data. A total of 1,550 completed and usable surveys were collected out of the 5,901 surveys distributed for a response rate of 26%. Subsequent to the data collection, data were processed, edited, geocoded, and weighted/expanded. Key findings of the survey were:

- The most common home cities were Marietta, Atlanta, Smyrna, Kennesaw
- 18% of the weekday ridership and 14% of the Saturday ridership transfer from other systems to CCT
- The most common trip purpose is home to work (35% L; 50% E)
- The second most common trip purpose is work to home (20% L; 39% E)
- The next most common trip purposes are: Home to Social/Church/Personal (7%), Home to Medical (2%), and Home to College/University (2%)
- The majority of local riders pay with cash fare (76%)
- The majority of express riders pay with 31-day pass (39%) or Express 20-ride (18%)
- The majority of local riders ride 5 or more days a week 58%
- The majority of Express riders ride 5 days a week 81%
- The riders rank the system overall at 3.6 out of 5
- Local riders want Sunday service (64%), more frequent buses (46%), and to end service later (33%)
- Express riders want more frequent service (53%), to end service later (29%), and service to un-served areas (19%)
- 52% of local riders own no vehicles
- 70% of express riders own 2 or more vehicles
- Local riders are younger (61% <34)
- Express: (69% 35-64 years old)
- The majority of local riders earn less than $35,000
- The majority of express riders earn more than $35,000
- The most common requests for new service were: Service from Lindbergh Rail Station, from Cumberland Mall to north line of MARTA, along Terrell Mill Road, and along Powder Springs Road

3.2.3 Bus Stop Inventory Process

Once the ride check and onboard survey tasks were completed, a system-wide bus stop inventory was conducted in order to verify the accuracy of the geocoded data and to assess the basic infrastructure of the CCT bus stops. The GPS data points collected during the ride check study combined with the CCT-provided GIS route files were used to generate preliminary route and

bus stop files for the data collection effort. The two-person data collection team was provided with a Tablet PC programmed with a bus stop inventory application. This application collected GPS coordinates, two digital images of each bus stop, and bus stop attributes for each bus stop found along each route. The field work for the bus stop inventory began on June 30 and finished on August 10.

3.2.4 Public Awareness Forums

A series of four Public Awareness Forums was conducted from June to September of 2005. A total of 628 comment forms were returned from the forums/meetings. The forms distributed at the forums sought to solicit ridership patterns among local and express riders. Although this survey was not as scientific as the passenger survey, it gave patrons an opportunity to specifically identify unmet needs and desired changes to the system. The results identified that work was the most common trip purpose, but many CCT patrons use the system for multiple trip purposes. It also identified that a majority of CCT patrons also use MARTA. Most respondents are interested in expansion of the CCT system, mainly within Cobb County. However, a significant number of CCT patrons want additional service to downtown Atlanta and new service to Cherokee and Douglas Counties. Forty-eight percent of patrons feel CCT's service frequency, days, and hours meet their travel needs. The categories of other requested needs include later service, limited midday express trips, Sunday/holiday service, and more frequent service. In addition to the public awareness forums, a number of community meetings and events were attended by members of study team, and an additional Route 30 on-board random passenger survey was conducted.

3.2.5 Stakeholder Interviews

In addition to the above public outreach and ridership data collection methods a series of thirty-four organizations/agencies/individuals were identified for individual interviews. All interviews were completed as of November 2005. The results indicate these stakeholders rank public transit among all other key community issues an average rating of "6.7" for transit importance on a one-ten scale. The highest rating was ten and the lowest was three. Stakeholders generally felt the most appropriate transit mode for Cobb County is bus service and some form of rail will be needed for the future when densities justify the investment. Many of the stakeholders felt the CCT system is attractive/well kept, but some feel the system is not effective enough within the county in terms of coverage and ease of transfers. Virtually all of the respondents felt a blend of funding from local, state, and federal sources was the best method to fund transit. Areas mentioned for consideration of service enhancements included Sunday service on major routes, additional service to Six Flags Drive, new service to the Dallas Highway, south Cobb, and Kennesaw/Acworth areas, more frequent and later service, Kennesaw and Marietta circulator services, and express service improvements .

3.3 Local Routes

CCT operates twelve local routes, not including Route 47 that CCT operates for GRTA. The twelve local routes are 10, 10A, 10B, 10C, 15, 20, 30, 40, 45, 47, 50, 65, and 70. The 10 A/B/C services are reverse commute routes which function like local routes and are designed to complement express routes 100, 101, and 102 respectively. A detailed analysis of each local route is shown as follows.

3.3.1 Route 10 Cobb Parkway

Route 10 operates Monday through Saturday from Marietta to the Cumberland Boulevard Transfer Center via U.S. 41, then to the MARTA Arts Center Station. It provides service to several important destinations, including:

- Southern Polytechnic State University
- Dobbins ARB
- Cumberland Boulevard Transfer Center
- Cumberland Mall
- Akers Mill Square
- Galleria Complex

Route 10 is depicted in Figure 3-3.

Table 3-3 summarizes the ridership and productivity statistics for Route 10. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 10 has the highest revenue hours of the CCT routes. The weekday ridership of 3,926 boardings is also the highest of the CCT routes. Weekday and Saturday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares during the months of July, August, and September 2005.

The following are the key performance results for Route 10 based on the recommended service standards:

- Load factors during peak periods are within standard: 1.20 in the a.m. and 1.15 in the p.m., compared to the standard of 0.75 to 1.25. The midday load factor is 0.88 and the evening load factor is 1.05, which is above the off-peak hour standard.
- The maximum load for the a.m. and p.m. peak periods is 48 passengers and 46 passengers, respectively. These loads are high, but do not exceed the peak period maximum load standard of up to 63 passengers (depending on the type of vehicle in operation). The midday maximum load is 35 passengers and the evening maximum load is 42. The evening maximum load is slightly above the off-peak maximum load standard of 40 passengers.
- The weekday productivity is about 37 passengers per revenue-hour and the Saturday figure is about 46 passengers per revenue-hour.
- The monthly farebox recovery ratio is 24.6%, which is below CCT's desired standard of 35%, but is close to the minimum standard of 28%.

Table 3-3: Route 10 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	5:00 am-12:50 am	5:00 am-11:47 pm
Frequency (min.)		
Peak	15	30
Midday	15	30
Evening	30	60
One-way Trips		
Peak	58	26
Midday	51	26
Evening	20	10
Total	129	62
Max. Buses Required	8	4
Daily Miles and Hours		
Revenue Miles	2,156	1,036
Revenue Hours	121	61

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	93,832	11,209
Trips	2,709	248
Rev. Miles	45,266	4,145
Rev. Hours	2,544	246
Operating Cost (1)	$185,668	$17,944
Fare Revenue (2)	$50,101	
Service Productivity		
Pass. per Trip	34.6	45.2
Pass. per Rev. Mile	2.1	2.7
Pass. per Rev. Hour	36.9	45.6
Economic Productivity		
Cost per Rev. Mile	$4.10	$4.33
Cost per Pass.	$1.98	$1.60
Farebox Ratio	24.6%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	3,926	2,542
Alightings (Offs)	3,926	2,542
Maximum Load		
AM Peak	48	44
Midday	35	51
PM Peak	46	45
Evening	42	58
Load Factors(3)		
AM Peak	1.20	1.10
Midday	0.88	1.28
PM Peak	1.15	1.13
Evening	1.05	1.45

Notes:

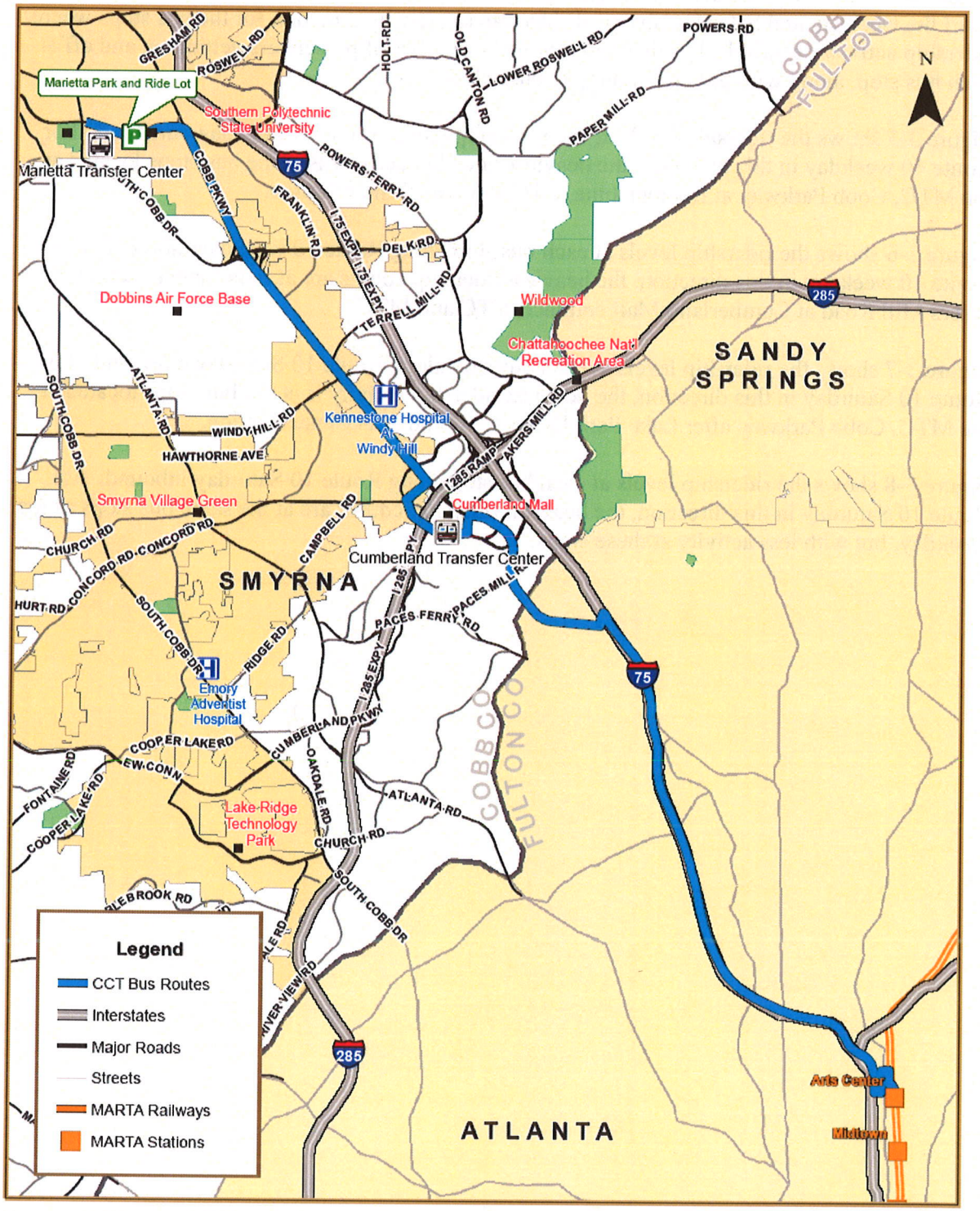
(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-3: Route 10 Map



CCT Route 10

Figure 3-4 shows all boardings and alightings by stop on Route 10. Figures 3-5 through 3-8 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-5 shows the ridership levels at each bus stop along Route 10 weekday outbound. For Route 10 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Cobb Parkway at Boomershine, CTC and Arts Center Station.

Figure 3-6 shows the ridership levels at each bus stop along Route 10 weekday inbound. For Route 10 weekday in this direction, the heaviest ridership counts are at Arts Center Station, Akers Mill Road at Cumberland Mall entrance, CTC and MTC.

Figure 3-7 shows the ridership levels at each bus stop along Route 10 Saturday outbound. For Route 10 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Cobb Parkway after Lake Park Drive, CTC and Arts Center Station.

Figure 3-8 shows the ridership levels at each bus stop along Route 10 Saturday inbound. For Route 10 Saturday in this direction, the heaviest ridership counts are at the same bus stops as the weekday, but with less activity at these stops.

Figure 3-4: Route 10 Ridership Activity by Stop

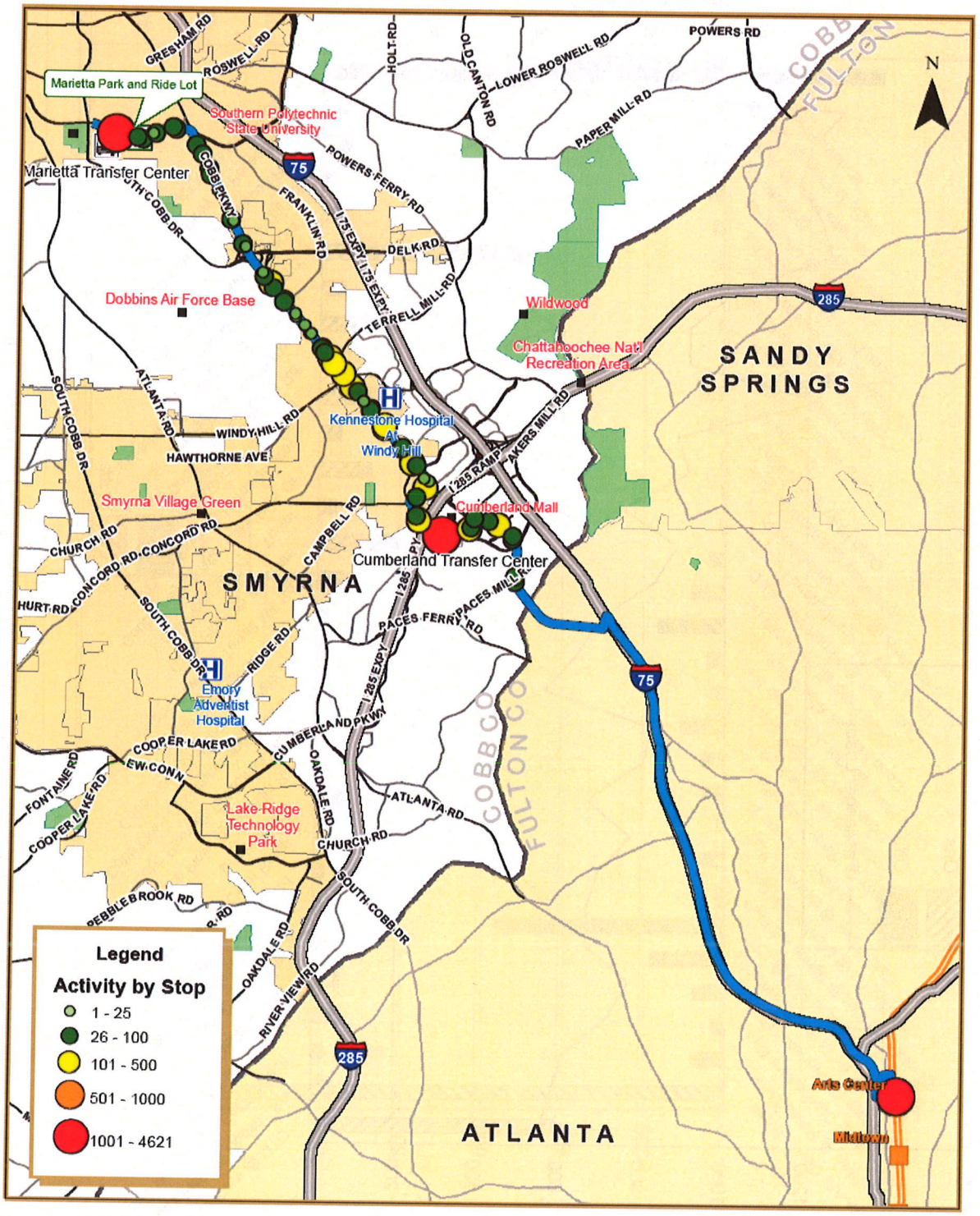


Figure 3-7: Route 10 Saturday - Outbound Boardings and Alightings

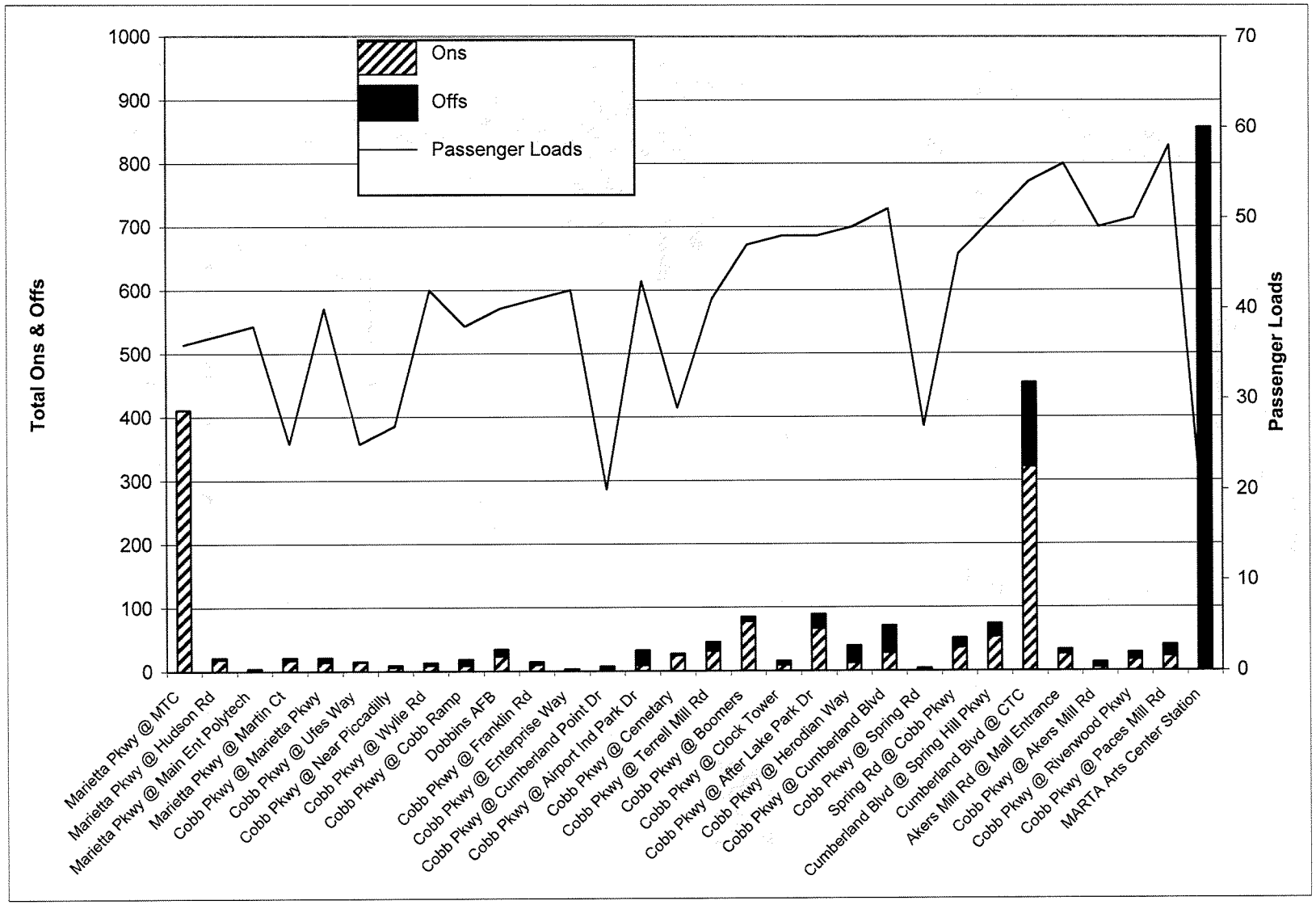
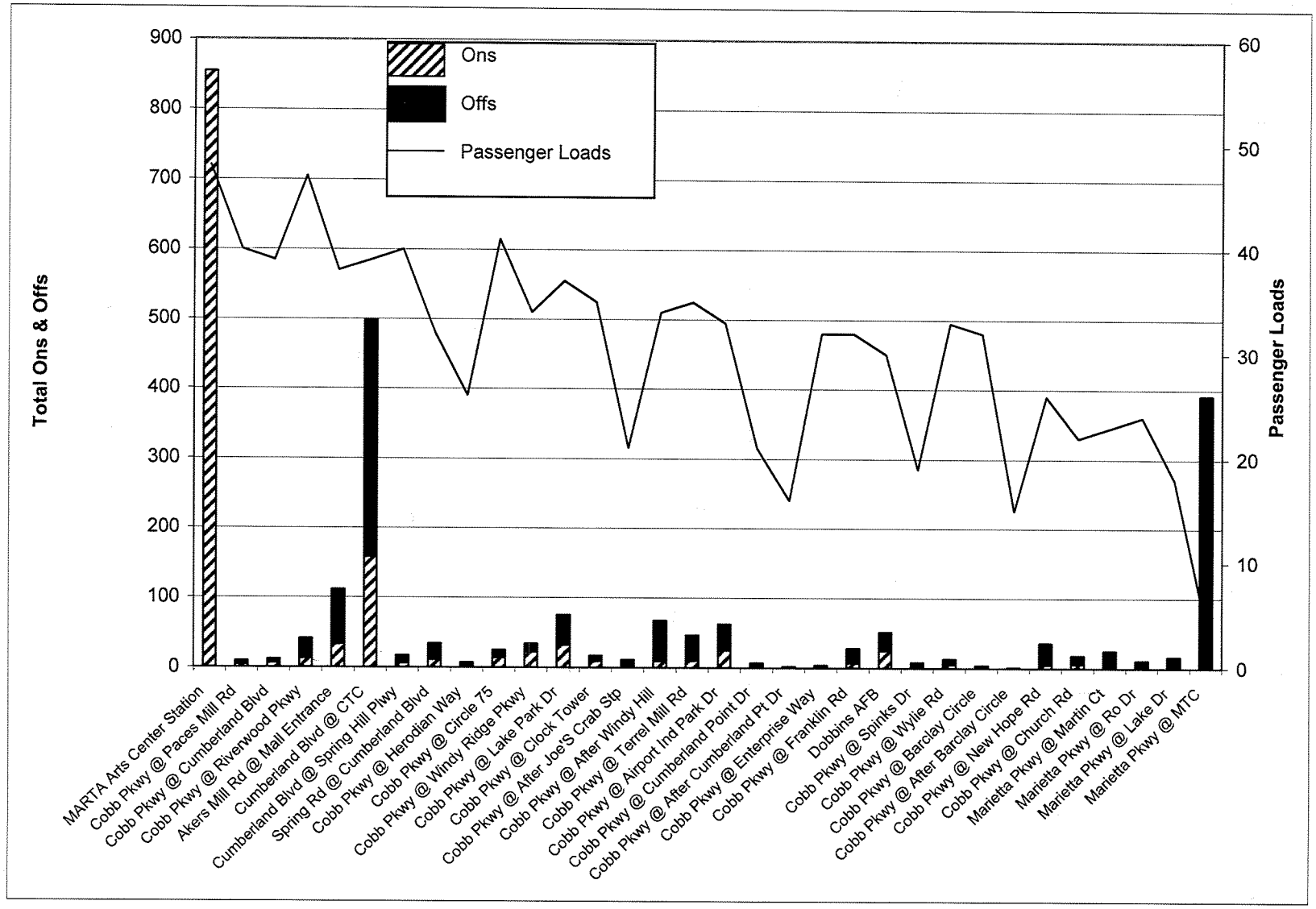


Figure 3-8: Route 10 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-4: Route 10 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Dobbins AFB	10	8	-2	9	9	0	11	9	-2	7	9	2
Dobbins AFB	Cobb Pkwy @ Clock Tower	6	8	2	7	8	1	5	7	2	7	6	-1
Cobb Pkwy @ Clock Tower	CTC	8	12	4	8	14	6	11	12	1	8	16	8
CTC	Arts Center Station	21	25	4	22	22	0	24	26	2	23	24	1

The difference between scheduled and observed runtime was minimal on Route 10 weekday outbound. The only discrepancy was on the evening trip between Cobb Pkwy at the Clock Tower and the CTC. This section of the route was observed to operate about eight minutes ahead of schedule.

Table 3-5: Route 10 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
Arts Center Station	CTC	21	28	7	23	25	2	29	25	-4	22	28	6
CTC	Cobb Pkwy @ Clock Tower	12	8	-4	9	9	0	12	11	-1	12	9	-3
Cobb Pkwy @ Clock Tower	Dobbins AFB	6	6	0	6	7	1	6	8	2	10	6	-4
Dobbins AFB	MTC	7	9	2	7	9	2	8	9	1	5	10	5

As in the outbound direction, the difference between scheduled and observed runtime was minimal on Route 10 weekday inbound. The only discrepancy was in the a.m. peak and evening time periods between Arts Center Station and the CTC. This section of the route was observed to operate about slightly ahead of schedule.

Table 3-6: Route 10 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Dobbins AFB	5	7	2	8	7	-1	11	7	-4	5	7	2
Dobbins AFB	Cobb Pkwy @ Clock Tower	6	6	0	6	6	0	6	6	0	7	6	-1
Cobb Pkwy @ Clock Tower	CTC	8	14	6	9	14	5	7	14	7	8	14	6
CTC	Arts Center Station	19	25	6	20	25	5	21	25	4	23	25	2

The difference between scheduled and observed runtime was minimal on Route 10 Saturday outbound.

Table 3-7: Route 10 Saturday Inbound Observed Runtime in Minutes

From	To	AM Peak			Midday			PM Peak			Evening		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
Arts Center Station	CTC	23	27	4	22	27	5	24	27	3	24	27	3
CTC	Cobb Pkwy @ Clock Tower	16	5	-11	16	5	-11	9	5	-4	5	5	0
Cobb Pkwy @ Clock Tower	Dobbins AFB	5	6	1	8	6	-2	8	6	-2	6	6	0
Dobbins AFB	MTC	7	8	1	7	8	1	7	8	1	7	8	1

The difference between scheduled and observed runtime was significant on the segment between the CTC and Cobb Parkway at the Clock Tower on Route 10 Saturday inbound. The observed runtime was 11 minutes longer than the scheduled runtime in the a.m. peak and midday time periods.

Observations:

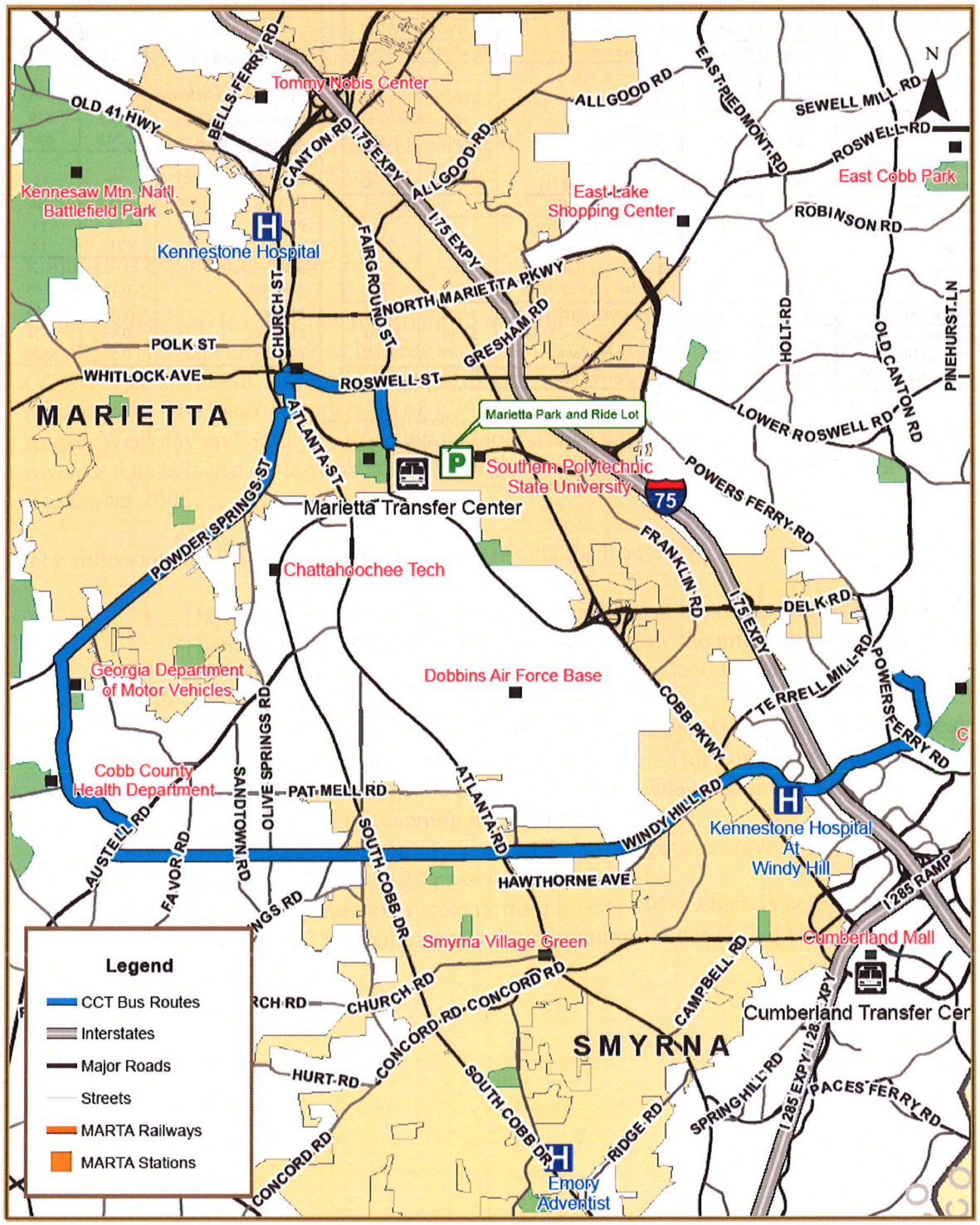
1. Route 10 is the most active route in the CCT system and effectively functions as the main trunk line or "spine" of the system. Route 10 has 3,926 weekday passengers and 2,542 Saturday passengers. The route has 33 outbound and 33 inbound stops of which 30 outbound and 32 inbound are active according to the ride check. The route is fairly direct, stops at 3 transfer centers, and intersects with all other local routes in the system.

2. Ridership on Cobb Parkway is relatively high and the loads tend to be steady but increase as the bus approaches Arts Center Station and tend to decrease towards MTC. Other than the end of line stations, the most active area is in the vicinity of Cumberland Mall. Of the weekday passengers, 29% of the passengers riding to this area have origins on the MARTA system, and 30% of the Saturday passengers come from MARTA. The average number of Weekday boardings per trip is 30.4 and 41 is the average number of Saturday boardings per trip.

3. Productivity and accessibility are adversely affected by the closed door policy along the six miles of the route in the MARTA service area.

4. Although load factors are close to the high end of the standards, the weekday service frequencies appear to be appropriate for the current ridership on this route. The route tends to be more heavily loaded on Saturday all day long and at the PM peak on weekdays.

Figure 3-9: Route 15 Map



CCT Route 15

Figure 3-10 shows all boardings and alightings by stop on Route 15. Figures 3-11 through 3-14 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

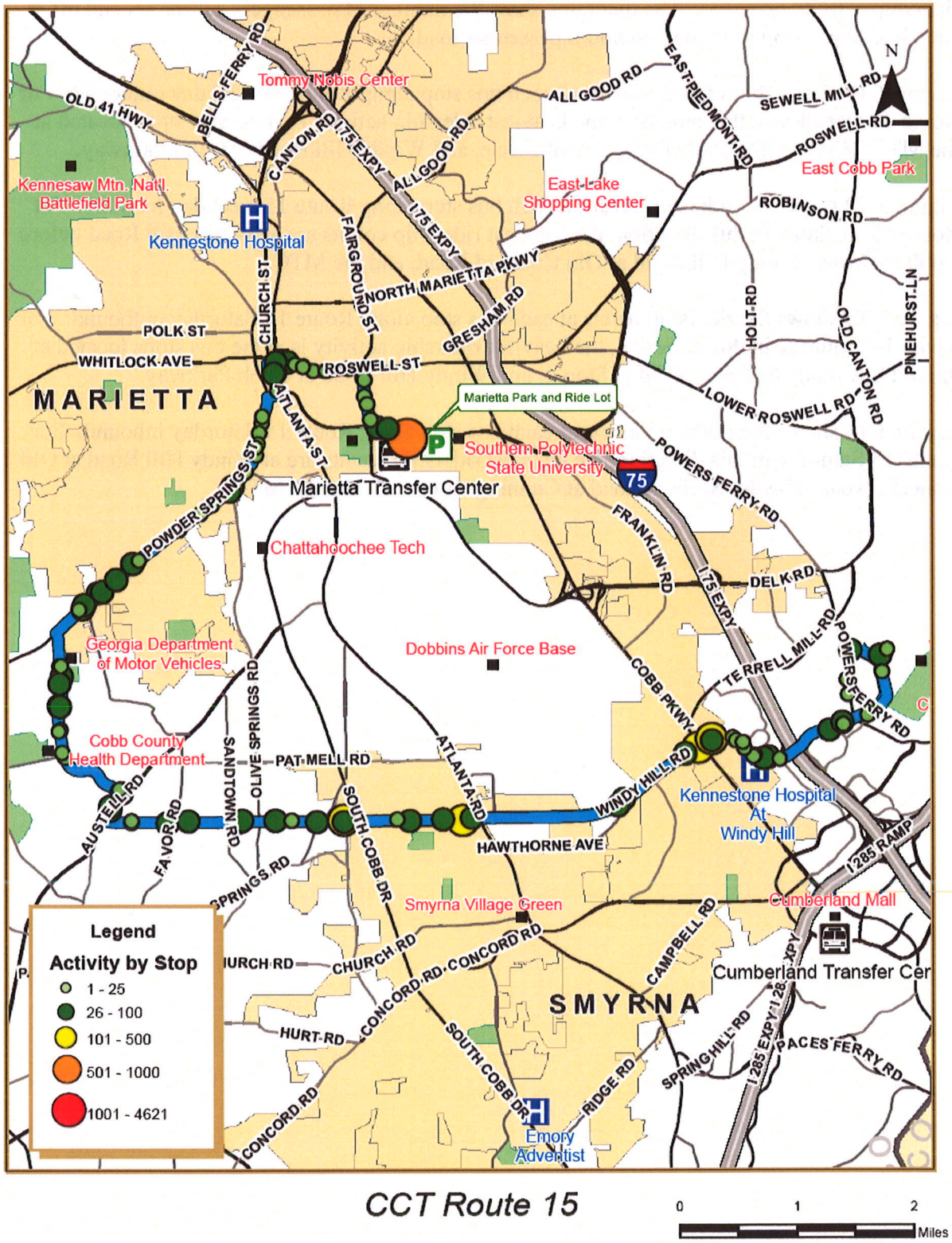
Figure 3-11 shows the ridership levels at each bus stop along Route 15 weekday outbound. For Route 15 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Windy Hill Road after Belmont Circle, and Windy Hill Road at Cobb Parkway.

Figure 3-12 shows the ridership levels at each bus stop along Route 15 weekday inbound. For Route 15 weekday in this direction, the heaviest ridership counts are at Windy Hill Road before Cobb Parkway, Windy Hill Road at Old Concord Road, and the MTC.

Figure 3-13 shows the ridership levels at each bus stop along Route 15 Saturday outbound. For Route 15 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, County Services Road at Stop 4, and Windy Hill Road at Cobb Parkway.

Figure 3-14 shows the ridership levels at each bus stop along Route 15 Saturday inbound. For Route 15 Saturday in this direction, the heaviest ridership counts are at Windy Hill Road at Old Concord Road, Powder Springs Road at Cunningham Road, and the MTC.

Figure 3-10: Route 15 Ridership Activity by Stop



CCT Route 15

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1.0 INTRODUCTION

The Fixed and Express Route Service Review documents the on-board ride check and passenger survey conducted on the CCT fixed route system between April and June 2005 and summarizes the subsequent evaluation and analysis of service data. The primary purposes of this review include:

- Review current CCT local and express services in order to recommend improvements
- Evaluate service relative to selected performance measures and recommend changes in service if appropriate
- Receive input from system users and others through public forums and other sources
- Review system facilities and ITS program for relevant recommendations

1.1 Background

CCT began service on July 10, 1989 with five local fixed routes. Seventeen 1989 Flexible buses were acquired to operate the service. Express bus service was introduced in October 1989. Nineteen RTS-06 buses were acquired to provide service between Park and Ride Lots in Cobb County, midtown and downtown Atlanta. The initial two express routes were the Route 100, operating from space the County leased from Kennesaw State University to downtown Atlanta, and the Route 101, operating from the Cobb County Civic Center to downtown Atlanta. Complementary paratransit service for persons with disabilities was initiated in June 1994 with fifteen paratransit vans. Upon request, the paratransit program provides service to eligible elderly and disabled persons within ¾ mile of the fixed bus routes.

In 1994, nineteen (19) additional 40-foot buses were added to local service. The extra capacity provided by these buses helped alleviate overcrowding on popular routes, especially Route 10 which connects to the MARTA Arts Center Station.

In 1998, CCT opened the Cumberland Boulevard Transfer Center across from Cumberland Mall. Cumberland Boulevard was widened to accommodate a new dedicated lane for buses to pull off the Boulevard. Eight custom designed brick shelters were constructed in the new passenger waiting area. In addition, a 15,000 square foot operations and security building was built on the west end of the site.

In 1999, CCT acquired a 60,000 square foot building on South Marietta Parkway. The firm of Howell/Pope Architects was retained to develop a plan for developing the system's permanent administrative, operations and maintenance facility. Pinnacle Construction was awarded the contract for the building renovations. The operations, administrative and maintenance offices were completed in the fall of 2000.

In 2002, Cobb County acquired land and constructed a 364 space Park and Ride Lot for the Route 100, and in 2003, the Route 100 was relocated to the Busbee Park and Ride in Kennesaw from a nearby Kennesaw State University facility.

Also in 2002, Cobb County acquired land and constructed a 287 space Park and Ride Lot in Marietta for the Route 101, and in 2003, the Route 101 was moved to the Marietta Park and Ride, adjacent to the CCT Marietta Transfer Center.

In 2003, the third CCT Park and Ride Lot was constructed in Acworth with 161 spaces to accommodate the Route 102, CCT's newest express route. Route 102 operates from the Acworth Park and Ride Lot located on Lake Acworth Drive, Highway 92 and travels to the MARTA Arts Station.

Since 1989, CCT passenger fares have only increased once to the current one-way local fare of $1.25. Express fares are currently $3 one-way and $4 round-trip. A passenger can ride more than one CCT bus to reach their destination for one fare through the free transfer policy. In addition, a reciprocal fare agreement with MARTA enables passengers to transfer between the systems with no additional charge.

As CCT celebrates 15 years of service, annual ridership continues to grow. In 2003 and 2004, CCT experienced record ridership with annual ridership exceeding 3.7 million trips in 2005. Cobb Community Transit is pleased to offer an efficient and economic alternative to the private automobile, and is proud to be such an integral part of the Cobb community.

1.2 Cobb/GRTA Services

Supplementing the CCT services operating in Cobb, the Georgia Regional Transportation Authority (GRTA) also provides Cobb express services. Selected services are or will be operated by CCT within GRTA's regional "Xpress" program that operates in partnership with ten other metropolitan Atlanta counties. Each of the participating counties made a one-time payment to help fund the first five years of the Xpress operations. In exchange for this support, funds were provided to the County for the construction of arterial road improvements, which are scheduled in the Atlanta Regional Commission's Transportation Improvement Program. The current or pending Cobb related GRTA services include:

- Route 470-Powder Springs/Downtown Atlanta-Implemented January 2005*
- Route 460-Douglasville/Cumberland-Implemented June 2005
- Route 480-Acworth/Atlanta-Implementated November 2005*
- Route 70-Extension to Perimeter Center-Implementation TBD
- Route 407-Macfarland/North Springs/Cumberland-Implementation TBD
- Route 477-Powder Springs/Cumberland-Implementation TBD
- Route 481-Acworth/Midtown-Implementation TBD
- Route 485-Cumberland/Airport-Implemetation TBD

Note (*) Operated by CCT

1.3 Summary of Service Standards

CCT does not currently have documented service standards for their transit operations. In the 2003 Transit Development Plan (TDP), a number of monthly performance monitoring measures were suggested. Some of these were:

- Operating expense per passenger;
- Passenger fares collected per passenger;
- Unlinked trips per revenue service mile; and
- Operating expense per revenue service mile.

These measures are adequate, but no standards were recommended with which to gauge route performance.

The Metropolitan Atlanta Rapid Transit Authority (MARTA) and the Georgia Regional Transportation Authority (GRTA) use the following measures and corresponding standards for evaluating route effectiveness and vehicle occupancy:

- The ratio of passengers per scheduled revenue vehicle hour generally measures the effectiveness or productivity of a transit system. To measure the effectiveness of the routes in the CCT system, a comparison of the individual routes to the system wide productivity will be performed (see Section 3.5).

- Load factor is a measure of vehicle occupancy. A load factor of 1.0 would mean that all the seats are taken (load factor is the ratio of passengers to seats at the maximum load point). Because CCT buses are designed to accommodate standees, load factors of greater than 1.0 are acceptable. The average load factor for a local route should be in the range of 0.75 to 1.25 during peak hours, and between 0.5 and 1.0 during off-peak hours. Individual trips should not exceed a load factor of 1.5 or fall below 0.5 on a continued basis. The average load factor for an express route should be in the range of 0.50 to 1.00. Express routes typically travel longer distances than local routes, and passengers should be provided a seat. Individual trips should not exceed a load factor of 1.0 or fall below 0.5 on a continued basis. Table 1-1 below displays the maximum number of passengers by time period for each bus type CCT operates:

Table 1-1: Maximum Passenger Capacity by Bus Type and Time Period

Maximum Number of Passengers by Bus Type & Time Period			
Bus Type	**Number of Seats**	**During Local Service Peak Periods ***	**During Weekday Local Midday & Evening Service and Express Service, Saturdays**
40' Nova CNG Bus	**39**	**58 (19)**	**39**
40' RTS Diesel Bus	**41**	**61 (20)**	**41**
40' New Flyer Diesel Bus	**39**	**58 (19)**	**39**
40' Flexible Diesel Bus	**42**	**63 (21)**	**42**

* Standees in parentheses

Farebox recovery is also a useful measure. For the purposes of this report, a desired farebox recovery ratio of 35% or higher is used for comparative purposes, along with a minimum of standard of 28%.

This service review evaluated the performance of the CCT system relative to the standards discussed above. The performance of each route for the three measures was calculated.

2.0 SERVICE AREA CHARACTERISTICS

Cobb County is located in the northwest part of metro Atlanta. The City of Marietta is the county seat and other important cities are Acworth, Austell, Kennesaw, Smyrna, and Powder Springs. According to 2004 U.S. Census estimates, Cobb's population exceeds 654,000.

Cobb has 22.1 million square feet of developed office space, more than 20 million square feet of retail space and more than 38.7 million square feet of industrial space. Close to 1 million square feet of additional commercial space is in development. Most jobs in Cobb County are in the service industry with retail and manufacturing close behind. Cobb County's school system is the county's largest single employer with just under 14,000 employees. WellStar Health System is second with almost 10,000 employees.

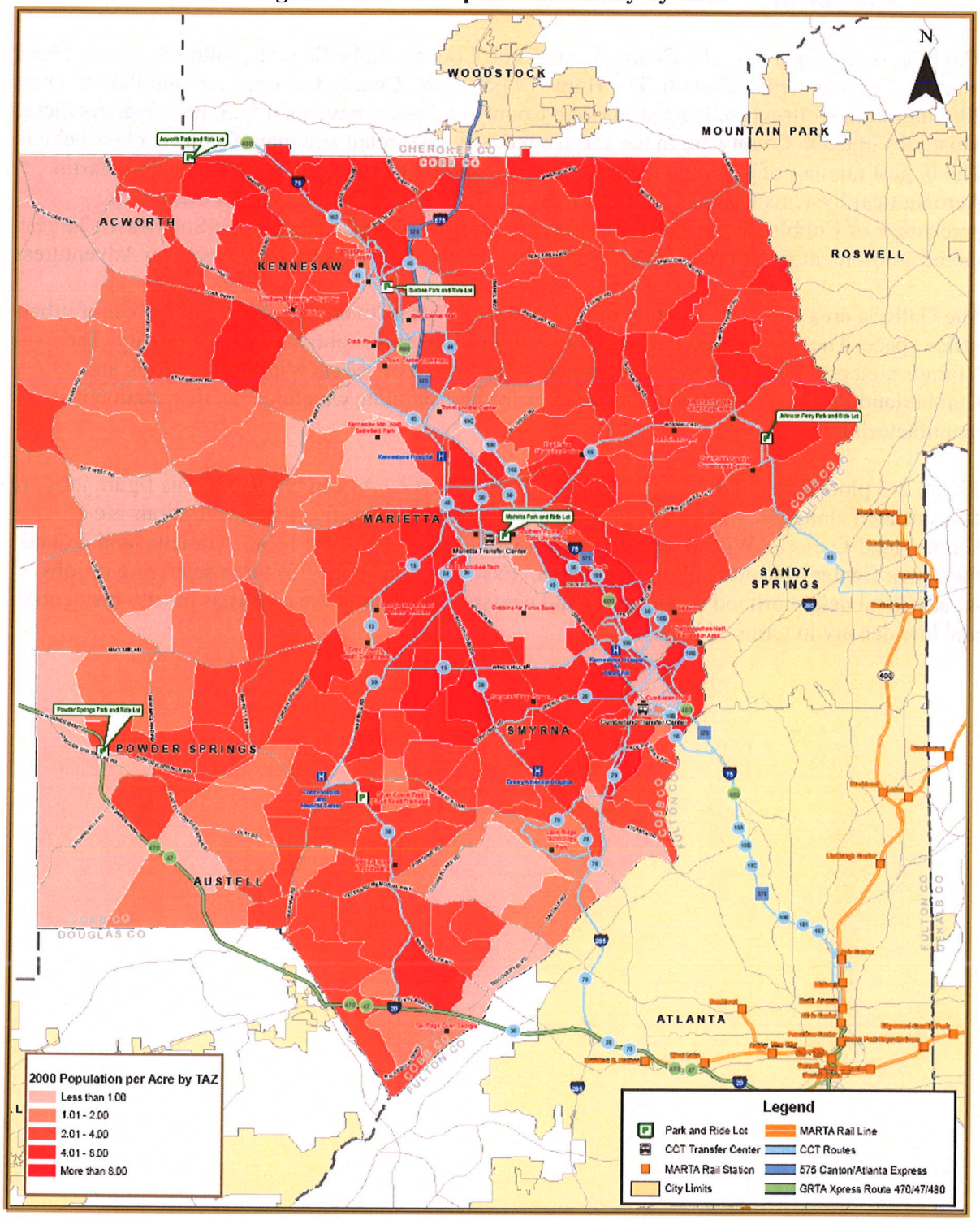
Understanding the demographics of Cobb County is vital to identifying transit needs and developing transit services which address those needs. This chapter details several characteristics of the county related to providing transit service, including population, employment, and major travel generators.

2.1 Population

According to the U.S. Census, Cobb County had a total population of almost 448,000 in 1990 and over 600,000 in 2000, a 36 percent increase since 1990. The latest Census data indicates Cobb County's growth trend is continuing. The July 1, 2004 population estimate for Cobb County was 654,000, an increase of over 7.5 percent from 2000. Cobb County is ranked 86th in the Census Bureau's 100 Largest U.S. Counties in 2004

Figure 2-1 plots the population density for 2000 by transportation analysis zones (TAZ). As can be seen in this figure, the current population of Cobb County is concentrated in the area immediately surrounding Dobbins Air Reserve Base. The areas inside Marietta Parkway, along I-75 (between Cobb Parkway and Powers Ferry Road), along South Cobb Drive, and along Spring Road in Smyrna contain the most densely populated areas in the county. There are also significant pockets of higher density housing in Acworth, along Austell Road and near Six Flags Drive. East Cobb (east of I-75) is the next most densely populated area in the county. The rest of the county is mostly low density residential areas.

Figure 2-1: 2000 Population Density by TAZ



Source: 2000 US Census

January 2006

0 2.5 5 Miles

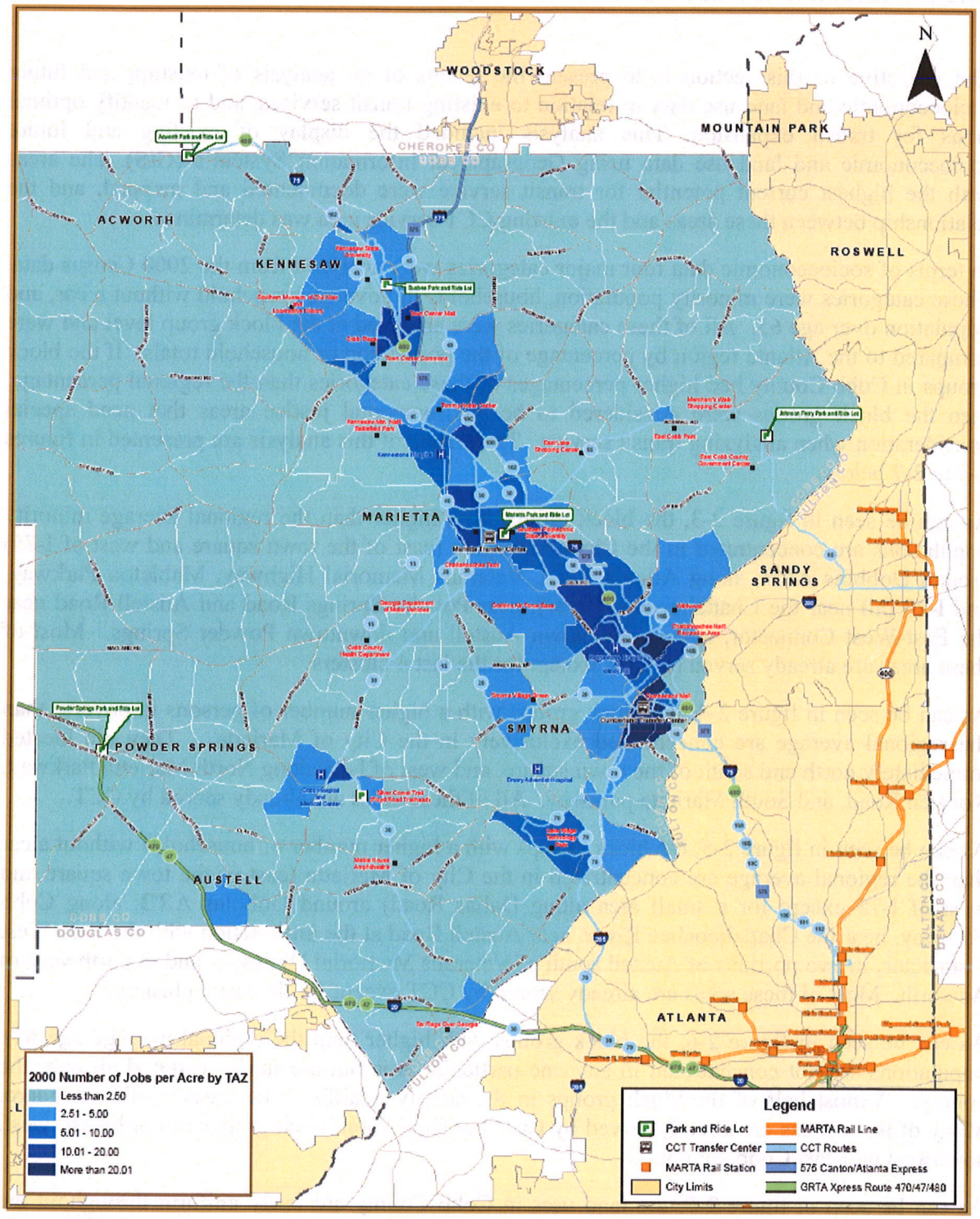
2.2 Employment

The largest employer in Cobb County is the Cobb County Public Schools, followed by Lockheed Martin, WellStar Health System, The Home Depot, Cobb County Government, and Publix. Over 200 international firms are located in Cobb County and many have their U.S. headquarters there. Most jobs in Cobb County are in the service industry with retail and manufacturing close behind. The largest number of jobs is in the service sector, followed by retail trade; Lockheed Martin Aeronautical Systems Company is the county's largest private employer. An increasing percentage of Cobb's service and retail jobs are tourism-related. Three of the Southeast's largest theme amusement parks are located in Cobb: Six Flags, White Water and American Adventures.

The Galleria area at the intersection of I-75 and I-285 offers over 20 million square feet of urban office space. The Cobb Galleria Centre is a $40 million convention and exhibit facility. The Vinings area provides high-quality commercial and retail offices at Vinings Overlook and Cumberland Parkway. South Cobb is a center for high-volume warehousing, distribution and manufacturing.

Figure 2-2 plots the employment density for 2000 by TAZ. As can be seen in this figure jobs are concentrated along the I-285 and I-75 corridors. The most significant concentrations are at Cumberland-Galleria, Wildwood, Dobbins, South Cobb Parkway at I-285, Marietta, and around the Town Center Mall-McCollum Field area. East Cobb (east of I-75) has a scattering of jobs mostly local neighborhood services or retail centers. The rest of the county is mostly residential and low density in terms of jobs.

Figure 2-2: 2000 Employment Density by TAZ



Source: 2000 US Census

January 2006

0 2.5 5 Miles

2.3 Socioeconomic / Land Use

The objective of this section is to present the results of an analysis of existing and future socioeconomic and land use data in relation to existing transit services, and to identify optimal areas for transit expansion. This analysis included the display of existing and future socioeconomic and land use data using Geographical Information System's (GIS). The areas with the highest current potential for transit service were documented and mapped, and the relationship between these areas and the existing CCT service area was determined.

In terms of socioeconomic data four major categories were analyzed from the 2000 Census data. These categories were minority population, households in poverty, household without a car, and population over age 65. All of these categories were analyzed at the block group level and were compared to the Atlanta region by percentage of the population or household totals. If the block groups in Cobb County had higher percentages of these categories than the regional percentage, then the block groups were considered to be environmental justice areas that need special consideration when analyzing transit service. The results of this analysis are presented in figures 2-3 to 2-7 below.

As can be seen in figure 2-3, the block groups with higher than the regional average minority populations are concentrated in the City of Marietta (east of the town square and west of I-75) around Dobbins ARB, along Atlanta Road, Veterans Memorial Highway, Mableton Parkway, and I-20 (all near the Chattahoochee River), near Powder Springs Road and Austell Road near the East-West Connector, and in downtown Austell and downtown Powder Springs. Most of these areas are already served by CCT except for the last 4 clusters.

As can be seen in figure 2-4, the block groups with a higher number of persons in poverty than the regional average are concentrated exclusively in the City of Marietta . They are located immediately north and south of the town square, and west of I-75 along North Marietta Parkway, Roswell Road, and South Marietta parkway. All of these areas are already served by CCT.

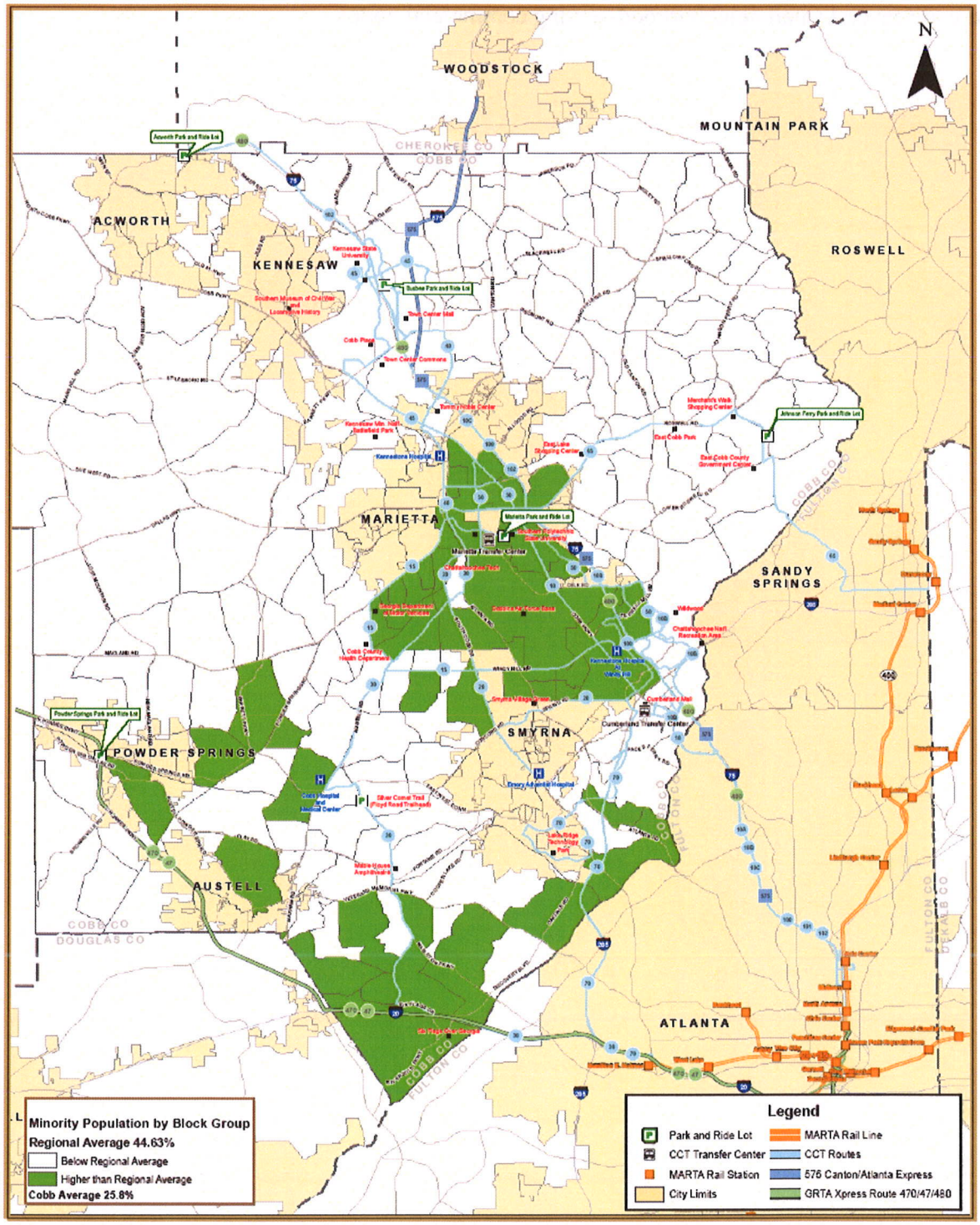
As can be seen in figure 2-5, the block groups with a higher number of households without a car than the regional average are concentrated in the City of Marietta (east of the town square and west of I-75 except for a small area along Dallas Road) around Dobbins ARB, along Cobb Parkway, near the Chattahoochee River, near Austell Road at the intersection with the East-West Connector, in two portions of Austell south of Veterans Memorial Highway, and in northwestern Acworth. Most of these areas are already served by CCT except for the last 3 clusters.

As can be seen in figure 2-6, the block groups with higher than the regional average age 65+ populations are not concentrated in any one particular area but are fairly scattered all over the county. Almost half of the block groups in the county qualify as EJ areas by this standard. Many of these areas are already served by CCT but significant block groups in northwest, west, southwest and east Cobb are not.

As can be seen in figure 2-7, the land uses in Cobb County are fairly uniform throughout the county with low density residential areas dominating the county and open space/forest/undeveloped land dominating in northwest, west, and southwest Cobb, and also along the Chattahoochee River. All other land use categories are concentrated along the I-75 corridor including all higher density residential commercial uses. The CCT service area is

mostly concentrated in this I-75 corridor and effectively serves most of the industrial, institutional, commercial and high density residential areas in the county. Along major roads there are several small neighborhood-serving commercial nodes.

Figure 2-3: 2000 Minority Population by Block Group

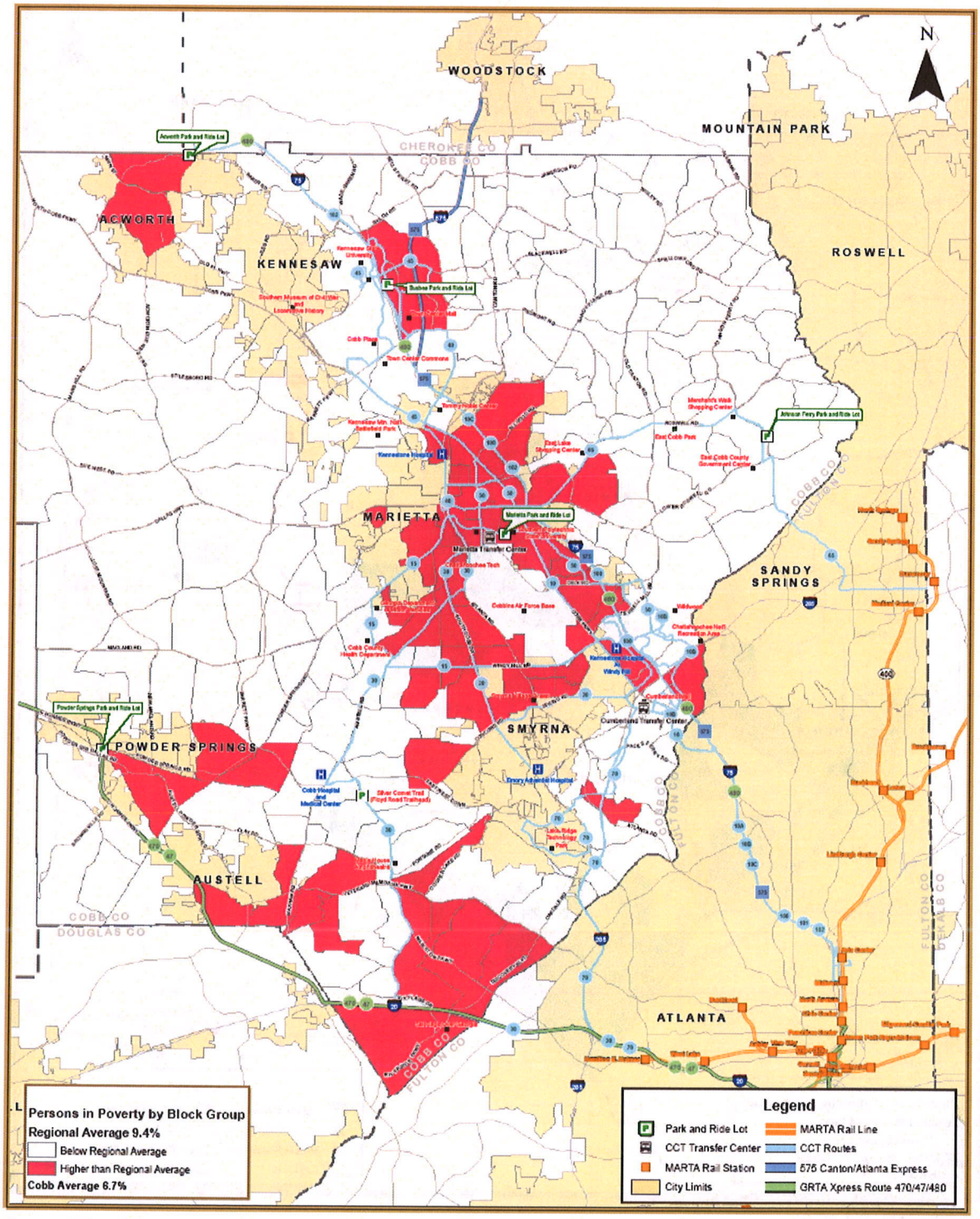


Source: 2000 US Census

January 2006

0 2.5 5 Miles

Figure 2-4: 2000 Persons in Poverty by Block Group

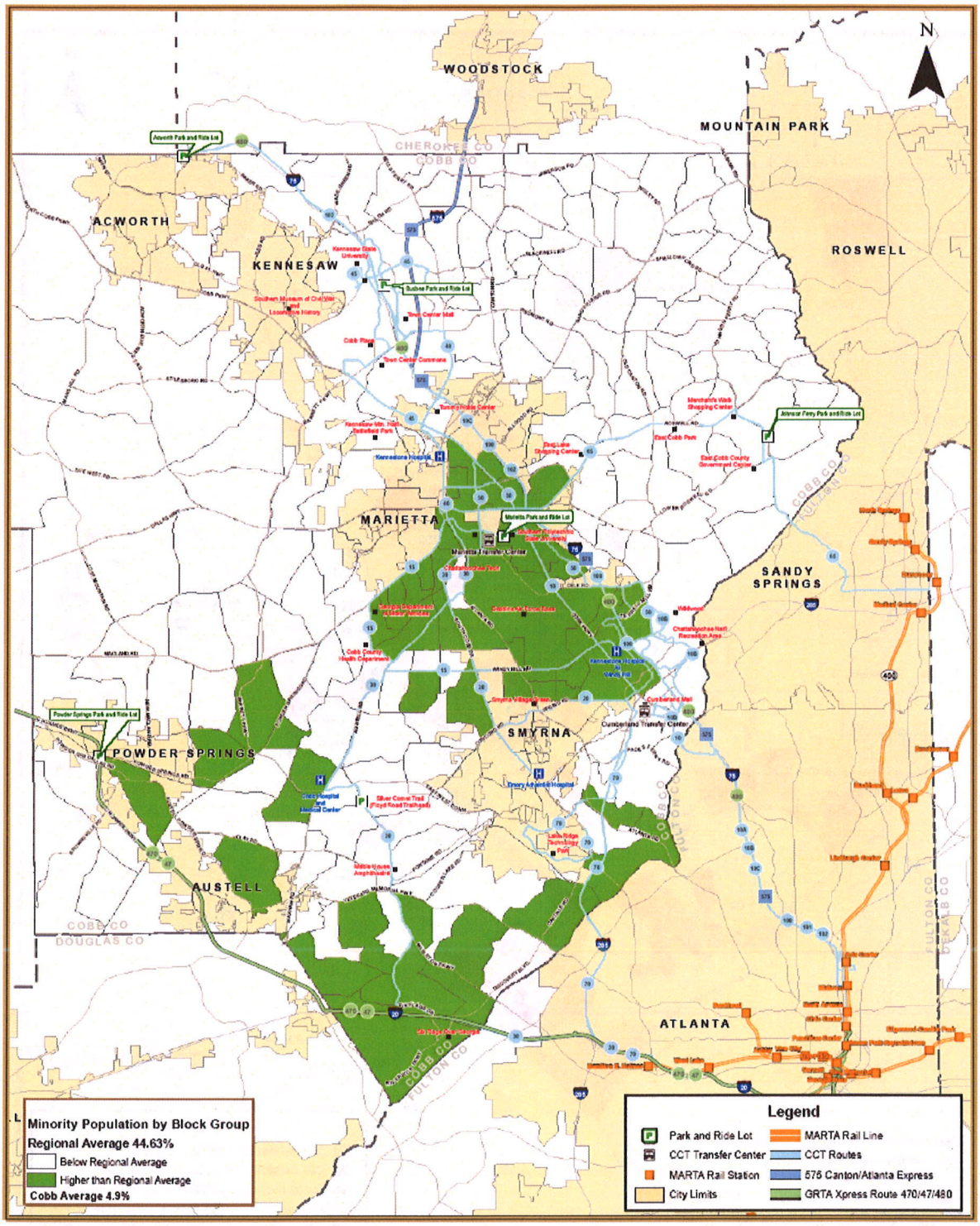


Source: 2000 US Census

January 2006

0 2.5 5 Miles

Figure 2-5: 2000 Households without a Car by Block Group

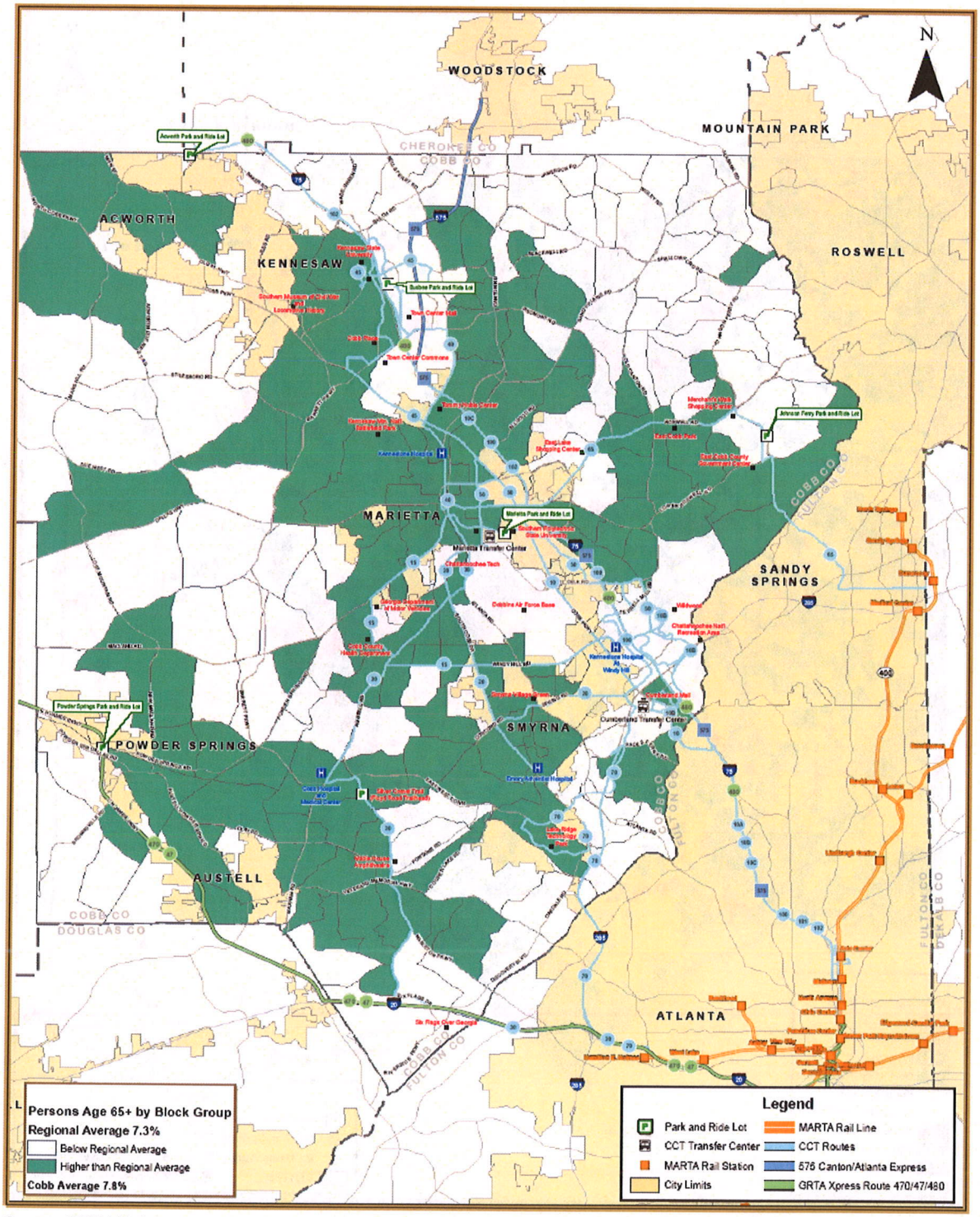


Source: 2000 US Census

January 2006

0 2.5 5 Miles

Figure 2-6: 2000 Age 65 and Older by Block Group

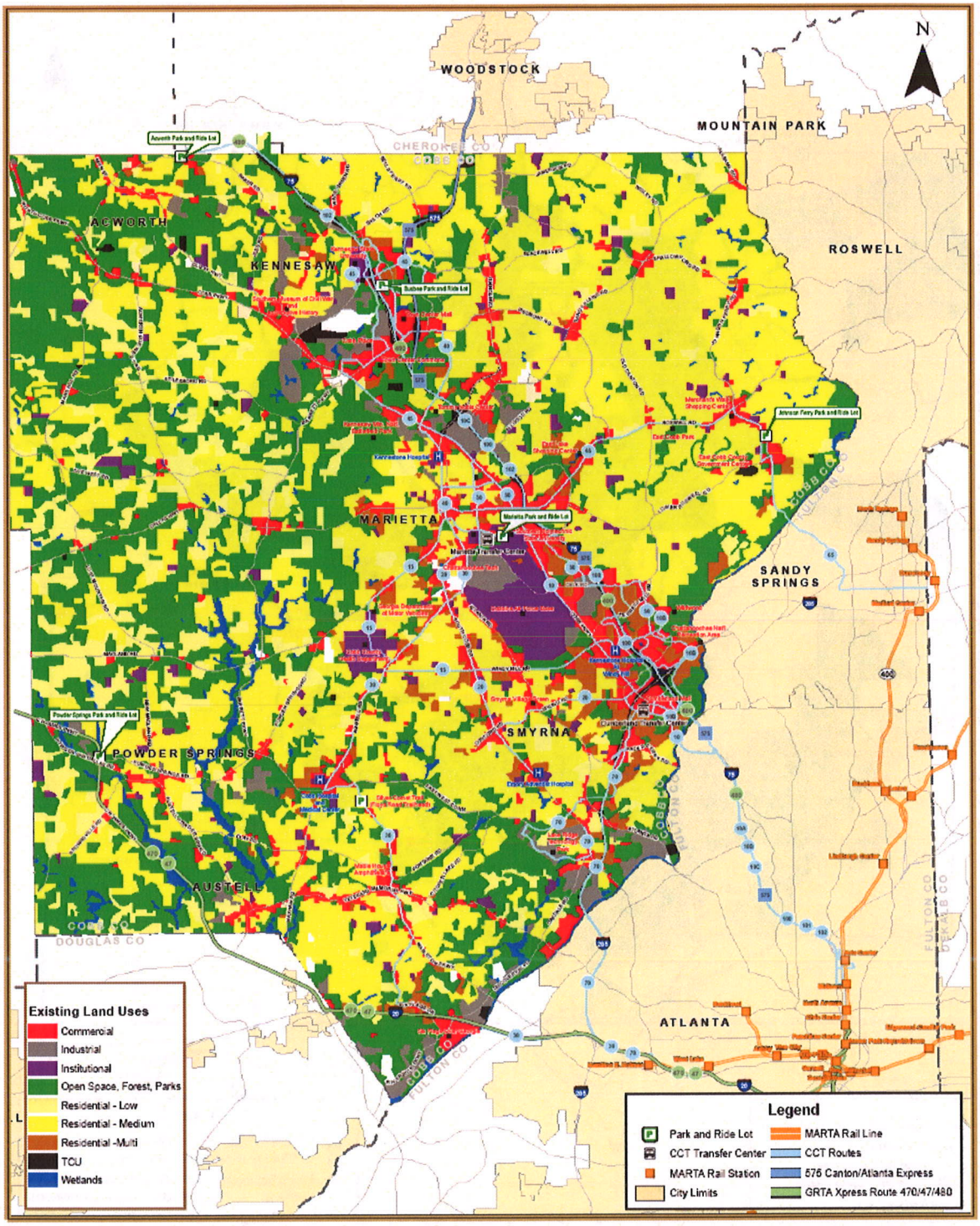


Source: 2000 US Census

January 2006

0 2.5 5 Miles

Figure 2-7: 2000 Land Uses near CCT Routes



Source: 1999 ARC Landpro Data

January 2006

0 2.5 5 Miles

3.0 EXISTING CCT SERVICE

3.1 System Description

The CCT system currently operates thirteen local routes, five express routes and complementary paratransit service. One of the local routes, Route 47, and two of the express routes, Routes 460 and 470, are operated for GRTA by CCT and are not included in this study. The paratransit service is also not included in this study. The CCT system is displayed in Figure 3-1. Local Route 10 and Express Route 102 connect to the MARTA Arts Center Station and Routes 30 and 70 connect to the MARTA Holmes Station. Route 65 provides service to the MARTA Dunwoody Station. Express routes 100, 101, and 102 connect to the Five Points and other downtown MARTA stations.

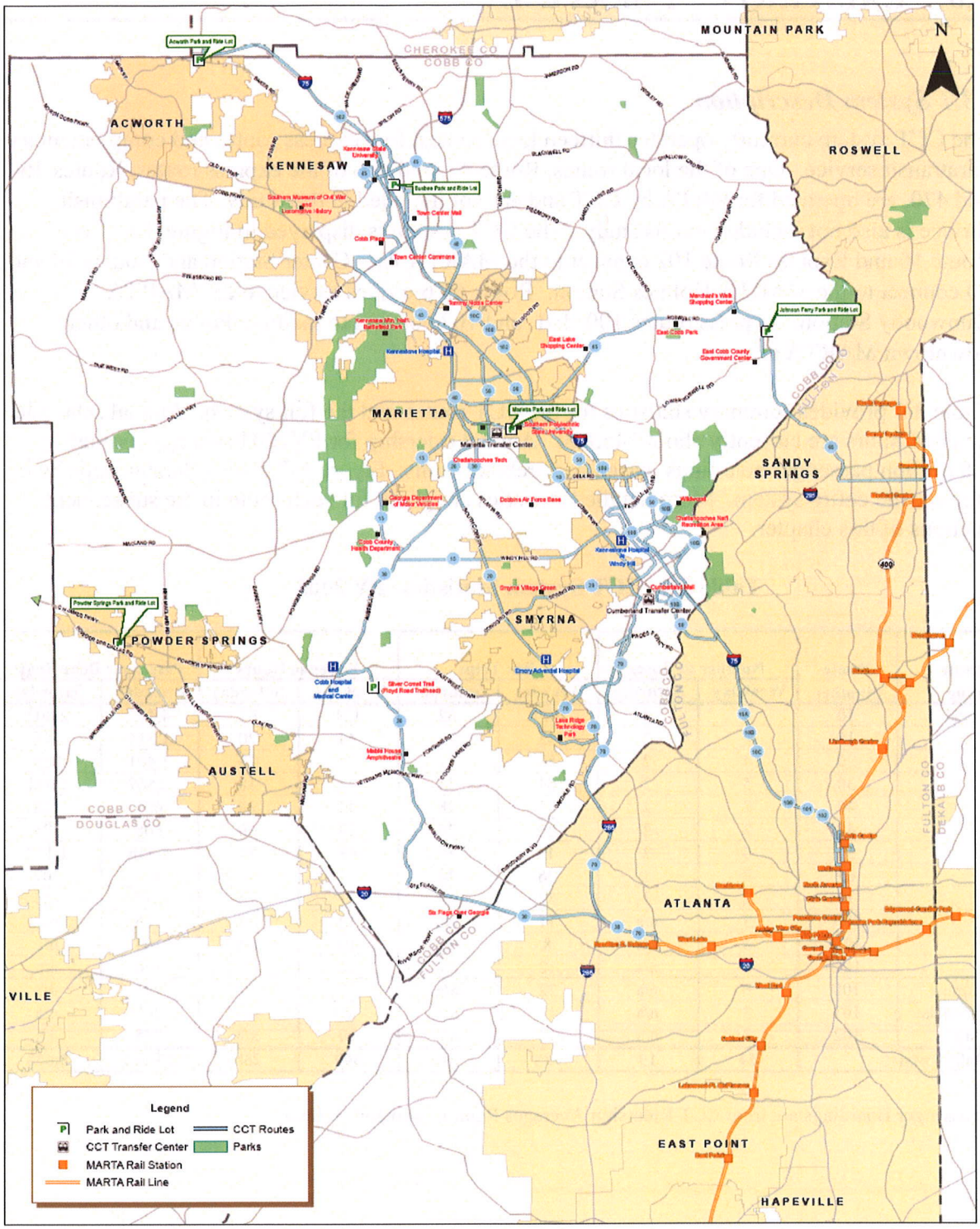
Table 3-1 provides summary statistics for the CCT routes and the full system. Annual scheduled revenue-hours are currently about 145,000. Annual ridership for FY2004 was approximately 3.5 million passenger boardings, based on farebox counts. Figure 3-2 gives ridership activity by stop for the entire system. More detailed statistics are given for each route in the subsequent sections of this chapter.

Table 3-1: CCT System Statistics -FY 2005

Route Type	Route Number	Number of Buses		Bus Trips		Revenue Hours		Passenger Boardings*	
		Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday
Local	10	8	4	129	62	121	61	4,468	2,802
	15	4	2	45	26	44	20	1,314	546
	20	4	2	53	31	52	28	1,401	816
	30	5	3	64	33	74	38	2,567	1,661
	40	2	2	33	28	32	28	699	438
	45	2	2	28	26	28	26	608	323
	50	4	2	49	31	48	31	1,716	1,112
	65	2	1	26	20	22	13	436	207
	70	2	1	32	28	21	13	312	133
	10A	3	n/a	11	n/a	12	n/a	106	n/a
	10B	3	n/a	8	n/a	10	n/a	104	n/a
	10C	3	n/a	12	n/a	10	n/a	176	n/a
Express (Weekday Only)	100	6	n/a	22	n/a	17	n/a	789	n/a
	101	3	n/a	11	n/a	8	n/a	265	n/a
	102	3	n/a	12	n/a	10	n/a	225	n/a
Daily Totals:		**54**	**19**	**535**	**285**	**509**	**258**	**15,186**	**8,038**

*Passenger Boardings are from CCT Ridership Averages Report - September 2005

Figure 3-1: CCT System Map



January 2006

0 2.5 5 Miles

Figure 3-11: Route 15 Weekday - Outbound Boardings and Alightings

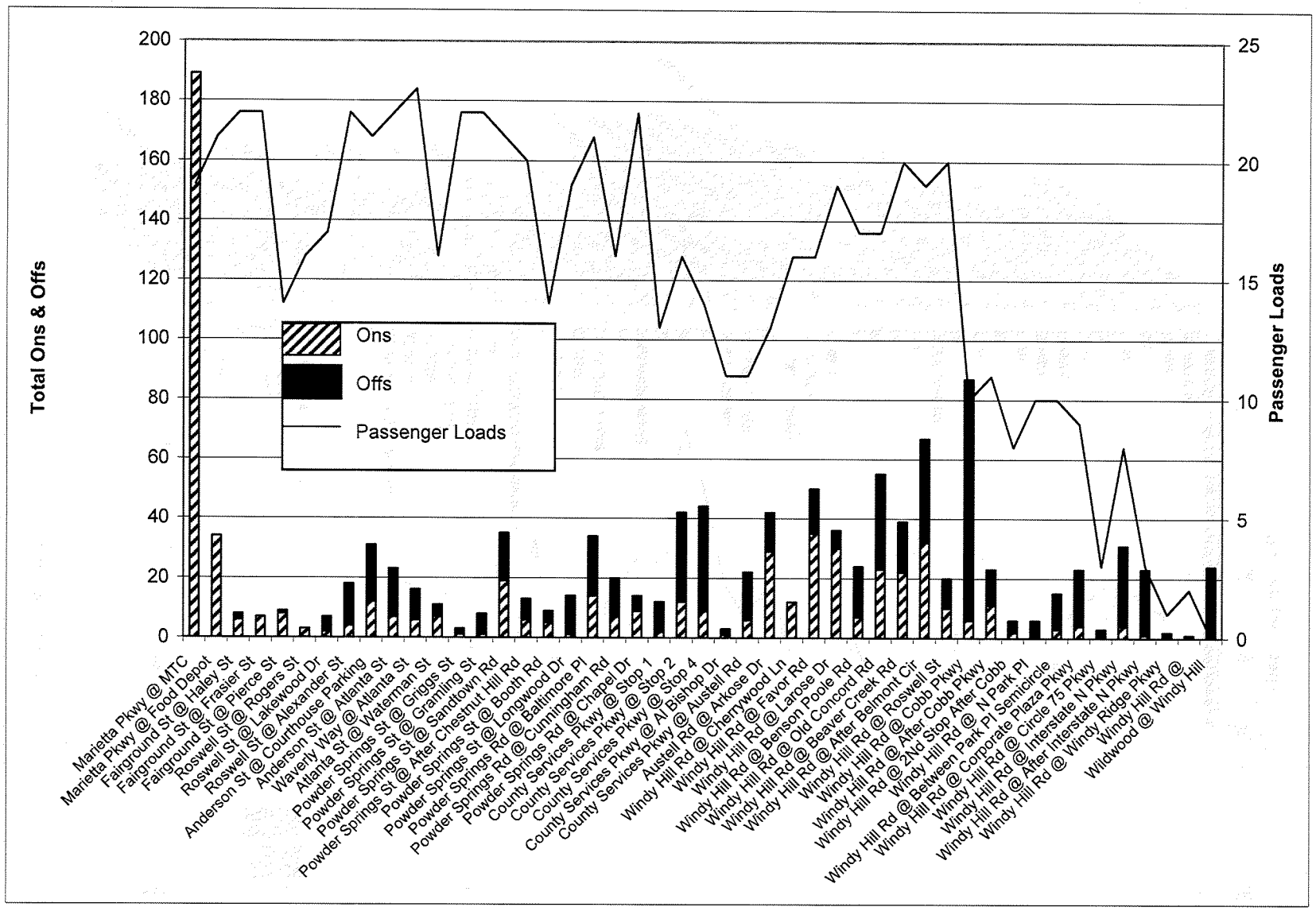


Figure 3-12: Route 15 Weekday - Inbound Boardings and Alightings

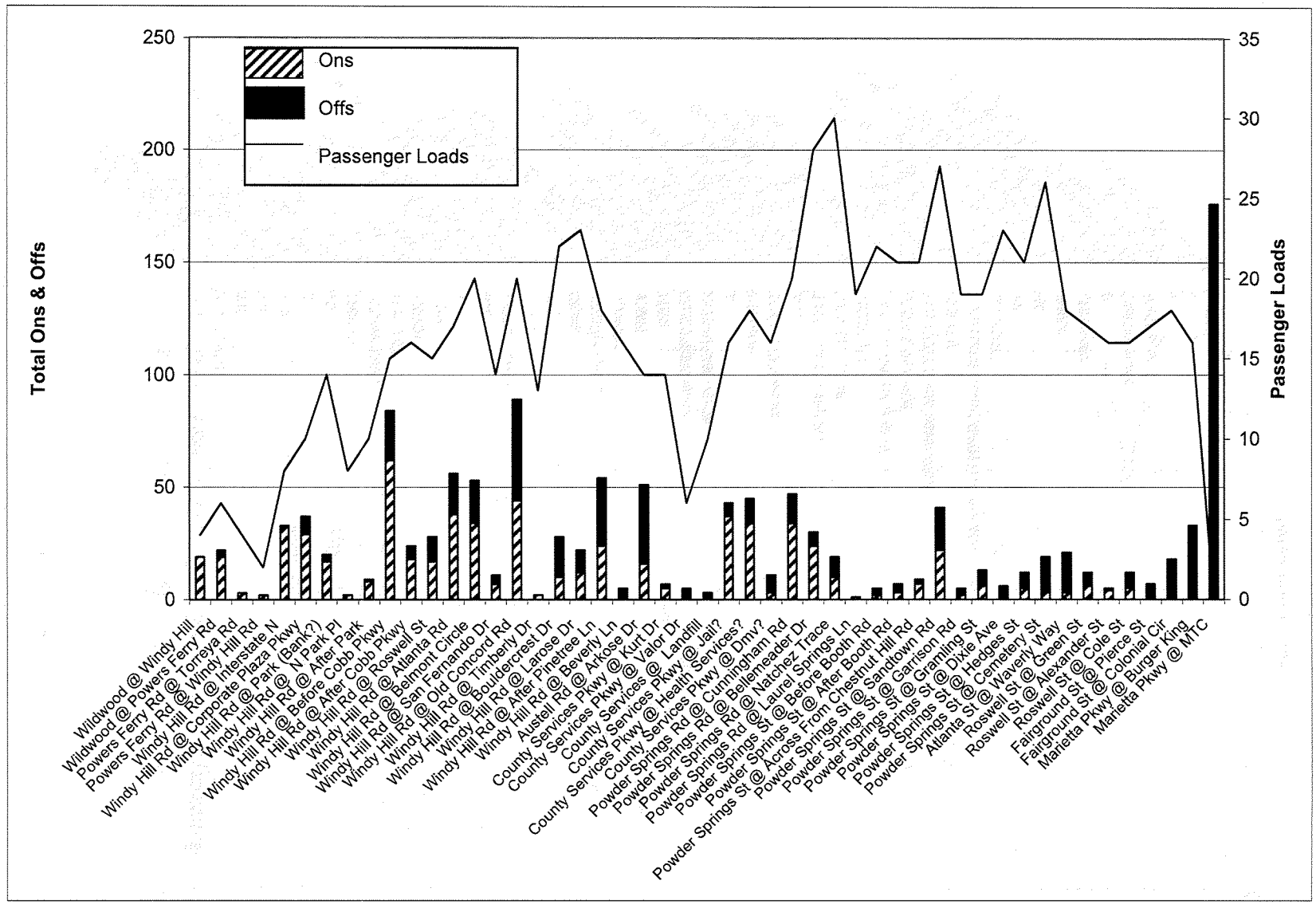


Figure 3-13: Route 15 Saturday - Outbound Boardings and Alightings

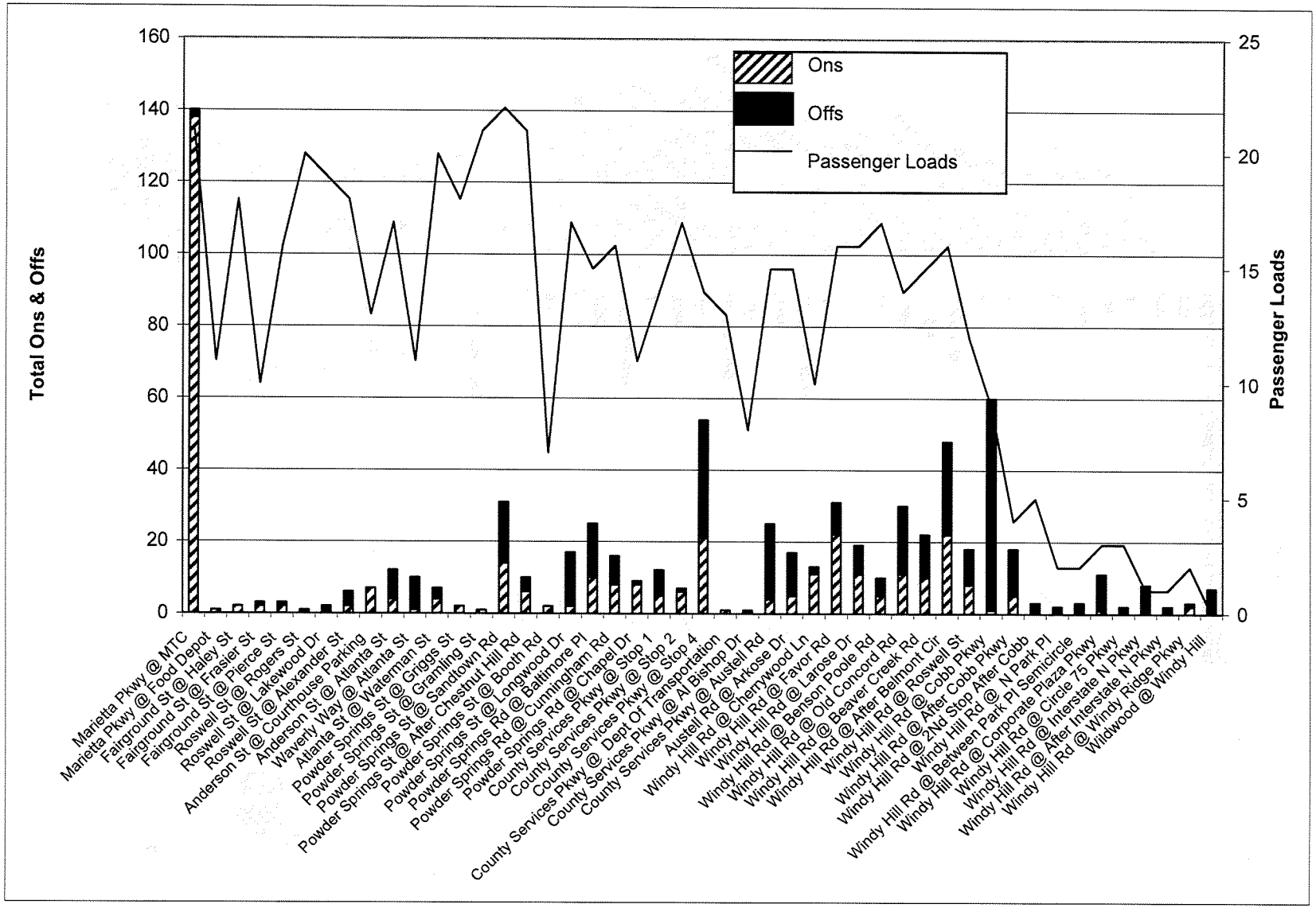
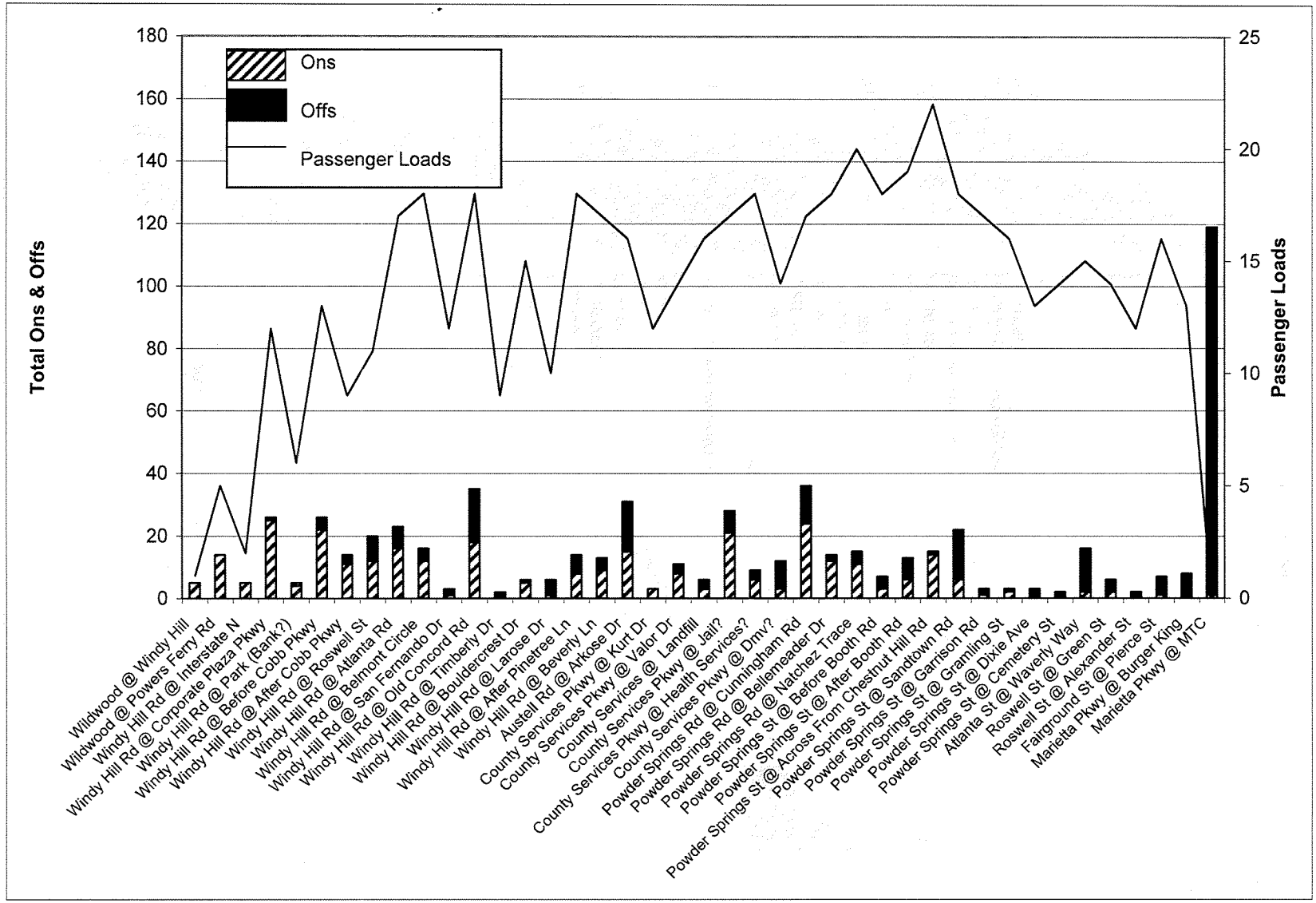


Figure 3-14: Route 15 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-9: Route 15 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cobb County Health Dept.	21	21	0	20	22	2	25	24	-1	23	17	-6
Cobb County Health Dept.	Austell/ Windy Hill	4	7	3	4	5	1	5	4	-1	4	4	0
Austell/ Windy Hill	Windy Hill/ Atlanta Road	13	10	-3	11	10	-1	12	11	-1	6	7	1
Windy Hill/ Atlanta Road	Windy Hill/ Cobb Pkwy	7	8	1	6	6	0	7	8	1	4	7	3
Windy Hill/ Cobb Pkwy	Arrive Wildwood Pkwy	8	9	1	9	8	-1	7	8	1	7	9	2

Small differences were noted between scheduled and observed runtimes. However, over the course of the route, the differences tended to balance themselves out. Consideration should be given to adjusting the runtimes to give more time between segments with negative numbers, and less time between segments with positive numbers.

Table 3-10: Route 15 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
Wildwood Pkwy	Windy Hill/ Cobb Pkwy	12	10	-2	12	10	-2	17	11	-6	12	10	-2
Windy Hill/ Cobb Pkwy	Windy Hill/ Atlanta Road	5	5	0	7	7	0	6	8	2	5	8	3
Windy Hill/ Atlanta Road	Austell/ Windy Hill	10	7	-3	8	7	-1	11	12	1	9	10	1
Austell/ Windy Hill	Cobb County Health Dept.	6	4	-2	5	6	1	3	6	3	3	5	2
Cobb County Health Dept.	MTC	19	26	7	17	25	8	19	18	-1	13	16	3

In the inbound direction, Route 10 observed runtime tends to run slightly faster than scheduled runtime between Cobb county Health Department and the MTC. Overall, the observed and scheduled times are very close.

Table 3-11: Route 15 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cobb County Health Dept.	19	17	-2	19	17	-2	22	17	-5	20	17	-3
Cobb County Health Dept.	Austell/ Windy Hill	4	4	0	4	4	0	4	4	0	4	4	0
Austell/ Windy Hill	Windy Hill/ Atlanta Road	9	8	-1	10	8	-2	11	8	-3	10	8	-2
Windy Hill/ Atlanta Road	Windy Hill/ Cobb Pkwy	2	4	2	7	4	-3	6	4	-2	3	4	1
Windy Hill/ Cobb Pkwy	Arrive Wildwood Pkwy	7	7	0	6	7	1	10	7	-3	6	7	1

Overall, the observed runtime tends to be longer than the scheduled runtime. Consideration should be given to adding additional runtime in this direction on Saturday.

Table 3-12: Route 15 Saturday Inbound Observed Runtime in Minutes

From	To	AM Peak			Midday			PM Peak			Evening		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
Wildwood Pkwy	Windy Hill/ Cobb Pkwy	16	9	-7	9	9	0	9	9	0	10	9	-1
Windy Hill/ Cobb Pkwy	Windy Hill/ Atlanta Road	4	7	3	5	7	2	4	7	3	4	7	3
Windy Hill/ Atlanta Road	Austell/ Windy Hill	9	7	-2	9	7	-2	8	7	-1	9	7	-2
Austell/ Windy Hill	Cobb County Health Dept.	4	2	-2	5	2	-3	6	2	-4	5	2	-3
Cobb County Health Dept.	MTC	17	15	-2	15	15	0	15	15	0	15	15	0

As in the outbound direction, the observed runtime tends to be longer than the scheduled runtime. Consideration should be given to adding additional runtime in this direction on Saturday.

Observations:

1. Route 15 is the fifth most active route in the CCT system and ties the MTC to the Wildwood office area via Windy Hill Road. The route has 1,242 Weekday passengers and 679 Saturday passengers. Route 15 is fairly direct even though it follows an L-shaped tangential pattern. There are 48 outbound and 50 inbound stops on the route of which all outbound and 49 inbound stops are active. The route serves only one transfer center.

2. Ridership on Windy Hill is relatively high and loads tend to be steady but decrease as the bus approaches Wildwood and increase as it approaches MTC. Other than the MTC station, the most active areas are along Windy Hill Road and County Services Parkway. There is no direct transfer between Route 15 and MARTA system. The average number of Weekday boardings per trip is 27.6 and 26.1 is the average number of Saturday boardings per trip.

3. Although load factors are close to the mid and low end of the standards, the weekday service frequencies appear to be appropriate for the current ridership on this route. There are no recorded instances of overloading (40+ passengers) in the ride check and only one recorded instance of under loading (less than 5 passengers) in the evening weekday.

3.3.3 Route 20 South Cobb Drive

Route 20 operates from Marietta to the Cumberland Boulevard Transfer Center via South Cobb Drive and Spring Road and Emory Adventist Hospital. (Monday - Saturday) Route 20 provides service to several important destinations, including:

- Marietta Transfer Center
- Cobb Center
- Cumberland Transfer Center

Route 20 is depicted in Figure 3-15.

Table 3-13 lists service statistics for Route 20 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 20 has the third highest weekday daily revenue hours at 52. The weekday ridership of 1,354 boardings is the fourth highest of the CCT routes. Weekday and Saturday ridership and load factor data are based on ride checks that were conducted on April 14 to June 5, 2005. Fare revenue data is based on farebox counts of cash fares during the months of July, August, and September 2005.

The following are the key route performance results for Route 20:

- Load factors during peak periods are just above the minimum standard: 0.60 in the a.m. and 0.58 in the p.m., compared to the standard of 0.75 to 1.25. The midday load factor is 0.73 and the evening load factor is 0.38, which is below the off-peak hour standard of 0.50.
- The maximum load for the a.m. and p.m. peak periods is 24 passengers and 23 passengers, respectively. The midday maximum load is 29 passengers and the evening maximum load is 15.
- The weekday productivity is about 27 passengers per revenue-hour, with a Saturday figure of about 29 passengers per hour.
- The monthly farebox recovery ratio is just over 28.6%, which exceeds CCT's minimum standard of 28%.

Table 3-13: Route 20 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	6:00 am-12:33 am	7:00 am-10:38 pm
Frequency (min.)		
Peak	30	60
Midday	60	60
Evening	60	60
One-way Trips		
Peak	27	12
Midday	13	12
Evening	13	7
Total	53	31
Max. Buses Required	4	2
Daily Miles and Hours		
Revenue Miles	729	447
Revenue Hours	52	28

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	29,420	3,264
Trips	1,113	124
Rev. Miles	15,317	1,786
Rev. Hours	1,085	114
Operating Cost (1)	$79,159	$8,296
Fare Revenue (2)	$25,050	
Service Productivity		
Pass. per Trip	26.4	26.3
Pass. per Rev. Mile	1.9	1.8
Pass. per Rev. Hour	27.1	28.7
Economic Productivity		
Cost per Rev. Mile	$5.17	$4.64
Cost per Pass.	$2.69	$2.54
Farebox Ratio	28.6%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	1,354	802
Alightings (Offs)	1,354	802
Maximum Load		
AM Peak	24	17
Midday	29	42
PM Peak	23	20
Evening	15	19
Load Factors(3)		
AM Peak	0.60	0.43
Midday	0.73	1.05
PM Peak	0.58	0.50
Evening	0.38	0.48

Notes:

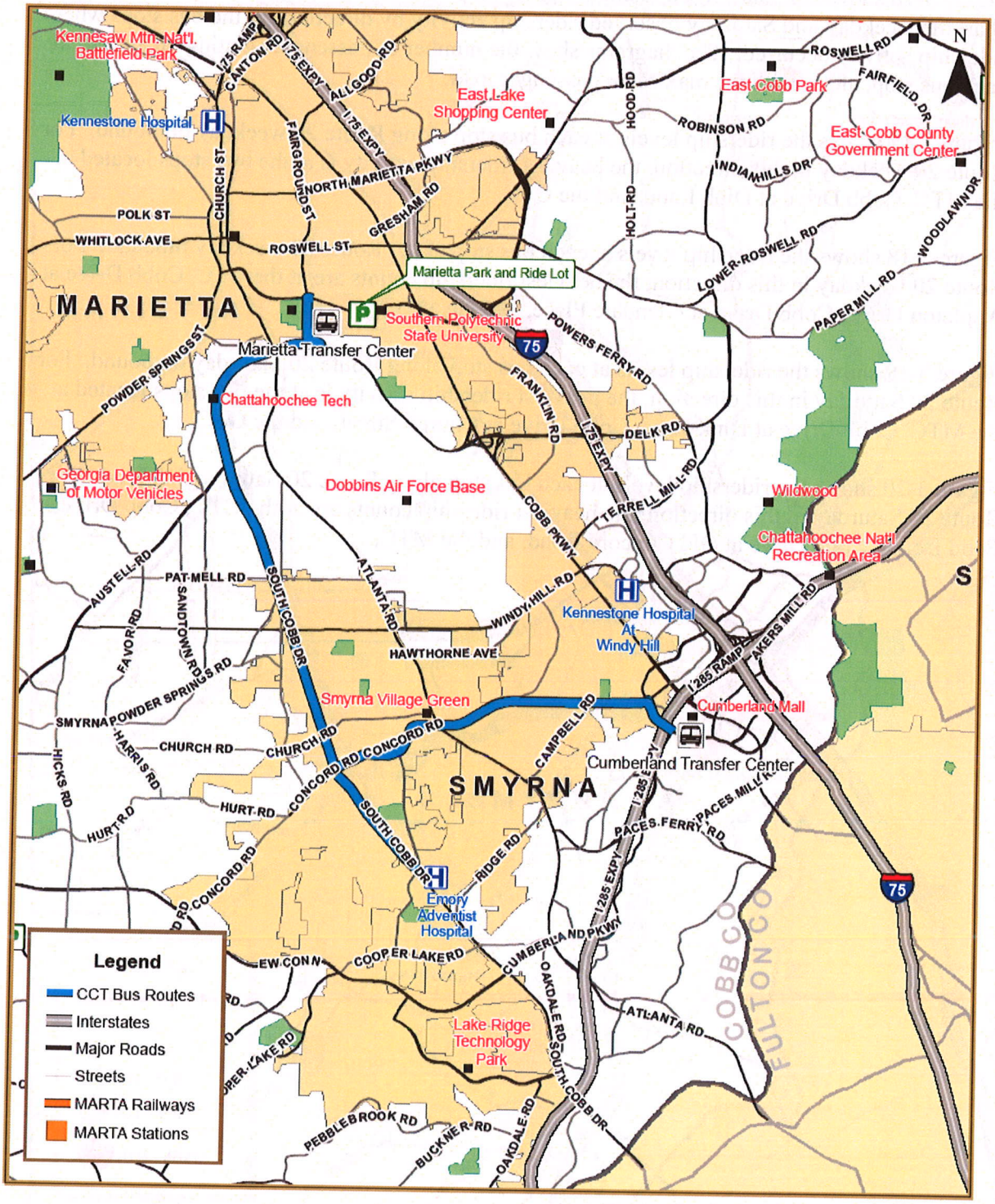
(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-15: Route 20 Map



CCT Route 20

0 1 2 Miles

Figure 3-19: Route 20 Saturday - Outbound Boardings and Alightings

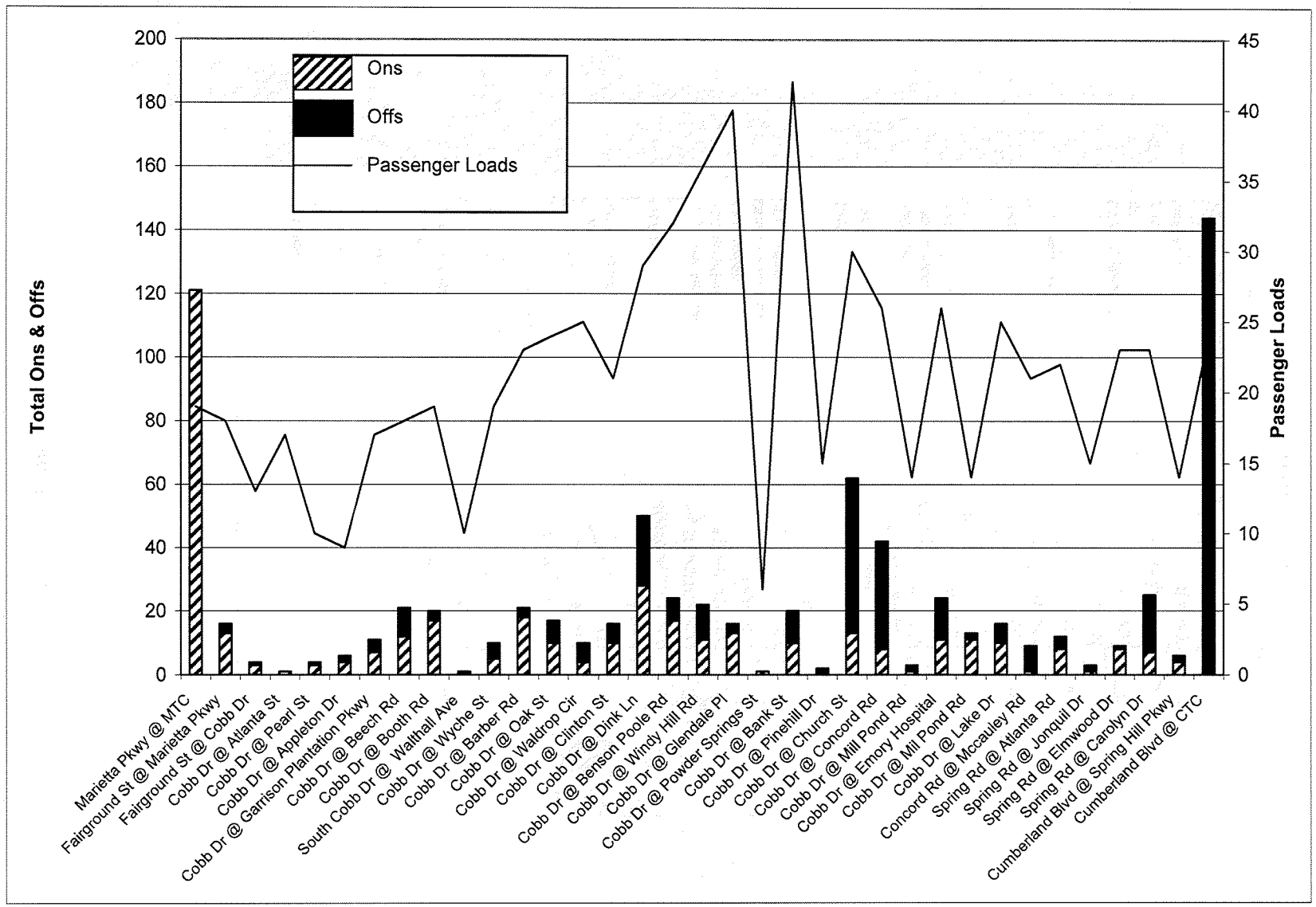
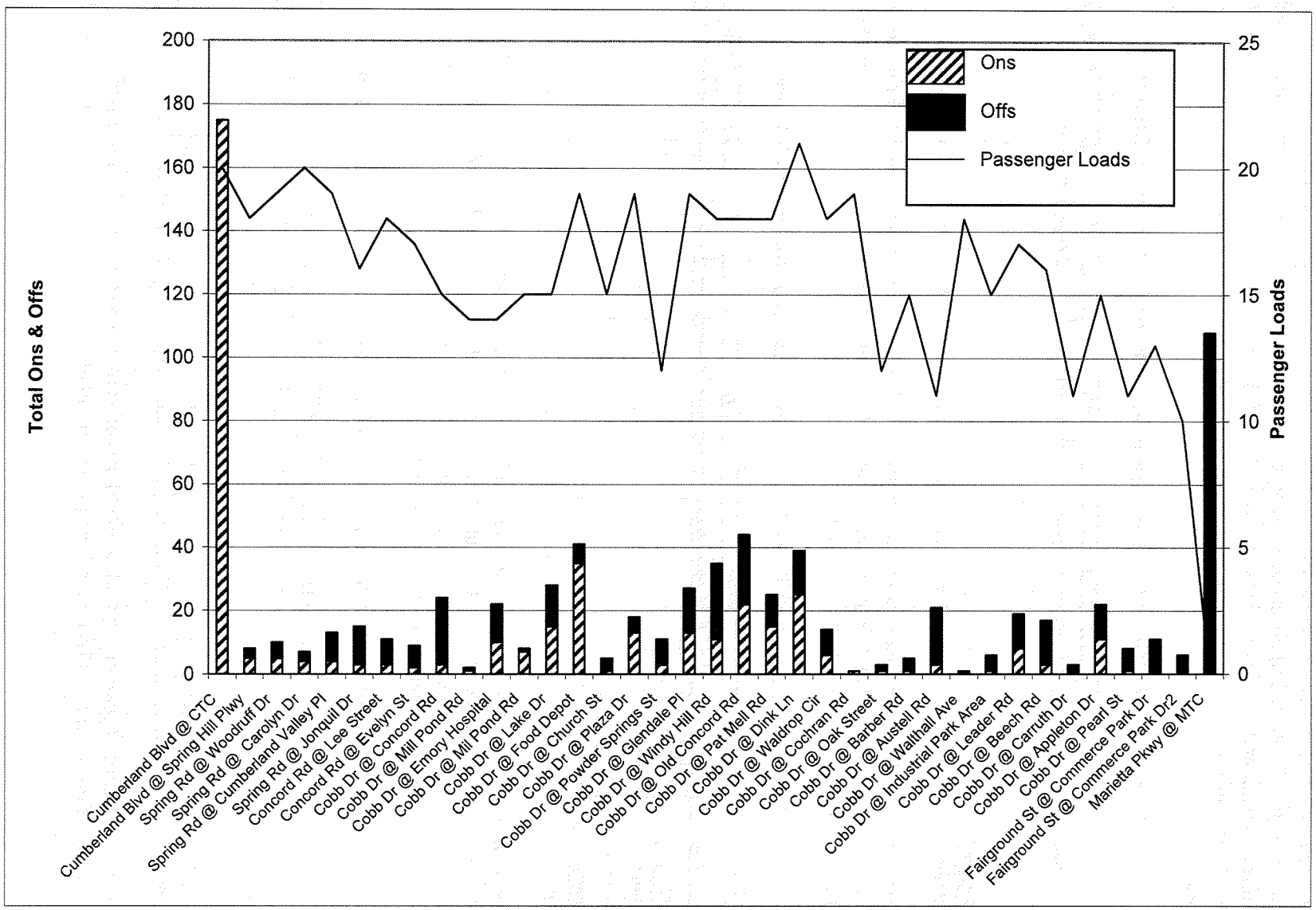


Figure 3-20: Route 20 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-14: Route 20 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cobb Center	11	16	5	17	15	-2	18	16	-2	17	16	-1
Cobb Center	Emory Hospital	12	13	1	12	14	2	15	13	-2	13	13	0
Emory Hospital	Concord Road/ Atlanta Road	8	9	1	8	9	1	8	9	1	5	9	4
Concord Road/ Atlanta Road	CTC	9	17	8	8	17	9	10	17	7	6	17	11

The segment with the largest discrepancy between scheduled runtime and observed runtime was between Concord Road at Atlanta Road and the CTC. This section of the route was observed to operate between 8 to 11 minutes ahead of schedule for most of the day.

Table 3-15: Route 20 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
CTC	Concord Road/ Atlanta Road	9	10	1	8	10	2	13	10	-3	6	10	4
Concord Road/ Atlanta Road	Emory Hospital	14	9	-5	7	9	2	10	9	-1	11	9	-2
Emory Hospital	Cobb Center	8	9	1	13	9	-4	11	9	-2	10	9	-1
Cobb Center	S. Cobb Dr. / Austell Road	3	4	1	5	4	-1	3	4	1	3	4	1
S. Cobb Dr. / Austell Road	MTC	9	23	14	11	23	12	9	23	14	10	13	3

As in the outbound direction, the segment with the largest discrepancy between scheduled and observed runtime was Concord Road at Atlanta Road and the CTC. In the inbound direction, this section was observed to operate between 12 to 14 minutes ahead of schedule, except running 3 minutes ahead of schedule in the evening period.

Table 3-16: Route 20 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cobb Center	10	14	4	20	14	-6	20	14	-6	16	14	-2
Cobb Center	Emory Hospital	10	10	0	12	10	-2	11	10	-1	11	10	-1
Emory Hospital	Concord Road/ Atlanta Road	10	10	0	8	10	2	7	10	3	8	10	2
Concord Road/ Atlanta Road	CTC	13	13	0	6	13	7	6	13	7	7	13	6

Small differences between scheduled and observed runtimes were noted in this direction. Consideration should be given on adjusting the runtimes to move running time from segments with a surplus and adding runtime to segments with a deficit.

Table 3-17: Route 20 Saturday Inbound Observed Runtime in Minutes

From	To	AM Peak			Midday			PM Peak			Evening		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
CTC	Concord Road/ Atlanta Road	8	12	4	5	12	7	5	12	7	15	12	-3
Concord Road/ Atlanta Road	Emory Hospital	8	8	0	9	8	-1	9	8	-1	7	8	1
Emory Hospital	Cobb Center	9	9	0	11	9	-2	13	9	-4	10	9	-1
Cobb Center	S. Cobb Dr. / Austell Road	3	3	0	4	3	-1	4	3	-1	3	3	0
S. Cobb Dr. / Austell Road	MTC	9	20	11	9	20	11	9	20	11	8	20	12

The segment with the largest discrepancy between scheduled and observed runtime was S. Cobb Drive at Austell Road and the MTC. This section was observed to operate between 11 to 12 minutes ahead of schedule.

Observations:

1. Route 20 is the fourth most active route in the CCT system and ties the MTC to the CTC via South Cobb Drive. The Weekday Ridership is 1,354 and the Saturday ridership is 802. The route is fairly direct but there is a significant loop to Emory Adventist Hospital that results in a turn back on South Cobb Drive and a final leg along Concord/Spring Roads. The route follows an L-shaped tangential pattern like the Route 15. There 36 outbound and 38 inbound stops on the route of which all have some activity. The route serves two transfer centers.

2. Ridership boarding and alighting activity is relatively steady over the entire route with a major activity occurring at the two end-of-line transfer centers, near Windy Hill Road, and near the Emory Adventist Hospital. There is no direct transfer between Route 20 and the MARTA system. The average number of Weekday boardings per trip is 24.6 and 25.9 is the average number of Saturday boardings per trip.

3. Although load factors are close to the middle range of the standards, the weekday service frequencies appear to be appropriate for the current ridership on this route. There is one recorded instance of overloading (40+ passengers) in the ride check in the Saturday midday period and two instances of under loading (less than 5 passengers) in the Weekday evening and late night periods.

3.3.4 Route 30 Austell Road/Floyd Road / Holmes Station

Route 30 operates from Marietta to MARTA Holmes Station via Atlanta Road, Austell Road, the East-West Connector, Floyd Road, Mableton Parkway, Factory Shoals Road, Six Flags Drive and I-20. A connection with CCT Route 70 can be made at the MARTA Holmes Station for travel to/from Cobb County. (Monday - Saturday) Route 30 provides service to several important destinations, including:

- Marietta Transfer Center
- Cobb Civic Center
- Cobb County Health Department
- Cobb Hospital
- Six Flags

Route 30 is depicted in Figure 3-21.

Table 3-18 lists service statistics for Route 30 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 30 has the second highest weekday daily revenue hours at 74. The weekday ridership of 2,140 boardings is also the second highest of the CCT routes. Weekday and Saturday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares.

The following are the key route performance results for Route 30:

- Load factors during peak periods are well within the standard of 0.75 to 1.25. The Route 30 peak period load factors are 0.85 in the a.m. and 1.18 in the p.m. The midday load factor is 0.80 and the evening load factor is 0.55.
- The maximum load for the a.m. and p.m. peak periods is 34 passengers and 47 passengers, respectively. The p.m. peak maximum load is high, but does not exceed the peak period maximum load standard of up to 63 passengers. The midday maximum load is 32 passengers and the evening maximum load is 22.
- The weekday productivity is about 35 passengers per revenue-hour and Saturday is about 43 passengers per hour.
- The monthly farebox recovery ratio is almost 33%, which is close to the desired standard of 35% and exceeds the minimum standard of 28%.

Table 3-18: Route 30 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	5:00 am-9:55 pm	7:00 am-10:30 pm
Frequency (min.)		
Peak	30	60
Midday	30	60
Evening	60	60
One-way Trips		
Peak	32	15
Midday	24	13
Evening	8	5
Total	64	33
Max. Buses Required	5	3
Daily Miles and Hours		
Revenue Miles	1,465	763
Revenue Hours	74	38

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	53,908	6,645
Trips	1,344	132
Rev. Miles	30,763	3,052
Rev. Hours	1,549	153
Operating Cost (1)	$113,010	$11,191
Fare Revenue (2)	$40,644	
Service Productivity		
Pass. per Trip	40.1	50.3
Pass. per Rev. Mile	1.8	2.2
Pass. per Rev. Hour	34.8	43.3
Economic Productivity		
Cost per Rev. Mile	$3.67	$3.67
Cost per Pass.	$2.10	$1.68
Farebox Ratio	32.7%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	2,140	1,364
Alightings (Offs)	2,140	1,364
Maximum Load		
AM Peak	34	41
Midday	32	36
PM Peak	47	34
Evening	22	34
Load Factors(3)		
AM Peak	0.85	1.03
Midday	0.80	0.90
PM Peak	1.18	0.85
Evening	0.55	0.85

Notes:

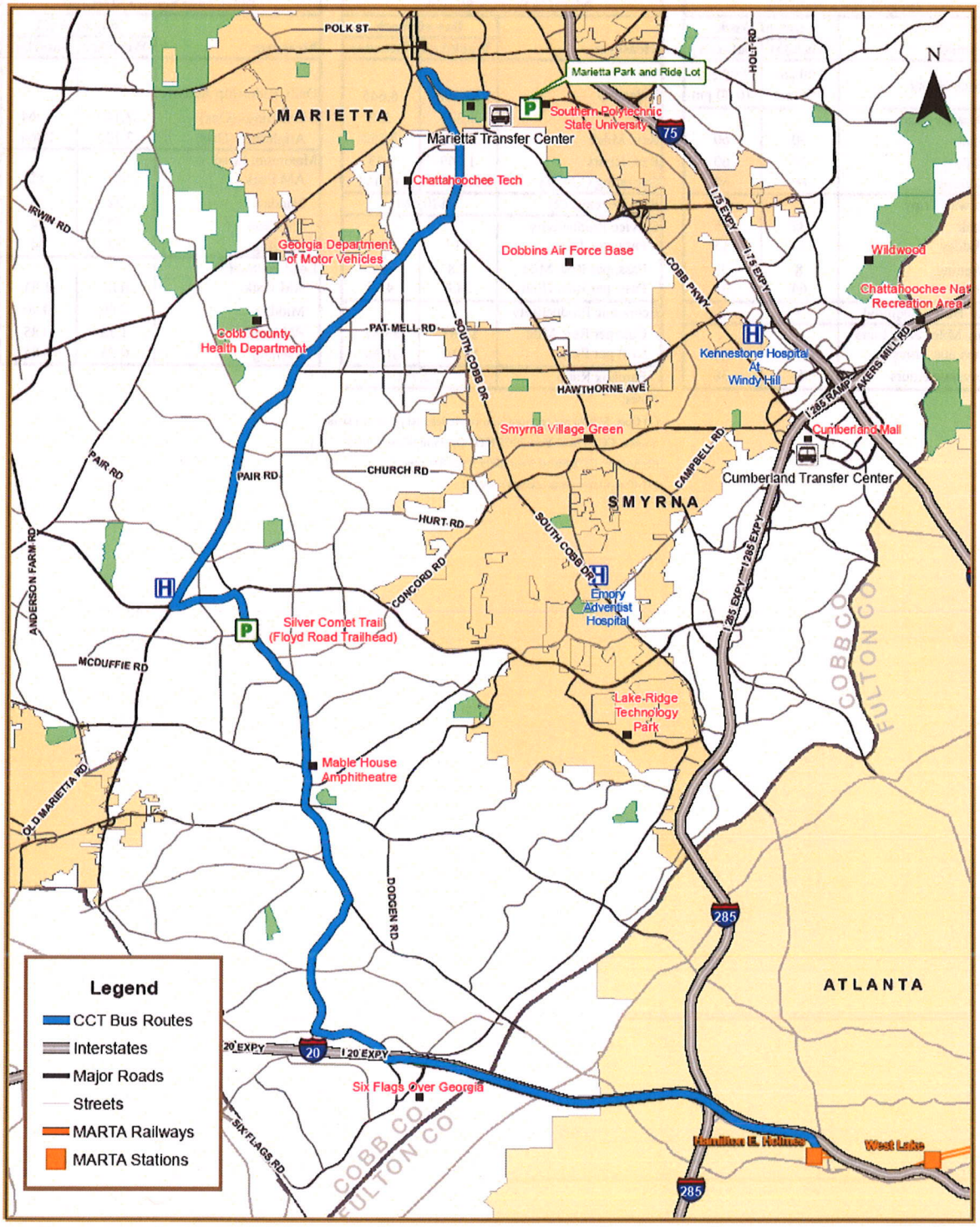
(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-21: Route 30 Map



CCT Route 30

0 1 2 Miles

Figure 3-22 shows all boardings and alightings by stop on Route 30. Figures 3-23 through 3-26 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

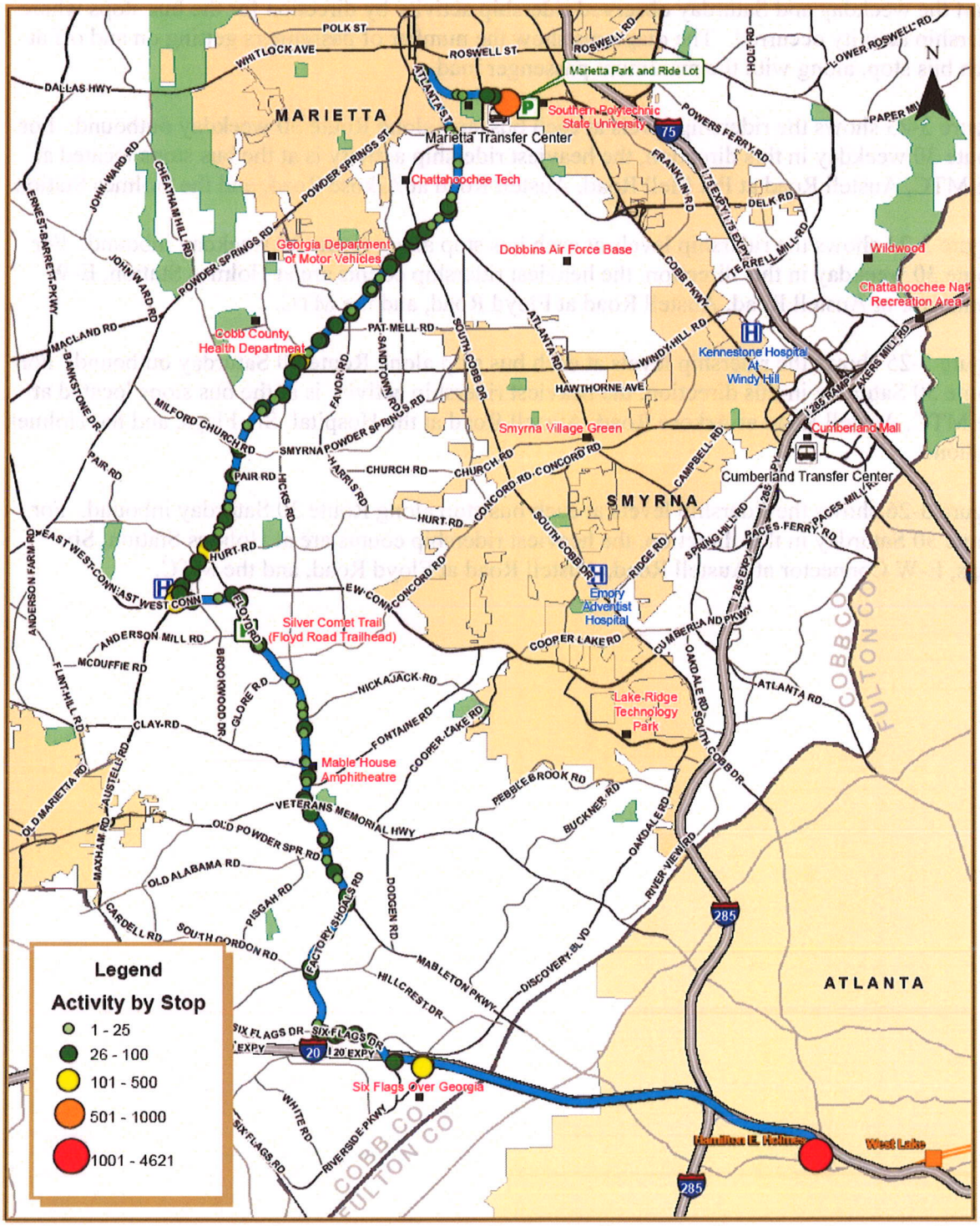
Figure 3-23 shows the ridership levels at each bus stop along Route 30 weekday outbound. For Route 30 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Austell Road at Pat Mell Road, Austell Road at Arkose Road, and the Holmes Station.

Figure 3-24 shows the ridership levels at each bus stop along Route 30 weekday inbound. For Route 30 weekday in this direction, the heaviest ridership counts are at Holmes Station, E-W Connector at Austell Road, Austell Road at Floyd Road, and the MTC.

Figure 3-25 shows the ridership levels at each bus stop along Route 30 Saturday outbound. For Route 30 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Austell Road at Arkose Road, Austell Road at the Hospital, Six Flags, and the Holmes Station.

Figure 3-26 shows the ridership levels at each bus stop along Route 30 Saturday inbound. For Route 30 Saturday in this direction, the heaviest ridership counts are at Holmes Station, Six flags, E-W Connector at Austell Road, Austell Road at Floyd Road, and the MTC.

Figure 3-22: Route 30 Ridership Activity by Stop



CCT Route 30

0 1 2 Miles

Figure 3-23: Route 30 Weekday - Outbound Boardings and Alightings

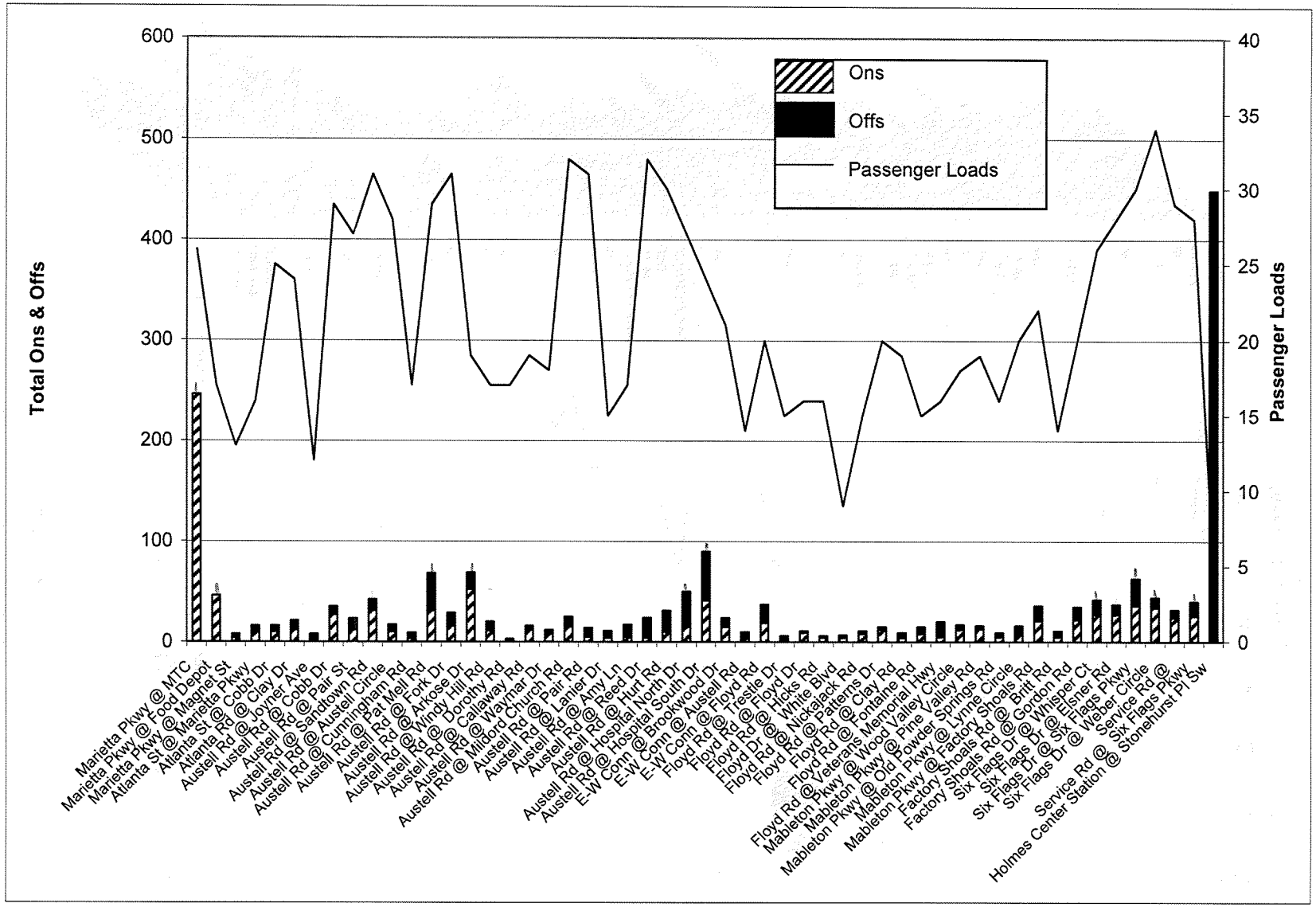


Figure 3-24: Route 30 Weekday - Inbound Boardings and Alightings

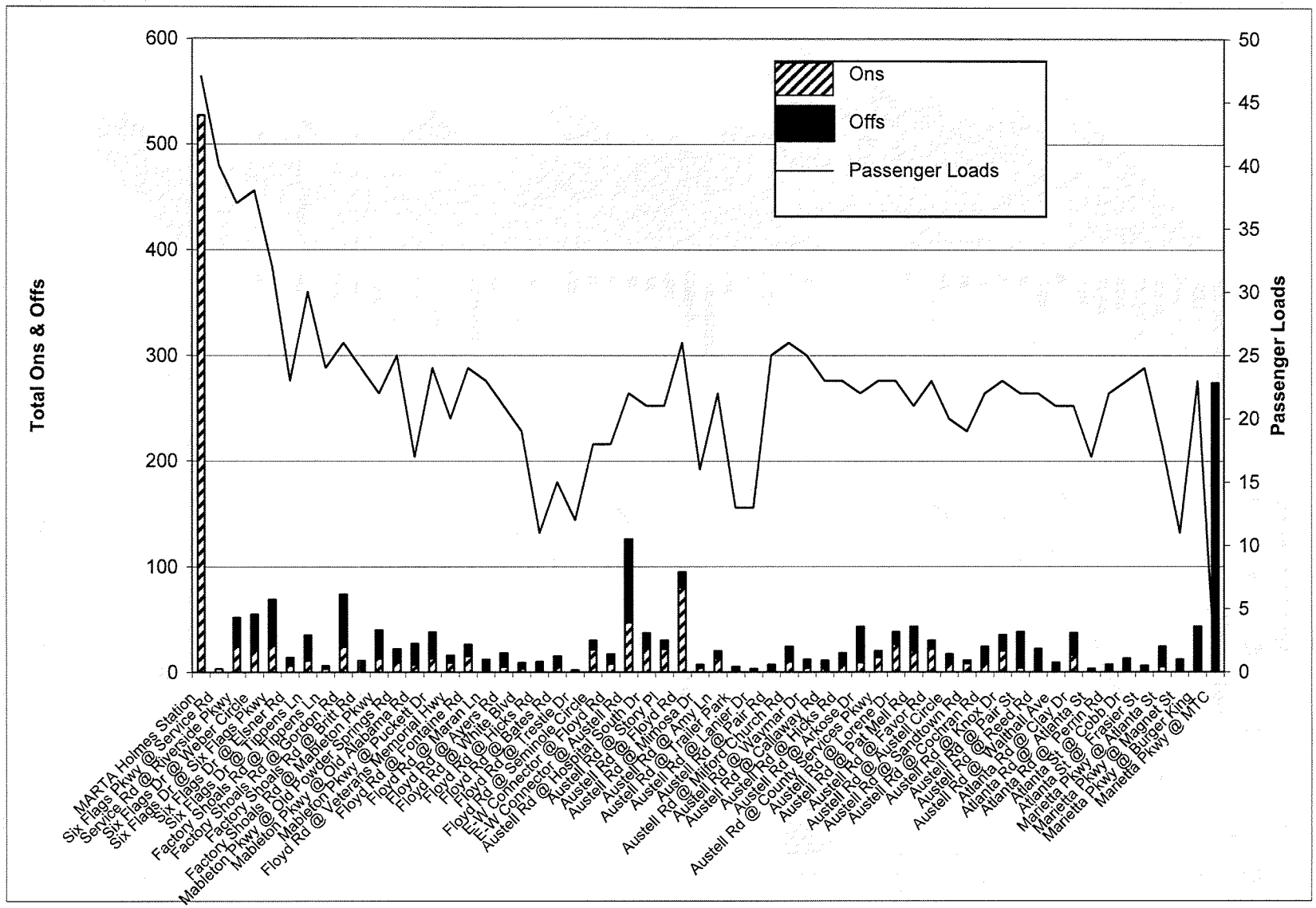


Figure 3-25: Route 30 Saturday - Outbound Boardings and Alightings

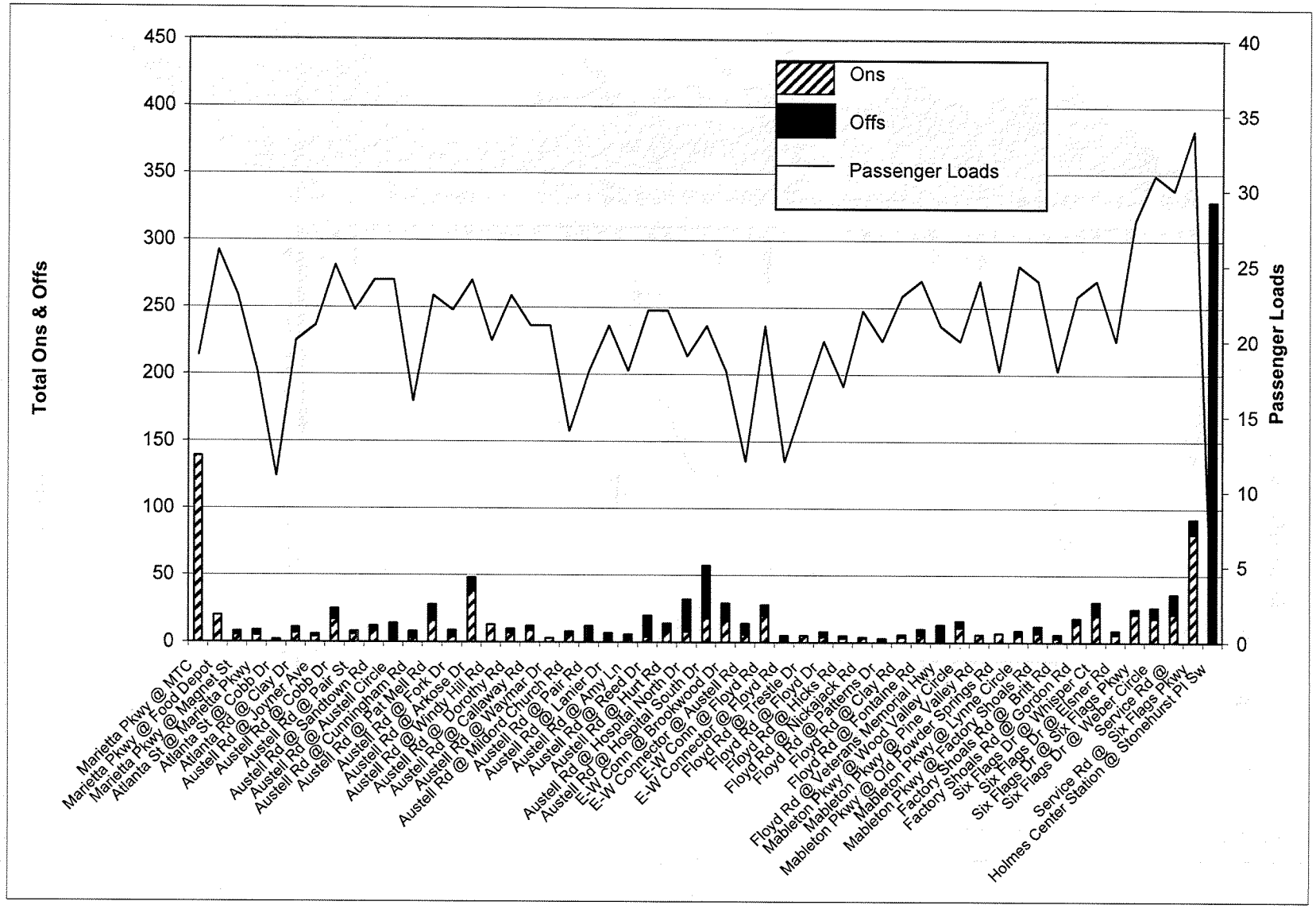
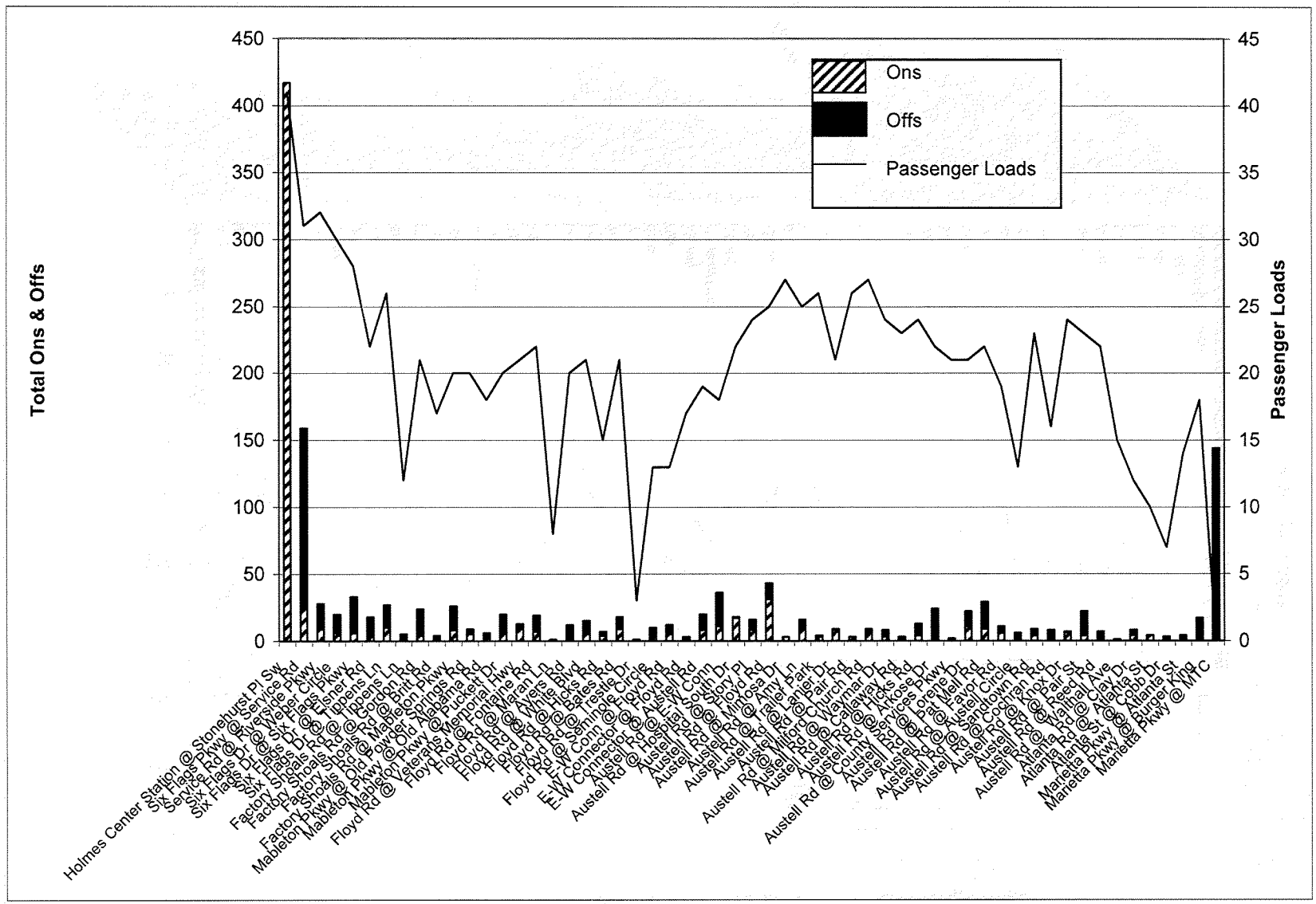


Figure 3-26: Route 30 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-19: Route 30 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	S. Cobb Dr. / Austell Road	14	10	-4	13	10	-3	15	10	-5	11	10	-1
S. Cobb Dr. / Austell Road	Austell Road / County Services Pkwy.	5	4	-1	5	4	-1	5	4	-1	6	4	-2
Austell Road / County Services Pkwy.	Cobb Hospital	12	10	-2	11	10	-1	14	10	-4	9	10	1
Cobb Hospital	Floyd Road / Veterans Mem. Pkwy.	9	10	1	10	10	0	10	10	0	11	10	-1
Floyd Road / Veterans Mem. Pkwy.	Six Flags	12	10	-2	12	10	-2	11	10	-1	13	10	-3
Six Flags	MARTA Holmes Station	13	26	13	9	26	17	8	26	18	9	26	17

The segment with the largest discrepancy between scheduled runtime and observed runtime was between Six Flags and Holmes Station. This section of the route was observed to operate between 13 to 18 minutes ahead of schedule. Consideration should be given to adding some of this time to other segments.

Table 3-20: Route 30 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MARTA Holmes Station	Six Flags	17	10	-7	24	10	-14	19	10	-9	13	10	-3
Six Flags	Floyd Road / Veterans Mem. Pkwy.	16	15	-1	13	15	2	14	15	1	11	15	4
Floyd Road / Veterans Mem. Pkwy.	Cobb Hospital	12	13	1	11	13	2	13	13	0	11	13	2
Cobb Hospital	Austell Road / County Services Pkwy.	10	10	0	10	10	0	12	10	-2	10	10	0
Austell Road / County Services Pkwy.	S. Cobb Dr. / Austell Road	7	4	-3	6	4	-2	5	4	-1	5	4	-1
S. Cobb Dr. / Austell Road	MTC	10	18	8	10	18	8	12	18	6	9	18	9

As in the northbound direction, the segment with the largest discrepancy between scheduled and observed runtime was between Six Flags and Holmes Station. However, unlike the other direction, this section was observed to operate between 7 to 14 minutes behind schedule, except running 3 minutes behind schedule in the midday period. Additionally, the segment between S. Cobb Drive at Austell Road and the MTC operated ahead of schedule. Consideration should be given to adding some of this time to the Holmes Station to Six Flags segment.

Table 3-21: Route 30 Saturday Outbound Observed Runtime in Minutes

From	To	AM Peak			Midday			PM Peak			Evening		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	S. Cobb Dr. / Austell Road	12	12	0	13	12	-1	14	12	-2	10	12	2
S. Cobb Dr. / Austell Road	Austell Road / County Services Pkwy.	5	5	0	5	5	0	6	5	-1	9	5	-4
Austell Road / County Services Pkwy.	Cobb Hospital	11	10	-1	12	10	-2	10	10	0	9	10	1
Cobb Hospital	Floyd Road / Veterans Mem. Pkwy.	10	7	-3	13	7	-6	17	7	-10	14	7	-7
Floyd Road / Veterans Mem. Pkwy.	Six Flags	11	14	3	13	14	1	12	14	2	11	14	3
Six Flags	MARTA Holmes Station	8	22	14	9	22	13	9	22	13	9	22	13

The segment with the largest discrepancy between scheduled runtime and observed runtime was between Six Flags and Holmes Station. This section of the route was observed to operate between 13 to 14 minutes ahead of schedule. Consideration should be given to adding some of this time to the Cobb Hospital to Floyd Road at Veterans Memorial Parkway segment.

Table 3-22: Route 30 Saturday Inbound Observed Runtime in Minutes

From	To	AM Peak			Midday			PM Peak			Evening		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MARTA Holmes Station	Six Flags	12	10	-2	19	10	-9	13	10	-3	17	10	-7
Six Flags	Floyd Road / Veterans Mem. Pkwy.	13	15	2	14	15	1	16	15	-1	13	15	2
Floyd Road / Veterans Mem. Pkwy.	Cobb Hospital	9	13	4	14	13	-1	13	13	0	12	13	1
Cobb Hospital	Austell Road / County Services Pkwy.	10	10	0	10	10	0	11	10	-1	10	10	0
Austell Road / County Services Pkwy.	S. Cobb Dr. / Austell Road	5	5	0	6	5	-1	7	5	-2	5	5	0
S. Cobb Dr. / Austell Road	MTC	7	17	10	9	17	8	10	17	7	9	17	8

The segment with the largest discrepancy between scheduled and observed runtime was between S. Cobb Drive at Austell Road and the MTC. This section of the route was observed to operate between 7 to 10 minutes ahead of schedule. Consideration should be given to adding some of this time to the Holmes Station to Six Flags segment.

Observations:

1. Route 30 is the second most active route in the CCT system and ties the MTC to the H.E. Holmes MARTA Station via Austell Road. Floyd Road, Six Flags Drive, and I-20. Weekday ridership is 2,140 and Saturday ridership is 1,364 passengers. The route swings far to the west and south before it turns east towards Atlanta. The route follows a C-shaped tangential pattern. There 52 outbound and 59 inbound stops on the route of which all 52 outbound and 58 of the inbound stops have some activity. The route serves two transfer centers.

2. Ridership boarding and alighting activity is relatively steady over the entire route with a major activity occurring at the two end-of-line transfer centers, along Six Flags Drive, at the intersections of the East West Connector with both Floyd and Austell Roads, and near the Wellstar Hospital. There is direct transfer between Route 30 and the MARTA

system. Of the weekday passengers, 22% riding this route have origins on the MARTA system and 18% of the Saturday passengers originate from MARTA. The average number of Weekday boardings per trip is 33.4 and 42.6 is the average number of Saturday boardings per trip.

3. Although load factors are close to the 9-15 passengers range, the weekday service frequencies appear to be ready for improvement due to the steadily increasing ridership volumes on this route over the last 3 years. Loads tend to slightly increase in the outbound towards Holmes Station and decrease in the inbound towards MTC. There is one recorded instance of overloading (40+ passengers) in the ride check in the Saturday AM peak period and no instances of under loading (less than 5 passengers).

3.3.5 Route 40 Bells Ferry Road

Route 40 operates from Marietta to Kennesaw State University via Bells Ferry Road and George Busbee Parkway, with stops in the Town Center Mall area (Monday - Saturday). Route 40 is depicted in Figure 3-27.

Table 3-23 lists service statistics for Route 40 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 40 has the sixth highest weekday daily revenue hours of the CCT routes at 32. The weekday ridership of 529 boardings is the seventh highest of the CCT routes. Weekday and Saturday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares.

The following are the key route performance results for Route 40:

- Load factors during peak periods are below the minimum standard of 0.75. The Route 40 peak period load factors are 0.63 in the a.m. and 0.50 in the p.m. The midday load factor is 0.63 and the evening load factor is 0.35, which is below the off-peak minimum standard of 0.50.
- The maximum load for the a.m. peak period is 25 passengers and the p.m. peak is 20 passengers. The midday maximum load is 25 passengers and the evening maximum load is 14.
- The weekday productivity is about 22 passengers per revenue-hour, with a Saturday figure of about 16 passengers per hour.
- The monthly farebox recovery ratio is 20.7%, which is below CCT's minimum standard of 28%.

Table 3-23: Route 40 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	6:00 am-10:40 pm	7:00 am-9:49 pm
Frequency (min.)		
Peak	60	60
Midday	60	60
Evening	60	60
One-way Trips		
Peak	14	11
Midday	12	12
Evening	7	5
Total	33	28
Max. Buses Required	2	2
Daily Miles and Hours		
Revenue Miles	442	375
Revenue Hours	32	28

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	14,679	1,753
Trips	693	112
Rev. Miles	9,282	1,501
Rev. Hours	671	111
Operating Cost (1)	$48,966	$8,136
Fare Revenue (2)	$11,805	
Service Productivity		
Pass. per Trip	21.2	15.7
Pass. per Rev. Mile	1.6	1.2
Pass. per Rev. Hour	21.9	15.7
Economic Productivity		
Cost per Rev. Mile	$5.28	$5.42
Cost per Pass.	$3.34	$4.64
Farebox Ratio	20.7%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	529	371
Alightings (Offs)	529	371
Maximum Load		
AM Peak	25	18
Midday	25	31
PM Peak	20	15
Evening	14	6
Load Factors(3)		
AM Peak	0.63	0.45
Midday	0.63	0.78
PM Peak	0.50	0.38
Evening	0.35	0.15

Notes:

(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-27: Route 40 Map

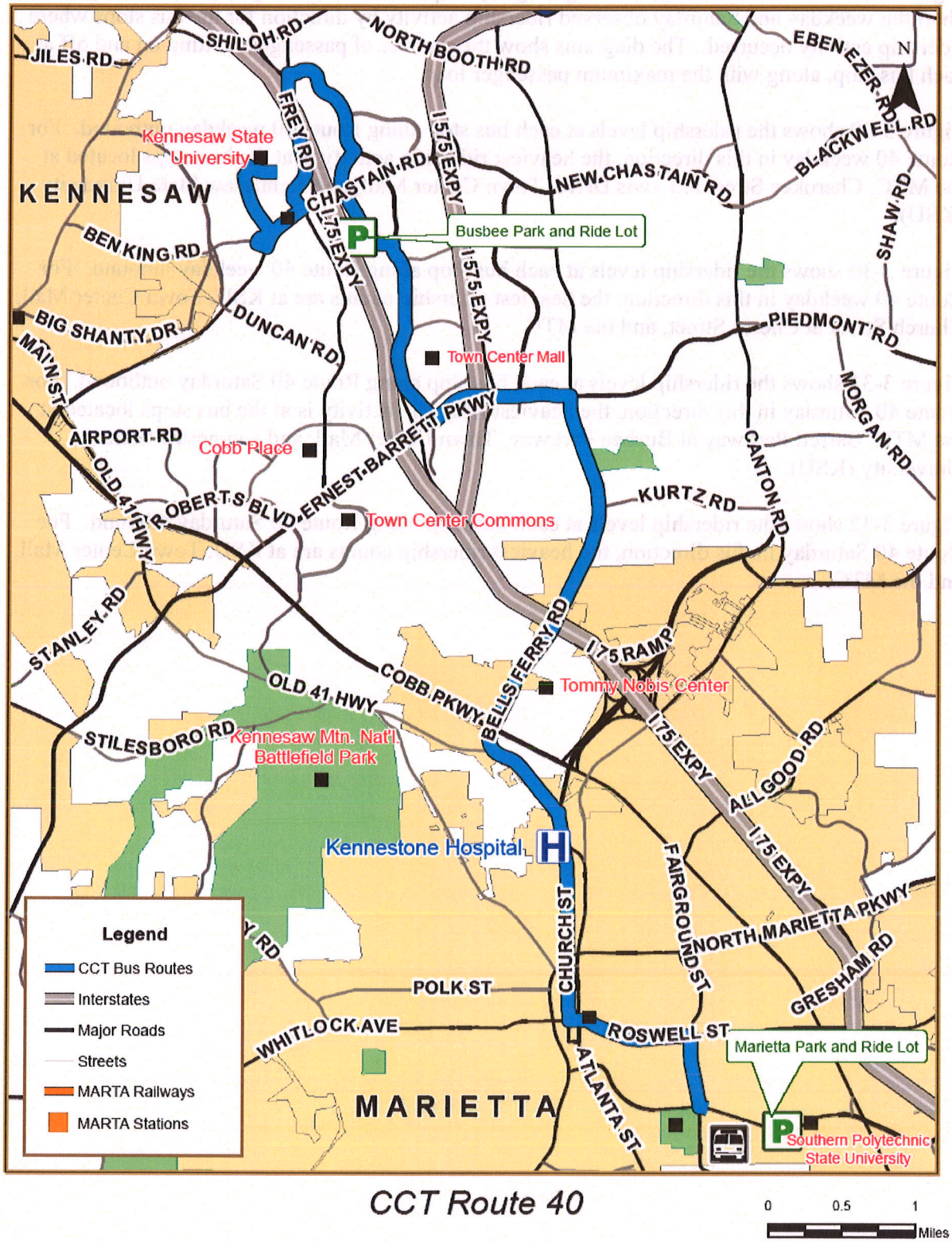


Figure 3-28 shows all boardings and alightings by stop on Route 40. Figures 3-29 through 3-32 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-29 shows the ridership levels at each bus stop along Route 40 weekday outbound. For Route 40 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Cherokee Street at Lewis Drive, Town Center Mall, and Kennesaw State University (KSU).

Figure 3-30 shows the ridership levels at each bus stop along Route 40 weekday inbound. For Route 40 weekday in this direction, the heaviest ridership counts are at KSU, Town Center Mall, Church Street at Cherry Street, and the MTC.

Figure 3-31 shows the ridership levels at each bus stop along Route 40 Saturday outbound. For Route 40 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Barrett Parkway at Busbee Parkway, Town Center Mall, and Kennesaw State University (KSU).

Figure 3-32 shows the ridership levels at each bus stop along Route 40 Saturday inbound. For Route 40 Saturday in this direction, the heaviest ridership counts are at KSU, Town Center Mall, and the MTC.

Figure 3-28: Route 40 Ridership Activity by Stop

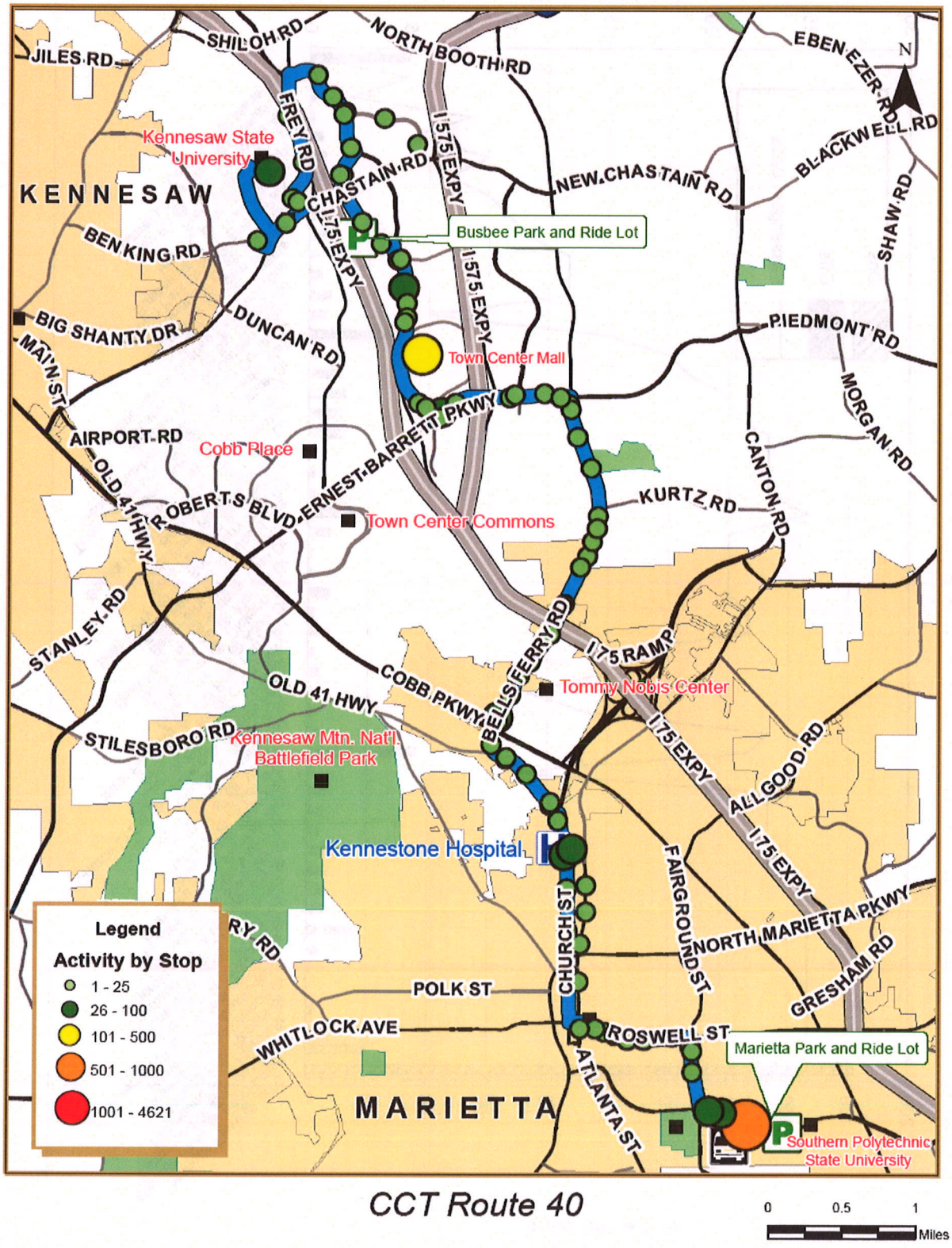


Figure 3-29: Route 40 Weekday - Outbound Boardings and Alightings

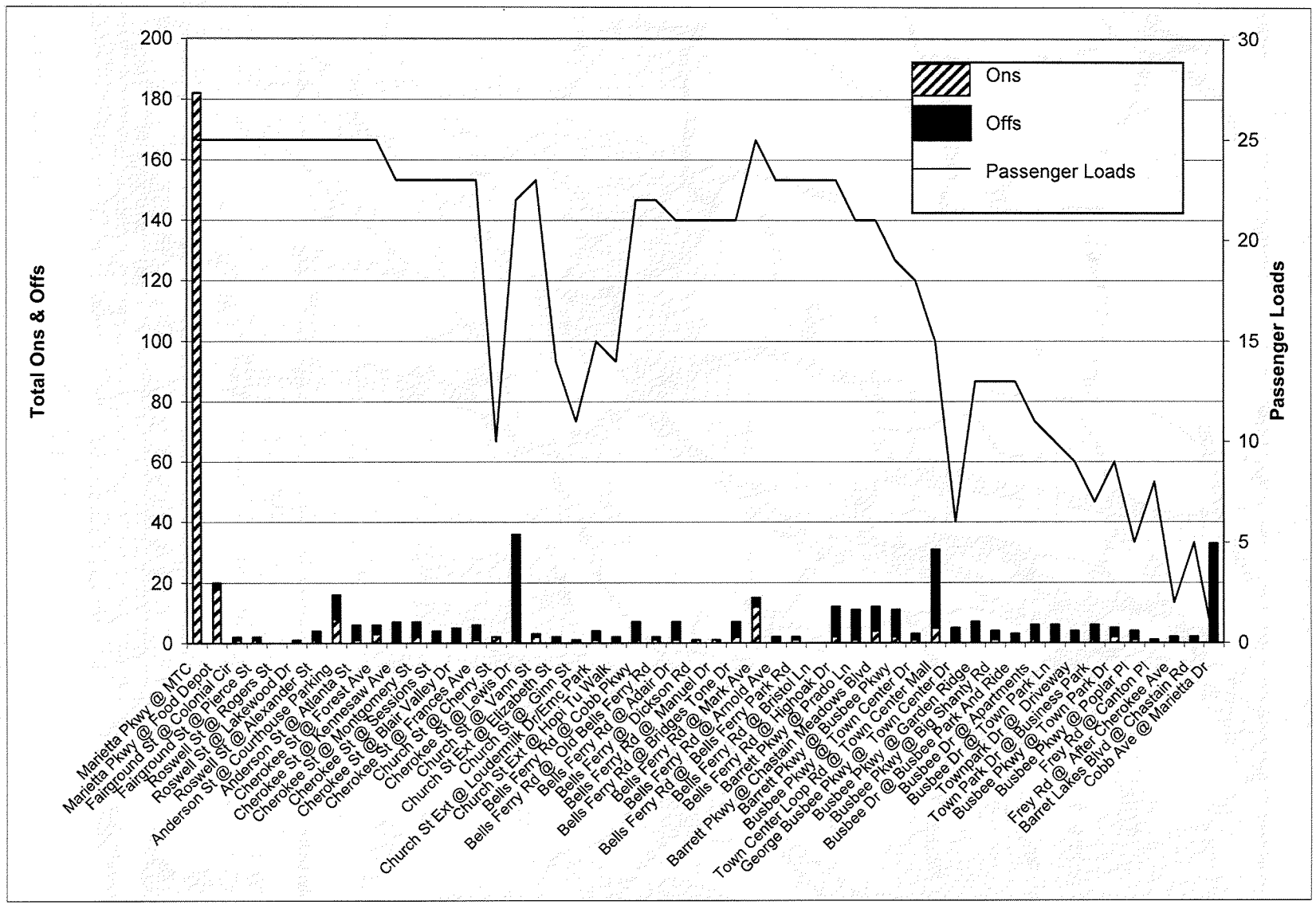


Figure 3-30: Route 40 Weekday - Inbound Boardings and Alightings

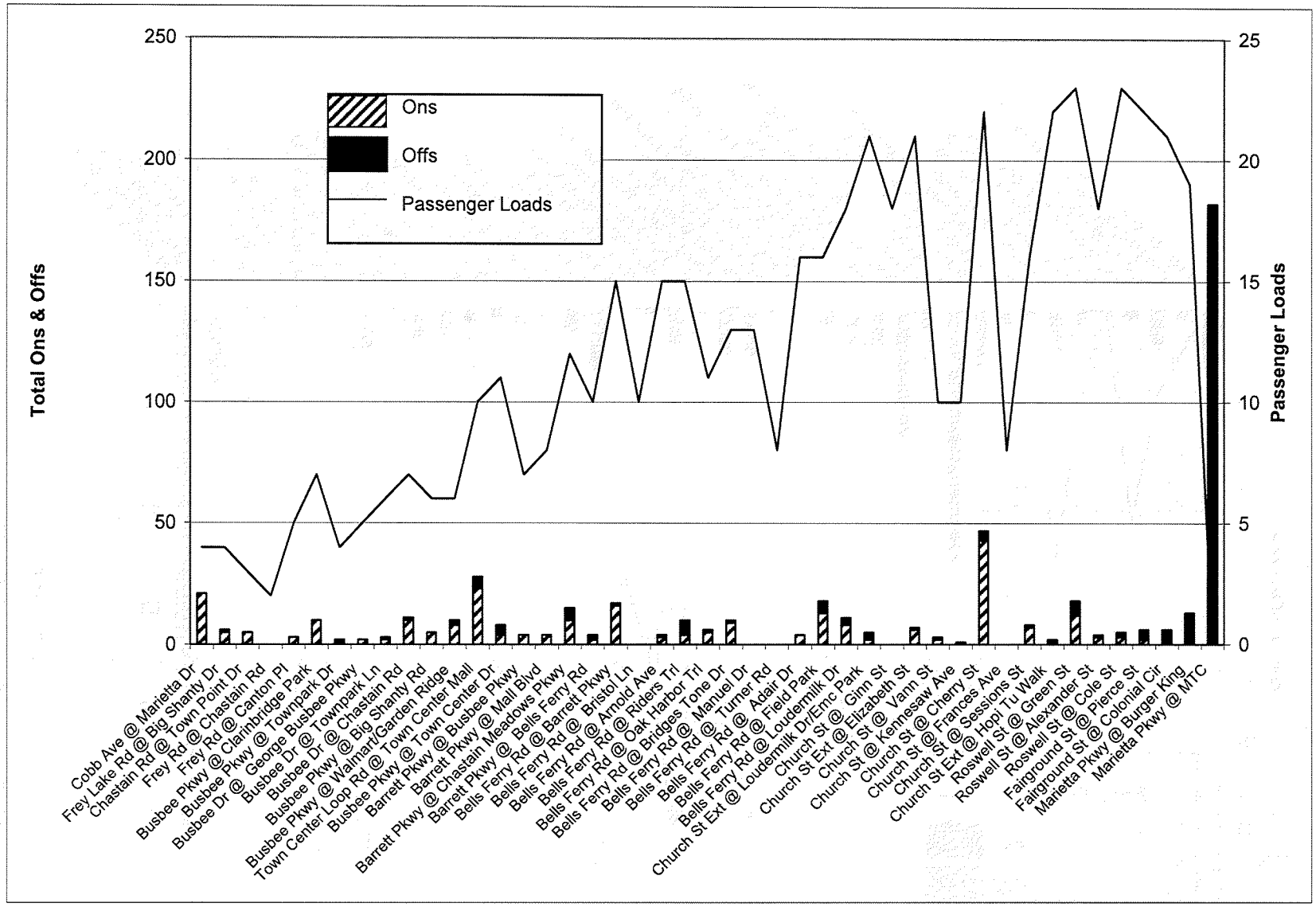


Figure 3-31: Route 40 Saturday - Outbound Boardings and Alightings

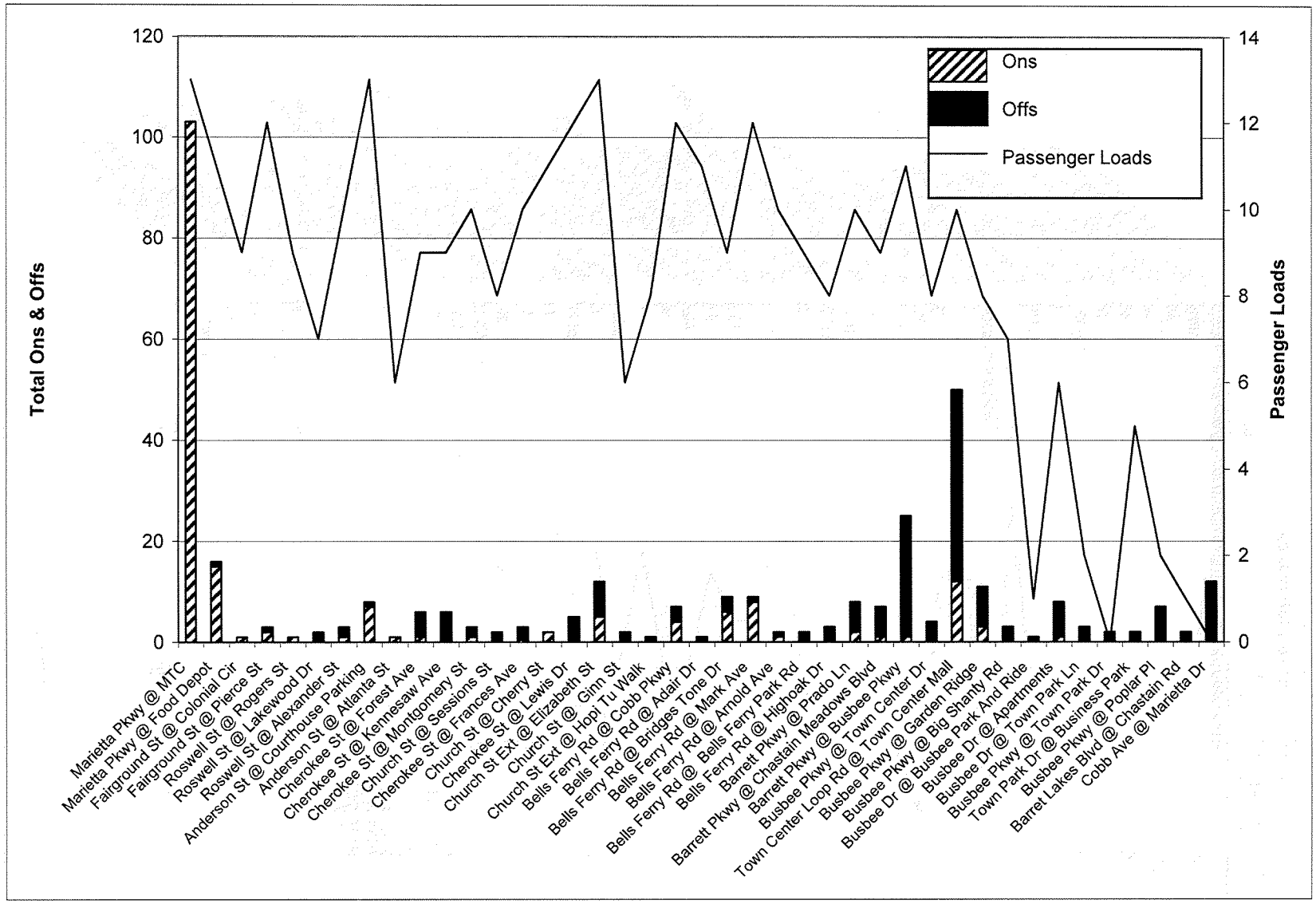
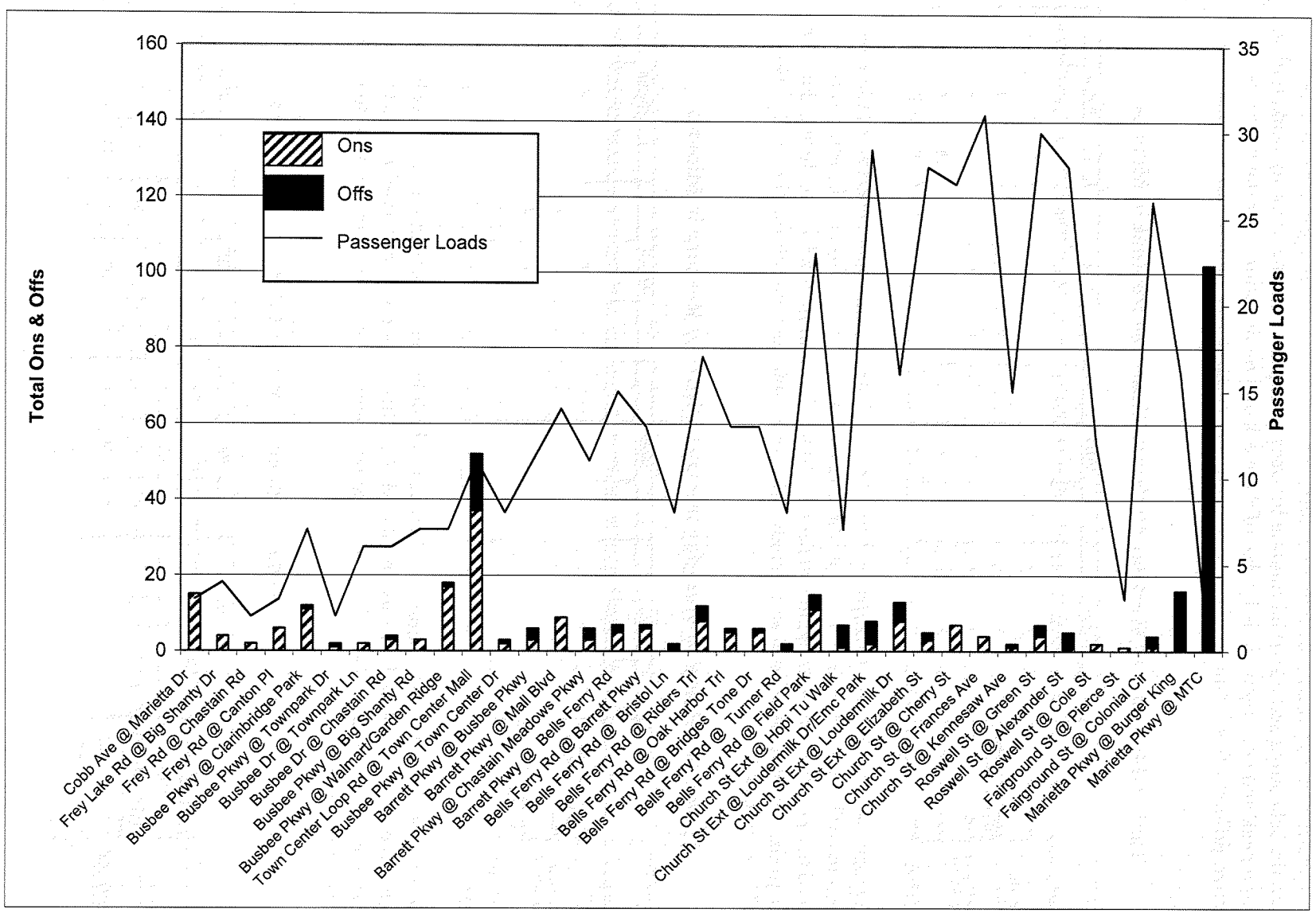


Figure 3-32: Route 40 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-24: Route 40 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cherokee St. / N. Marietta Pkwy.	9	7	-2	10	10	0	9	10	1	19	8	-11
Cherokee St. / N. Marietta Pkwy.	Kennestone Hospital	2	5	3	2	4	2	2	4	2	2	4	2
Kennestone Hospital	Bells Ferry / Barrett Pkwy.	13	9	-4	10	10	0	11	10	-1	10	8	-2
Bells Ferry / Barrett Pkwy.	Town Center Mall	6	9	3	7	6	-1	5	6	1	6	8	2
Town Center Mall	KSU	16	15	-1	15	15	0	17	15	-2	11	17	6

The segment with the largest discrepancy between scheduled runtime and observed runtime was between the MTC and Cherokee Street at Marietta Parkway. This section of the route was observed to operate 11 minutes behind schedule. Since the runtime is adequate during the other time periods, this may have been an anomaly. However, this segment during this time period should be monitored.

Table 3-25: Route 40 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
KSU	Town Center Mall	9	15	6	12	18	6	13	18	5	14	18	4
Town Center Mall	Bells Ferry / Barrett Pkwy.	8	6	-2	8	6	-2	5	6	1	4	6	2
Bells Ferry / Barrett Pkwy.	Kennestone Hospital	12	11	-1	10	11	1	11	11	0	11	11	0
Kennestone Hospital	Church St. / N. Marietta Pkwy.	3	3	0	3	3	0	4	3	-1	3	3	0
Church St. / N. Marietta Pkwy.	MTC	13	15	2	9	15	6	9	15	6	5	15	10

The segment with the largest discrepancy between scheduled and observed runtime was between Church Street at N. Marietta Parkway and the MTC. This section was observed to operate between 6 and 10 minutes ahead of schedule, except running 2 minutes ahead of schedule in the morning peak period.

Table 3-26: Route 40 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cherokee St. / N. Marietta Pkwy.	10	9	-1	11	12	1	9	12	3	12	12	0
Cherokee St. / N. Marietta Pkwy.	Kennestone Hospital	4	4	0	4	5	1	2	5	3	4	5	1
Kennestone Hospital	Bells Ferry / Barrett Pkwy.	10	9	-1	10	10	0	10	10	0	10	10	0
Bells Ferry / Barrett Pkwy.	Town Center Mall	8	9	1	6	7	1	10	7	-3	8	7	-1
Town Center Mall	KSU	16	22	6	14	14	0	17	14	-3	15	14	-1

Route 40 Saturday outbound operated with very little difference between observed and scheduled runtime.

Table 3-27: Route 40 Saturday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
KSU	Town Center Mall	9	20	11	18	20	2	6	20	14	21	20	-1
Town Center Mall	Bells Ferry / Barrett Pkwy.	7	10	3	6	10	4	12	10	-2	11	10	-1
Bells Ferry / Barrett Pkwy.	Kennestone Hospital	12	11	-1	7	11	4	10	11	1	7	11	4
Kennestone Hospital	Church St. / N. Marietta Pkwy.	3	3	0	6	3	-3	1	3	2	3	3	0
Church St. / N. Marietta Pkwy.	MTC	6	10	4	6	10	4	5	10	5	7	10	3

The segment with the largest discrepancy between scheduled and observed runtime was between KSU and Town Center Mall. This section was observed to operate between 11 and 14 minutes ahead of schedule in the peak period.

Observations:

1. Route 40 is the seventh most active route in the CCT system with 529 Weekday and 371 Saturday passengers and it ties the MTC to the Kennesaw State University campus via a multitude of roads. The route is not direct and meanders along many different roads east and west of both I-75 and I-575. There 48 outbound and 44 inbound stops on the route of which all have some activity. The route serves one transfer center.

2. Ridership boarding and alighting activity is relatively steady over the entire route with a major activity occurring at the two end-of-line transfer centers, near Town Center Mall, and near the intersection of Church and Cherokee Streets in downtown Marietta. There is no direct transfer between Route 40 and the MARTA system. The average number of Weekday boardings per trip is 16 and 16 is also the average number of Saturday boardings per trip.

3. The load factors tend to fluctuate a great deal on this route with ranges of 12-20 passengers in the downtown Marietta area that tend to decline towards KSU, particularly after Town Center Mall. The weekday service frequencies appear to be appropriate for the current ridership on this route but there were many requests for later service hours (12AM) for workers in the Town Center Area . There is no recorded instance of overloading (40+ passengers) in the ride check but 5 instances of under loading (less than 5 passengers) in the Weekday (AM Peak, Midday, Evening and Late Night) and 5 instances of under loading on the Saturday (AM Peak, Midday, and Evening) periods.

3.3.6 Route 45 Barrett Parkway

Route 45 operates from Marietta to Town Center Mall area via U.S. 41 and Ernest Barrett Parkway, with access to Chastain Meadows Industrial Park and Kennesaw State University.

Route 45 is depicted in Figure 3-33.

Table 3-28 lists service statistics for Route 45 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 45 has the seventh highest weekday daily revenue hours of the CCT routes. The weekday ridership of 527 boardings is the eighth highest of the CCT routes. Weekday and Saturday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts.

The following are the key route performance results for Route 45:

- The load factor during the a.m. peak period is 0.80. The load factor in the p.m. peak period is 0.40, well below the minimum standard of 0.75. The midday load factor is 0.75 and the evening load factor is 0.20, which is significantly below the off-peak minimum standard of 0.50.
- The maximum load for the a.m. peak period is 32 passengers and the p.m. peak is 16 passengers. The p.m. peak maximum load is half of the a.m. peak period maximum load, which is reflected in the load factor description above. The midday maximum load is 30 passengers and the evening maximum load is 8 passengers.
- The weekday productivity is about 22 passengers per revenue-hour and a Saturday figure of about 12 passengers per hour.
- The monthly farebox recovery ratio is 19.3%, which falls below CCT's minimum standard of 28%.

Table 3-28: Route 45 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	6:30 am-9:13 pm	7:30 am-9:18 pm
Frequency (min.)		
Peak	60	60
Midday	60	60
Evening	60	60
One-way Trips		
Peak	12	11
Midday	12	12
Evening	4	3
Total	28	26
Max. Buses Required	2	2
Daily Miles and Hours		
Revenue Miles	329	306
Revenue Hours	28	26

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	12,764	1,292
Trips	588	104
Rev. Miles	6,909	1,222
Rev. Hours	588	104
Operating Cost (1)	$42,912	$7,590
Fare Revenue (2)	$9,746	
Service Productivity		
Pass. per Trip	21.7	12.4
Pass. per Rev. Mile	1.8	1.1
Pass. per Rev. Hour	21.7	12.4
Economic Productivity		
Cost per Rev. Mile	$6.21	$6.21
Cost per Pass.	$3.36	$5.87
Farebox Ratio	19.3%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	527	242
Alightings (Offs)	527	242
Maximum Load		
AM Peak	32	16
Midday	30	17
PM Peak	16	9
Evening	8	8
Load Factors(3)		
AM Peak	0.80	0.40
Midday	0.75	0.43
PM Peak	0.40	0.23
Evening	0.20	0.20

Notes:

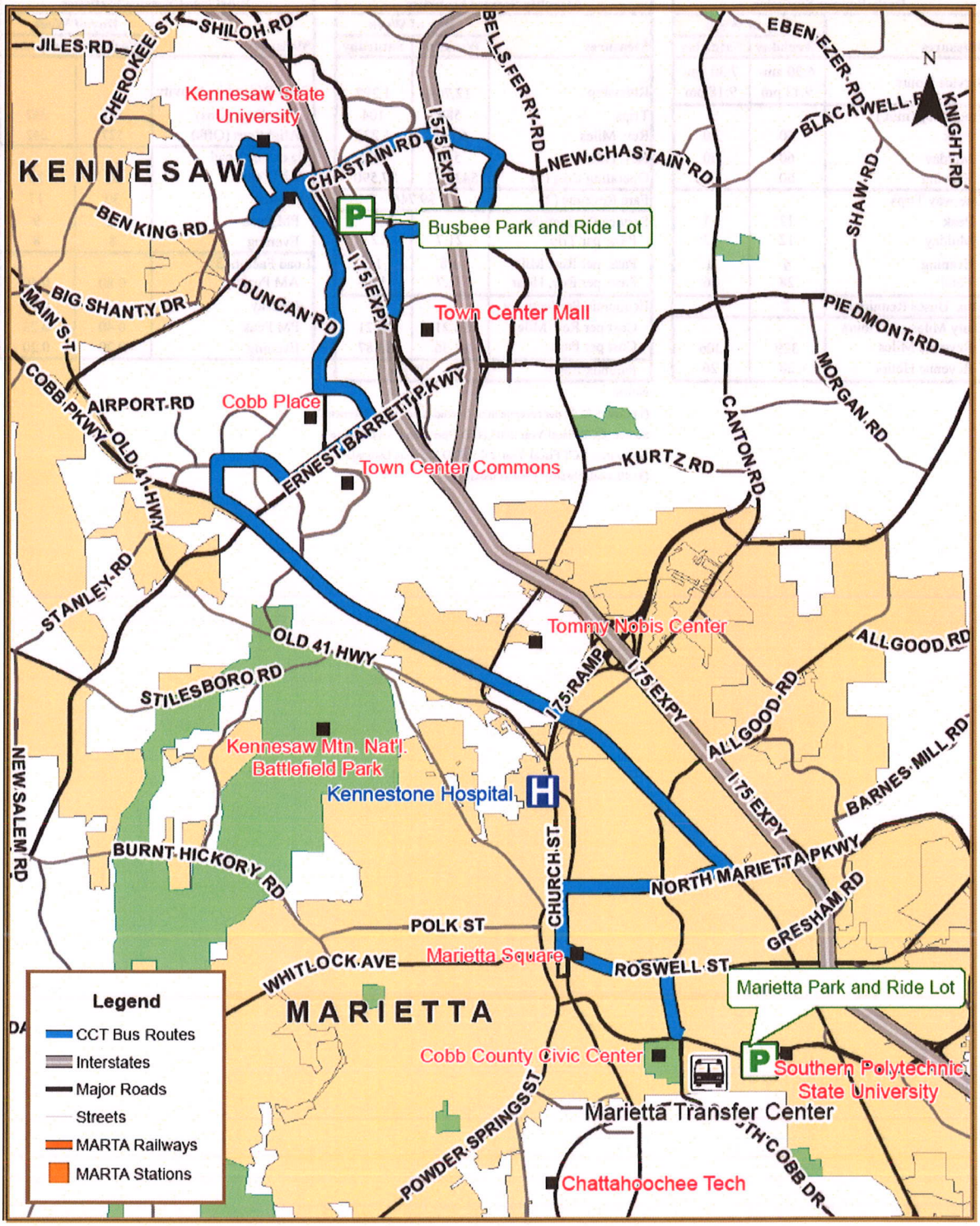
(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-33: Route 45 Map



CCT Route 45

Figure 3-34 shows all boardings and alightings by stop on Route 45. Figures 3-35 through 3-38 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

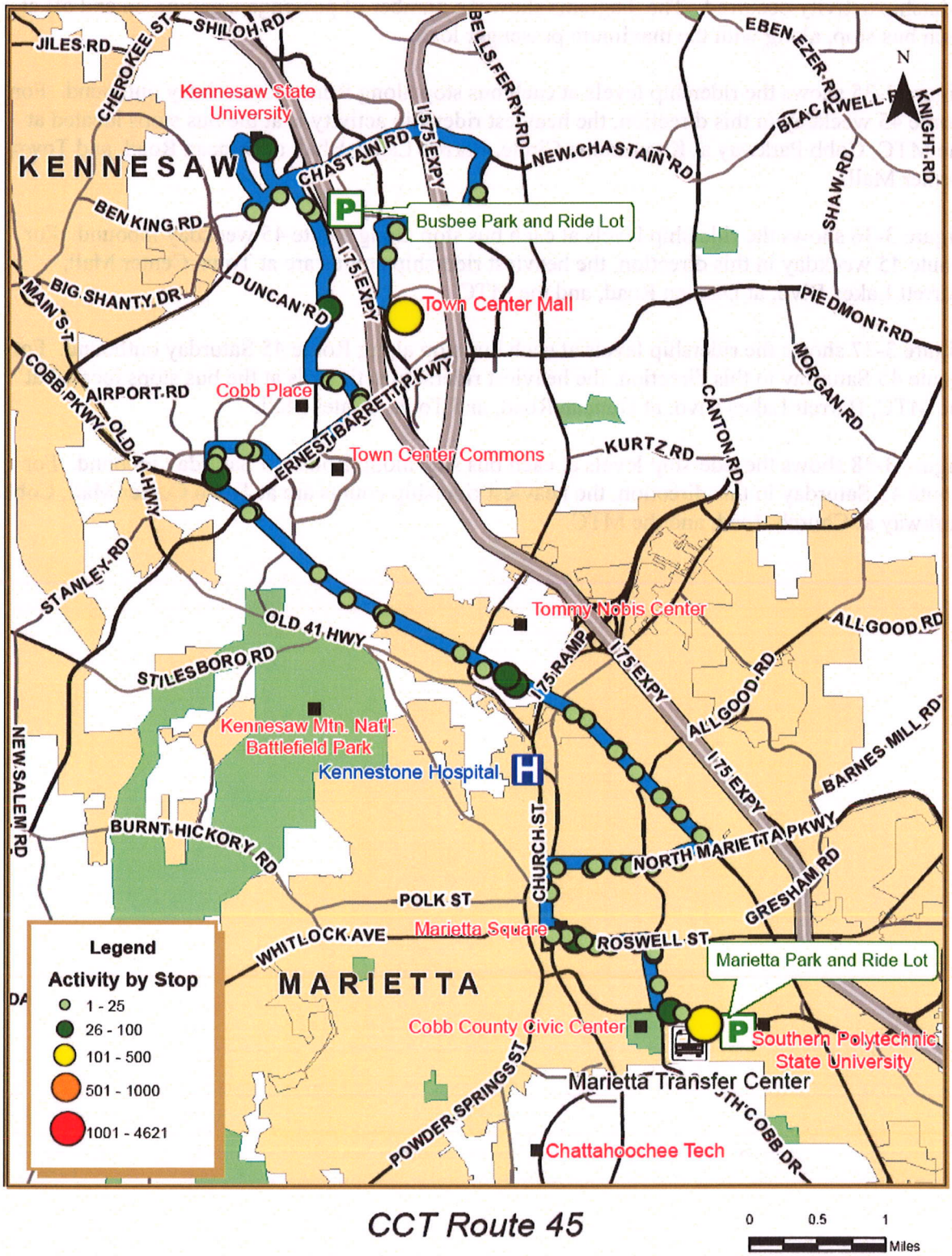
Figure 3-35 shows the ridership levels at each bus stop along Route 45 weekday outbound. For Route 45 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Cobb Parkway at Kennestone Circle, Barrett Lakes Blvd. at Duncan Road, and Town Center Mall.

Figure 3-36 shows the ridership levels at each bus stop along Route 45 weekday inbound. For Route 45 weekday in this direction, the heaviest ridership counts are at Town Center Mall, Barrett Lakes Blvd. at Duncan Road, and the MTC.

Figure 3-37 shows the ridership levels at each bus stop along Route 45 Saturday outbound. For Route 45 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Barrett Lakes Blvd. at Duncan Road, and Town Center Mall.

Figure 3-38 shows the ridership levels at each bus stop along Route 45 Saturday inbound. For Route 45 Saturday in this direction, the heaviest ridership counts are at Town Center Mall, Cobb Parkway at Church Road, and the MTC.

Figure 3-34: Route 45 Ridership Activity by Stop



CCT Route 45

Figure 3-35: Route 45 Weekday - Outbound Boardings and Alightings

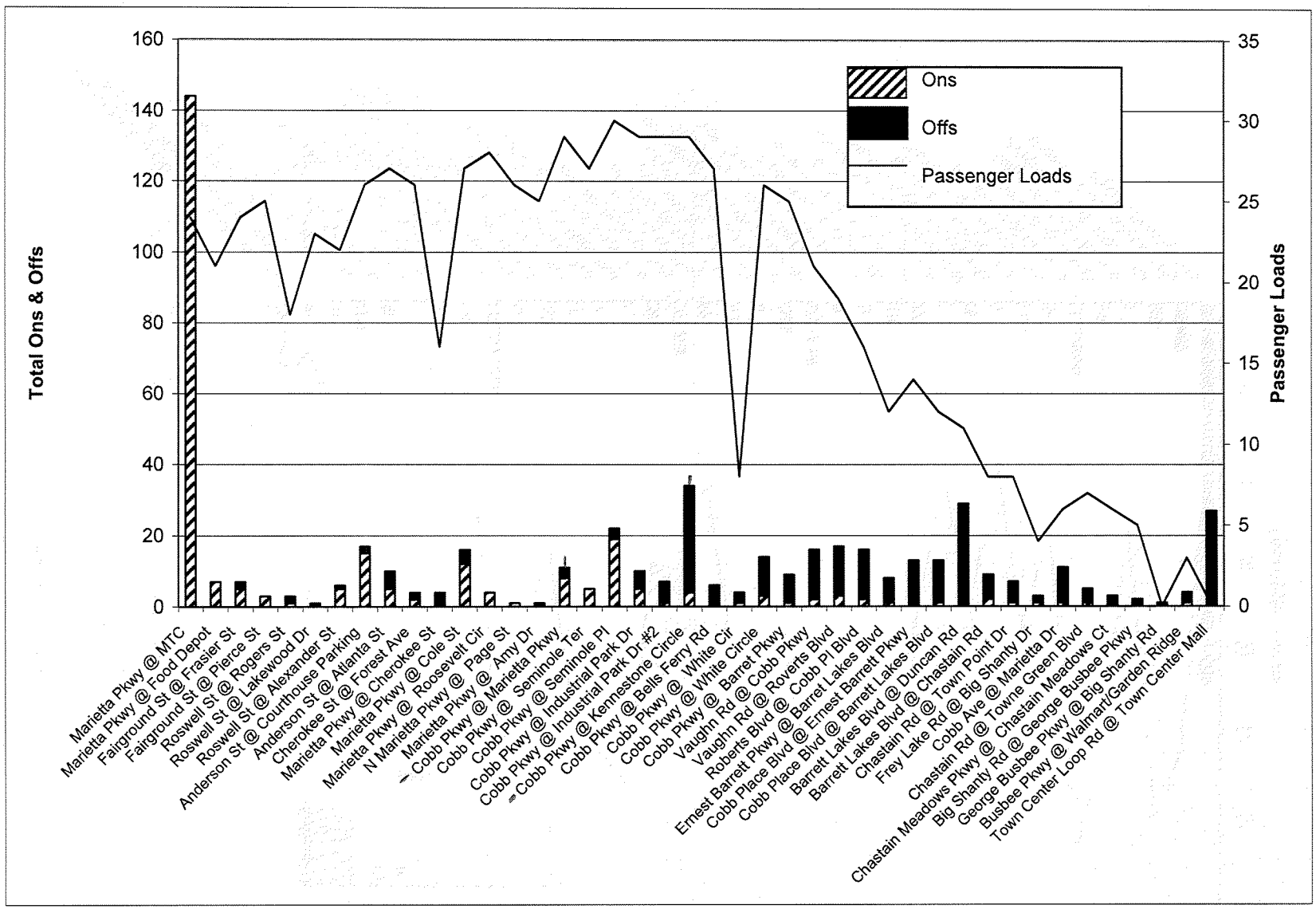


Figure 3-36: Route 45 Weekday - Inbound Boardings and Alightings

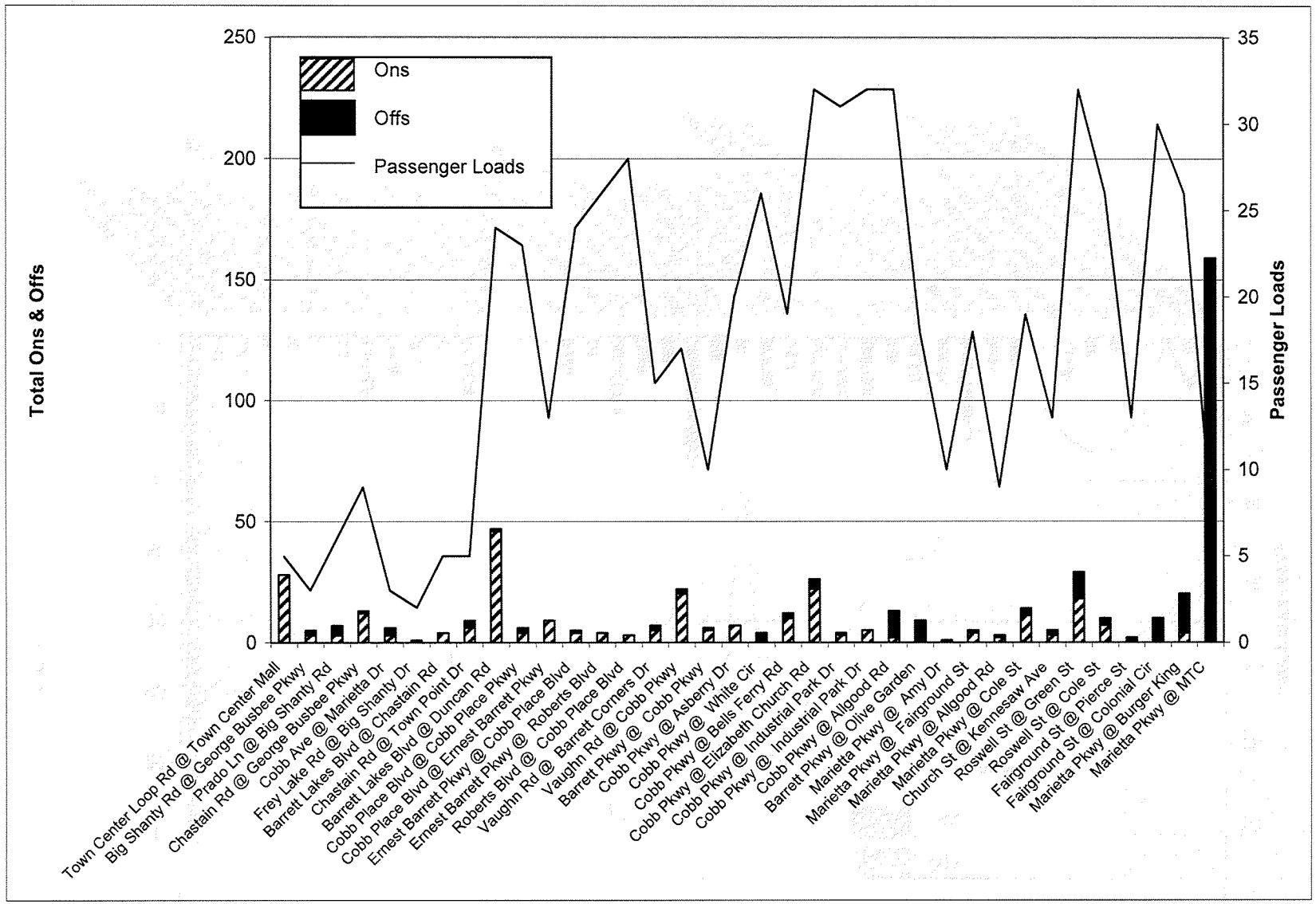


Figure 3-37: Route 45 Saturday - Outbound Boardings and Alightings

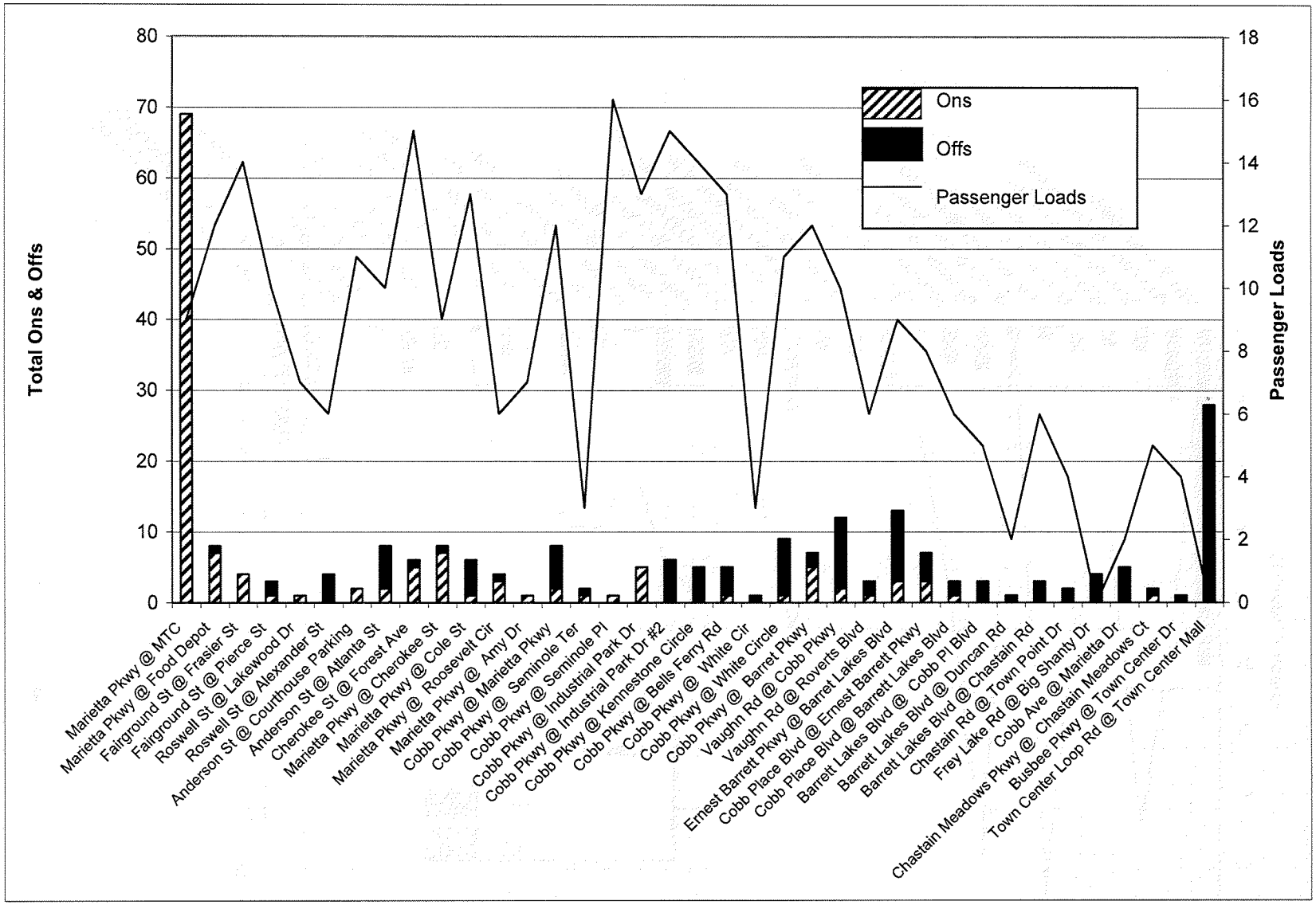
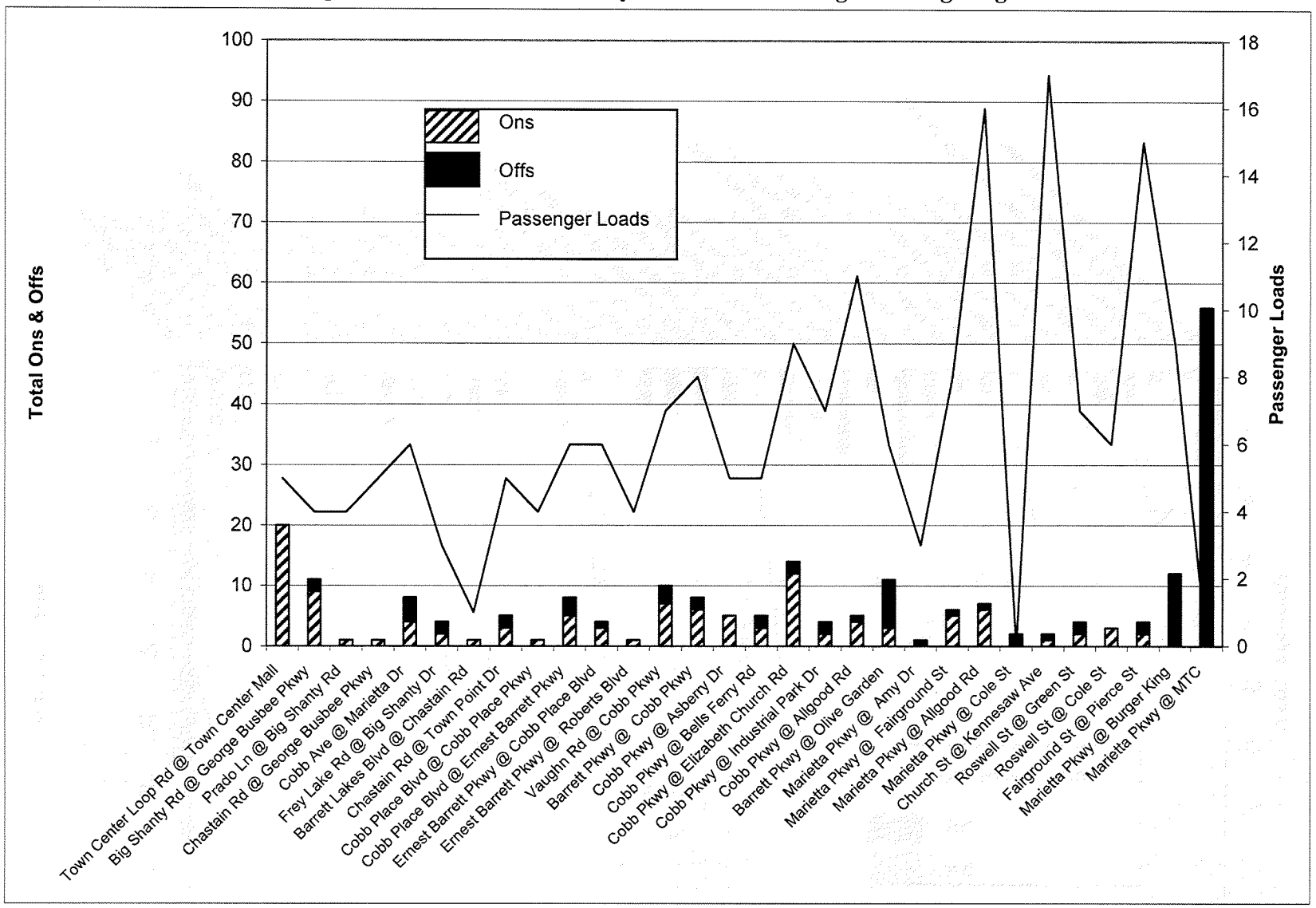


Figure 3-38: Route 45 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-29: Route 45 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cherokee St. / N. Marietta Pkwy.	10	10	0	10	10	0	11	11	0	6	9	3
Cherokee St. / N. Marietta Pkwy.	Kennestone Hospital	14	14	0	13	13	0	13	13	0	11	11	0
Kennestone Hospital	Bells Ferry / Barrett Pkwy.	5	7	2	3	7	4	7	7	0	5	7	2
Bells Ferry / Barrett Pkwy.	Town Center Mall	15	12	-3	13	11	-2	18	12	-6	14	11	-3
Town Center Mall	KSU	17	11	-6	13	12	-1	13	12	-1	12	10	-2

The two route segments between Bells Ferry at Barrett Parkway and KSU have discrepancies between scheduled runtime and observed runtime. These sections of the route were observed to operate slightly behind schedule all day. This situation should be monitored to determine if additional runtime is needed.

Table 3-30: Route 45 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
KSU	Town Center Mall	14	11	-3	15	11	-4	14	12	-2	13	11	-2
Town Center Mall	Bells Ferry / Barrett Pkwy.	12	12	0	19	12	-7	15	12	-3	13	11	-2
Bells Ferry / Barrett Pkwy.	Kennestone Hospital	8	8	0	5	5	0	6	8	2	4	5	1
Kennestone Hospital	Church St. / N. Marietta Pkwy.	9	9	0	9	9	0	10	9	-1	10	8	-2
Church St. / N. Marietta Pkwy.	MTC	12	12	0	4	11	7	8	11	3	8	10	2

As in the outbound direction, the two route segments between KSU and Bells Ferry at Barrett Parkway were observed to operate slightly behind schedule all day. This situation should be monitored to determine if additional runtime is needed.

Table 3-31: Route 45 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Cherokee St. / N. Marietta Pkwy.	10	10	0	15	10	-5	6	10	4	10	10	0
Cherokee St. / N. Marietta Pkwy.	Kennestone Hospital	6	13	7	10	13	3	8	13	5	8	13	5
Kennestone Hospital	Bells Ferry / Barrett Pkwy.	5	8	3	8	8	0	7	8	1	7	8	1
Bells Ferry / Barrett Pkwy.	Town Center Mall	24	12	-12	19	12	-7	12	12	0	12	12	0
Town Center Mall	KSU	8	12	4	10	12	2	9	12	3	15	12	-3

The segment with the largest discrepancy between scheduled and observed runtime was between Bells Ferry at Barrett Pkwy. and Town Center Mall. This section was observed to operate between 7 and 12 minutes behind schedule in the morning and midday periods.

Table 3-32: Route 45 Saturday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
KSU	Town Center Mall	16	10	-6	18	10	-8	14	10	-4	16	10	-6
Town Center Mall	Bells Ferry / Barrett Pkwy.	14	11	-3	14	11	-3	14	11	-3	14	11	-3
Bells Ferry / Barrett Pkwy.	Kennestone Hospital	6	5	-1	6	5	-1	6	5	-1	6	5	-1
Kennestone Hospital	Church St. / N. Marietta Pkwy.	9	9	0	9	9	0	9	9	0	9	9	0
Church St. / N. Marietta Pkwy.	MTC	12	12	0	5	12	7	12	12	0	12	12	0

As in the weekday inbound direction, the two route segments between KSU and Bells Ferry at Barrett Parkway were observed to operate slightly behind schedule all day. This situation should be monitored to determine if additional runtime is needed.

Observations:

1. Route 45 is the eighth most active route in the CCT System with 527 Weekday and 242 Saturday passengers and it ties the MTC to Kennesaw State University campus and the Town Center Mall via a multitude of roads. Like Route 40, the 45 is not direct and meanders along many different roads mostly west of I-75 and I-575. There 44 outbound and 36 inbound stops on the route of which 42 outbound and all inbound stops have some activity. The route serves one transfer center.

2. Ridership boarding and alighting activity is relatively consistent over the route but tends to be less active in the downtown Marietta area and to increase from the intersection of Cobb Parkway and North Marietta Parkway to Barrett Lakes Boulevard with a major activity occurring at the two end-of-line transfer centers, Kennestone Hopsital and KSU. There is no direct transfer between Route 45 and the MARTA system. The average number of Weekday boardings per trip is 18.8 and 9.3 is the average number of Saturday boardings per trip.

3. Although load factors are close to the middle range of nearly 15 passengers per trip from MTC to Kennestone Hospital, they tend to drop off afterwards as the bus proceeds to KSU and Town Center Mall. The weekday service frequencies appear to be appropriate for the current ridership on this route but there were requests among passengers at the public awareness forums for later service hours to accommodate late shift workers at the Town Center area. There is no recorded instance of overloading (40+ passengers) in the ride check and two instances of under loading (less than 5 passengers) in the Weekday evening period. There are nine instances of under loading on Saturdays during the AM Peak, Midday, and PM Peak periods.

3.3.7 Route 50 Powers Ferry Road

Route 50 operates from Marietta to the Cumberland Boulevard Transfer Center via U.S. 41 and Powers Ferry Road. Also serves Overton Park and the Galleria area. Route 50 is depicted in Figure 3-39.

Table 3-33 lists service statistics for Route 50 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 50 has the fourth highest weekday daily revenue hours at 48. The weekday ridership of 1,551 boardings is the third highest of the CCT routes. Weekday and Saturday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares.

The following are the key route performance results for Route 50:

- The load factor during the a.m. peak period is 0.60 and the load factor in the p.m. peak period is 0.53, both below the peak period minimum standard of 0.75. The midday load factor is 0.68 and the evening load factor is 0.50.
- The maximum load for the a.m. peak period is 24 passengers and the p.m. peak is 21 passengers. The midday maximum load is 27 passengers and the evening maximum load is 20 passengers.
- The weekday productivity is about 36 passengers per revenue-hour, with a Saturday figure of about 36 passengers per hour.
- The monthly farebox recovery ratio is almost 37%, which exceeds CCT's desired standard of 35%.

Table 3-33: Route 50 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	6:30 am-10:34 pm	7:00 am-10:54 pm
Frequency (min.)		
Peak	30	60
Midday	60	60
Evening	60	60
One-way Trips		
Peak	28	12
Midday	13	12
Evening	8	7
Total	49	31
Max. Buses Required	4	2
Daily Miles and Hours		
Revenue Miles	636	403
Revenue Hours	48	31

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	36,043	4,446
Trips	1,029	124
Rev. Miles	13,364	1,611
Rev. Hours	1,013	123
Operating Cost (1)	$73,901	$9,012
Fare Revenue (2)	$30,255	
Service Productivity		
Pass. per Trip	35.0	35.9
Pass. per Rev. Mile	2.7	2.8
Pass. per Rev. Hour	35.6	36.0
Economic Productivity		
Cost per Rev. Mile	$5.53	$5.59
Cost per Pass.	$2.05	$2.03
Farebox Ratio	36.5%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	1,551	985
Alightings (Offs)	1,551	985
Maximum Load		
AM Peak	24	25
Midday	27	23
PM Peak	21	29
Evening	20	27
Load Factors(3)		
AM Peak	0.60	0.63
Midday	0.68	0.58
PM Peak	0.53	0.73
Evening	0.50	0.68

Notes:

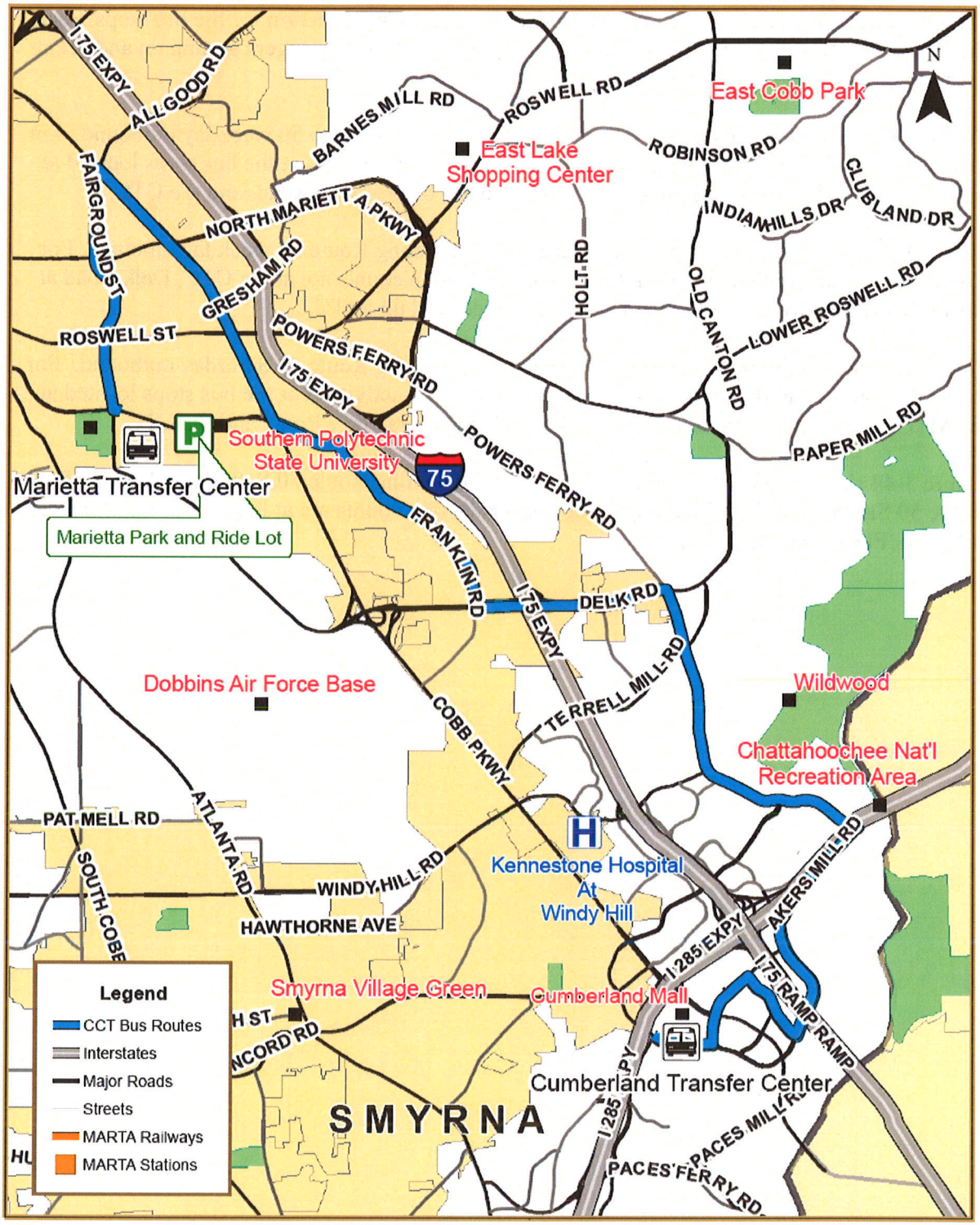
(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-39: Route 50 Map



CCT Route 50

Figure 3-40 shows all boardings and alightings by stop on Route 50. Figures 3-41 through 3-44 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

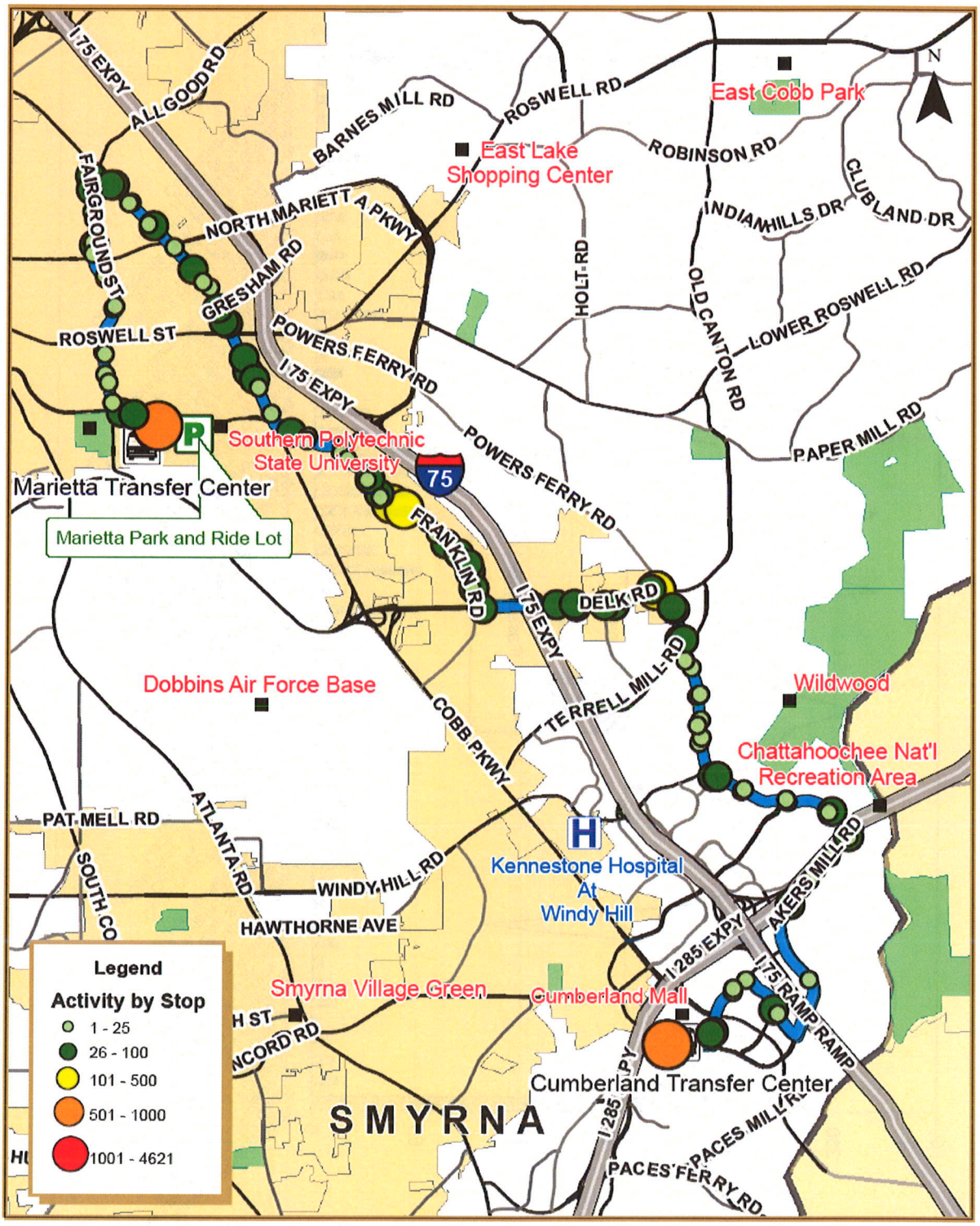
Figure 3-41 shows the ridership levels at each bus stop along Route 50 weekday outbound. For Route 50 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Delk Road at Franklin Road, Delk Road at Powers Ferry Road, and the CTC.

Figure 3-42 shows the ridership levels at each bus stop along Route 50 weekday inbound. For Route 50 weekday in this direction, the heaviest ridership counts are at the CTC, Delk Road at Northchase Parkway, Franklin Road at Sussex Place, and the MTC.

Figure 3-43 shows the ridership levels at each bus stop along Route 50 Saturday outbound. For Route 50 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Delk Road at Sussex Place, Delk Road at Powers Ferry Road, and the CTC.

Figure 3-44 shows the ridership levels at each bus stop along Route 50 Saturday inbound. For Route 50 Saturday in this direction, the heaviest ridership counts are at the CTC, Franklin Road at Sussex Place, and the MTC.

Figure 3-40: Route 50 Ridership Activity by Stop



CCT Route 50

0 0.5 1 Miles

Figure 3-41: Route 50 Weekday - Outbound Boardings and Alightings

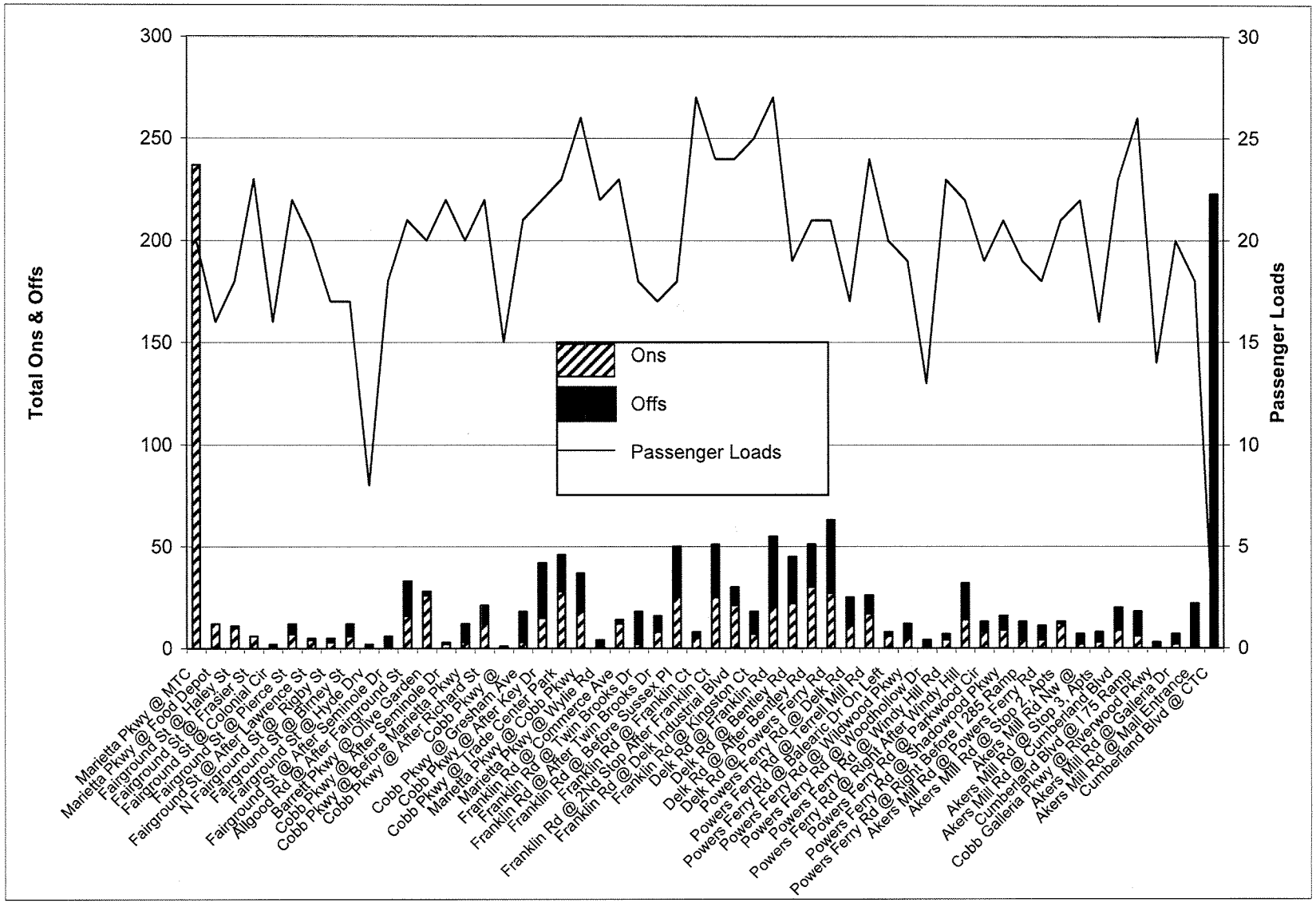


Figure 3-42: Route 50 Weekday - Inbound Boardings and Alightings

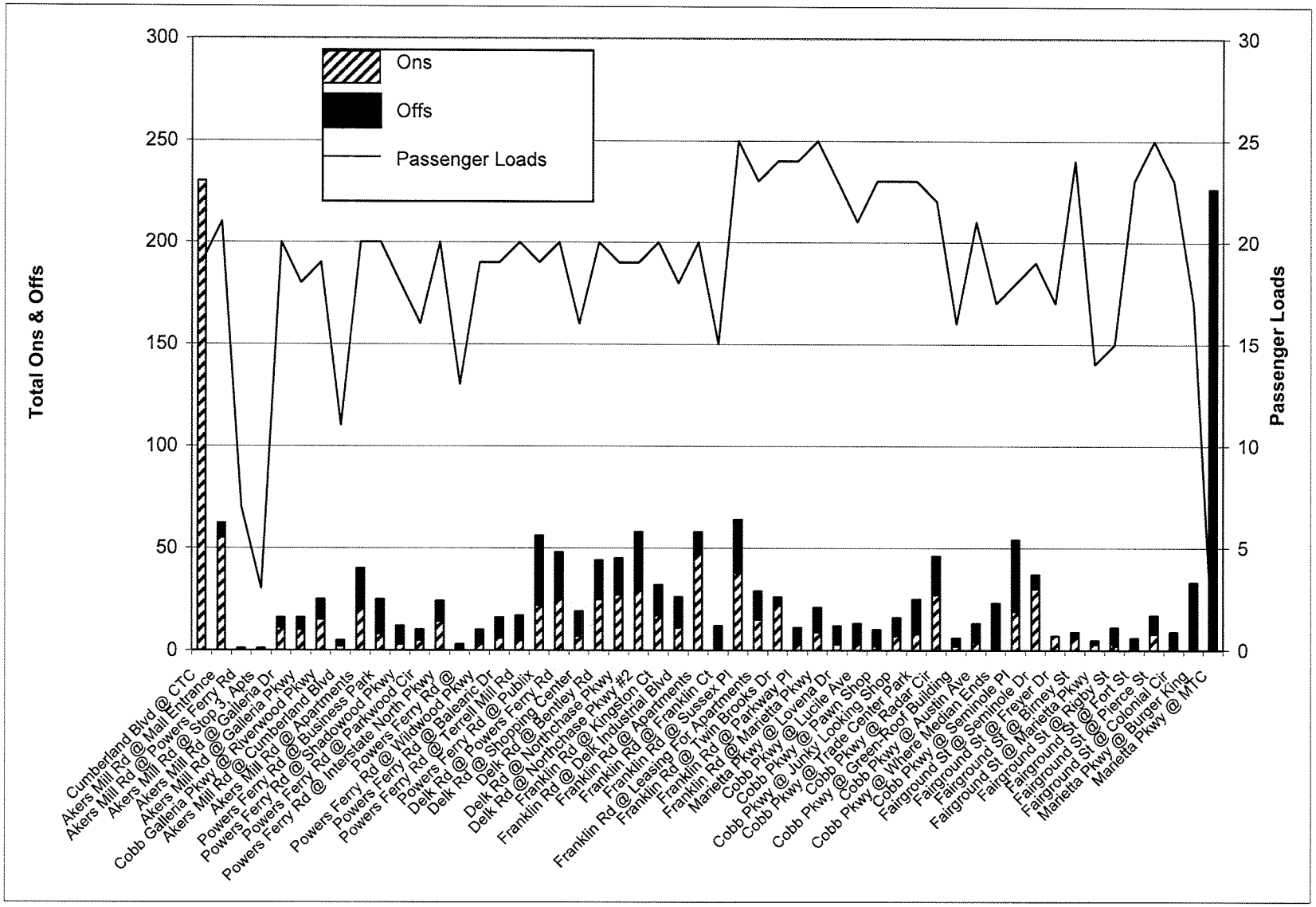


Figure 3-43: Route 50 Saturday - Outbound Boardings and Alightings

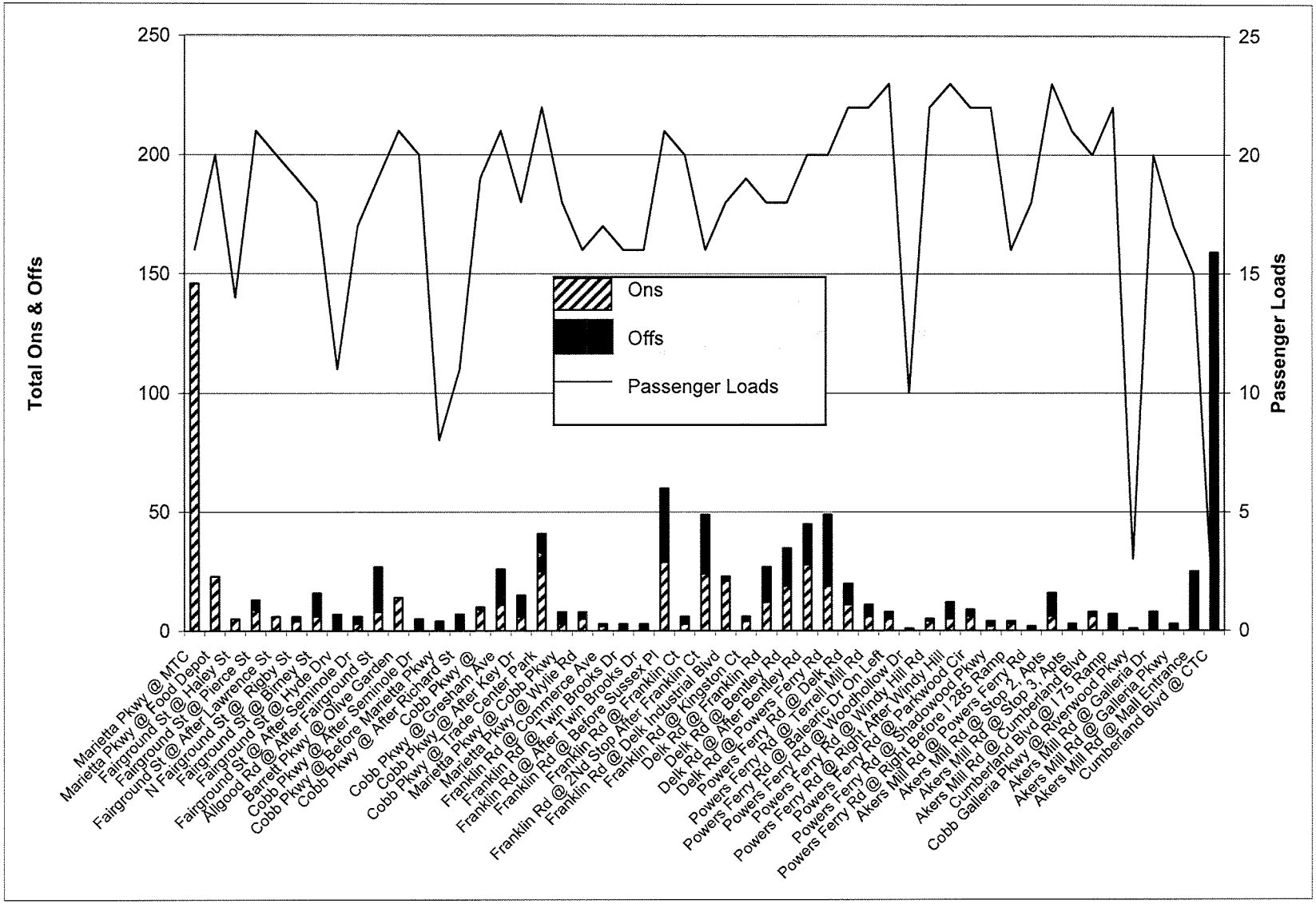
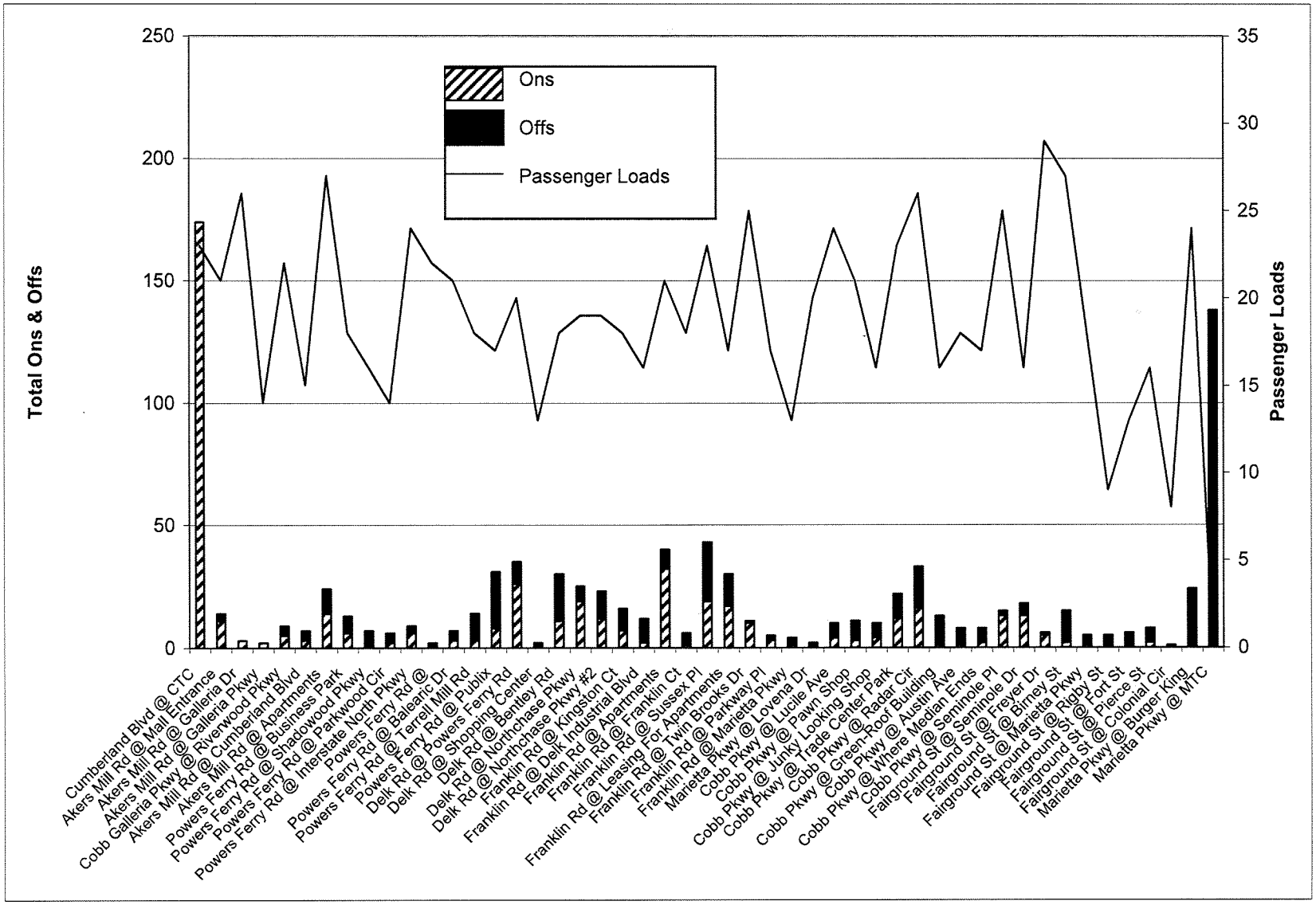


Figure 3-44: Route 50 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-34: Route 50 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	White Water	9	14	5	14	14	0	11	14	3	10	12	2
White Water	S. Marietta Pkwy. / Franklin Road	5	7	2	8	7	-1	8	7	-1	7	6	-1
S. Marietta Pkwy. / Franklin Road	Delk Road / Powers Ferry Road	10	11	1	12	11	-1	12	12	0	11	9	-2
Delk Road / Powers Ferry Road	Powers Ferry Road / Windy Hill Road	5	7	2	4	6	2	5	5	0	5	5	0
Powers Ferry Road / Windy Hill Road	Cobb Pkwy. / Akers Mill Road	10	10	0	11	8	-3	10	8	-2	10	8	-2
Cobb Pkwy. / Akers Mill Road	CTC	6	5	-1	4	5	1	6	5	-1	5	5	0

Route 50 weekday outbound has little, if any, discrepancy between observed runtime and scheduled runtime.

Table 3-35: Route 50 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
CTC	Cobb Pkwy. / Akers Mill Road	11	8	-3	6	6	0	8	6	-2	9	6	-3
Cobb Pkwy. / Akers Mill Road	Powers Ferry Road / Windy Hill Road	9	10	1	8	12	4	10	12	2	14	12	-2
Powers Ferry Road / Windy Hill Road	Delk Road / Powers Ferry Road	5	6	1	6	7	1	8	7	-1	5	6	1
Delk Road / Powers Ferry Road	S. Marietta Pkwy. / Franklin Road	10	10	0	13	10	-3	12	10	-2	14	9	-5
S. Marietta Pkwy. / Franklin Road	White Water	5	6	1	5	6	1	5	7	2	5	5	0
White Water	MTC	12	12	0	11	12	1	12	12	0	12	10	-2

As in the outbound direction, Route 50 weekday inbound has little, if any, discrepancy between observed runtime and scheduled runtime.

Table 3-36: Route 50 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	White Water	14	15	1	14	15	1	16	15	-1	12	15	3
White Water	S. Marietta Pkwy. / Franklin Road	7	7	0	7	7	0	7	7	0	7	7	0
S. Marietta Pkwy. / Franklin Road	Delk Road / Powers Ferry Road	11	12	1	11	12	1	11	12	1	11	12	1
Delk Road / Powers Ferry Road	Powers Ferry Road / Windy Hill Road	3	5	2	3	5	2	4	5	1	3	5	2
Powers Ferry Road / Windy Hill Road	Cobb Pkwy. / Akers Mill Road	9	8	-1	10	8	-2	9	8	-1	9	8	-1
Cobb Pkwy. / Akers Mill Road	CTC	5	10	5	5	10	5	6	10	4	5	10	5

Route 50 Saturday outbound has little discrepancy between observed runtime and scheduled runtime.

Table 3-37: Route 50 Saturday Inbound Observed Runtime in Minutes

From	To	AM Peak			Midday			PM Peak			Evening		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
CTC	Cobb Pkwy. / Akers Mill Road	7	6	-1	6	6	0	7	6	-1	8	6	-2
Cobb Pkwy. / Akers Mill Road	Powers Ferry Road / Windy Hill Road	10	10	0	10	10	0	10	10	0	10	10	0
Powers Ferry Road / Windy Hill Road	Delk Road / Powers Ferry Road	8	7	-1	5	7	2	5	7	2	5	7	2
Delk Road / Powers Ferry Road	S. Marietta Pkwy. / Franklin Road	10	9	-1	13	9	-4	10	9	-1	9	9	0
S. Marietta Pkwy. / Franklin Road	White Water	8	8	0	8	8	0	8	8	0	8	8	0
White Water	MTC	12	14	2	11	14	3	13	14	1	12	14	2

As in the outbound direction, Route 50 Saturday inbound has little discrepancy between observed runtime and scheduled runtime.

Observations:

1. Route 50 is the third most active route in the CCT System with 1,551 Weekday and 985 Saturday passengers. It ties the MTC to the CTC and Cumberland Mall via a multitude of roads such as Franklin, Delk, and Powers Ferry. Like the routes 40 and 45, the 50 is not direct and meanders along many different roads mostly east of I-75. There 53 outbound and 55 inbound stops on the route of which all outbound and 52l inbound stops have some activity. The route serves two transfer centers.

2. Ridership boarding and alighting activity is relatively consistent over the route but tends to be more active in the Franklin Road and Delk Road areas with major activity occurring at the two end-of-line transfer centers. There is no direct transfer between Route 50 and the MARTA system. The average number of Weekday boardings per trip is 31.7 and 31.8 is the average number of Saturday boardings per trip.

3. Although load factors are close to the middle range of nearly 12-15 passengers per trip throughout the route, they tend to drop off at Fairground and Hyde Street, Akers Mill, and Cobb Galleria Parkway at Riverwood Parkway. The weekday service frequencies appear to be appropriate for the current ridership on this route but there were requests among passengers at the public awareness forums for later service hours to accommodate late shift workers at the Cumberland Mall area. There is no recorded instance of overloading (40+ passengers) in the ride check and also no instances of under loading (less than 5 passengers).

3.3.8 Route 65 Roswell Road / Johnson Ferry Road

Route 65 operates from Marietta Transfer Center to Johnson Ferry Baptist Church via Marietta Square and Roswell Road (Monday - Saturday, peak period service to Dunwoody Station Monday - Friday). Route 65 is depicted in Figure 3-45.

Table 3-38 lists service statistics for Route 65 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 65 has the eighth highest weekday daily revenue hours of 22. The weekday ridership of 369 boardings is the ninth highest of the CCT routes. Weekday and Saturday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares.

The following are the key route performance results for Route 65:

- Load factors during peak periods are below the minimum standard of 0.75. The peak period load factors are 0.50 in the a.m. and 0.35 in the p.m. The midday load factor is 0.53 and the evening load factor is 0.33, which is below the off-peak minimum standard of 0.50.
- The maximum load for the a.m. peak period is 20 passengers and the p.m. peak is 14 passengers. The midday maximum load is 21 passengers and the evening maximum load is 13.
- The weekday productivity is about 20 passengers per revenue-hour, with a Saturday figure of about 17 passengers per hour.
- The monthly farebox recovery ratio is 17.7%, which is below CCT's minimum standard of 28%.

Table 3-38: Route 65 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	5:15 am-8:50 pm	6:00 am-8:05 pm
Frequency (min.)		
Peak	60	85
Midday	60	85
Evening	60	85
One-way Trips		
Peak	13	12
Midday	9	8
Evening	4	-
Total	26	20
Max. Buses Required	2	1
Daily Miles and Hours		
Revenue Miles	402	233
Revenue Hours	22	13

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	9,145	828
Trips	546	80
Rev. Miles	8,446	932
Rev. Hours	468	50
Operating Cost (1)	$34,129	$3,649
Fare Revenue (2)	$6,704	
Service Productivity		
Pass. per Trip	16.7	10.4
Pass. per Rev. Mile	1.1	0.9
Pass. per Rev. Hour	19.6	16.6
Economic Productivity		
Cost per Rev. Mile	$4.04	$3.92
Cost per Pass.	$3.73	$4.41
Farebox Ratio	17.7%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	369	178
Alightings (Offs)	369	178
Maximum Load		
AM Peak	20	13
Midday	21	16
PM Peak	14	13
Evening	13	9
Load Factors(3)		
AM Peak	0.50	0.33
Midday	0.53	0.40
PM Peak	0.35	0.33
Evening	0.33	0.23

Notes:

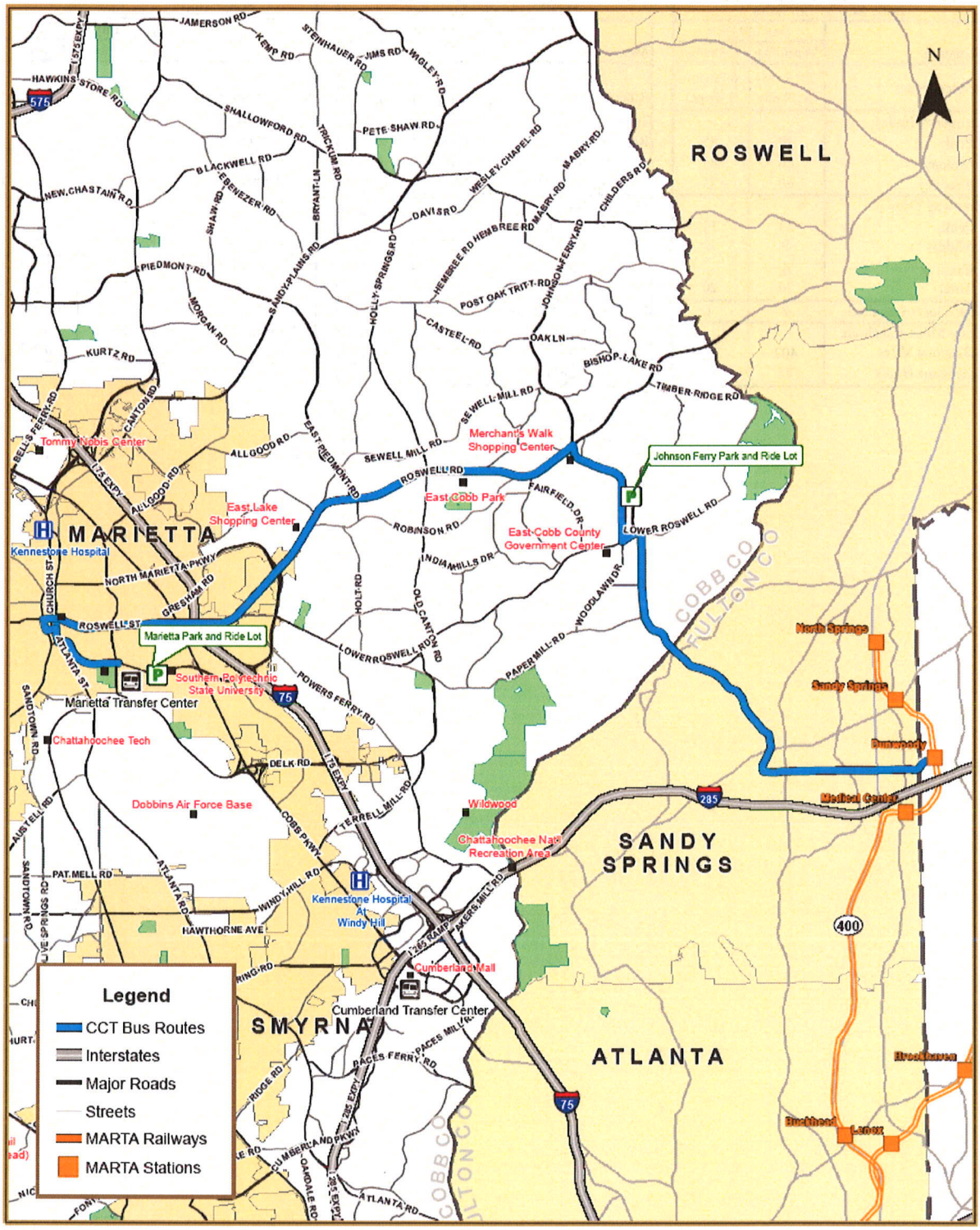
(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-45: Route 65 Map



CCT Route 65

0 1 2 Miles

Figure 3-46 shows all boardings and alightings by stop on Route 65. Figures 3-47 through 3-50 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-47 shows the ridership levels at each bus stop along Route 65 weekday outbound. For Route 65 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Roswell Road at Merchants Walk, Johnson Ferry Road at Woodlawn, and the Dunwoody Station.

Figure 3-48 shows the ridership levels at each bus stop along Route 65 weekday inbound. For Route 65 weekday in this direction, the heaviest ridership counts are at the Dunwoody Station, Roswell Road at Johnson Ferry Road, Roswell Street at Key Drive, and the MTC.

Figure 3-49 shows the ridership levels at each bus stop along Route 65 Saturday outbound. For Route 65 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Roswell Road at Powers Ferry Road, Roswell Road at Merchants Walk, and Woodlawn at Johnson Ferry Road.

Figure 3-50 shows the ridership levels at each bus stop along Route 65 Saturday inbound. For Route 65 Saturday in this direction, the heaviest ridership counts are at Woodlawn at Johnson Ferry Road, Roswell Road at Lantern Ridge Road, Roswell Street at Key Drive, and the MTC.

Figure 3-46: Route 65 Ridership Activity by Stop

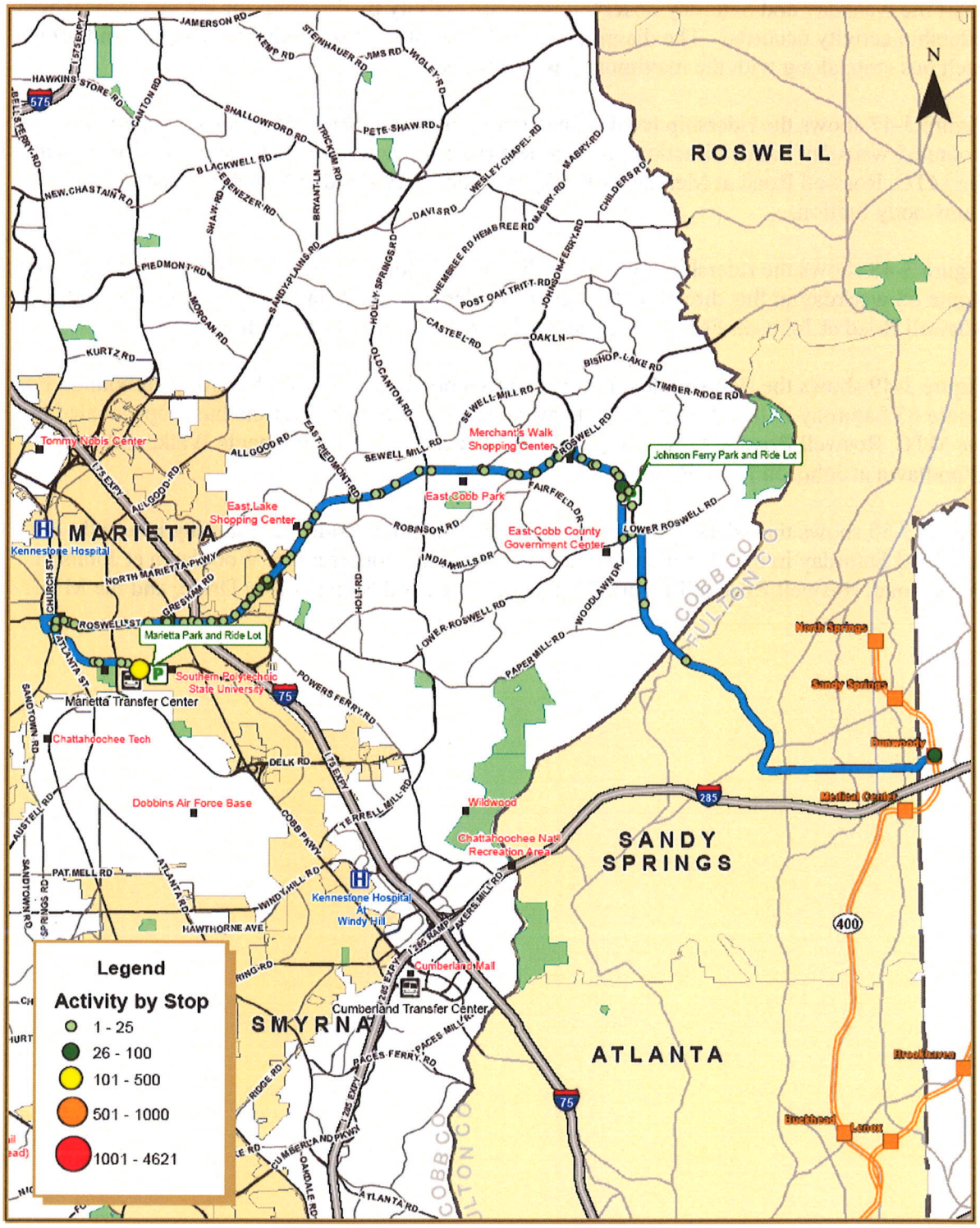


Figure 3-47: Route 65 Weekday - Outbound Boardings and Alightings

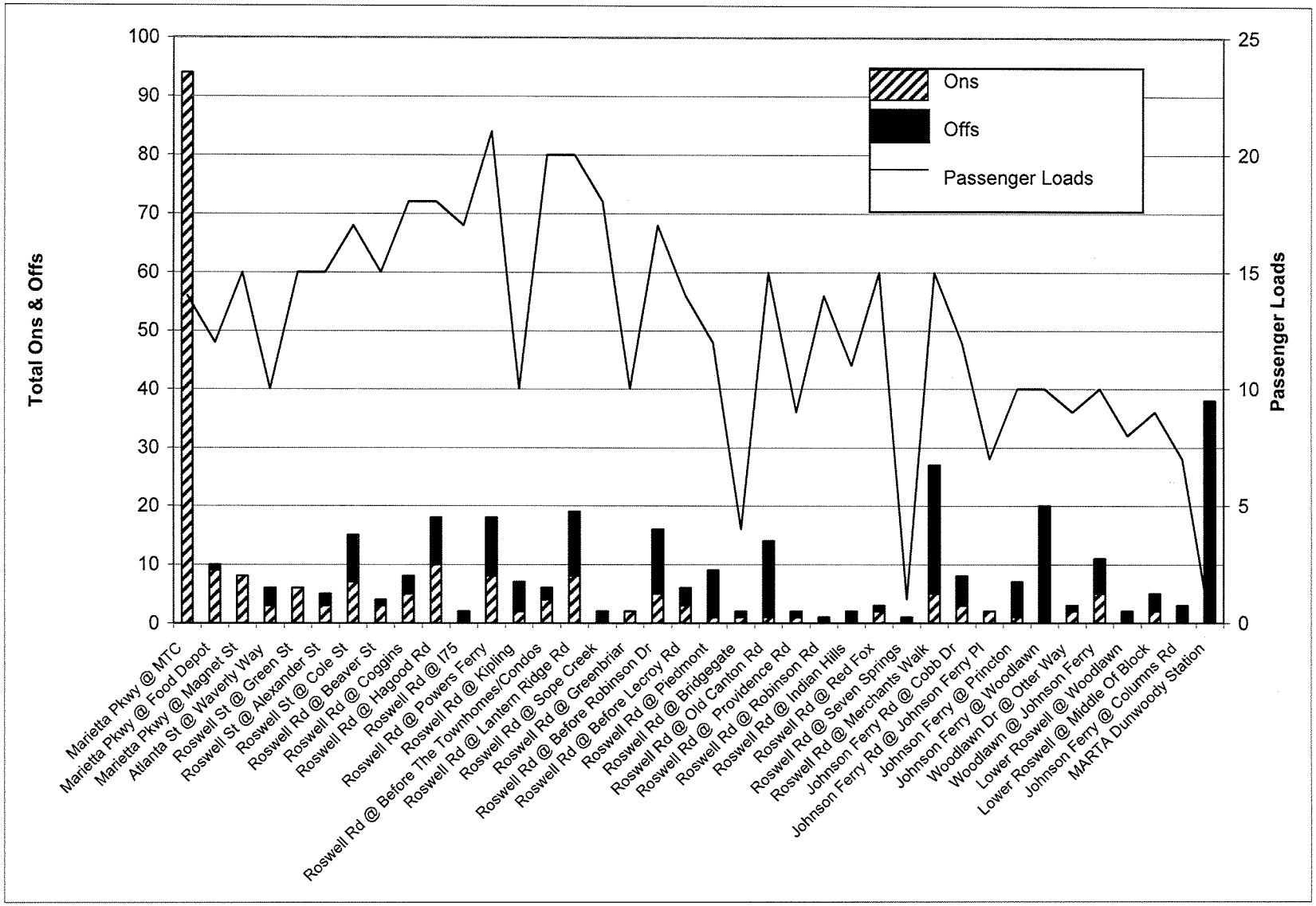


Figure 3-48: Route 65 Weekday - Inbound Boardings and Alightings

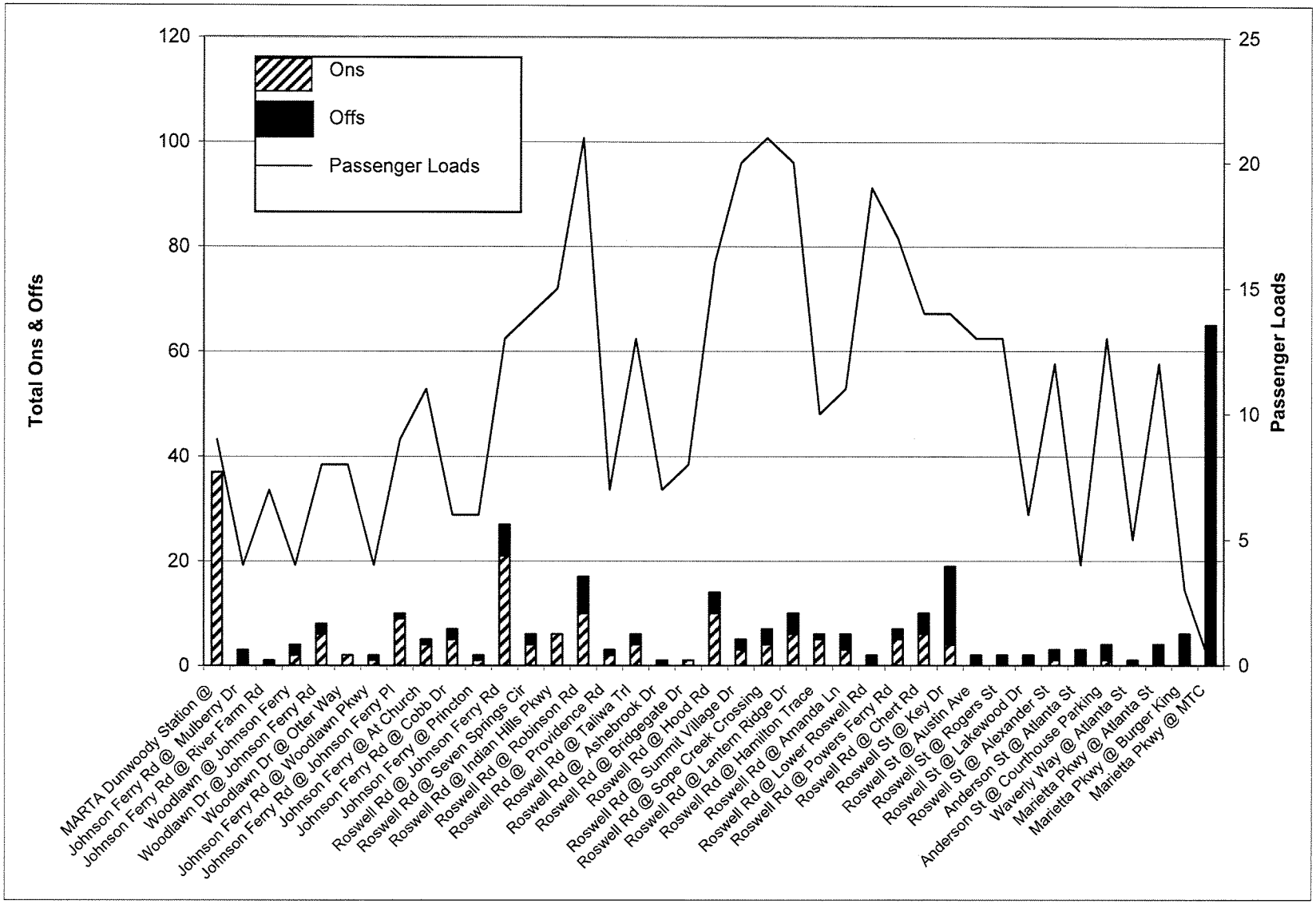


Figure 3-49: Route 65 Saturday - Outbound Boardings and Alightings

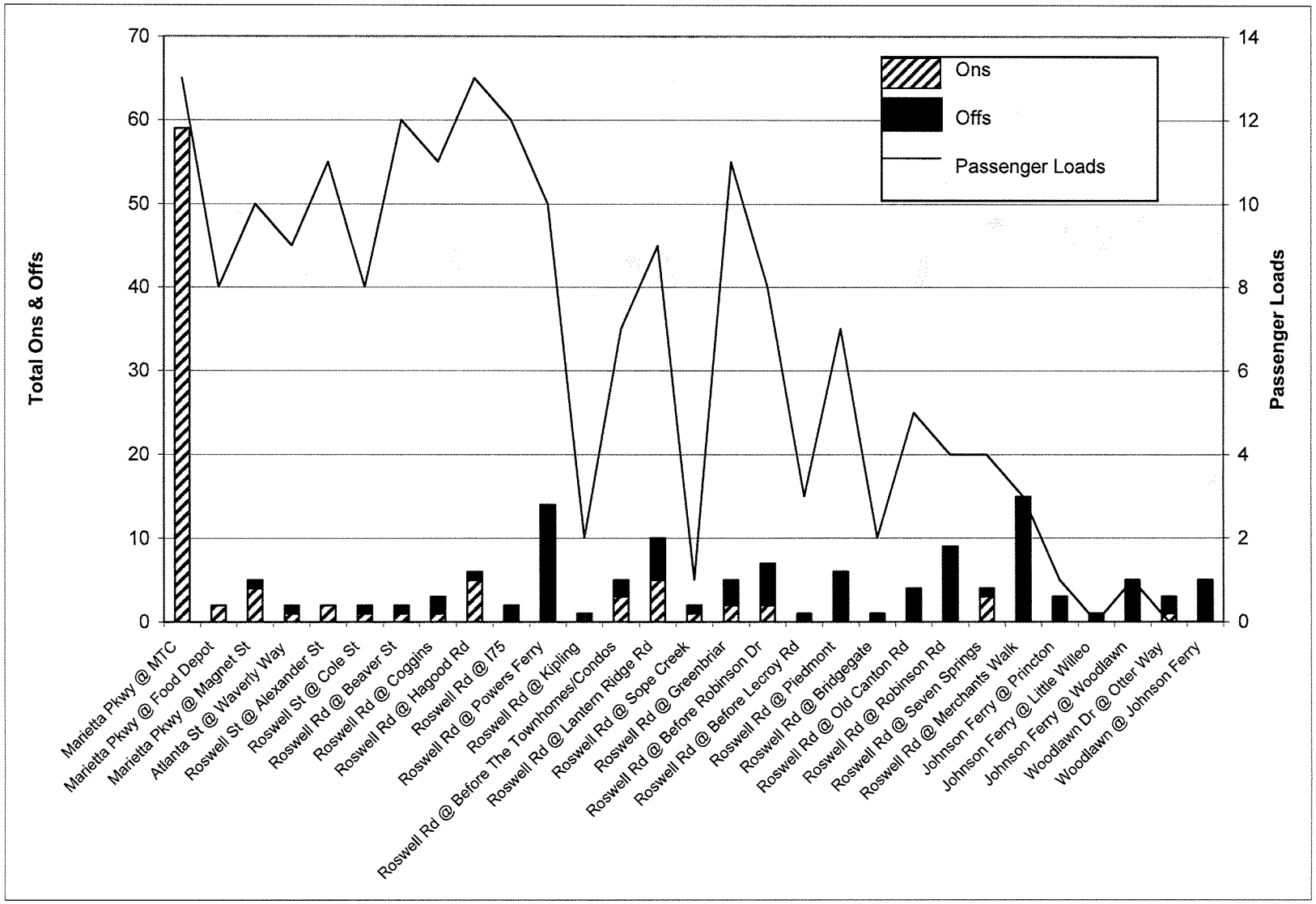
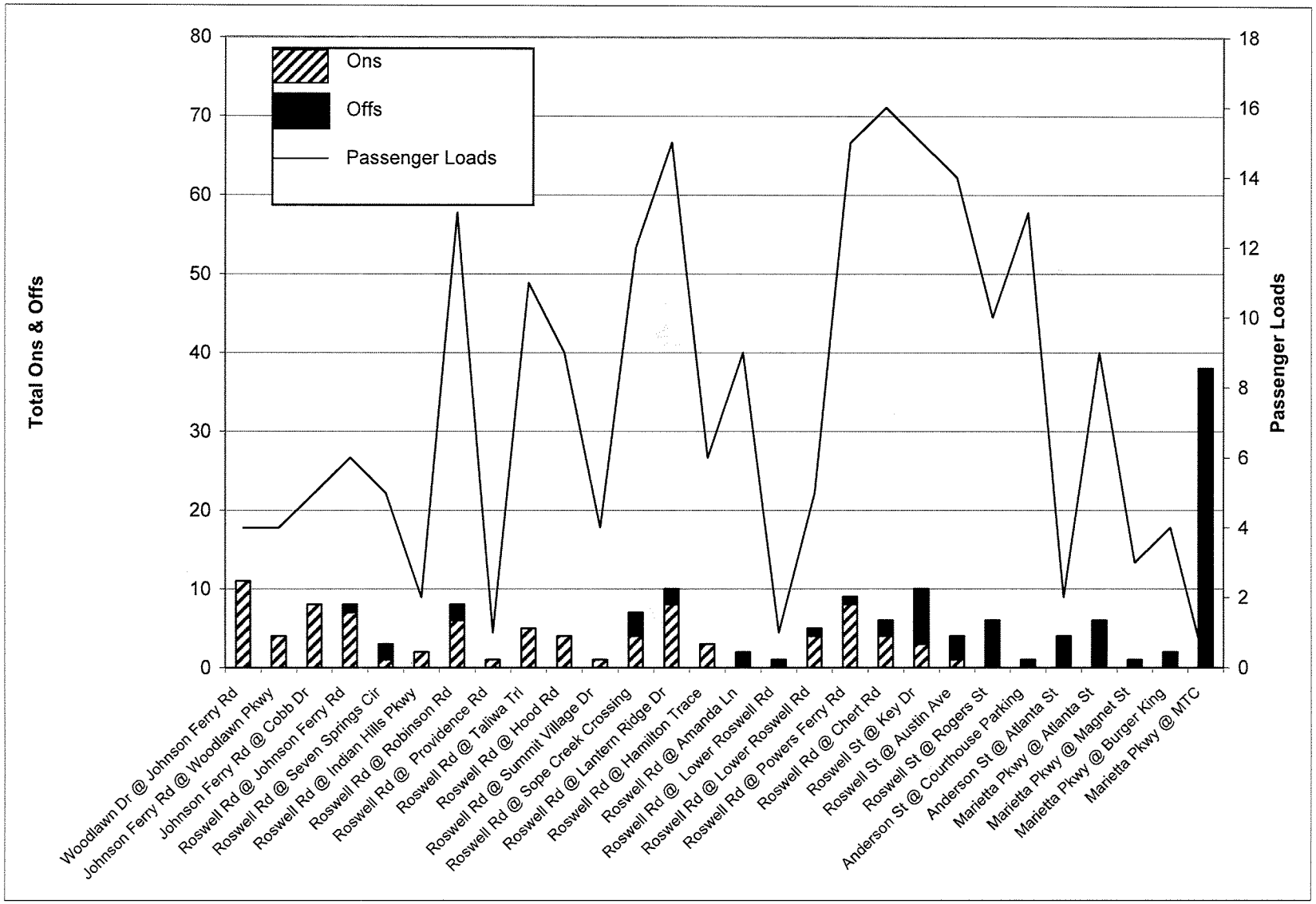


Figure 3-50: Route 65 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-39: Route 65 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Roswell St. / Atlanta St.	12	14	2	9	14	5	8	14	6	9	12	3
Roswell St. / Atlanta St.	Roswell Road / Cobb Pkwy.	6	7	1	7	7	0	7	7	0	7	6	-1
Roswell Road / Cobb Pkwy.	Roswell Road / Robinson Road	17	11	-6	12	11	-1	12	12	0	11	9	-2
Roswell Road / Robinson Road	Roswell Road / Johnson Ferry Road	4	7	3	4	6	2	5	5	0	5	5	0
Roswell Road / Johnson Ferry Road	Johnson Ferry Baptist Park & Ride	17	10	-7	12	8	-4	12	8	-4	12	8	-4
Johnson Ferry Baptist Park & Ride	MARTA Dunwoody Station	15	5	-10	19	5	-14	20	5	-15	20	5	-15

The segment with the largest discrepancy between scheduled runtime and observed runtime was between Johnson Ferry Baptist Park & Ride and Dunwoody Station. This section of the route was observed to operate between 10 to 15 minutes behind schedule all day.

Table 3-40: Route 65 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MARTA Dunwoody Station	Johnson Ferry Baptist Park & Ride	9	8	-1	7	6	-1	11	6	-5	9	6	-3
Johnson Ferry Baptist Park & Ride	Roswell Road / Johnson Ferry Road	8	10	2	9	12	3	6	12	6	8	12	4
Roswell Road / Johnson Ferry Road	Roswell Road / Robinson Road	6	6	0	6	7	1	6	7	1	9	6	-3
Roswell Road / Robinson Road	Roswell Road / Cobb Pkwy.	19	10	-9	15	10	-5	15	10	-5	10	9	-1
Roswell Road / Cobb Pkwy.	Roswell St. / Atlanta St.	6	6	0	6	6	0	5	7	2	6	5	-1
Roswell St. / Atlanta St.	MTC	6	12	6	6	12	6	7	12	5	6	10	4

The segment with the largest discrepancy between scheduled and observed runtime was between Roswell Road at Robinson Road and Roswell Rd. at Cobb Parkway. In the inbound direction, this section was observed to operate between 5 to 9 minutes behind schedule, except in the evening period.

Table 3-41: Route 65 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Roswell St. / Atlanta St.	11	15	4	11	15	4	11	15	4	11	15	4
Roswell St. / Atlanta St.	Roswell Road / Cobb Pkwy.	9	7	-2	9	7	-2	9	7	-2	9	7	-2
Roswell Road / Cobb Pkwy.	Roswell Road / Robinson Road	15	12	-3	15	12	-3	15	12	-3	15	12	-3
Roswell Road / Robinson Road	Roswell Road / Johnson Ferry Road	5	5	0	5	5	0	5	5	0	5	5	0
Roswell Road / Johnson Ferry Road	Johnson Ferry Baptist Park & Ride	7	8	1	7	8	1	7	8	1	7	8	1

Route 65 Saturday outbound has little discrepancy between observed runtime and scheduled runtime.

Table 3-42: Route 65 Saturday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
Johnson Ferry Baptist Park & Ride	Roswell Road / Johnson Ferry Road	8	10	2	8	10	2	8	10	2	8	10	2
Roswell Road / Johnson Ferry Road	Roswell Road / Robinson Road	6	7	1	6	7	1	6	7	1	6	7	1
Roswell Road / Robinson Road	Roswell Road / Cobb Pkwy.	10	9	-1	10	9	-1	10	9	-1	10	9	-1
Roswell Road / Cobb Pkwy.	Roswell St. / Atlanta St.	6	8	2	6	8	2	6	8	2	6	8	2
Roswell St. / Atlanta St.	MTC	4	14	10	4	14	10	4	14	10	4	14	10

The segment with the largest discrepancy between scheduled and observed runtime was between Roswell Street and Atlanta Street and the MTC. In the inbound direction, this section was observed to operate at 10 minutes ahead of schedule all day.

Observations:

1. Route 65 is the ninth most active route in the CCT System with 369 Weekday and 178 Saturday passengers and it ties the MTC to Dunwoody MARTA Station at peak hours only via a multitude of roads. Off peak service is between MTC and Johnson Ferry Road. The route is fairly direct and uses mainly Roswell Road, Johnson Ferry Road, and Hammond Drive. There 41 outbound peak and 39 inbound peak stops on the route and 37 outbound and 35 inbound off peak stops. Of the peak stops, 38 outbound and all inbound stops have some activity. The route serves two transfer centers.

2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the five miles of the route in the City of Sandy Springs. Of the Weekday passengers, 20% of these riders have origins on the MARTA system, and 8% of the Saturday ridership is from MARTA.

3. Ridership boarding and alighting activity is relatively consistent over the route but tends to be less active in the downtown Marietta area and to increase around the intersection Roswell Road and Powers Ferry to the Merchants Walk area with a major activity occurring at the two end-of-line transfer centers, the intersection of Johnson Ferry and Roswell Road, and Merchants Walk. There is direct transfer between Route 65 and the MARTA system but only at Weekday peak hours and only 38 one-way riders take advantage of this service. The average number of Weekday boardings per trip is 14.2 and 8.9 is the average number of Saturday boardings per trip.

4. The load factors tend to be low on Route 65, they tend to drop off the further away from MTC. The weekday service frequencies appear to be appropriate for the current ridership on this route but there is little justification for the MARTA transfer service leg. There is no recorded instance of overloading (40+ passengers) in the ride check but four instances of under loading (less than 5 passengers) in the Weekday Early Morning, Midday, PM

Peak and Evening periods. There are seven instances of under loading on Saturdays during the Early Morning, Midday, and PM Peak periods.

3.3.9 Route 70 Cumberland Transfer Center / Holmes Station

Route 70 operates from the Cumberland Boulevard Transfer Center to Holmes Station via Cumberland Boulevard, Paces Ferry Road, Home Depot Headquarters, I-285 and I-20. A connection with CCT Route 30 may be made at Holmes Station for travel to/from Cobb County. (Monday - Saturday). Also has service to Highlands Ridge Road, Highlands Parkway and Cobb Industrial Boulevard (Monday - Friday only). Route 70 is depicted in Figure 3-51.

Table 3-43 lists service statistics for Route 70 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 70 has the ninth highest weekday daily revenue hours at 21. The weekday ridership of 291 boardings is the tenth highest. Weekday and Saturday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares during the months of July, August, and September 2005.

The following are the key route performance results for Route 70:

- Load factors during peak periods are well below the minimum standard of 0.75. The peak period load factors are 0.55 in the a.m. and 0.40 in the p.m. The midday load factor is 0.33 and the evening load factor is 0.13, significantly below the off-peak minimum standard of 0.50.
- The maximum load for the a.m. peak period is 20 passengers and the p.m. peak is 14 passengers. The midday maximum load is 21 passengers and the evening maximum load is 13.
- The weekday productivity is about 15 passengers per revenue-hour, with a Saturday figure of about 10 passengers per hour.
- The monthly farebox recovery ratio is almost 11.0%, which is below CCT's minimum standard of 28%.

Table 3-43: Route 70 Service, Ridership & Productivity Statistics

Daily Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Service Hours	6:15 am-9:10 pm	6:30 am-8:25 pm
Frequency (min.)		
Peak	60	60
Midday	60	60
Evening	60	60
One-way Trips		
Peak	14	13
Midday	13	12
Evening	5	3
Total	32	28
Max. Buses Required	2	1
Daily Miles and Hours		
Revenue Miles	451	325
Revenue Hours	21	13

Monthly Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Ridership	6,554	533
Trips	672	112
Rev. Miles	9,471	1,299
Rev. Hours	432	51
Operating Cost (1)	$31,500	$3,746
Fare Revenue (2)	$3,842	
Service Productivity		
Pass. per Trip	9.8	4.8
Pass. per Rev. Mile	0.7	0.4
Pass. per Rev. Hour	15.2	10.4
Economic Productivity		
Cost per Rev. Mile	$3.33	$2.88
Cost per Pass.	$4.81	$7.03
Farebox Ratio	10.9%	

RideCount Service Statistics		
	Day of Week	
Measures	Weekday	Saturday
Daily Ridership Activity		
Boardings (Ons)	291	81
Alightings (Offs)	291	81
Maximum Load		
AM Peak	22	6
Midday	13	8
PM Peak	16	5
Evening	5	2
Load Factors(3)		
AM Peak	0.55	0.15
Midday	0.33	0.20
PM Peak	0.40	0.13
Evening	0.13	0.05

Notes:

(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 40 available seats used as measure

Figure 3-51: Route 70 Map

CCT Route 70

0 1 2 Miles

Figure 3-52 shows all boardings and alightings by stop on Route 70. Figures 3-53 through 3-56 chart the weekday and Saturday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-53 shows the ridership levels at each bus stop along Route 70 weekday outbound. For Route 70 weekday in this direction, the heaviest ridership activity is at the bus stops located at the CTC, Cumberland Parkway at Bert Adams Road, Cobb Drive at Kendwood Drive, and the Holmes Station.

Figure 3-54 shows the ridership levels at each bus stop along Route 70 weekday inbound. For Route 70 weekday in this direction, the heaviest ridership counts are at Holmes Station, Cobb Drive at Kendwood Drive, Spring Hill Parkway at Home Depot, and the CTC.

Figure 3-55 shows the ridership levels at each bus stop along Route 70 Saturday outbound. For Route 70 Saturday in this direction, the heaviest ridership activity is at the bus stops located at the CTC and Holmes Station.

Figure 3-56 shows the ridership levels at each bus stop along Route 70 Saturday inbound. For Route 70 Saturday in this direction, the heaviest ridership counts are at Holmes Station and the CTC.

Figure 3-52: Route 70 Ridership Activity by Stop

CCT Route 70

Figure 3-53: Route 70 Weekday - Outbound Boardings and Alightings

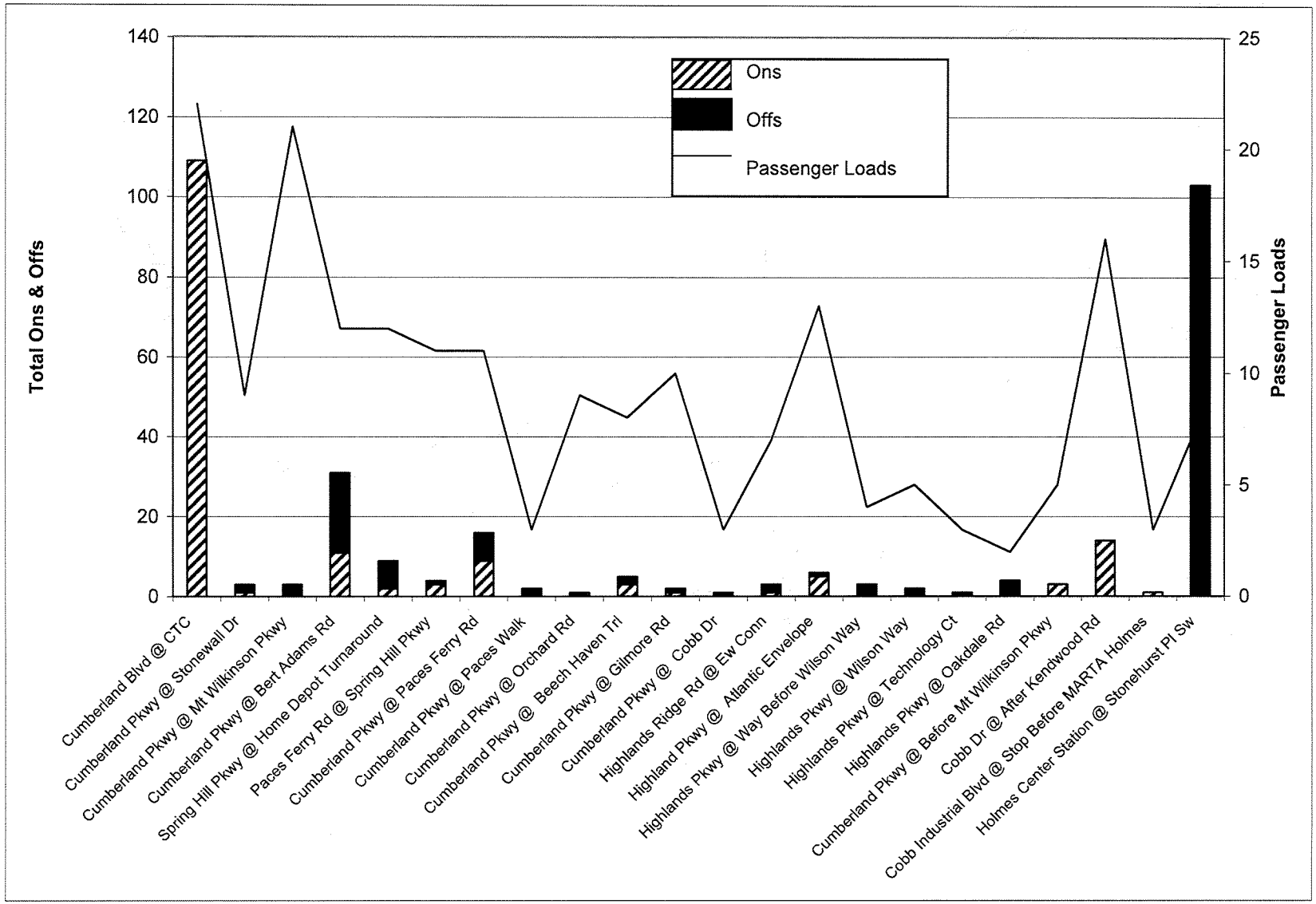


Figure 3-54: Route 70 Weekday - Inbound Boardings and Alightings

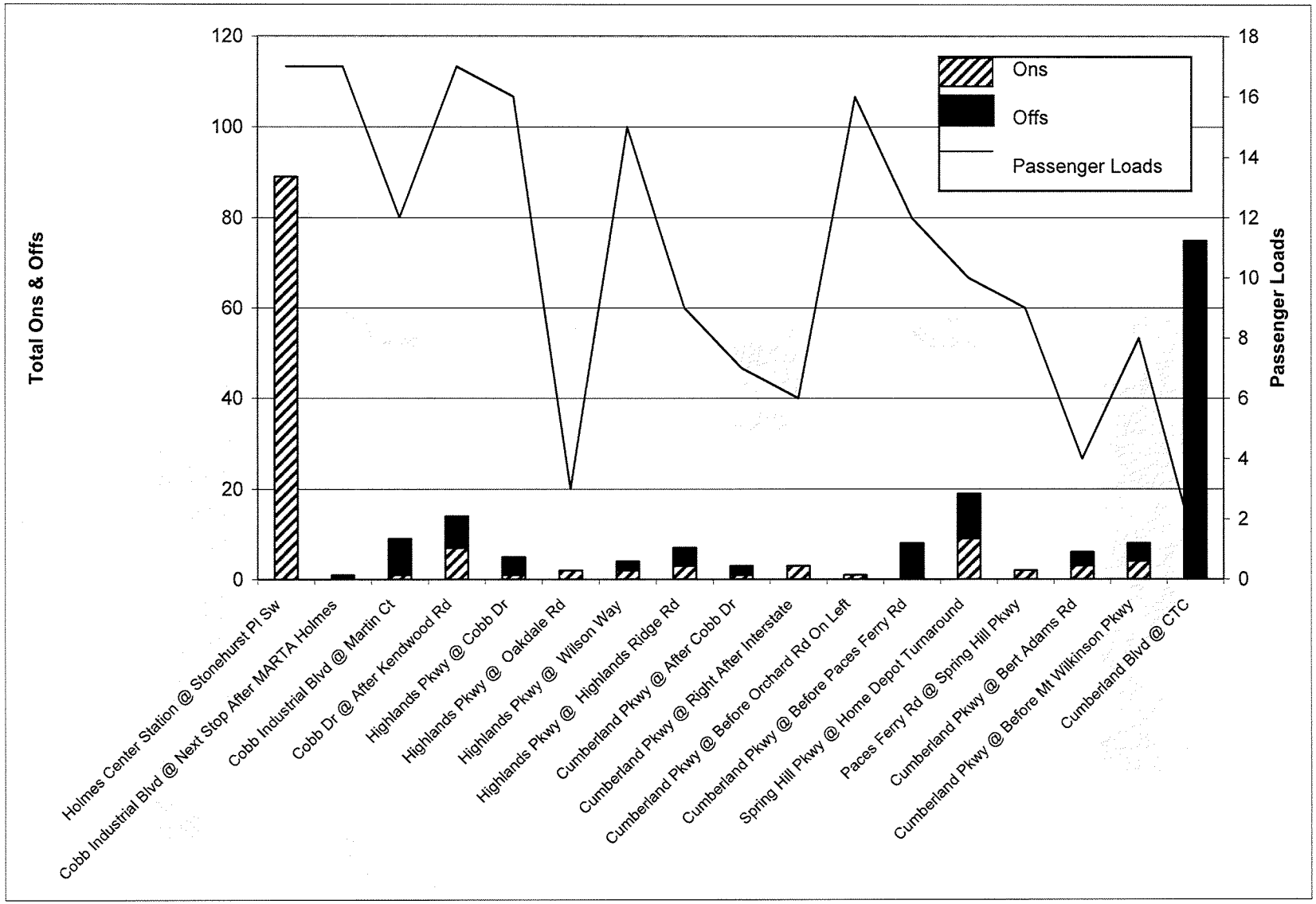


Figure 3-55: Route 70 Saturday - Outbound Boardings and Alightings

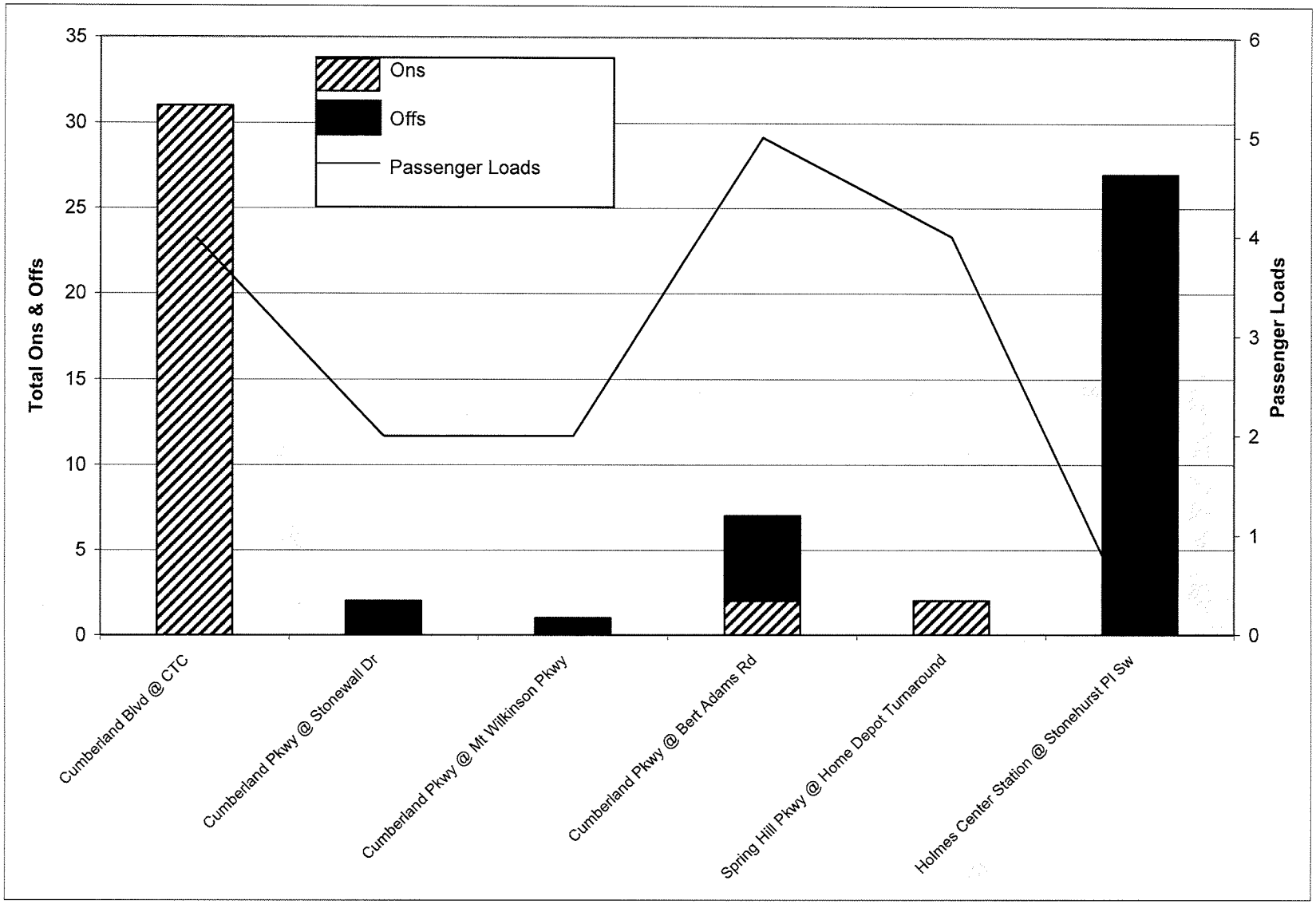
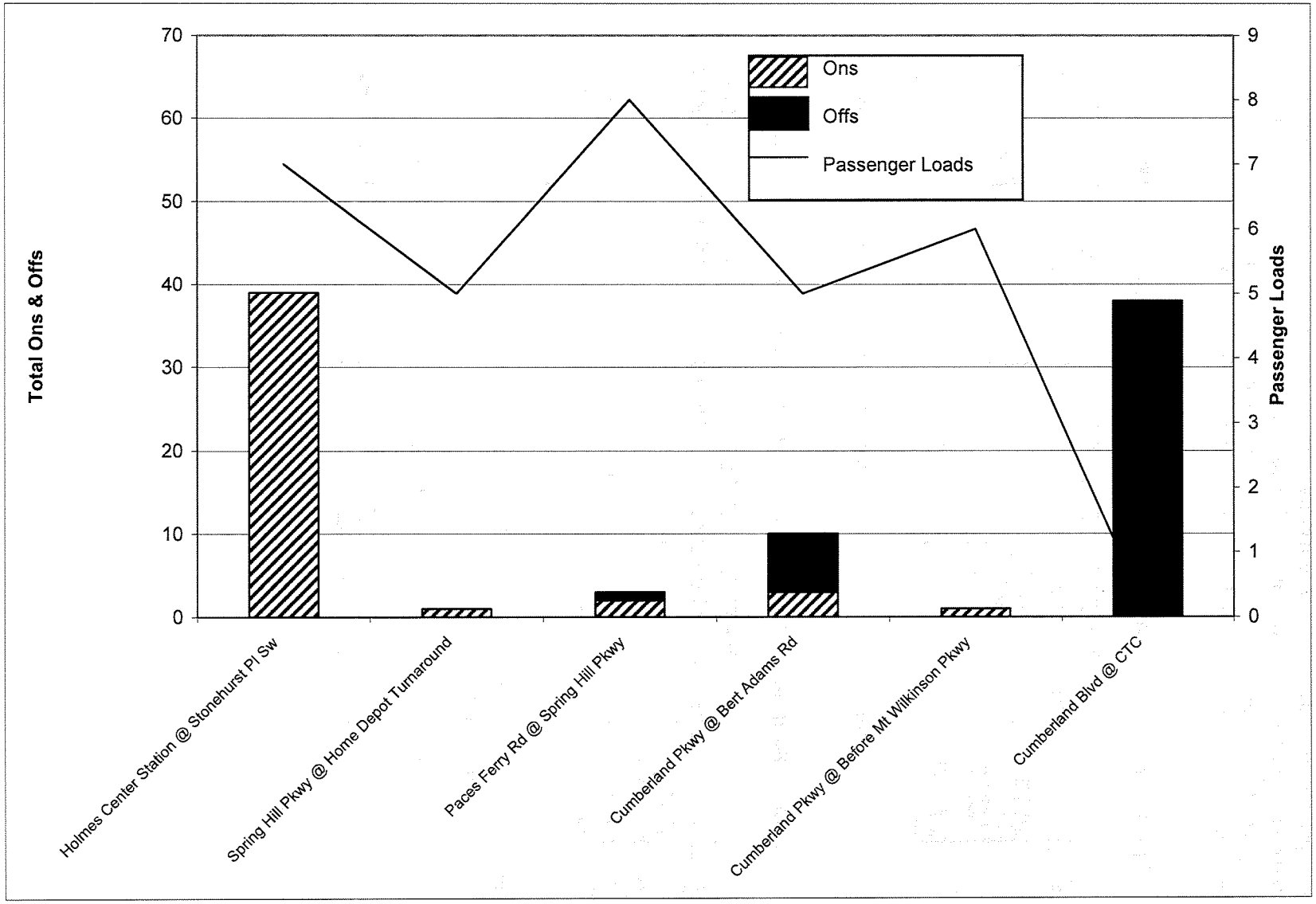


Figure 3-56: Route 70 Saturday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak, midday, afternoon peak and evening periods by day of the week and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-44: Route 70 Weekday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
CTC	Home Depot	7	7	0	7	7	0	13	7	-6	7	7	0
Home Depot	MARTA Holmes Station	Off-Peak Only			18	18	0	Off-Peak Only			18	18	0
Home Depot	Higlands Pkwy. / Highlands Road	15	15	0	Peak Only			19	15	-4	Peak Only		
Higlands Pkwy. / Highlands Road	S. Cobb Ind. Blvd.	10	10	0	Peak Only			10	10	0	Peak Only		
S. Cobb Ind. Blvd.	MARTA Holmes Station	23	23	0	Peak Only			16	23	7	Peak Only		

Route 70 weekday outbound has very little discrepancy between observed and scheduled runtimes.

Table 3-45: Route 70 Weekday Inbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MARTA Holmes Station	S. Cobb Ind. Blvd.	16	16	0	Peak Only			16	16	0	Peak Only		
S. Cobb Ind. Blvd.	Higlands Pkwy. / Highlands Road	7	7	0	Peak Only			7	7	0	Peak Only		
Higlands Pkwy. / Highlands Road	Home Depot	13	16	3	Peak Only			16	16	0	Peak Only		
MARTA Holmes Station	Home Depot	Off-Peak Only			17	17	0	Off-Peak Only			17	17	0
Home Depot	CTC	9	16	7	8	8	0	16	16	0	8	6	-2

As in the outbound direction, Route 70 weekday inbound has very little discrepancy between observed and scheduled runtimes.

Table 3-46: Route 70 Saturday Outbound Observed Runtime in Minutes

		AM Peak			Midday			PM Peak			Evening		
From	To	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
CTC	Home Depot	6	6	0	6	6	0	6	6	0	6	6	0
Home Depot	MARTA Holmes Station	20	20	0	20	20	0	20	20	0	20	20	0

Route 70 Saturday outbound has virtually no discrepancy between observed and scheduled runtimes.

Table 3-47: Route 70 Saturday Inbound Observed Runtime in Minutes

From	To	AM Peak			Midday			PM Peak			Evening		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference	Observed	Scheduled	Difference
MARTA Holmes Station	Home Depot	15	15	0	15	15	0	15	15	0	15	15	0
Home Depot	CTC	10	10	0	10	10	0	10	10	0	10	10	0

As in the outbound direction, Route 70 Saturday inbound has virtually no discrepancy between observed and scheduled runtimes.

Observations:

1. Route 70 is the tenth most active route in the CCT System with 291 Weekday and 81 Saturday passengers and it ties the CTC to Holmes Station via a multitude of roads. The route is fairly direct and uses mainly Cumberland parkway, East West Connector, I-285 and I-20. There 28 outbound and 25 inbound stops on the route. Of the stops, 22 outbound and 17 inbound stops have some activity. The route serves two transfer centers.

2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the five miles of the route in the City of Atlanta and the extensive segments along I-285 and I-20. Of the Weekday passengers, 61% of these riders have origins on the MARTA system, and 38% of the Saturday ridership is from MARTA.

3. Ridership boarding and alighting activity is relatively consistent over the route but tends to be low except for the major activity occurring at the two end-of-line transfer centers. There is also some circulator activity Cumberland Parkway and Bert Adams Road and at Cumberland Parkway and Paces Ferry Road. There is direct transfer between Route 70 and the MARTA system and only 90 one-way riders take advantage of this service. The average number of Weekday boardings per trip is 9.1 and 2.9 is the average number of Saturday boardings per trip.

4. The load factors tend to be low on the Route 70, they tend to fluctuate a great deal by stop and are at there peak right before H.E. Holmes on the outbound and f the further away from MTC. The weekday service frequencies appear to be appropriate for the current ridership on this route but there is little justification for the MARTA transfer service leg. There is no recorded instance of overloading (40+ passengers) in the ride check but four instances of under loading (less than 5 passengers) in the Weekday Early Morning, Midday, PM Peak and Evening periods. There are seven instances of under loading on Saturdays during the Early Morning, Midday, and PM Peak periods.

3.3.10 Route 10A Peachtree St. via Arts Center

Route 10A provides the reverse peak-hour local service of Route 100 on weekdays only. This route operates from Atlanta to Delk Road via the Cumberland Boulevard Transfer Center, Cobb Parkway (US 41), and Terrell Mill Road (peak periods only, Monday - Friday).
Route 10A provides service to several important destinations, including:

- MARTA Peachtree Center Station
- MARTA Civic Center Station
- MARTA Arts Center Station
- Cumberland Transfer Center

Route 10A is depicted in Figure 3-57.

Table 3-48 lists service statistics for Route 10A and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 10A has the eleventh highest weekday daily revenue hours at 12. The weekday ridership of 139 boardings is the lowest of the CCT routes. Weekday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares during the months of July, August, and September 2005.

The following are the key route performance results for Route 10A:

- The peak period load factors are 0.68 in the a.m. and 0.50 in the p.m. These are just below the minimum standards.
- The maximum load for the a.m. peak period is 27 passengers and the p.m. peak is 20 passengers.
- The route productivity is about 12 passengers per revenue-hour.
- The monthly farebox recovery ratio is 5.8%, which is below CCT's minimum standard of 28%. This low farebox recovery ratio is largely due to the high number of MARTA transfers used on this reverse commute route.

Table 3-48: Route 10A Service, Ridership & Productivity Statistics

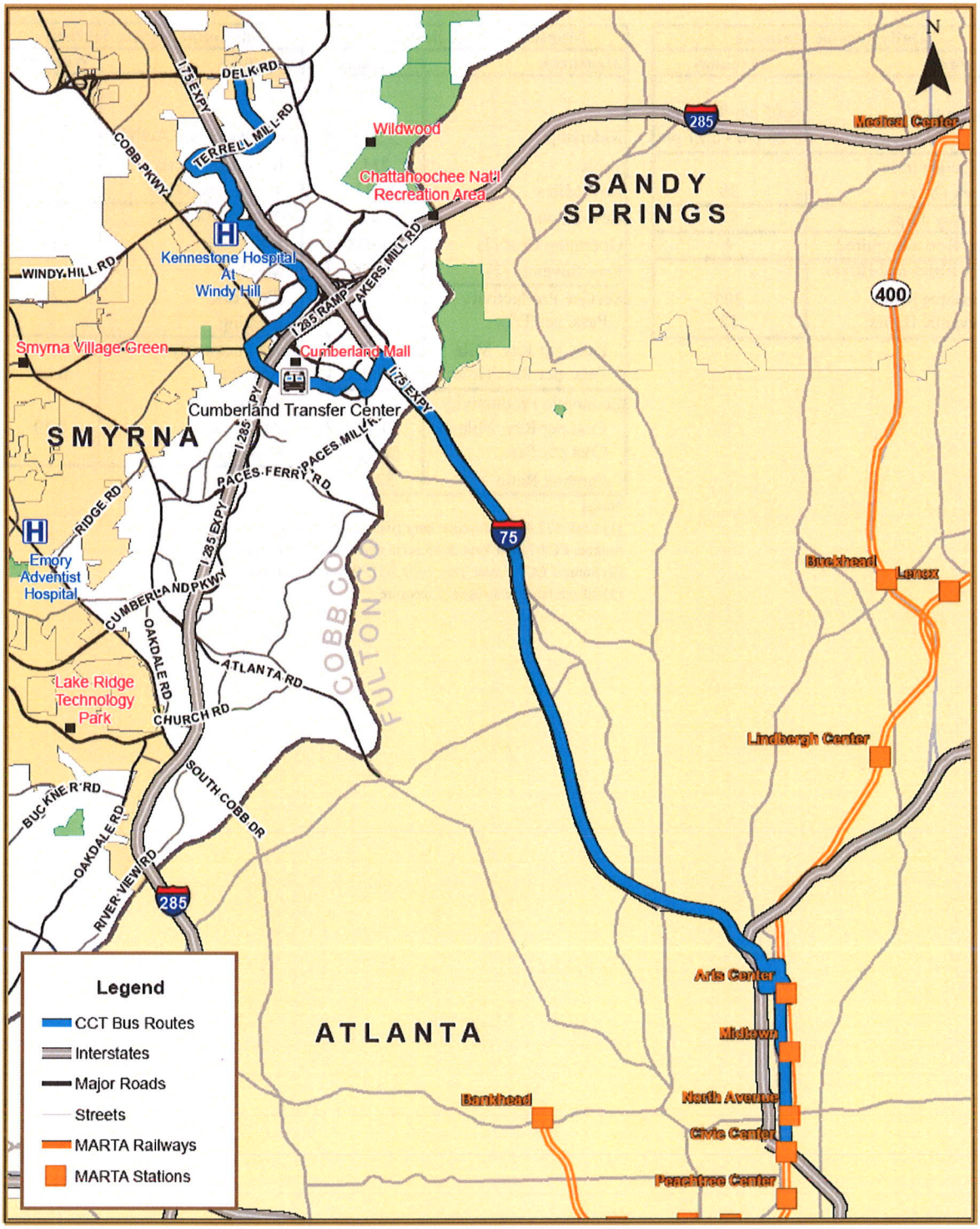
Daily Service Statistics	
Measures	**Weekday**
Service Hours	6:05 am-9:25 am; 3:26 pm - 6:21 pm
Frequency (min.)	
Peak Only	30
One-way Trips	11
Max. Buses Required	4
Daily Miles and Hours	
Revenue Miles	205
Revenue Hours	12

Monthly Service Statistics	
Measures	**Weekday**
Ridership	2,222
Trips	231
Rev. Miles	4,311
Rev. Hours	247
Operating Cost (1)	$18,038
Fare Revenue (2)	$1,046
Service Productivity	
Pass. per Trip	9.6
Pass. per Rev. Mile	0.5
Pass. per Rev. Hour	9.0
Economic Productivity	
Cost per Rev. Mile	$4.18
Cost per Pass.	$8.12
Farebox Ratio	5.8%

RideCount Service Statistics	
Measures	**Weekday**
Daily Ridership Activity	
Boardings (Ons)	139
Alightings (Offs)	139
Maximum Load	
AM Peak	27
Midday	-
PM Peak	20
Evening	-
Load Factors(3)	
AM Peak	0.68
Midday	-
PM Peak	0.50
Evening	-

Notes:
(1) Cost: $72.98 per revenue hour (includes fuel price increases)
Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate
(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate
(3) 40 available seats used as measure

Figure 3-57: Route 10A Map



CCT Route 10A

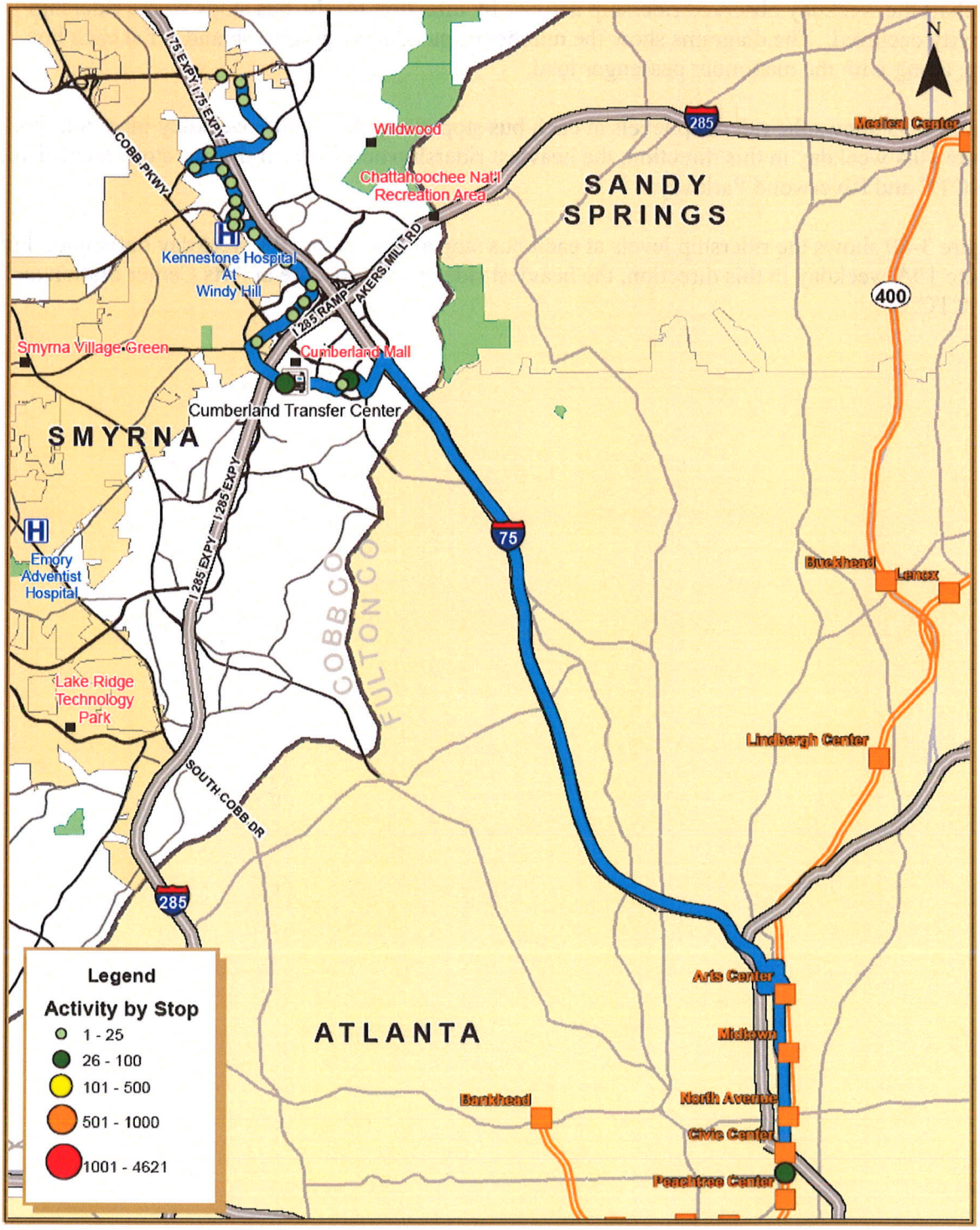
0 1 2 Miles

Figure 3-58 shows all boardings and alightings by stop on Route 10A. Figures 3-59 through 3-60 chart the weekday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-59 shows the ridership levels at each bus stop along Route 10A weekday inbound. For Route 10A weekday in this direction, the heaviest ridership activity is at the bus stops located at the CTC and Riverwood Parkway.

Figure 3-60 shows the ridership levels at each bus stop along Route 10A weekday outbound. For Route 10A weekday in this direction, the heaviest ridership counts are at Arts Center Station and the CTC.

Figure 3-58: Route 10A Ridership Activity by Stop



CCT Route 10A

0 1 2 Miles

Figure 3-59: Route 10A Weekday - Outbound Boardings and Alightings

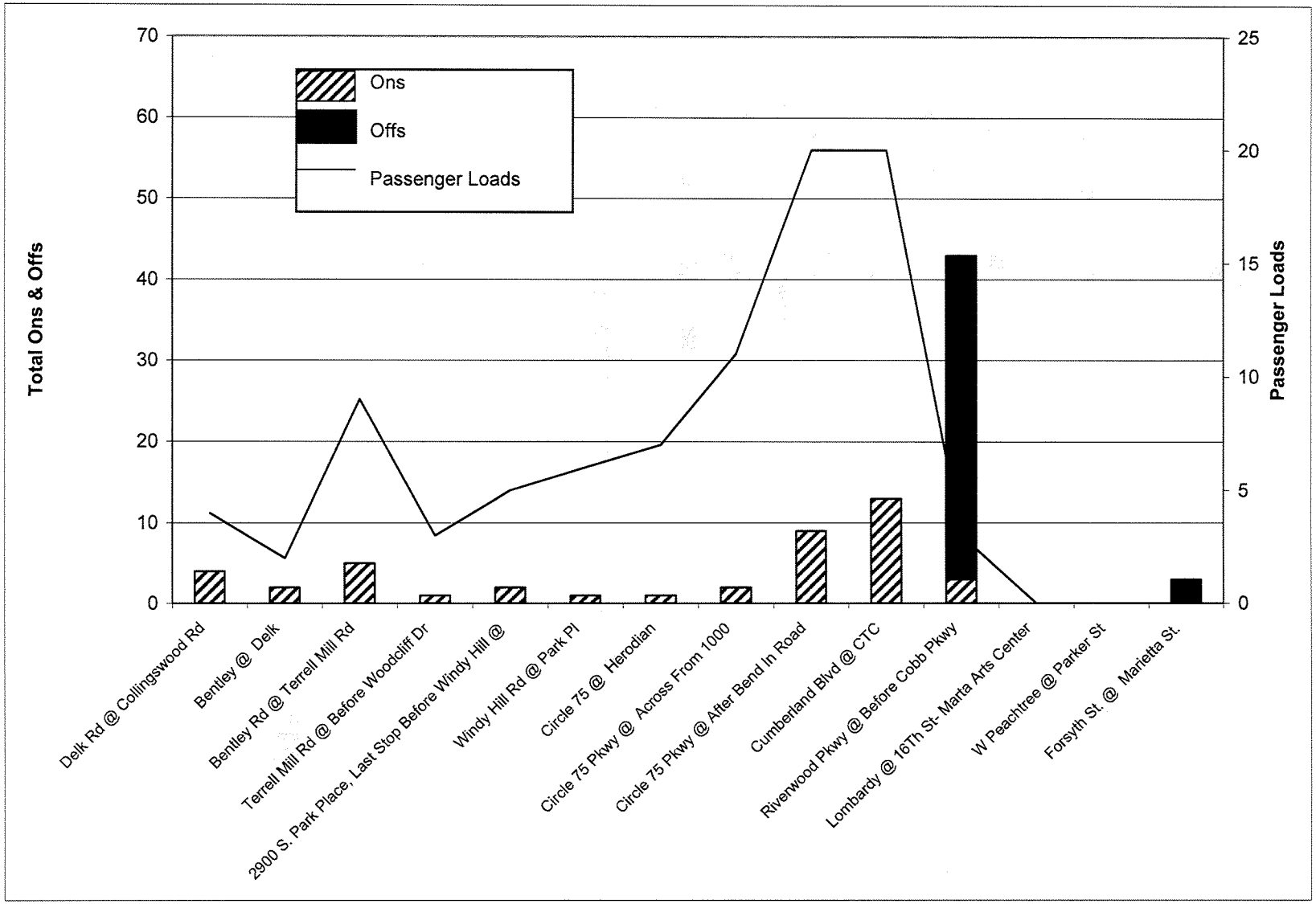
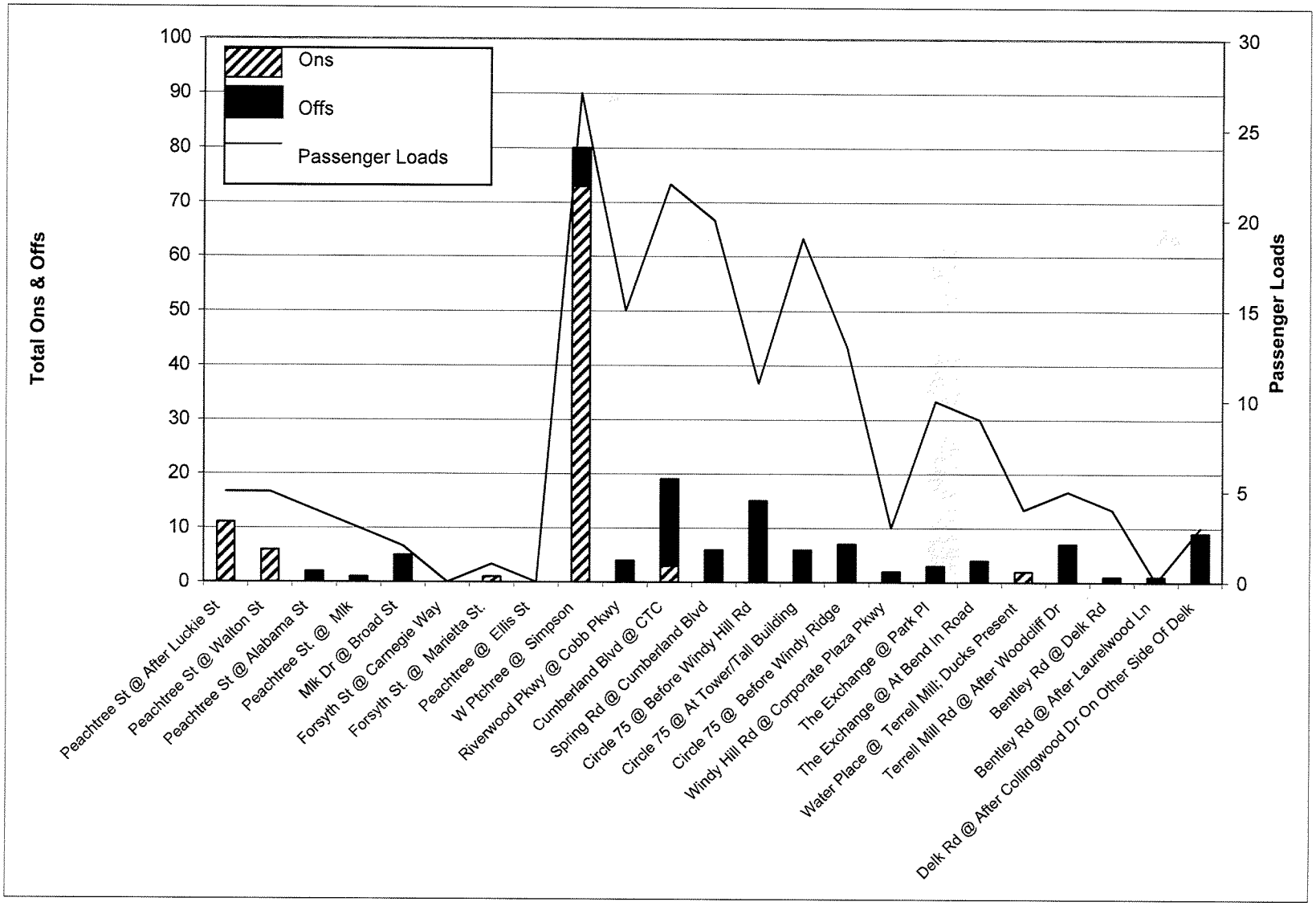


Figure 3-60: Route 10A Weekday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak and afternoon peak and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-49: Route 10A Weekday Inbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Civic Center Station	Arts Center Station	17	10	-7	No Afternoon Inbound Service		
Arts Center Station	CTC	21	22	1	No Afternoon Inbound Service		
CTC	Windy Hill Road / South Park Place	12	18	6	No Afternoon Inbound Service		
Windy Hill Road / South Park Place	Bentley Road / Delk Road	6	8	2	No Afternoon Inbound Service		

The segment with the largest discrepancy between scheduled runtime and observed runtime was between the CTC and Arts Center Station. This section of the route was observed to operate 7 minutes behind schedule for the morning peak period.

Table 3-50: Route 10A Weekday Outbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Bentley Road / Delk Road	Windy Hill Road / South Park Place	No Morning Outbound Service			10	8	-2
Windy Hill Road / South Park Place	CTC	No Morning Outbound Service			11	15	4
CTC	Arts Center Station	No Morning Outbound Service			37	30	-7
Arts Center Station	Civic Center Station	No Morning Outbound Service			12	8	-4
Civic Center Station	Peachtree St. / Luckie St.	No Morning Outbound Service			9	8	-1

As in the inbound direction, Route 10A inbound has a small discrepancy of 7 minutes between the CTC and Arts Center Station.

Observations:

1. Route 10A is the least active route in the CCT System with 139 weekday passengers.
2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the seven miles of the route in the City of Atlanta.

3. Route 10A tends to be significantly less active than the express pattern but fairly consistent in terms of ridership activity. There is direct transfer between Route 10A and the MARTA system at Arts Center, Civic Center, Peachtree Center, and Five Points MARTA Stations.

3.3.11 Route 10 B Peachtree St. via Arts Center

Route 10B provides the reverse peak-hour local service of Route 101 on weekdays only. This route operates from Atlanta to Windy Hill Road via the Cumberland Boulevard Transfer Center and Interstate North. Route 10B provides service to several important destinations, including:

- MARTA Peachtree Center Station
- MARTA Civic Center Station
- MARTA Arts Center Station
- Cumberland Transfer Center

Route 10B is depicted in Figure 3-61.

Table 3-51 lists service statistics for Route 10B and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 10B is tied with Routes 10C and 102 for the second lowest number of weekday daily revenue hours at 10. The weekday ridership of about 154 boardings is next to last of the CCT routes. Weekday ridership and load factor data are based on ride checks and f are revenue data is based on farebox counts of cash fares during the months of July, August, and September 2005.

The following are the key route performance results for Route 10B:

- Load factors during peak periods are well below the minimum standard: 0.40 in the a.m. and 0.33 in the p.m., compared to the standard of 0.75 to 1.25.
- The weekday productivity is about 11 passengers per revenue-hour.
- The monthly farebox recovery ratio is 7.0%, which is below CCT's minimum standard of 28%. Route 10B has a high percentage of transfers from the MARTA system, which accounts for the low farebox recovery.

Table 3-51: Route 10B Service, Ridership & Productivity Statistics

Daily Service Statistics	
Measures	**Weekday**
Service Hours	6:12 am-8:58 am; 3:30 pm - 6:51 pm
Frequency (min.)	
Peak Only	35
One-way Trips	8
Max. Buses Required	4
Daily Miles and Hours	
Revenue Miles	165
Revenue Hours	10

Monthly Service Statistics	
Measures	**Weekday**
Ridership	2,191
Trips	168
Rev. Miles	3,469
Rev. Hours	209
Operating Cost (1)	$15,219
Fare Revenue (2)	$1,072
Service Productivity	
Pass. per Trip	13.0
Pass. per Rev. Mile	0.6
Pass. per Rev. Hour	10.5
Economic Productivity	
Cost per Rev. Mile	$4.39
Cost per Pass.	$6.95
Farebox Ratio	7.0%

RideCount Service Statistics	
Measures	**Weekday**
Daily Ridership Activity	
Boardings (Ons)	154
Alightings (Offs)	154
Maximum Load	
AM Peak	16
Midday	-
PM Peak	13
Evening	-
Load Factors(3)	
AM Peak	0.40
Midday	-
PM Peak	0.33
Evening	-

Notes:
(1) Cost: $72.98 per revenue hour (includes fuel price increases)
Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate
(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate
(3) 40 available seats used as measure

Figure 3-61: Route 10B Map

CCT Route 10B

0 1 2 Miles

Figure 3-62 shows all boardings and alightings by stop on Route 10B. Figures 3-63 through 3-64 chart the weekday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-63 shows the ridership levels at each bus stop along Route 10B weekday outbound. For Route 10B weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC, Riverwood parkway at Cobb Parkway, and the Arts Center Station.

Figure 3-64 shows the ridership levels at each bus stop along Route 10B weekday inbound. For Route 10B weekday in this direction, the heaviest ridership counts are at the Five Points Station and West Peachtree Street at Parker Street.

Figure 3-62: Route 10B Ridership Activity by Stop

Figure 3-63: Route 10B Weekday - Outbound Boardings and Alightings

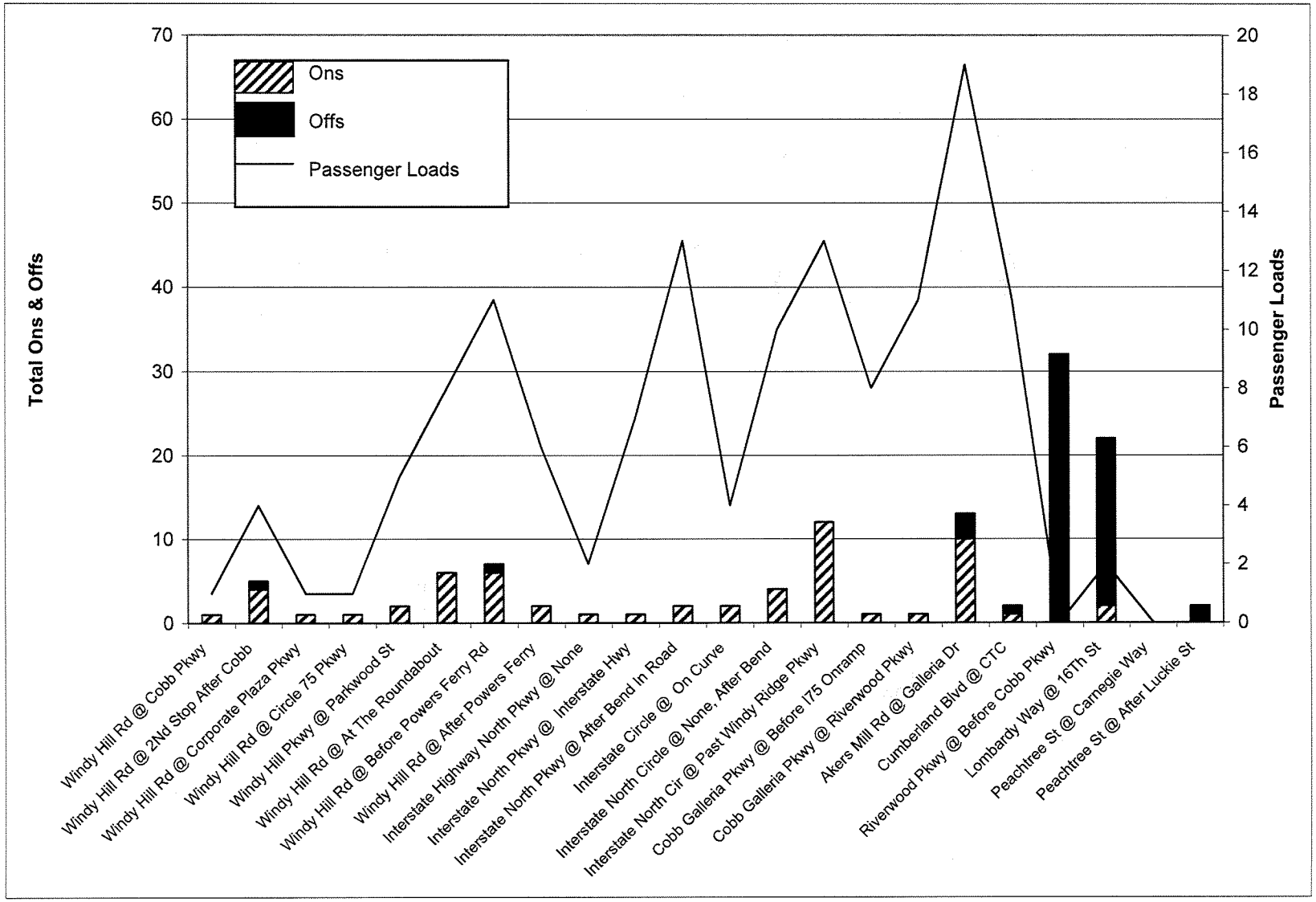
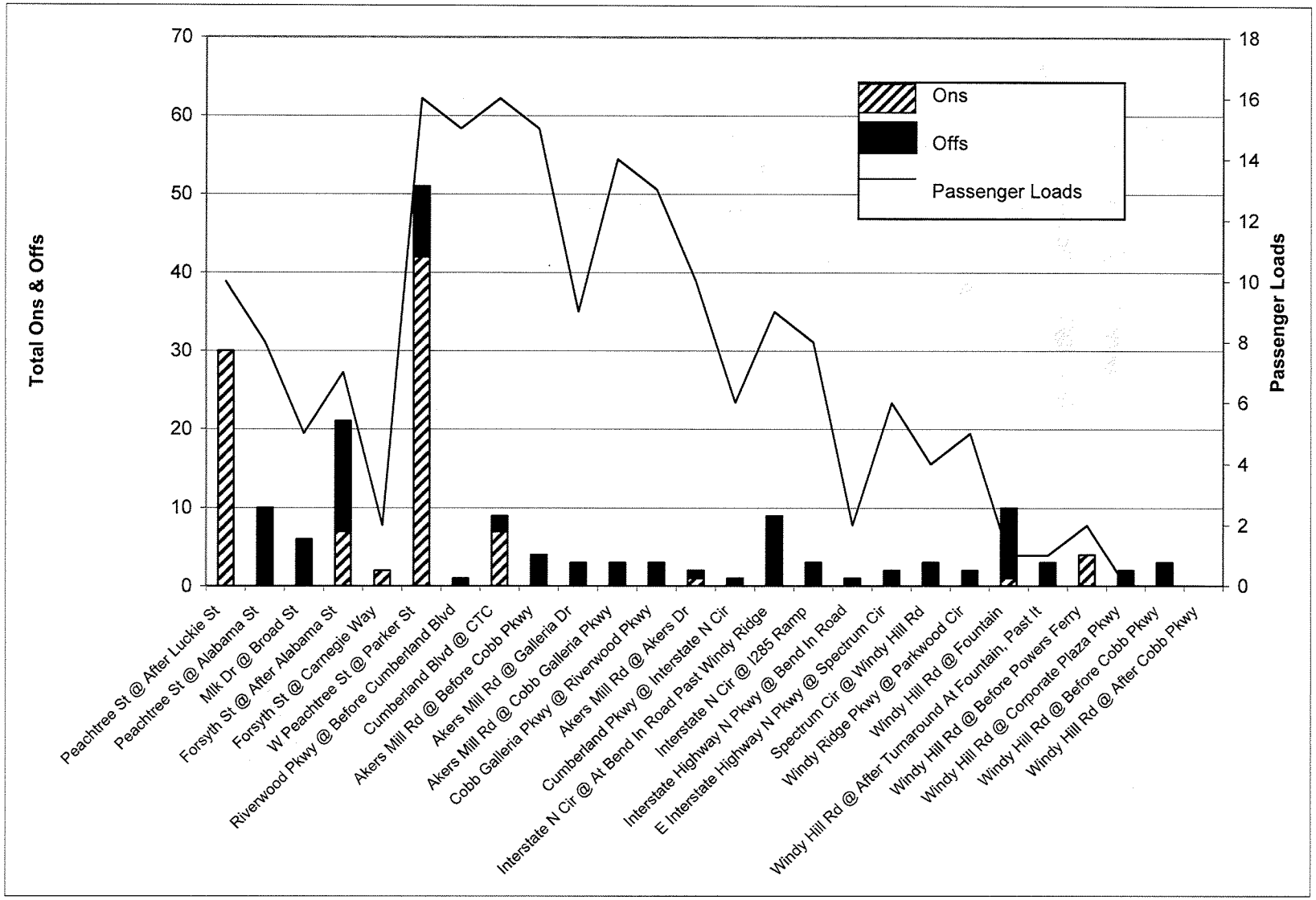


Figure 3-64: Route 10B Weekday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak and afternoon peak periods for weekday by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time. Route 101 is highlighted in yellow.

Table 3-52: Route 10B Weekday Inbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Civic Center Station	Arts Center Station	4	5	1	No Afternoon Inbound Service		
Arts Center Station	CTC	18	22	4	No Afternoon Inbound Service		
CTC	Interstate North Pkwy. / Marriott Hotel	18	11	-7	No Afternoon Inbound Service		
Interstate North Pkwy. / Marriott Hotel	Wildwood Pkwy.	7	10	3	No Afternoon Inbound Service		
Wildwood Pkwy.	Windy Hill Rd. / Cobb Pkwy.	11	10	-1	No Afternoon Inbound Service		

There is very little difference between scheduled and observed runtime except between the CTC and Marriott Hotel.

Table 3-53: Route 10B Weekday Outbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Windy Hill Road / Cobb Pkwy.	Wildwood Pkwy.	No Morning Outbound Service			11	13	2
Wildwood Pkwy.	Interstate North Pkwy. / Marriott Hotel	No Morning Outbound Service			11	12	1
Interstate North Pkwy. / Marriott Hotel	CTC	No Morning Outbound Service			20	16	-4
CTC	Arts Center Station	No Morning Outbound Service			20	20	0
Arts Center Station	Civic Center Station	No Morning Outbound Service			10	8	-2
Civic Center Station	Peachtree St. / Luckie St.	No Morning Outbound Service			9	9	0

There is very little difference between scheduled and observed runtime in the afternoon period.

Observations:

1. Route 10B is the second least active route in the CCT System with 154 weekday boardings.
2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the seven miles of the route in the City of Atlanta.

3. Route 10B tends to be significantly less active than the express pattern but fairly consistent in terms of ridership activity. There is direct transfer between Route 10B and the MARTA system at Arts Center, Civic Center, Peachtree Center, and Five Points MARTA Stations.

3.3.12 Route 10C Town Center and Arts Center

Route 10C provides the reverse peak-hour service of Route 102 on weekdays only. This route operates from Town Center to Marta Arts Center via the MTC and is depicted in Figure 3-65.

Table 3-54 lists service statistics for Route 10C and summarizes the ridership and productivity statistics. It has the second lowest weekday daily revenue hours of the CCT routes at 10, as do Routes 10B and 102. The weekday ridership of about 183 boardings ranks thirteenth of the fifteen CCT routes in the study.
The following are the key route performance results for Route 10C:

- Load factors during peak periods are just below the minimum standard: 0.65 in the a.m. and 0.68 in the p.m., compared to the standard of 0.75 to 1.25.
- The weekday productivity is about 18 passengers per revenue-hour.
- The monthly farebox recovery ratio is 6.5%, which is below CCT's minimum standard of 28%. Many of the riders on Route 10C utilize transfers and this explains the low farebox recovery.

Table 3-54: Route 10C Service, Ridership & Productivity Statistics

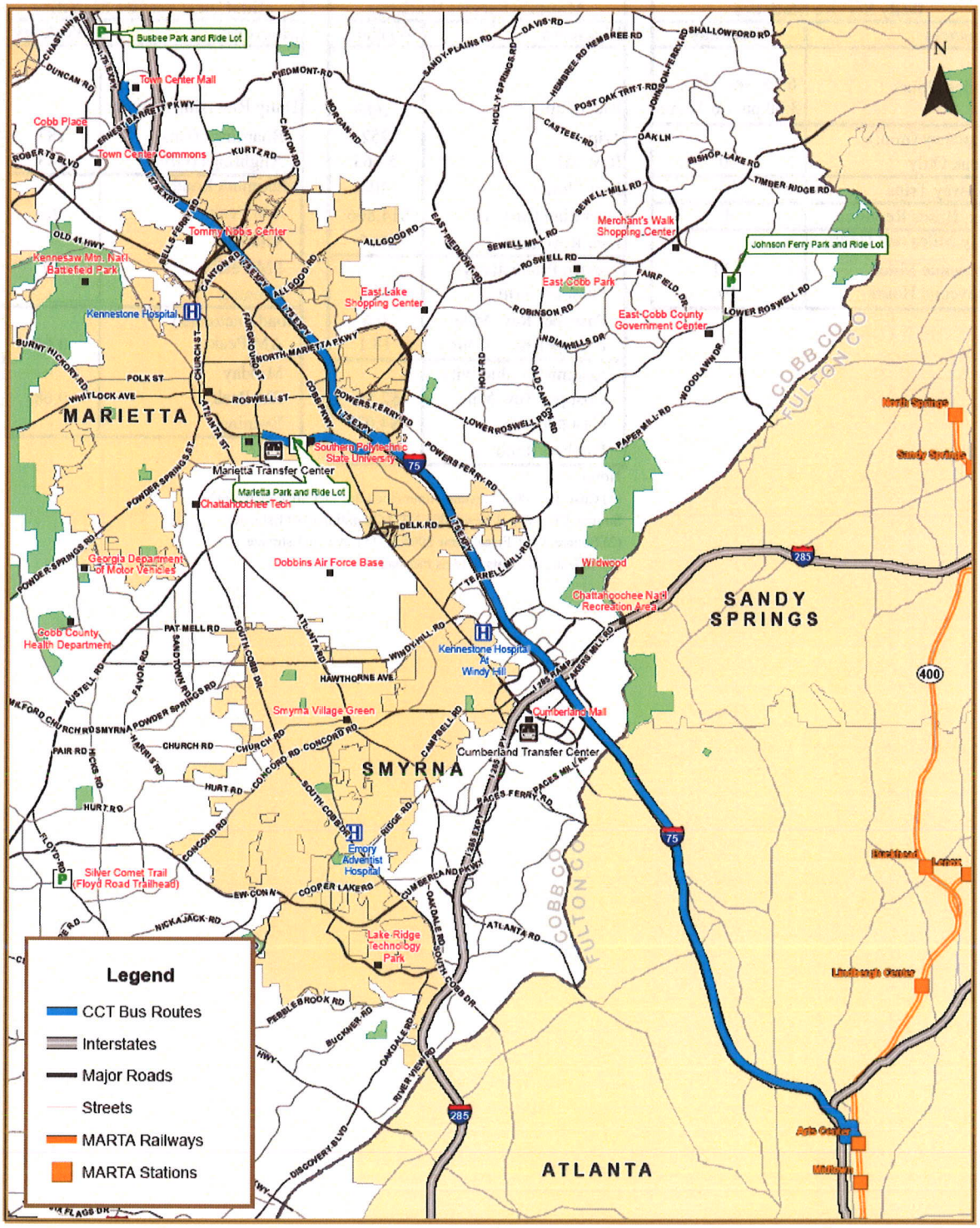
Daily Service Statistics	
Measures	**Weekday**
Service Hours	6:15 am-9:45 am; 3:00 pm - 6:10 pm
Frequency (min.)	
Peak Only	30
One-way Trips	12
Max. Buses Required	4
Daily Miles and Hours	
Revenue Miles	279
Revenue Hours	10

Monthly Service Statistics	
Measures	**Weekday**
Ridership	3,689
Trips	252
Rev. Miles	5,863
Rev. Hours	204
Operating Cost (1)	$14,866
Fare Revenue (2)	$967
Service Productivity	
Pass. per Trip	14.6
Pass. per Rev. Mile	0.6
Pass. per Rev. Hour	18.1
Economic Productivity	
Cost per Rev. Mile	$2.54
Cost per Pass.	$4.03
Farebox Ratio	6.5%

RideCount Service Statistics	
Measures	**Weekday**
Daily Ridership Activity	
Boardings (Ons)	183
Alightings (Offs)	183
Maximum Load	
AM Peak	26
Midday	-
PM Peak	27
Evening	-
Load Factors(3)	
AM Peak	0.65
Midday	-
PM Peak	0.68
Evening	-

Notes:
(1) Cost: $72.98 per revenue hour (includes fuel price increases)
Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate
(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate
(3) 40 available seats used as measure

Figure 3-65: Route 10C Map



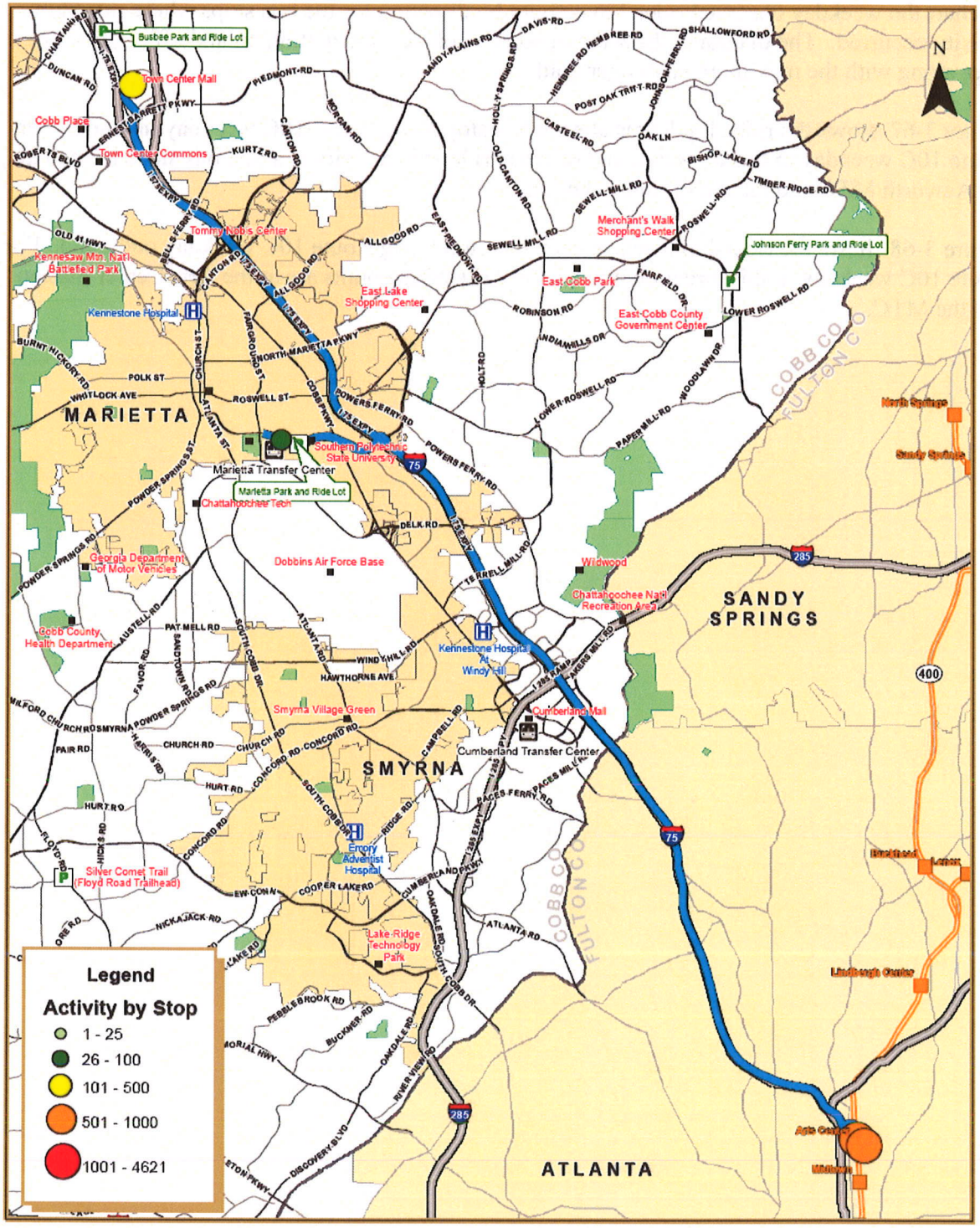
CCT Route 10C

Figure 3-66 shows all boardings and alightings by stop on Route 10C. Figures 3-67 through 3-68 chart the weekday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-67 shows the ridership levels at each bus stop along Route 10C weekday inbound. For Route 10C weekday in this direction, the heaviest ridership activity is at the bus stops located at the Acworth MTC and the Arts Center Station.

Figure 3-68 shows the ridership levels at each bus stop along Route 10C weekday outbound. For Route 10C weekday in this direction, the heaviest ridership counts are at the Arts Center Station and the MTC.

Figure 3-66: Route 10C Ridership by Route Segment



CCT Route 10C

Figure 3-67: Route 10C Weekday - Outbound Boardings and Alightings

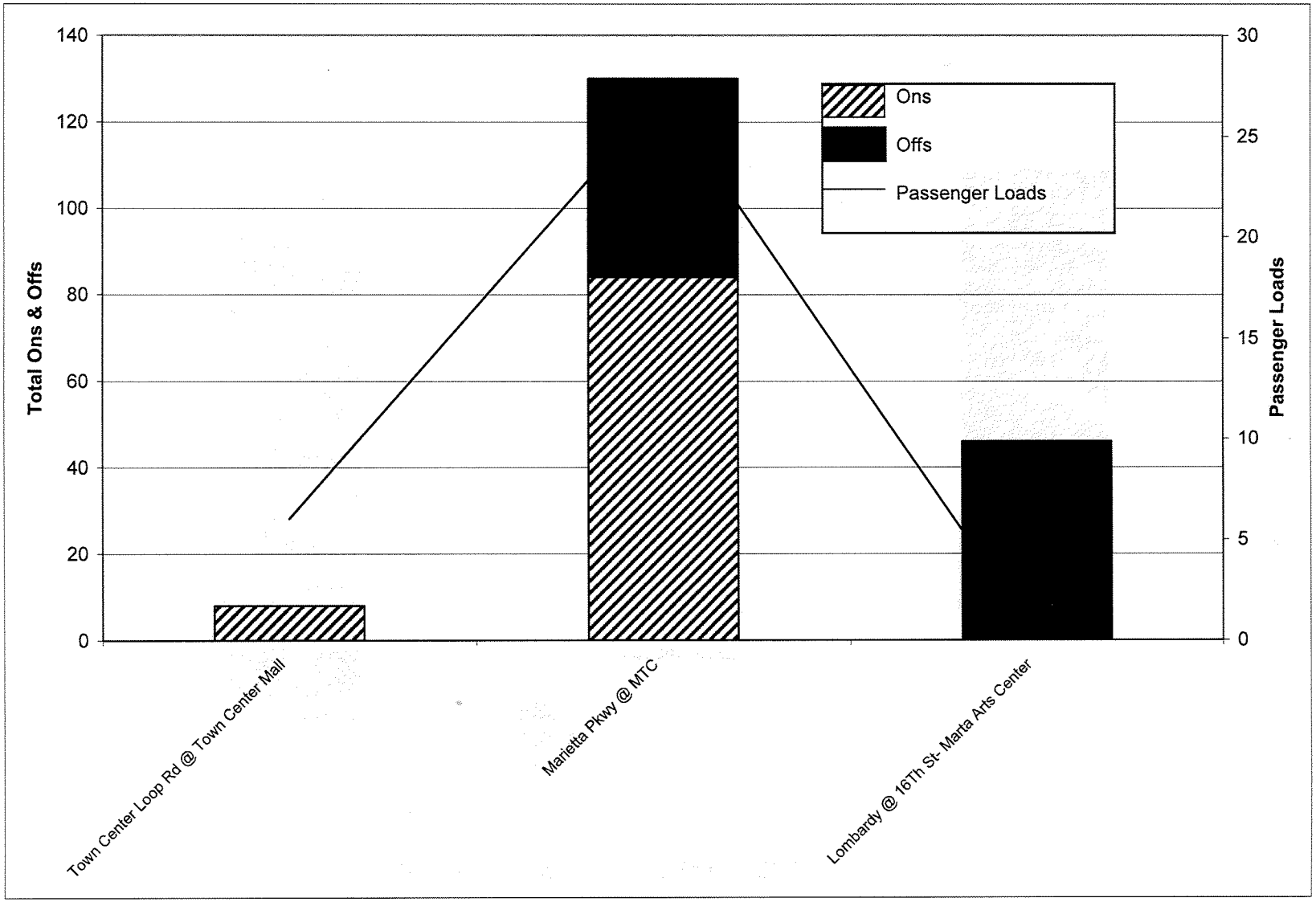
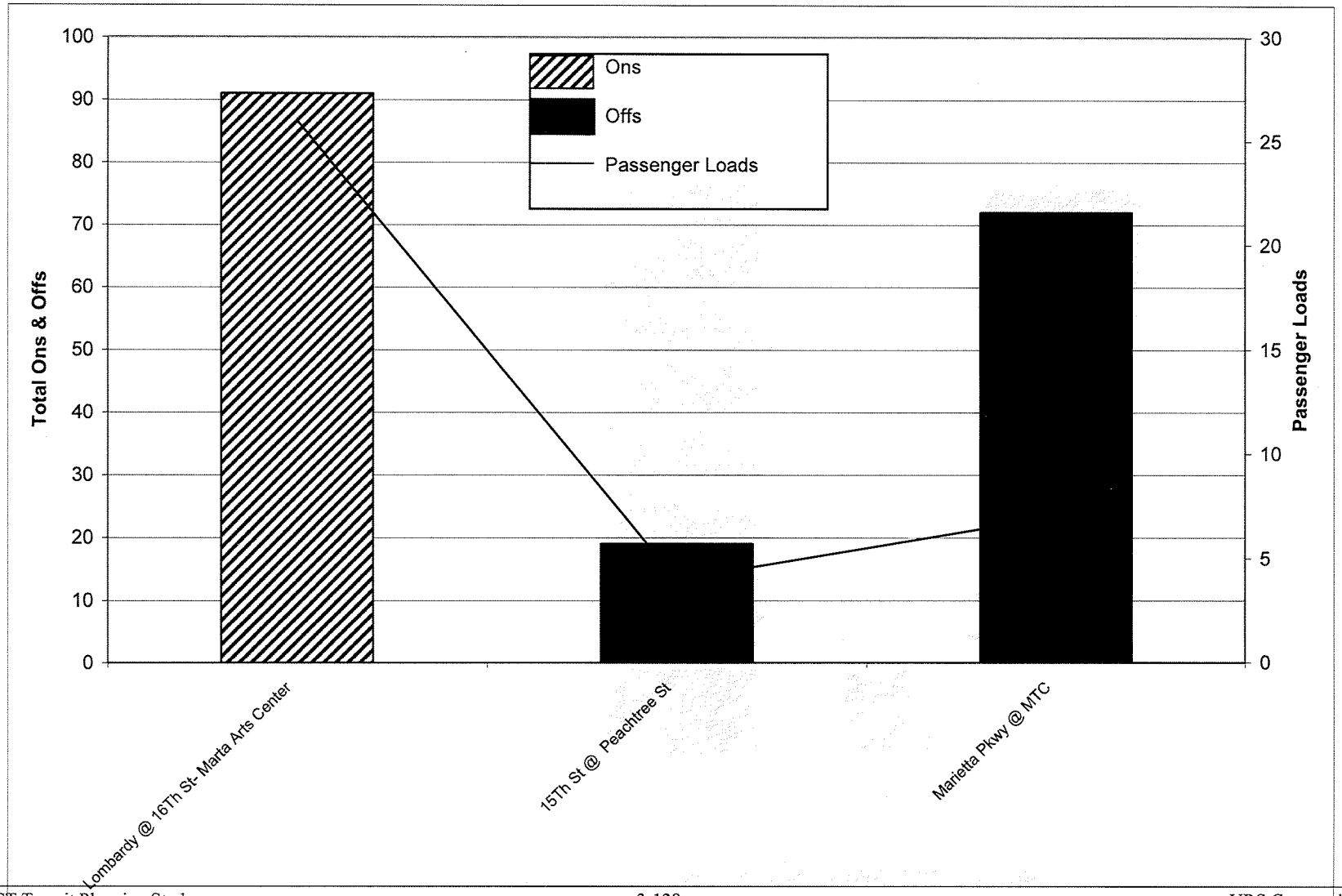


Figure 3-68: Route 10C Weekday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak and afternoon peak for the weekday by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-55: Route 10C Weekday Inbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Arts Center Station	MTC	37	25	-12	No Afternoon Inbound Service		
MTC	Town Center	28	30	2	No Afternoon Inbound Service		

The segment with the largest discrepancy between scheduled and observed runtime was between Arts Center Station and the MTC in the morning peak period.

Table 3-56: Route 10C Weekday Outbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Town Center	MTC	No Morning Outbound Service			23	25	2
MTC	Arts Center Station	No Morning Outbound Service			29	30	1

There is very little discrepancy between scheduled and observed runtime in the afternoon peak period.

Observations:

1. Route10C is the thirteenth most active route in the CCT System with 183 weekday passengers.

2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the seven miles of the route in the City of Atlanta.

3. Route 10C tends to be significantly less active than the complementary express pattern but fairly consistent in terms of ridership activity. There is direct transfer between Route 10C and the MARTA system at Arts Center MARTA Station.

3.4 Express Routes

CCT has five express routes from Cobb County to downtown Atlanta. Four have corresponding reverse commute routes that operate local service. The express routes are 100, 101, 102, 460, and 470. Routes 460 and 470 are operated by CCT for GRTA and are not included in this study.

3.4.1 Route 100 North Cobb Express

Route 100 operates weekday express, peak-hour service from Busbee Park and Ride Lot in Kennesaw near Town Center Mall to Atlanta via Interstate 75 (peak periods only, Monday - Friday).

Route 100 is depicted in Figure 3-69.

Table 3-57 lists service statistics for Routes 100 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 100 has the tenth highest weekday daily revenue hours at 17. The weekday ridership of 665 boardings is the sixth highest of the CCT routes. Weekday ridership and load factor data are based on ride checks and fare revenue data is based on farebox counts of cash fares during the months of July, August, and September 2005.

The following are the key route performance results for Route 100:

- The peak period load factors are 0.91 in the a.m. and 1.16 in the p.m. The p.m. peak period load factor exceeds the express route maximum standard of 1.0. Passengers should be seated on express routes due to the longer distances express routes tend to travel. The p.m. peak situation should be monitored to avoid overcrowding and customer service complaints.
- The maximum load for the a.m. peak period is 40 passengers and the p.m. peak is 51 passengers. The p.m. peak period maximum load exceeds the standard for express routes.
- The weekday productivity is about 46 passengers per revenue-hour.
- The monthly farebox recovery ratio is 90.7%, which is significantly higher than CCT's standard of 35%.

Table 3-57: Route 100 Service, Ridership & Productivity Statistics

Daily Service Statistics	
Measures	**Weekday**
Service Hours	5:25 am-8:45 am; 3:35 pm-7:25 pm
Frequency (min.)	
Peak Only	15
One-way Trips	22
Max. Buses Required	8
Daily Miles and Hours	
Revenue Miles	548
Revenue Hours	17

Monthly Service Statistics	
Measures	**Weekday**
Ridership	16,562
Trips	462
Rev. Miles	11,504
Rev. Hours	363
Operating Cost (1)	$26,514
Fare Revenue (2)	$24,042
Service Productivity	
Pass. per Trip	35.8
Pass. per Rev. Mile	1.4
Pass. per Rev. Hour	45.6
Economic Productivity	
Cost per Rev. Mile	$2.30
Cost per Pass.	$1.60
Farebox Ratio	90.7%

RideCount Service Statistics	
Measures	**Weekday**
Daily Ridership Activity	
Boardings (Ons)	665
Alightings (Offs)	665
Maximum Load	
AM Peak	40
Midday	-
PM Peak	51
Evening	-
Load Factors(3)	
AM Peak	0.91
Midday	-
PM Peak	1.16
Evening	-

Notes:

(1) Cost: $72.98 per revenue hour (includes fuel price increases)

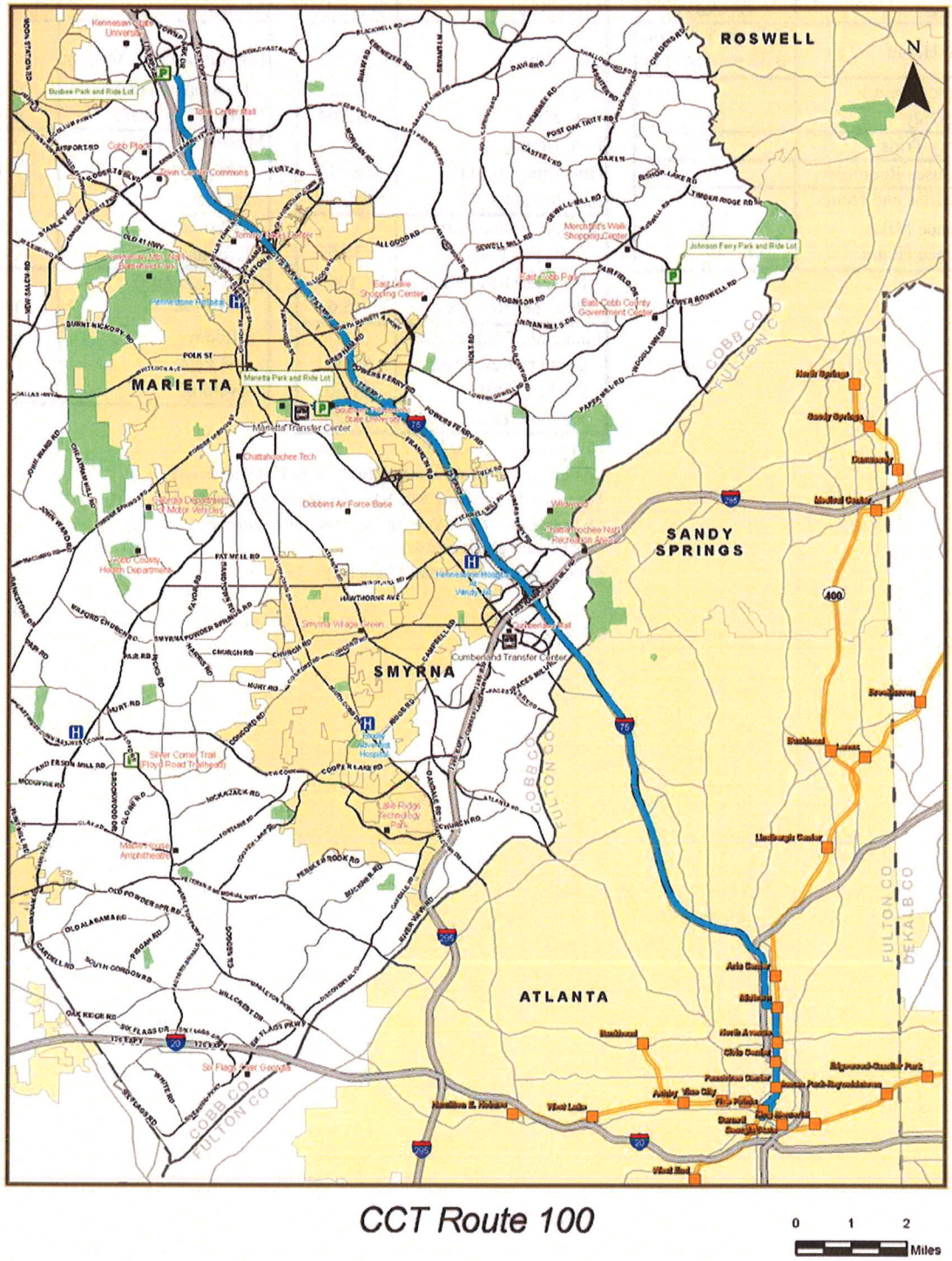
Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 44 available seats used as measure

(selected express trips utilize 57 seat bus)

Figure 3-69: Route 100 Map



CCT Route 100

Figure 3-70 shows all boardings and alightings by stop on Route 100. Figures 3-71 through 3-72 chart the weekday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-71 shows the ridership levels at each bus stop along Route 100 weekday outbound. For Route 100 weekday in this direction, the heaviest ridership activity is at the bus stops located at the Busbee Park and Ride lot, West Peachtree Street at Parker Street, and the Arts Center Station.

Figure 3-72 shows the ridership levels at each bus stop along Route 100 weekday inbound. For Route 100 weekday in this direction, the heaviest ridership counts are at West Peachtree Street at Parker Street, 10th Street at Spring Street, and the Busbee Park and Ride lot.

Figure 3-70: Route 100 Ridership Activity by Stop

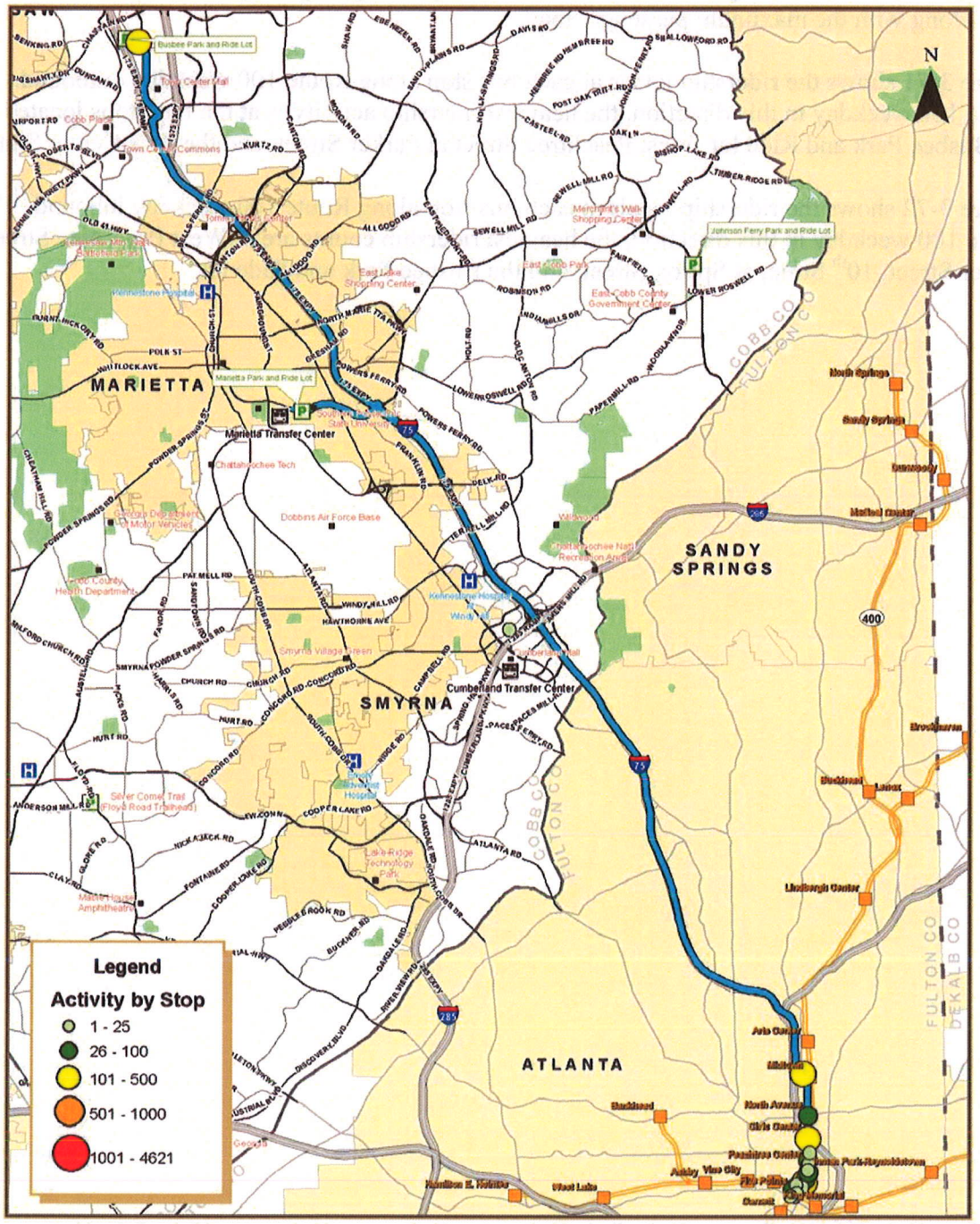


Figure 3-71: Route 100 Weekday - Outbound Boardings and Alightings

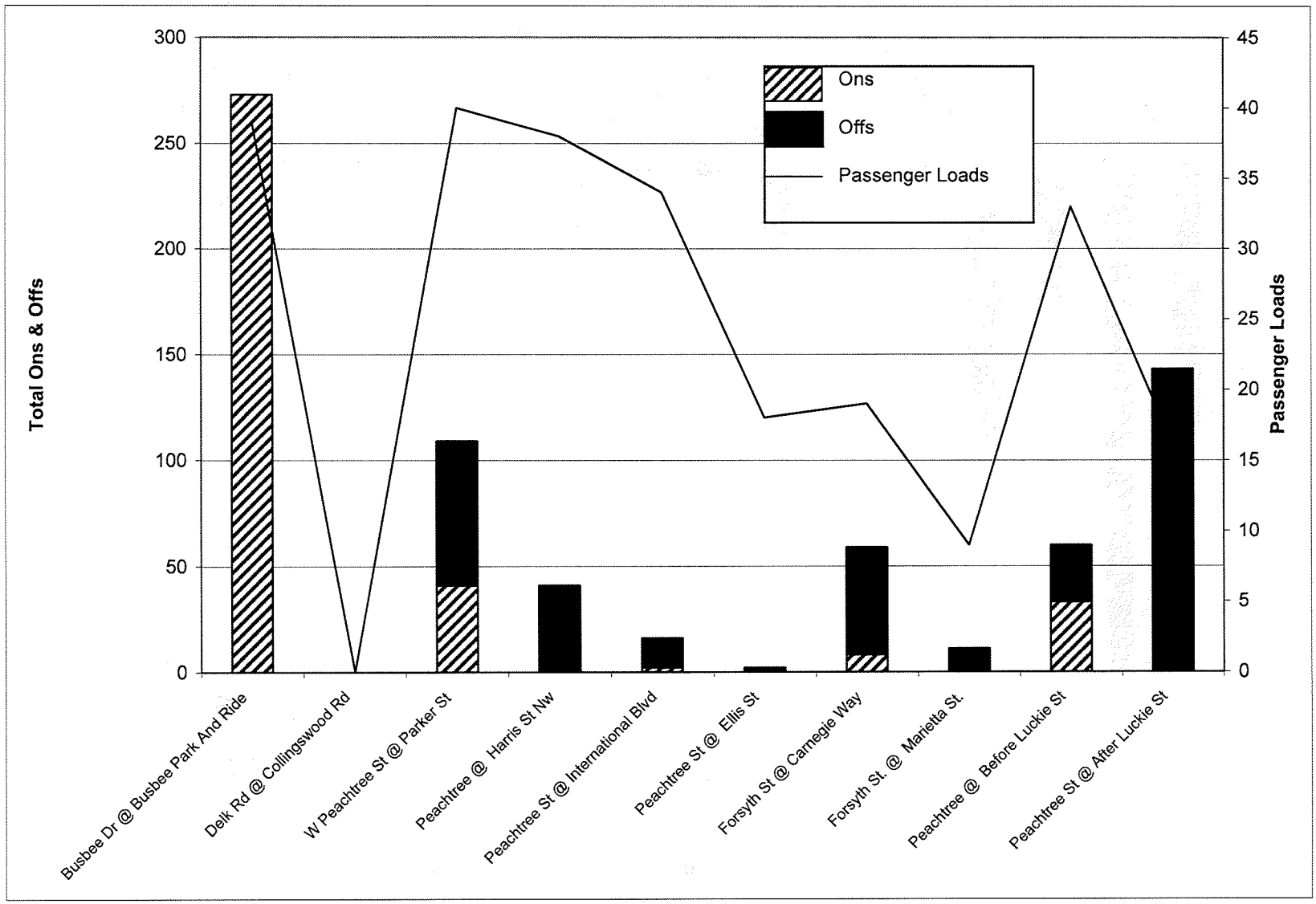
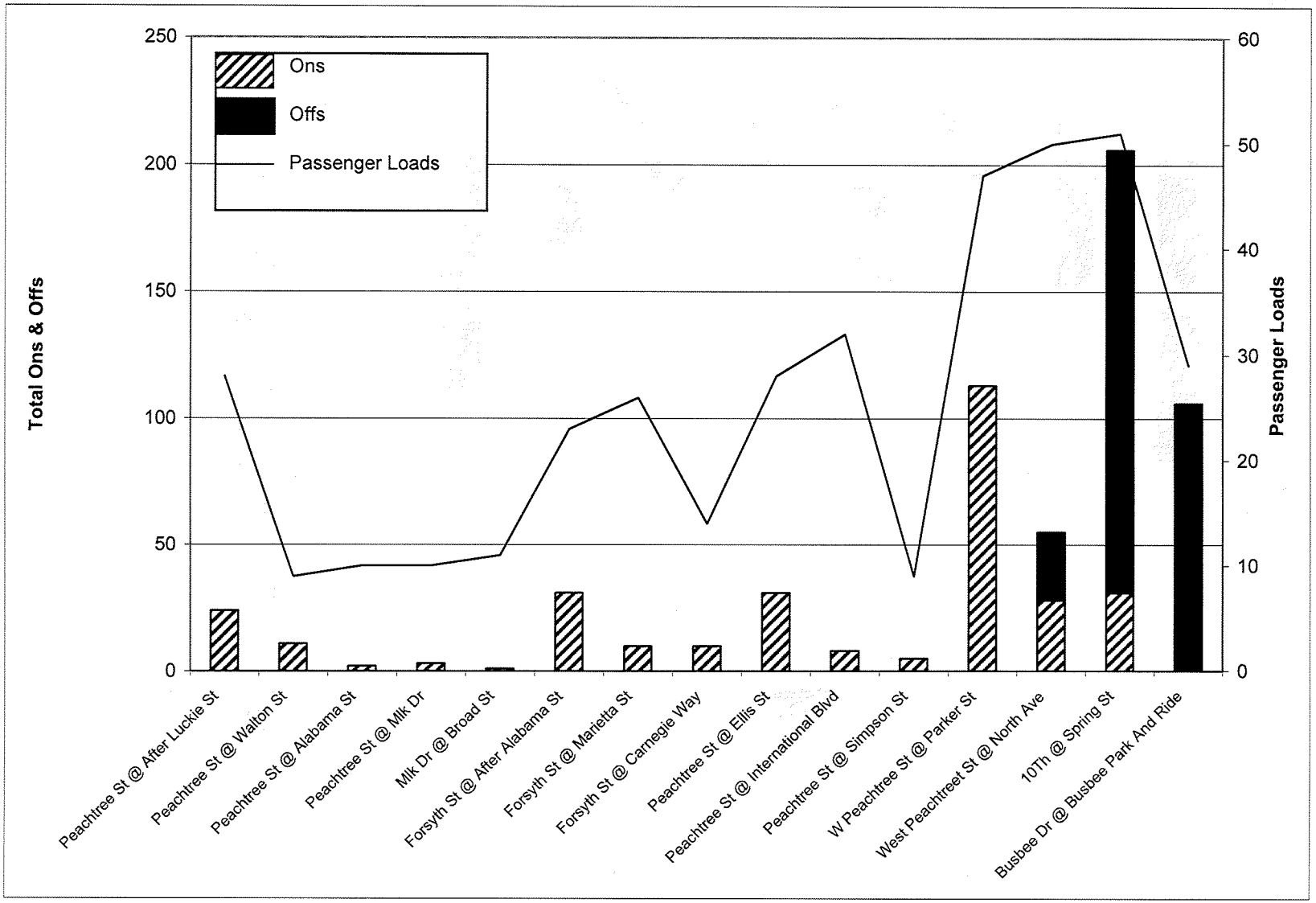


Figure 3-72: Route 100 Weekday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak and afternoon peak periods and by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-58: Route 100 Weekday Outbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Busbee Park & Ride	Civic Center Station	39	28	-11	No Afternoon Outbound Service		
Civic Center Station	Peachtree St. / Luckie St.	9	5	-4	No Afternoon Outbound Service		

The segment with the largest discrepancy between scheduled runtime and observed runtime was between Busbee Park and Ride and the Civic Center Station on Route 100. This section of the route was observed to operate 11 minutes behind schedule for the morning peak period.

Table 3-59: Route 100 Weekday Inbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Peachtree St. / Luckie St.	Civic Center Station	No Morning Inbound Service			4	10	6
Civic Center Station	Busbee Park & Ride	No Morning Inbound Service			42	40	-2

Overall, Route 100/10A inbound have little discrepancy between observed and scheduled runtime.

Observations:

1. Route100 is the sixth most active route in the CCT System with 655 Weekday passengers and it ties the Busbee Park and Ride Lot to Civic Center, Peachtree Center, and Five Points MARTA Stations via mostly I-75 for the express direct southbound direction.

2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the seven miles of the route in the City of Atlanta.

3. The load factors tend to be very high on Express Route 100.

4. The farebox recovery on Route 100 is extremely high at 90.7%.

3.4.2 Route 101 Marietta Express

Route 101 operates weekday express, peak-hour service from a park and ride lot at the Marietta Transfer Center to Atlanta via Interstate 75 (peak periods only, Monday - Friday). Route 101 is depicted in Figure 3-73. The route proceeds from the Marietta Transfer Center via South Marietta Parkway and I-75 to the MARTA Civic Center Station. It then operates via Peachtree Street to the MARTA Five Points Station.

Table 3-60 lists service statistics for Route 101 and summarizes the ridership and productivity statistics. The data are grouped in three sections, corresponding to the three major factors of the CCT service standards. Route 101 has the lowest number of weekday daily revenue hours among the CCT routes at 8. The weekday ridership of about 221 boardings is eleventh highest of the CCT routes. Weekday ridership and load factor data are based on ride checks and f are revenue data is based on farebox counts of cash fares during the months of July, August, and September 2005.

The following are the key route performance results for Route 101:

- Load factors during peak periods are just below the minimum standard: 0.64 in the a.m. and 0.59 in the p.m., compared to the standard of 0.75 to 1.25.
- The weekday productivity is about 34 passengers per revenue-hour.
- The monthly farebox recovery ratio is almost 60%, which greatly exceeds CCT's standard of 35%.

Table 3-60: Route 101 Service, Ridership & Productivity Statistics

Daily Service Statistics	
Measures	**Weekday**
Service Hours	6:10 am-8:33 am; 4:06 pm-7:09 pm
Frequency (min.)	
Peak Only	30
One-way Trips	11
Max. Buses Required	5
Daily Miles and Hours	
Revenue Miles	206
Revenue Hours	8

Monthly Service Statistics	
Measures	**Weekday**
Ridership	5,554
Trips	231
Rev. Miles	4,322
Rev. Hours	164
Operating Cost (1)	$11,969
Fare Revenue (2)	$7,140
Service Productivity	
Pass. per Trip	24.0
Pass. per Rev. Mile	1.3
Pass. per Rev. Hour	33.9
Economic Productivity	
Cost per Rev. Mile	$2.77
Cost per Pass.	$2.16
Farebox Ratio	59.7%

RideCount Service Statistics	
Measures	**Weekday**
Daily Ridership Activity	
Boardings (Ons)	221
Alightings (Offs)	221
Maximum Load	
AM Peak	28
Midday	-
PM Peak	26
Evening	-
Load Factors(3)	
AM Peak	0.64
Midday	-
PM Peak	0.59
Evening	-

Notes:

(1) Cost: $72.98 per revenue hour (includes fuel price increases)

Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 44 available seats used as measure

(selected express trips utilize 57 seat bus)

Figure 3-73: Route 101 Map

CCT Route 101

0 1 2 Miles

Figure 3-74 shows all boardings and alightings by stop on Route 101. Figures 3-74 through 3-75 chart the weekday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-75 shows the ridership levels at each bus stop along Route 101 weekday outbound. For Route 101 weekday in this direction, the heaviest ridership activity is at the bus stops located at the MTC and the Five Points Station.

Figure 3-76 shows the ridership levels at each bus stop along Route 101 weekday inbound. For Route 101 weekday in this direction, the heaviest ridership counts are at the Five Points Station, West Peachtree Street at Parker Street, 10th Street at Spring Street, and the MTC.

Figure 3-74: Route 101 Ridership Activity by Stop

CCT Route 101

Figure 3-75: Route 101 Weekday - Outbound Boardings and Alightings

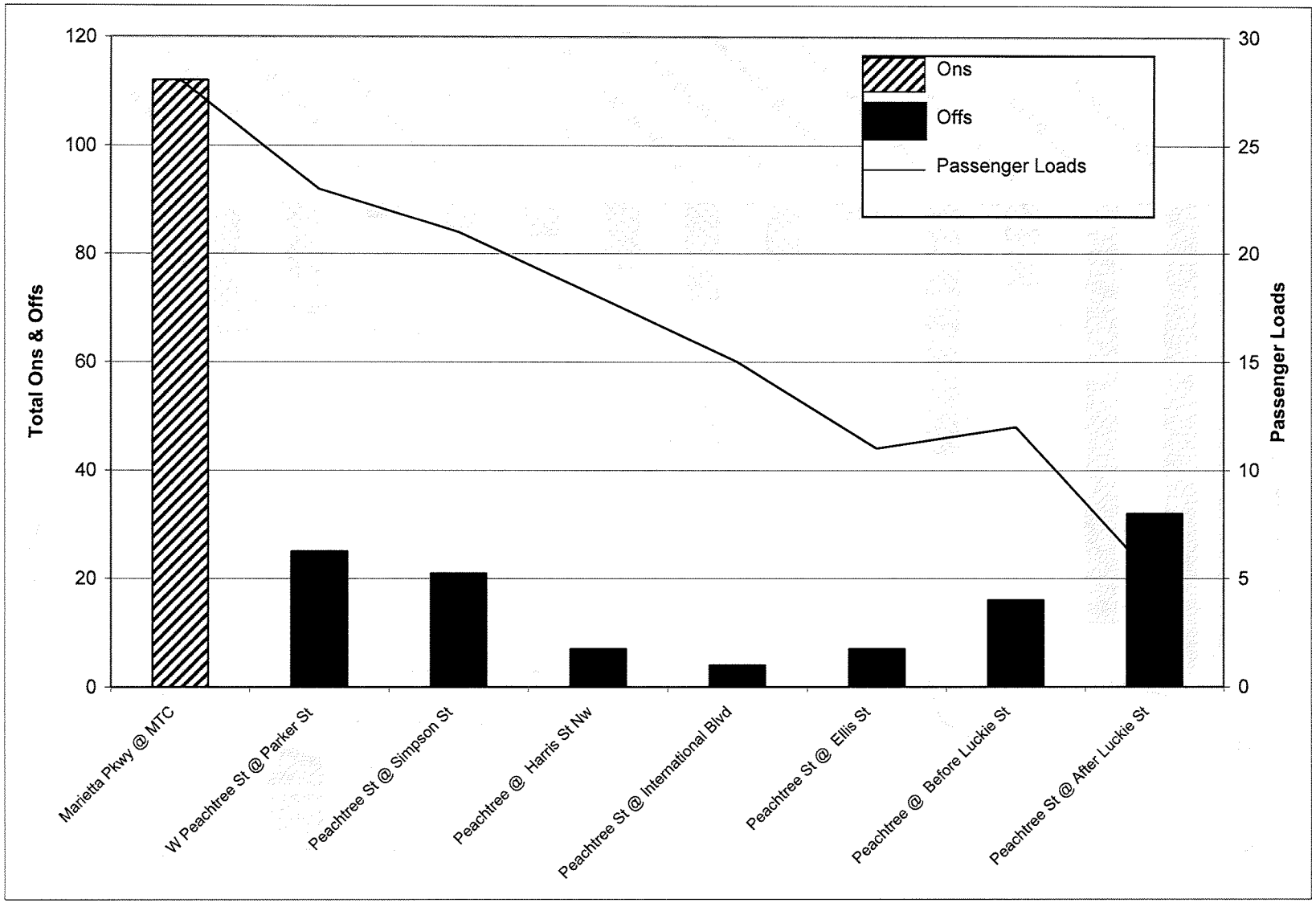
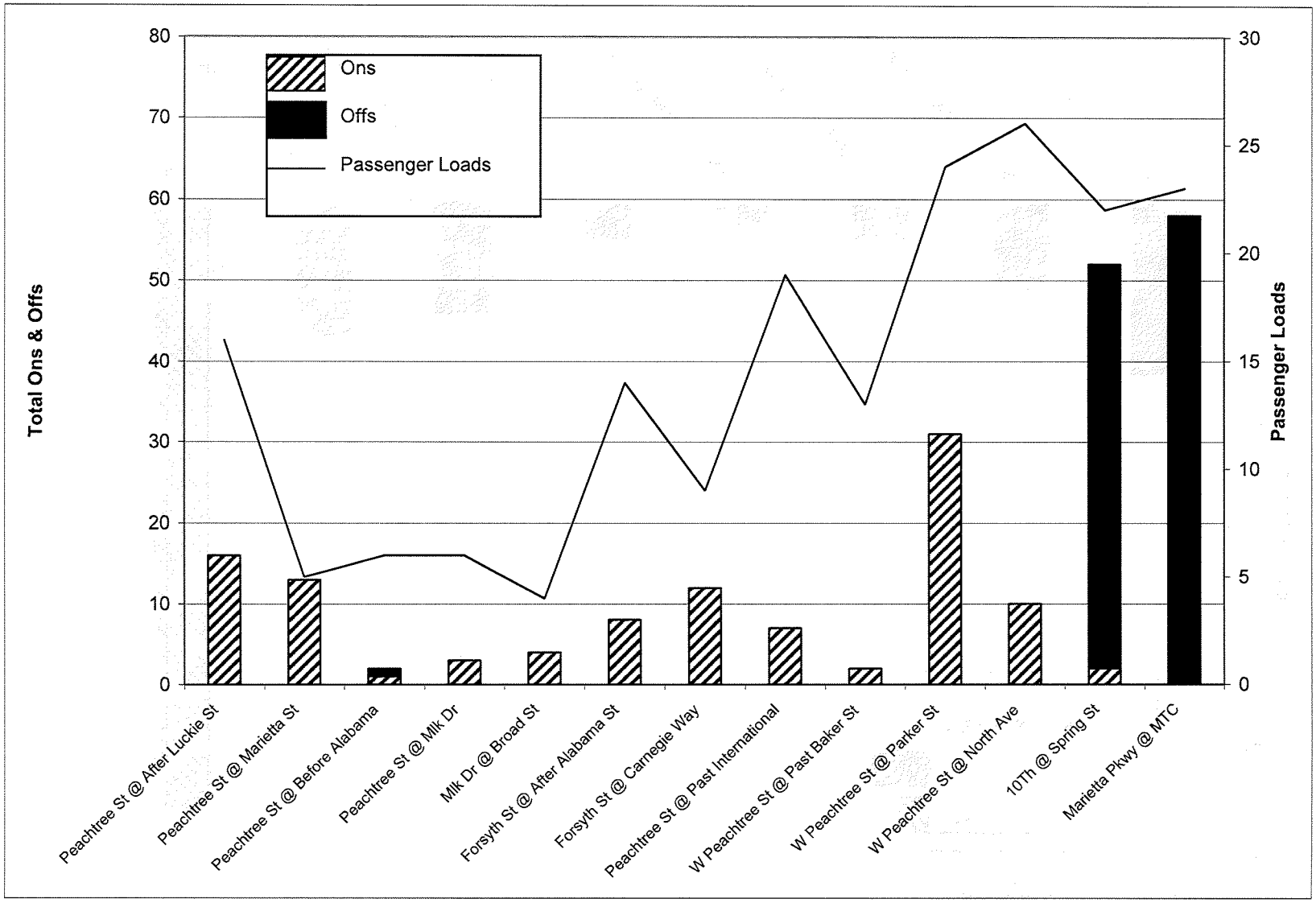


Figure 3-76: Route 101 Weekday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak and afternoon peak periods for weekday by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-61: Route 101 Weekday Outbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
MTC	Civic Center Station	31	28	-3	No Afternoon Outbound Service		
Civic Center Station	Peachtree St. / Luckie St.	7	5	-2	No Afternoon Outbound Service		

There was very little difference between scheduled and observed runtime.

Table 3-62: Route 101 Weekday Inbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Peachtree St. / Luckie St.	Civic Center Station	No Morning Inbound Service			5	15	10
Civic Center Station	MTC	No Morning Inbound Service			35	30	-5

In the afternoon peak period, the segment with the largest discrepancy between scheduled and observed runtime was between Peachtree/Luckie Street and the Civic Center Station.

Observations:

1. Route101 is the eleventh most active route in the CCT System with 221 weekday passengers and it ties the MTC Park and Ride Lot to Civic Center, Peachtree Center, and Five Points MARTA Stations.

2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the seven miles of the route in the City of Atlanta.

3. Ridership boarding and alighting activity is not very consistent over the express route pattern but tends to concentrate in the end of the line stops and the stops along the Peachtree Street corridor. There is direct transfer between Route 101 and the MARTA system at North Avenue, Civic Center, Peachtree Center, and Five Points MARTA Stations.

4. The farebox recovery on Route 101 is very strong at almost 60%.

3.4.3 Route 102 Acworth Park and Ride Express

Route 102 is depicted in Figure 3-77. Route 102 provides non-stop service between the Acworth Park and Ride Lot and MARTA Arts Center Station.

Table 3-63 lists service statistics for Route 102 and summarizes the ridership and productivity statistics. Along with Routes 10B and 10C, Route 102 has the second lowest weekday daily revenue hours among the CCT routes at 10. The weekday ridership of about 187 boardings is twelfth highest of the CCT routes.
The following are the key route performance results for Route 102:

- Load factors during peak periods are just below the minimum standard: 0.55 in the a.m. and 0.43 in the p.m., compared to the standard of 0.75 to 1.25.
- The weekday productivity is about 22 passengers per revenue-hour.
- The monthly farebox recovery ratio is 28.3%, which exceeds CCT's minimum standard of 28%.

Table 3-63: Route 102 Service, Ridership & Productivity Statistics

Daily Service Statistics	
Measures	**Weekday**
Service Hours	5:30 am-8:50 am; 3:30 pm-7:05 pm
Frequency (min.)	
Peak Only	30
One-way Trips	12
Max. Buses Required	4
Daily Miles and Hours	
Revenue Miles	340
Revenue Hours	10

Monthly Service Statistics	
Measures	**Weekday**
Ridership	4,716
Trips	252
Rev. Miles	7,132
Rev. Hours	217
Operating Cost (1)	$15,832
Fare Revenue (2)	$4,484
Service Productivity	
Pass. per Trip	18.7
Pass. per Rev. Mile	0.7
Pass. per Rev. Hour	21.7
Economic Productivity	
Cost per Rev. Mile	$2.22
Cost per Pass.	$3.36
Farebox Ratio	28.3%

RideCount Service Statistics	
Measures	**Weekday**
Daily Ridership Activity	
Boardings (Ons)	187
Alightings (Offs)	187
Maximum Load	
AM Peak	24
Midday	-
PM Peak	19
Evening	-
Load Factors(3)	
AM Peak	0.55
Midday	-
PM Peak	0.43
Evening	-

Notes:

(1) Cost: $72.98 per revenue hour (includes fuel price increases)

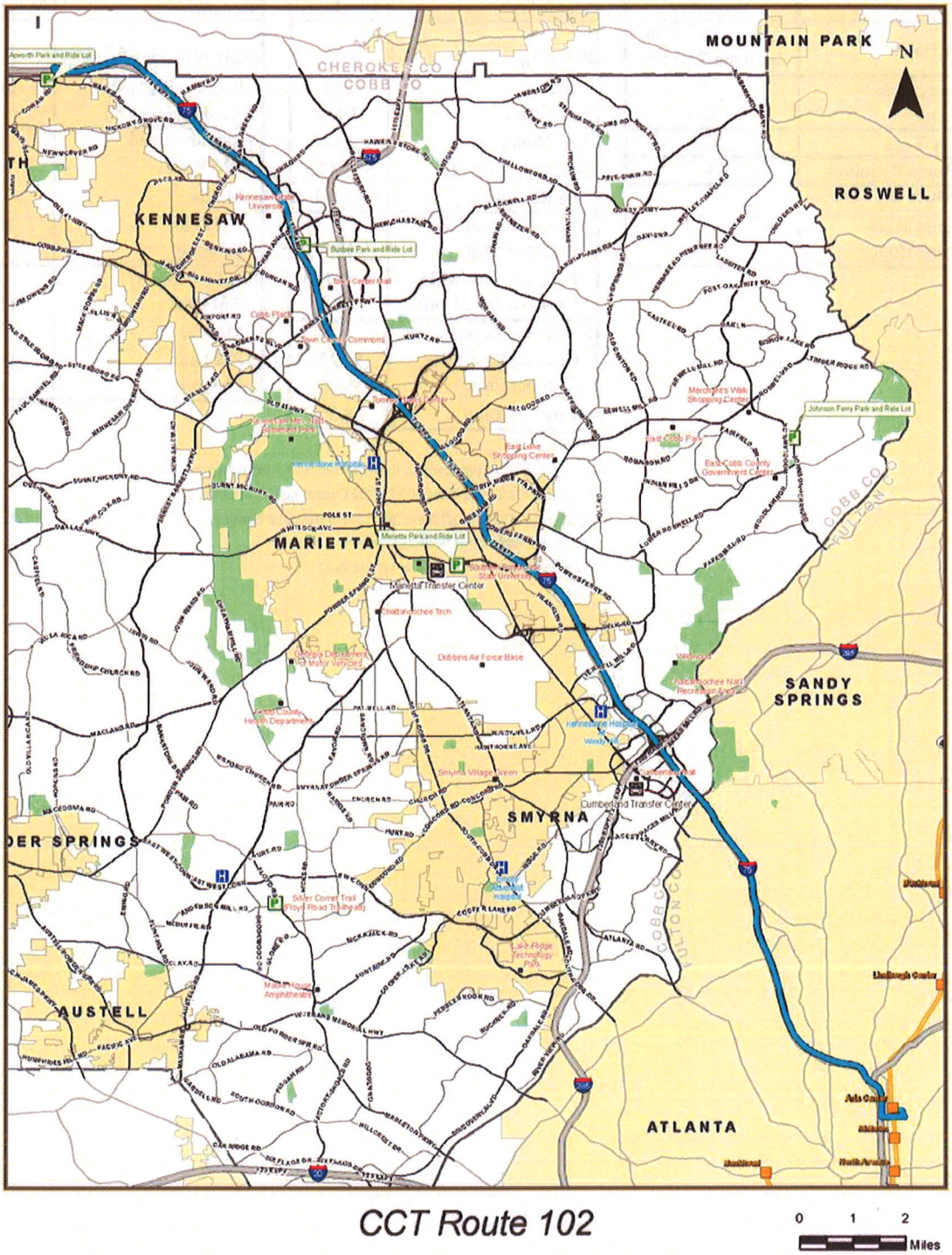
Source: CCT Fiscal Year 2005 NTD Operating Cost Estimate

(2) Source: CCT Fiscal Year 2005 NTD Revenue Estimate

(3) 44 available seats used as measure

(selected express trips utilize 57 seat bus)

Figure 3-77: Route 102 Map



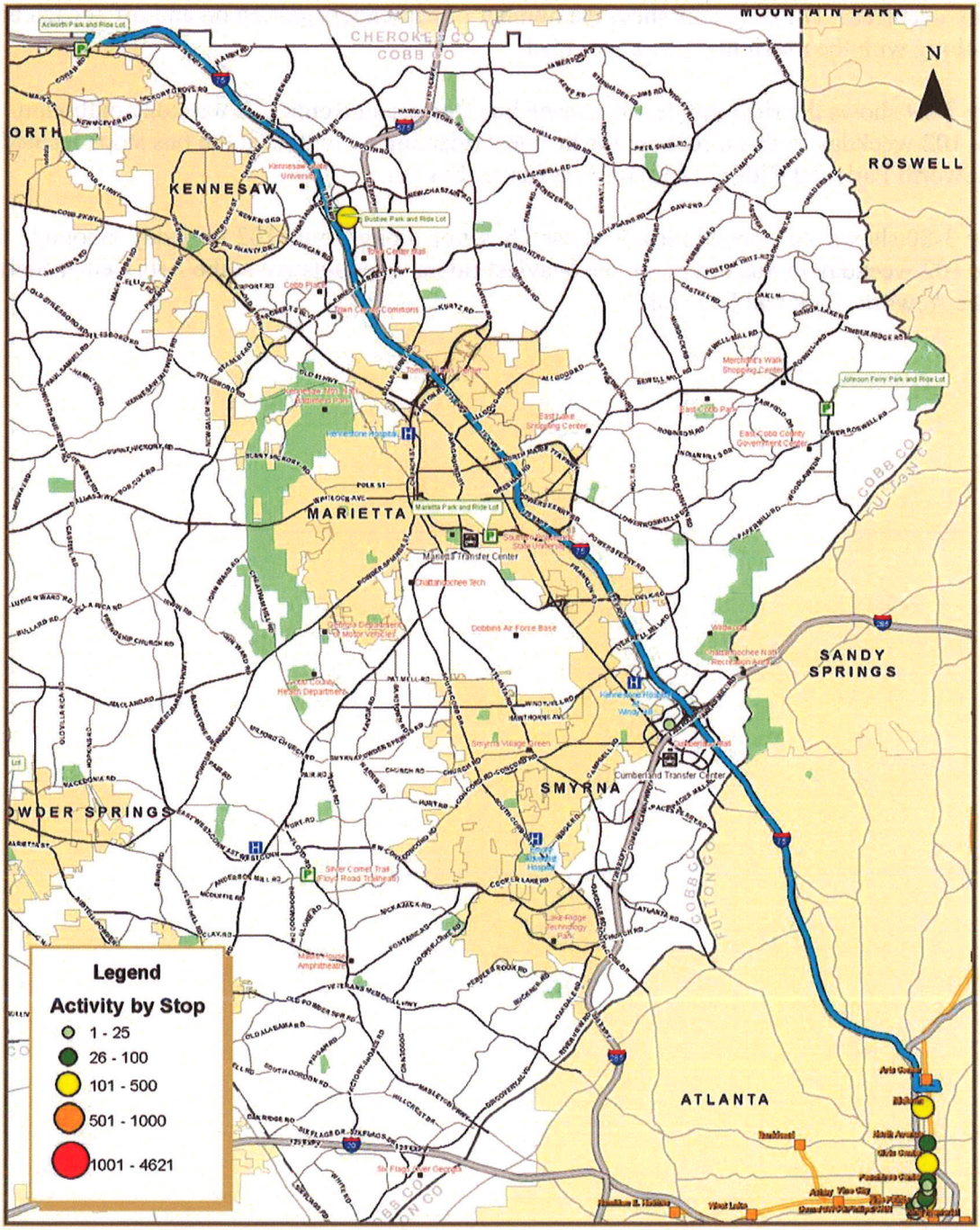
CCT Route 102

Figure 3-78 shows all boardings and alightings by stop on Route 102. Figures 3-79 through 3-80 chart the weekday observed ridership activity by direction for the bus stops where ridership activity occurred. The diagrams show the number of passengers getting on and off at each bus stop, along with the maximum passenger load.

Figure 3-79 shows the ridership levels at each bus stop along Route 102 weekday outbound. For Route 102 weekday in this direction, the heaviest ridership activity is at the bus stops located at the Acworth Park and Ride lot and the Arts Center Station.

Figure 3-80 shows the ridership levels at each bus stop along Route 102 weekday inbound. For Route 102 weekday in this direction, the heaviest ridership counts are at the Arts Center Station and the Acworth Park and Ride lot.

Figure 3-78: Route 102 Ridership by Route Segment



CCT Route 102

0 1 2 Miles

Figure 3-79: Route 102 Weekday - Outbound Boardings and Alightings

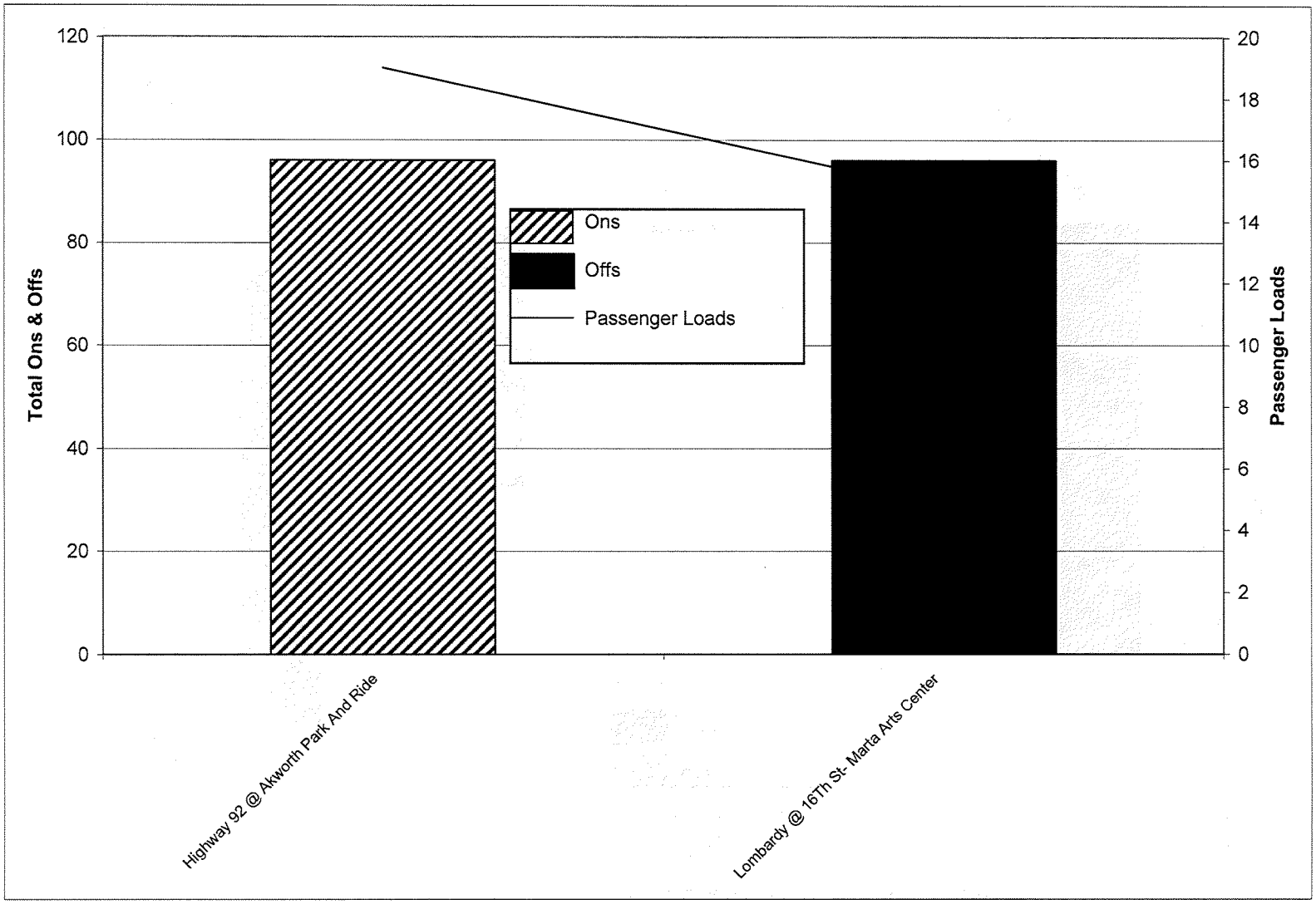
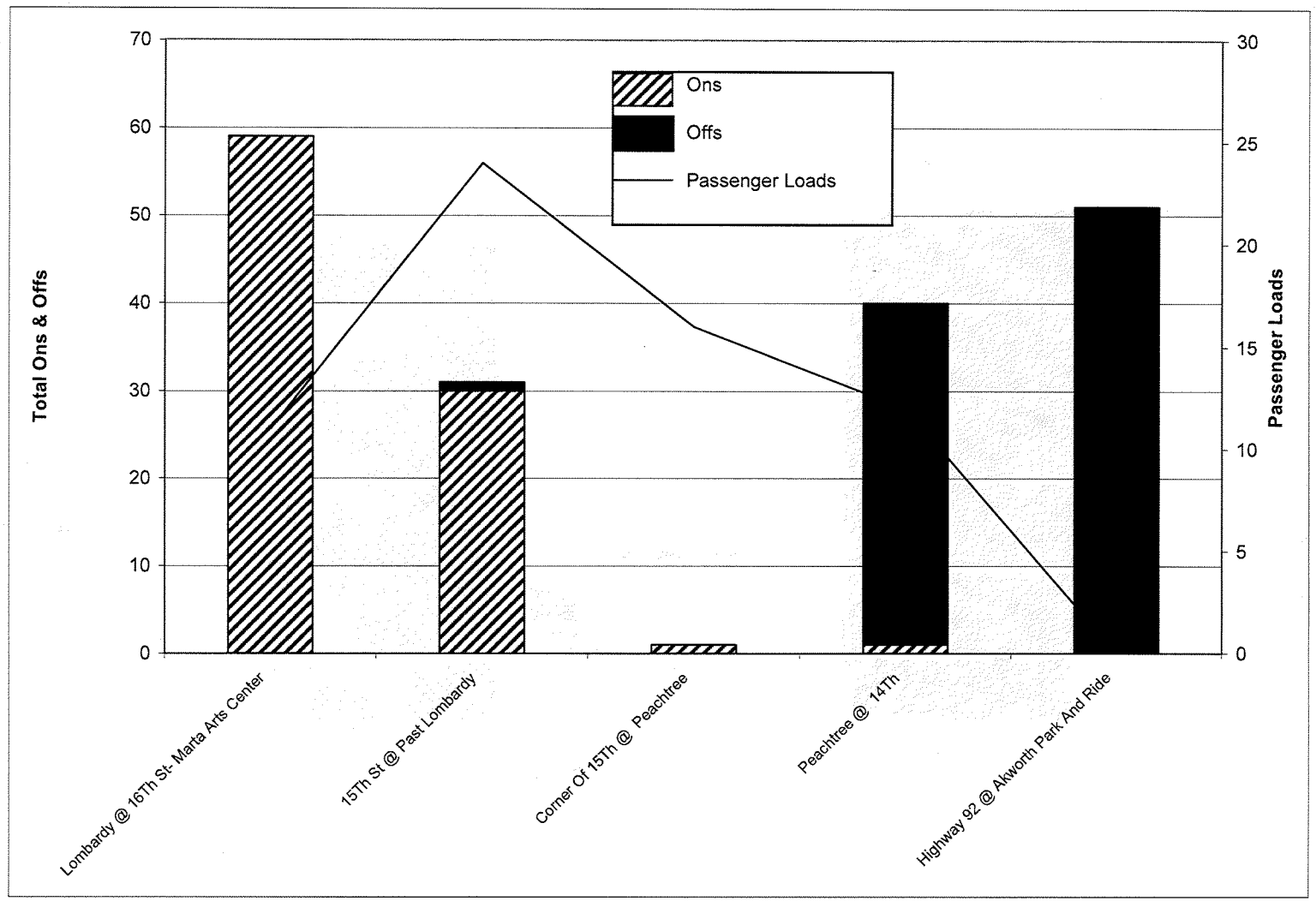


Figure 3-80: Route 102 Weekday - Inbound Boardings and Alightings



The ride check also recorded schedule reliability. The following tables show the difference between the scheduled and observed runtime between time points for the morning peak and afternoon peak for the weekday by direction. For the purposes of this paper, differences at a time point between zero and positive five minutes are considered on time.

Table 3-64: Route 102 Weekday Outbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Acworth Park and Ride	Arts Center Station	45	50	5	No Afternoon Outbound Service		

There is very little difference between scheduled runtime and observed runtime.

Table 3-65: Route 102 Weekday Inbound Observed Runtime in Minutes

From	To	AM Peak			PM Peak		
		Observed	Scheduled	Difference	Observed	Scheduled	Difference
Peachtree St. / Luckie St.	Civic Center Station	No Morning Inbound Service			49	55	6

There is very little difference between scheduled runtime and observed runtime.

Observations:

1. Route102 is the twelfth most active route in the CCT System with 187 Weekday passengers and it ties the Acworth Park and Ride Lot to Arts Center MARTA Station.

2. Productivity and accessibility are adversely affected by the closed door policy in the MARTA service area along the seven miles of the route in the City of Atlanta.

3. The farebox recovery is quite strong on Route 102 at 28.3%.

3.5 System Productivity

The typical service standard for route productivity (passengers per revenue-hour) states that specific routes would be evaluated in comparison to overall system productivity. The following table summarizes productivity for each route and for the CCT system for weekday and Saturday service. The last column in each section shows how that route compares to the system average.

Table 3-66: CCT Route & System Productivity

Weekday				
Route	Boardings	Revenue Hours	Boardings per Rev. Hour	% of CCT System Average
10	3,926	121	32.4	122%
30	2,140	74	29.0	109%
20	1,354	52	26.2	99%
50	1,551	48	32.3	122%
15	1,242	44	28.2	106%
40	529	32	16.6	62%
45	527	28	18.8	71%
65	369	22	16.6	62%
70	291	21	14.1	53%
100	665	17	38.4	145%
10A	139	12	11.8	45%
102	187	10	18.1	68%
10B	154	10	15.5	58%
10C	183	10	18.9	71%
101	221	8	28.3	107%
System	**13,478**	**508**	**26.5**	**100%**

Saturday				
Route	Boardings	Revenue Hours	Boardings per Rev. Hour	% of CCT System Average
10	2,542	61	41.4	147%
15	679	20	34.8	124%
20	802	28	28.2	100%
30	1,364	38	35.6	127%
40	371	28	13.3	47%
45	242	26	9.3	33%
50	985	31	31.9	114%
65	178	13	14.2	51%
70	81	13	6.3	22%
System	**7,244**	**258**	**28.1**	**100%**

A two-tiered route productivity standard is used by MARTA to identify under-performing routes. 50% of the system average is used as a minimum standard, and 40% as a "watch list" threshold. If 50% of the system average is used as a minimum standard for detecting under-performing routes, then almost all weekday routes would meet the standard. Only Route 10A falls below standard at 45%. On Saturdays, Routes 40 (47%), 45 (33%), and 70 (22%) would be below the

standard. Using the 40% "watch list" standard, Routes 45 and 70 on Saturday would warrant monitoring and corrective action to improve productivity.

3.6 Facilities

CCT currently utilizes the following facilities:

Marietta Administrative, Operations, and Maintenance Facility
This facility is immediately adjacent to the Marietta Transfer Center but its principal address is on Commerce Drive. All buses enter the site from South Marietta Parkway, are stored here, and all maintenance, cleaning, administrative, and personnel operations are performed here as well. There is capacity for approximately 60 additional buses to be parked on site and a ¾ acre site is available for parking once it is repaved.

Marietta Transfer Center
The MTC functions as the main transfer hub for the entire CCT route system. All routes converge here except for Route 70 which operates between Cumberland Transfer Center and the H. E. Holmes MARTA station. There are 287 parking spaces in the adjacent park and ride lot and a windshield survey indicated a 27% to 35% utilization rate depending on the weather. Approximately 75% to 85% of the cars had Cobb plates.

Cumberland Transfer Center
The Cumberland Transfer Center is the second major hub in the CCT system. Bus routes 10, 10A,10B, 20, 50, and 70 accommodate transfers at this center.

Busbee Park and Ride Facility
The Busbee Park and Ride Facility has 364 spaces and a pending expansion is currently underway to accommodate the heavy current demand and projected future demand once the GRTA/GDOT BRT in HOV lanes project is implemented. This facility was built in 2003 to replace an earlier facility at the Kennesaw State University campus. A windshield survey indicated an 87% utilization rate with approximately 54% to 66% of the cars having Cobb plates.

Acworth Park and Ride Facility
The Acworth Park and Ride was built in 2004 and currently has 161 spaces but will be expanded to 230 spaces later this year to accommodate the new GRTA express route 481 to Midtown. A windshield survey indicated a 42% utilization rate with approximately 49% to 67% of the cars having Cobb plates.

Floyd Road (Silver Comet Trail) Park and Ride Facility
The County's 100 space Silver Comet Trail parking lot located on Floyd Road near the East-West Connector is also a CCT park and ride facility served by Route 30.

Mableton Park and Ride
A new park and ride facility is under development in Mableton near the intersection of Floyd Road and Maran Road. This facility will be located immediately adjacent to the existing Mable House Ampitheater and contain approximately 135-200 parking spaces for use by CCT Route 30 riders. The facility is anticipated to be open in early 2007.

Bus Stops
There are 771 bus stops in the system as documented in the Bus Stop Inventory conducted during the summer of 2005.

Bus Stop Shelters
There are a total of 349 shelters in the CCT system which includes 316 advertising shelters placed by a contractor (ATDS) and 33 county placed shelters. Of the advertising shelters, 177 are located in the County, 34 advertising shelters are located in the City of Smyrna, and 105 advertising shelters are located in the City of Marietta. The County receives revenue from the advertising shelters located in the county, but not from the shelters located in the cities. The 33 County owned shelters do not contain advertising and do not generate revenue.

The following table presents the number of shelters by type on each CCT route:

Table 3-67: CCT Shelter Distribution

Route	Cobb County Owned Shelters	Advertising Shelters In:			Total
		Cobb County	Marietta	Smyrna	
10 Inbound	1	2	19	3	25
10 Outbound	5	1	11	5	22
10A Inbound		5			5
10A Outbound		6			6
10B Outbound		1			1
15 Inbound	3	8	6	2	19
15 Outbound		10	5	4	19
15 Outbound	2				2
20 Inbound		10		9	19
20 Inbound	2				2
20 Outbound	1	10		9	20
20 Outbound	3				3
20A Outbound		1		2	3
30 Inbound		13	1		14
30 Inbound	2				2
30 Outbound		13	1		14
30 Outbound	1				1
40 Inbound		14	1		15
40 Outbound		14	4		18
40 Outbound	1				1
45 Inbound		12	5		17
45 Inbound	1				1
45 Outbound		14	8		22
50 Inbound		8	12		20
50 Inbound	1				1
50 Outbound		4	13		17
50 Outbound	3				3
60 Inbound		6			6
60 Outbound		6			6
65 Inbound		8	8		16
65 Outbound		11	10		21
Route 30	7				7
70 Inbound			1		1
Grand Total	**33**	**177**	**105**	**34**	**349**

3.7 Intelligent Transportation System (ITS) Technologies

As mentioned in the CCT Transit Development Plan prepared in August 2003, ITS technologies have the potential to improve operational, communication and fare collection efficiency, customer service effectiveness, and regional transit integration. Primary ITS transit applications typically include the following elements:

- Automatic Passenger Counters
- Automatic Vehicle Location
- Mobile Data Terminals
- Fare Collection Systems
- Customer Information Displays
- Video and Audio Installations

The following table exhibits typical ITS components and estimated unit costs:

Table 3-68: Typical ITS Components and Estimated Unit Costs

Component	Average Capital Cost per Bus
Automatic Passenger Counters	$1,000 to $10,000 [1]
Automatic Vehicle Locator	$6,800 to $30,500 [1]
Mobile Data Terminals & Related Equipment	$10,000 [3]
Fare Collection Systems	$7,000 to $12,000 [1]
Video and Audio Installations	
Enunciators	$7,000 [2]
Customer Information Displays	$7,000 [2]

1. Source: http://gulliver.trb.org/publications/tcrp/tcrp_rpt_90v2.pdf
2. http://www.nyjournalnews.com/rockland/091200/12talkingbus/
3. Ann Arbor Transportation Authority

While ITS can enhance various aspects of transit operations, customer convenience, and security, investment in these components should be given careful consideration due to their significant capital, operational, and maintenance costs. CCT has project applications in the current regional Transportation Improvement Program for funding the automation and integration of their electronic fare payment systems with other regional operators to facilitate seamless transit in the region and improve customer convenience.

MARTA is in the process of making a considerable investment in an upgraded fare collection system. CCT should continue with planned upgrades to their fare collection system in order to integrate with MARTA's new system. This will result in improved efficiency for collecting and tracking fare revenue, improved regional transit integration of fare media, and a reduction in fare evasion.

In addition, CCT has other TIP ITS projects for continuing automation such as bus video screens to display customer information, an Automated Vehicle Locater (AVL) system to provide

location of buses and additional messaging capabilities, and on-board video cameras to enhance security and customer safety. Once the AVL system is procured, an evaluation should be conducted to determine strategies for obtaining, funding, and maintaining additional ITS components.

Additional opportunities to obtain ITS transit technologies should be considered through regional initiatives such as the GRTA "Smart Corridor" (US Highway 41) program.

4.0 RECOMMENDATIONS

System recommendations related to this report are grouped into categories including facilities, ITS, service standards, and local/express route services. The local/express service recommendations are grouped in three categories: Near-Term, Mid-Term, and Long-Term. The recommendations are based on detailed analysis, observations, balance of service needs and available resources, and public/stakeholder input.

4.1 Facility Recommendations

The current CCT facilities are relatively new and appear adequate to support the existing and enhanced services as determined through the course of the TPS. This includes the ongoing development of improvements underway or planned for the Acworth and Mableton park and ride facilities. Depending on actual implementation of future new and/or modified services, development of a transit facility in the Cobb Hospital area, modification of the Busbee facility to accommodate additional services, and installation of a bus turn-around at the South Cobb Recreation Center should be considered.

4.2 ITS Recommendations

Implementation of ITS components should be given careful consideration due to the significant capital and operational costs. To ensure compatibility of the various ITS components, procurement sequencing, and future component technical support, CCT should conduct an ITS Implementation Plan to identify concise strategies and phases for proceeding with obtaining these pending ITS components.

4.3 Service Standards Recommendation

CCT does not currently have documented service standards for transit operations. It is recommended that formal service standards be developed and adopted to include the following elements:

- Passengers per scheduled revenue vehicle hour - a comparison of the individual routes to the system wide productivity will be performed. A two-tiered route productivity standard should be used to identify under-performing routes. A route should not operate at less than 50% of the system average as a minimum standard and a 40% "watch list" limit should be utilized. Routes falling below the 40% standard would warrant monitoring and corrective action to improve productivity.
- Farebox recovery – a ratio between operating cost and farebox revenue of 35% or higher is recommended. Routes operating below a minimum of farebox ratio of 28% should be reviewed for possible operating modifications.
- Load factor - an average load factor for a local route should be in the range of 0.75 to 1.25 during peak hours, and between 0.5 and 1.0 during off-peak hours and Saturday. The average load factor for an express route should be in the range of 0.50 to 1.00.

4.4 Route Service Recommendations

The following local and express route service recommendations are based on area activities, current system route performance/utilization, and public input and are categorized for Immediate Implementation, Near-Term Implementation, Mid-Term Implementation, and Long-Term Implementation. The estimated costs of the improvements were calculated by multiplying the estimated annual revenue hours by the contracted operating cost combined with the estimated annual fuel costs per annual revenue hour.

4.4.1 Routes Recommended for Immediate Implementation

The following recommendations should be considered for immediate implementation:

- Route 30 - To provide additional capacity, increase weekday morning and afternoon peak service frequency from 30 to 15 minutes. Also, to offer later travel opportunities, extend weeknight service from 9:55 PM to 12:30 AM and Saturday night service from 10:30 PM to 12:00 AM. Operate certain trips to South Cobb Recreation Center on Six Flags Drive after provision is made for bus turn around. Estimated annual operating cost: $550,000.
- Route 70 - Due to extremely low ridership, eliminate segment of route between South Atlanta Road and MARTA Hamilton E. Holmes Station. In response to community requests, extend route from South Atlanta Road via East-West Connector to Cobb General Hospital weekday and Saturday. Estimated annual operating: $0.

The estimated annual operating cost of implementing the immediate recommendations is presented in Table 4-1.

Table 4-1: Estimated Annual Operating Cost of Immediate Implementation

Immediate Priority				
Route	**Recommended Service Options**	**Estimated Additional Annual Cost**	**Estimated Additional Annual Revenue**	**Total Estimated Additional Annual Cost***
30	Increase weekday peak frequency, extend night service hours, and extend trips to South Cobb Recreation Center	$550,000	$239,100	**$310,900**
70	Eliminate segment of route to/from MARTA Holmes Station Extend route weekday and Saturday via East-West Connector to Cobb General Hospital and via Powder Springs Road to Marietta Transfer Center.	n/a	n/a	**n/a**
Sub-Total:		$550,000	$239,100	**$310,900**

4.4.2 Routes Recommended for Short-Term Implementation

The recommendations that fall into the short-term category are:

- Route 15 - To provide additional service, add earlier weekday morning trip from Marietta Transfer Center. Estimated annual operating cost: No appreciable cost.

- Route 20 - To provide additional service, add earlier weekday morning trip from Marietta Transfer Center. Estimated annual operating cost: No appreciable cost.
- Route 40 - In response to community needs, extend weekday to connect Town Center Mall, CCT Busbee Transit Facility, and KSU with downtown Kennesaw. Estimated annual operating cost: $225,000.
- Route 50 - To offer later travel opportunities, extend weeknight service from 10:13 PM to 12:00 AM. Estimated annual operating cost: $35,000.

The estimated annual operating cost of implementing the short-term recommendations is presented in Table 4-2.

Table 4-2: Estimated Annual Operating Cost of Short-Term Implementation

Short-Term Priority				
Route	**Recommended Service Options**	**Estimated Additional Annual Cost**	**Estimated Additional Annual Revenue**	**Total Estimated Additional Annual Cost***
15	Add earlier weekday morning trip	n/a	n/a	**n/a**
20	Add earlier weekday morning trip	n/a	n/a	**n/a**
40	Extend weekday to serve downtown Kennesaw.	$300,000	$71,900	**$228,100**
50	Extend weeknight service	$50,000	$15,500	**$34,500**
Sub-Total:		$350,000	$87,400	**$262,600**

4.4.3 Routes Recommended for Mid-Term Implementation

The recommendations that fall into the mid-term category are:

- Route 10 - Route 10 Saturday service frequency was improved in 2004 and ridership continues to increase. To offer more convenient service, increase Saturday frequency from 30 to 15 minutes. Estimated annual operating cost: $75,000.
- Flexible Route / Demand Response Services Pilot Program - This unique service for the Austell/Powder Springs and Acworth/Kennesaw areas will be provided by smaller transit vehicles during weekdays between 9:00 AM and 4:00 PM with connection(s) to CCT routes. The service would be scheduled to travel between identified time points and also provide requested passenger pick-ups/drop-offs within ¾ mile of the normal routing. Depending on subsequent success of the pilot program, the flexible service could be expanded or considered for eventual implementation of regular route service. Estimated annual operating cost: $310,000.

The estimated annual operating cost of implementing the mid-term recommendations are presented in Table 4-3. The short-term recommendations are assumed to have been implemented are included in the total annual operating cost of the system in the mid-term section of the table.

Table 4-3: Estimated Annual Operating Cost of Mid-Term Implementation

Mid-Term Priority				
Route	**Recommended Service Options**	**Estimated Additional Annual Cost**	**Estimated Additional Annual Revenue**	**Total Estimated Additional Annual Cost***
10	Increase Saturday frequency	$190,000	$116,400	**$73,600**
Conceptual Service	Limited weekday service for Austell/Powder Springs and Acworth/Kennesaw areas	$425,000	$114,000	**$311,000**
Sub-Total:		$615,000	$230,400	**$384,600**

The total annual operating cost for implementing the immediate, short-term, and mid-term recommendations is $958,100.

4.4.4 Long-Term Recommendations

- See *New Service Report*

Cobb County
Transit Planning Study

Marietta Trolley Feasibility Study Report

URS

June 28, 2006

CCT

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EXECUTIVE SUMMARY

Trolley systems are gaining popularity around the country as a service type that can accommodate both common and unique transit markets. These services can improve mobility for area visitors, employees, and residents while helping to relieve traffic congestion and contributing to economic development. A trolley service for Marietta as described through this feasibility study can serve a number of purposes such as:

- Tie a number of Marietta communities together
- Provide a unique mobility option and visual image enhancement to the city
- Offer direct and reliable service between local attractions, offices, residences, shopping districts, parks, historic sites, and transportation facilities
- Encourage greater use of public transit for residents and visitors
- Minimize congestion associated with new development and redevelopment

In developing a trolley service for Marietta, consideration was given throughout the study process to common elements associated with previously implemented successful trolley or trolley type services. The elements include:

- Links a large number of destinations and activities
- Provides service on a regular and frequent basis
- Route design is relatively straight and within activity areas
- Service is easy to understand, use, and access
- Fares are low and are often free
- Operates with bright, attractive, and unique vehicles
- Ongoing cooperation through partnerships to market and support the service
- Courteous and knowledgeable operators
- Convenient connections with other area transit services
- Consideration is given to parking facilities

A peer analysis was performed in order to generate evaluation criteria for a start-up trolley system. Six trolley systems were selected that are generally similar to the study area in terms of geographic area and population, density, urban form, economic base, housing, attractions, and employment patterns. The best practices within the peer group were determined and evaluated. This provided direction to the definition of trolley options and provided realistic comparisons for projected system characteristics and performance measures.

A trolley system was designed and the route alignment, level of service options, and potential implementation phasing options are described. The two phases developed for the trolley system require from three to eight trolley vehicles in order to operate the system. Both phases have a 10-minute and 15-minute frequency option and the costs for each phase and level of service are estimated. Additionally, the fuel technology the trolley system should utilize is discussed and the methodology and criteria for selecting diesel as the most practical technology is presented.

Three management options for operating the trolley service are presented. These potential management options are:

- Option 1 - The sponsoring entity of the trolley system has overall responsibility for administering program and would contract with private service provider for all aspects of trolley service.

- Option 2 – The sponsoring entity of the trolley system has overall responsibility for administering the program, furnishing vehicles and operating facility, and would contract with a private service provider to operate the system.

- Option 3 – The sponsoring entity of the trolley system has overall responsibility for administering program and would utilize CCT as the service provider for all aspects of trolley service.

It is important to note that the sponsor could decide to totally fund the service or apply for Federal Transit Administration (FTA) funding assistance grants. Since local organizations and municipal governments do not typically directly operate transit services, direct operation of service was not considered as a viable alternative.

Based upon detailed analysis, observations, and input from peer groups and the Study Advisory Committee, several recommendations for the Marietta Trolley service are presented as follows:

- Determine potential trolley service sponsor(s) and funding sources.
- Based on input from the Advisory Committee, focus future planning and implementation efforts for service inauguration to coincide with the opening of the Aviation Museum at Marietta.
- Continue coordination with relevant planning partners including Cobb DOT, CCT, ARC, City of Marietta, and GRTA.
- If capital funding could be obtained through federal or other grants, so purchasing the vehicles is recommended.
- Diesel is the most practical technology, as fuel is readily available at existing facilities. Additionally, for reliability, range, performance, and maintenance considerations, diesel is the preferred vehicle technology.
- Consider conducting a parking study to determine the location of park and ride facilities for accessing the shuttle system and to estimate appropriate parking fees for utilizing the lot.

A trolley service can assist the Marietta community in a number of positive ways. While the overall goal is for a trolley service to become "*the way to get there*", the key to actual implementation and sustainability is securing adequate funding sources to pay for the service. While a Marietta Trolley may be feasible, the end product of implementing this service is for it to be successful over time. Transit service will only continue to be utilized if it is reliable, comfortable, safe, clean, accessible, and easily understood.

On April 10, 2006, the trolley feasibility study report findings were presented to the Marietta City Council at a work session. The Council was supportive of the concept and directed staff to begin seeking potential grant sources for funding the project.

On June 27, 2006 the trolley feasibility study report findings were presented at a work session to the Cobb County Board of Commissioners. The Commission received the information, but declined to take any specific action.

1.0 INTRODUCTION

The purpose of this report is to present operating characteristics, cost estimates, and an implementation plan for the Marietta Trolley Feasibility Study (MTFS). The MTFS was undertaken to determine the feasibility of a trolley service and to provide a guide for subsequent implementation.

1.1 Project Purpose

The purpose of this study was to determine the feasibility of implementing a rubber tire type trolley system for the City of Marietta to serve and connect key local points of interest. This study determined potential trolley route alignments, transfer locations for connections with Cobb Community Transit (CCT), operational requirements, and vehicle requirements. A financial plan for the trolley service was developed, as well as an estimate of potential ridership. The study also includes recommendations regarding trolley operations, parking considerations, and system performance indicators.

1.2 Background

For many years, a number of local groups have been interested in considering a trolley type service to connect various attractions and activity areas within Marietta. Recent efforts through a redevelopment task force and renewed interest from other sources including the pending Aviation Museum resulted in the initiation of this study to determine if such a service is feasible. The Marietta Trolley Feasibility Study was funded by the City of Marietta and performed under the Cobb Community Transit (CCT) Transit Planning Study that was ongoing during this time period. In order to effectively guide the study, an advisory group was formed consisting of a number of area stakeholders. The Study Advisory Committee members are included in Table 1-1.

Table 1-1: Marietta Trolley Study Advisory Committee

Contact	Title and Address
Jenkins, Theresa	Director of Marietta Visitors Center 4 Depot Street, Marietta 30060
Renfroe, Judy	Director of Cobb Convention and Visitors Center One Galleria Parkway, Atlanta 30339
Fulmer, Johnny	Chair Marietta Businessmen Association PO Box 2152 Marietta 30061
Tippins, Beth	Economic Development Marietta 205 Lawrence Street, 4th Floor, Marietta 30060
Eubanks, Gary	Streetcar Advocate/Lawyer/Downtown Business Owner P.O. Box 1788, Marietta 30061
Goldstein, Phillip	Marietta Councilman Ward 7/Lawyer/ Downtown Business Owner P.O. Box 3536, Marietta 30061
Brown, Dan	Kennesaw Mountain Battlefield Park Ranger 905 Kennesaw Mountain Drive, Kennesaw 30152
Reardon, Dan	Shillings Restaurant Owner, Marietta 19 North Park Square, Marietta 30064
Cox, Dan	Director Marietta Museum of History 1 Depot Street, Suite 200, Marietta 30060
Blackwell, Micky	Past Chair Kiwanis Business and Public Affairs Committee 311 Hardage Drive, Marietta 30064
Morey, John	DOT Development Review Engineer 1890 County Services Parkway, Marietta 30008
Hughes, Michael	Cobb Economic Development 100 Cherokee Street, Suite 570 Marietta 30090
Drobney, Jeff	Director of Southern Museum of Civil War and Locomotive History 2829 Cherokee Street, Kennesaw 30144
Boland, Tom	Cobb Chamber of Comm. Economic Development Division P.O. Box 671868, Marietta 30006
Gutowsky, Rebecca	CCT Transit Division Manager 463 Commerce Park Drive, Marietta 30060
Hosack, Rob	Cobb County Community Development Director 191 Lawrence Street, Marietta 30060-1689
Roth, Rusty	City of Marietta Planning P.O. Box 3536, Marietta 30061
Vance, Laraine	Cobb County Dept of Transportation 1890 County Services Pkwy, Marietta 30008

2.0 MARIETTA TROLLEY ROUTE ALIGNMENT

The first step in developing a potential trolley service was to determine an optimum route alignment and service parameters to facilitate travel between the following Marietta area attractions:

2.1 Attractions

2.1.1 Aviation Museum at Marietta

The Aviation Museum at Marietta was established in 2003 to preserve and recognize the history of Marietta's aircraft plant and to encourage interest in engineering and technology. The facility will be located on a 15 acre tract at the intersection of Atlanta Road and South Cobb Drive. The museum is anticipated to open in approximately three years and preliminary plans include parking, a theatre, meeting rooms, classrooms, and substantial exhibit space for displaying aircraft that were actually produced in the plant. Annual attendance is estimated to be 156,000.

2.1.2 Brumby House

The Brumby House is a Greek revival house and is located on the grounds of the Marietta Conference Center & Resort. It was built in 1851, is fully restored with adjacent gardens and hosts various corporate and family events.

2.1.3 Marietta Conference Center & Resort

The center is located on Powder Springs Street near downtown Marietta and is a 132 acre complex that offers full service conference and resort accommodations.

2.1.4 Marietta Confederate Cemetery

The Confederate Cemetery dates to 1863 and was built alongside the Marietta City Cemetery. It is located south of downtown and is a resting place for Confederate soldiers from nearby hospitals and Civil War military operations.

2.1.5 Marietta National Cemetery

This is a national cemetery and is located east of the square along Roswell Street with the main entrance on Washington Avenue. The cemetery was established for Union soldiers during the Civil War when local citizens provided land near downtown Marietta.

2.1.6 Marietta/Cobb Museum of Art

This museum is located south of the square on Atlanta Street and hosts a full schedule of exhibitions and a permanent collection of 19th and 20th century American art. Annual attendance is approximately 12,000.

2.1.7 Marietta History Museum

This museum is located just west of the square and contains galleries relating to Cobb County that include Homelife, Civil War, and General History. Annual attendance is approximately 11,000.

2.1.8 Gone With The Wind Museum

This attraction was established in 2003 and is located one block west of the square. It houses a privately owned collection of GWTW book and movie memorabilia. Annual attendance is approximately 6,000.

2.1.9 Root House Museum

The Root House is located at the corner of North Marietta Loop and Polk Street and dates to circa 1845. The house was built by early settlers and offers visitors a glimpse of the home life of a middle class merchant and his family. Annual attendance is approximately 3,600.

2.1.10 Marietta City Square

In addition to the commercial, recreational, and employment activities associated with the Marietta Square or Antebellum Square, the Marietta Welcome Center and Visitors Bureau is located just off the square and has approximately 55,000 annual visitors.

2.1.11 Zion Heritage Museum

This museum is located in the Zion Baptist Church located on Lemon Street several blocks northeast of the square. The museum documents the history of the church which was founded in 1866 and African American leadership initiatives in Marietta. Annual attendance is approximately 1,000.

2.1.12 Fire Museum

This museum houses historic fire department vehicles and artifacts and is located in an operating fire station east of the square on Haynes Street. Annual attendance is approximately 1,200.

2.1.13 Kennesaw Mountain National Battlefield Park

The park is located approximately 3.5 miles north of the square, has been in operation since 1935, and is a unit of the National Park Service. The park was established to commemorate the Civil War's 1864 Atlanta Campaign and includes a large land area and a visitor center/museum that is located at the base of Kennesaw Mountain. Annual attendance throughout the park is estimated at 1,400,000. The majority of attendees are local residents that use the facility for recreation purposes, however approximately 140,000 of this number visit the park as a historic attraction.

From initial field work and in conjunction with the Study Advisory Committee, a two-phased approach was used to design the potential trolley service alignments. The Phase I alignment is shown in Figure 2-l and the Phase II alignment is displayed in Figure 2-2:

Figure 2-1: Map of Phase I Trolley Route Alignment

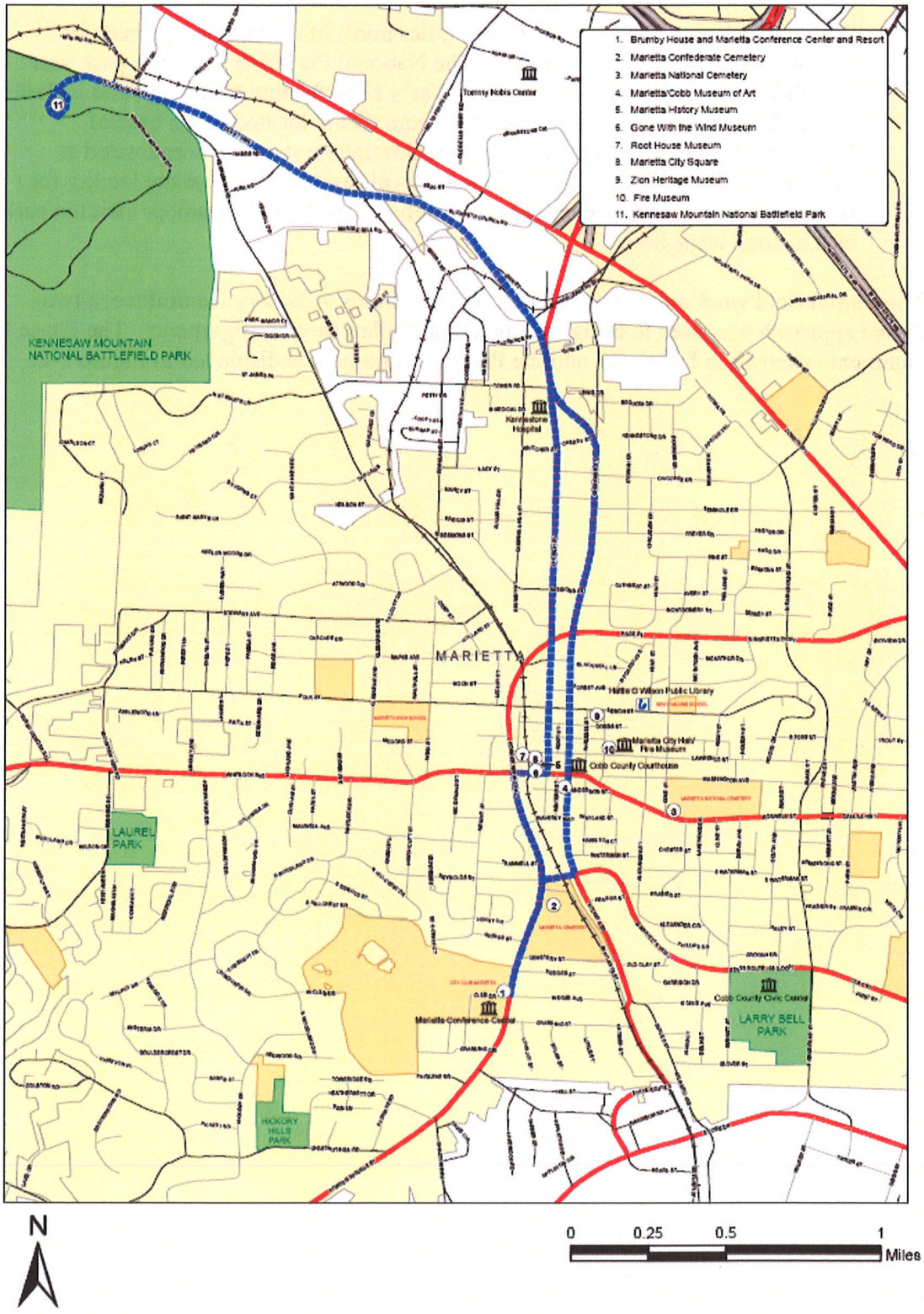


Figure 2-2: Map of Phase II Trolley Route Alignment

In addition to the routing alignment, service parameters were defined by the Study Advisory Committee to be as follow:

- Service provided Monday-Saturday
- Service hours approximately 9:30am-5:30pm
- Service frequency options for ten and fifteen minute comparison
- Vehicle will be trolley style
- Service will be free

2.2 Trolley Connections with CCT Routes

During the Phase I operation, the trolley service would connect in downtown Marietta with CCT Routes 40 and 45 and along Powder Springs Street with Route 15. When the Phase II operation is inaugurated, the trolley service would also connect directly with numerous CCT routes at the Marietta Transfer Center.

2.3 Parking Considerations

Consideration should be given to the placement of parking facilities for the trolley system. Parking should be available near the key locations of Kennesaw Mountain Battlefield Park, downtown Marietta, and the Aviation Museum. Potential funding for trolley system parking facilities could come from federal transportation grants

3.0 PEER AREA REVIEW

3.1 Methodology of selecting peer cities

Peer analysis is a common practice for generating evaluation criteria for start-up transit services. To assist in the development of a Marietta trolley system, a peer analysis was conducted. Measures of efficiency, effectiveness, and coverage for the peer group of small trolley systems were compared.

Six trolley systems were selected that are generally similar to the study area in terms of geographic area and population, density, urban form, economic base, housing, attractions, and employment patterns. The best practices within the peer group were determined and evaluated as to their applicability to the study area. This provided direction to the definition of trolley options and provided realistic comparisons for projected system characteristics and performance measures.

3.2 Description of best practices

The selected peer agencies were evaluated using several performance measures. The performance measures that were chosen cover three essential categories, which are service efficiency, cost effectiveness, and service effectiveness.

3.2.1 Service Efficiency

Service efficiency consists of two components that are cost per vehicle revenue mile and cost per vehicle revenue hour. Lower costs per mile and per hour indicate that a service is producing more service for less money. In general, lower costs are desirable.

3.2.2 Cost Effectiveness

A key cost effectiveness measure is cost per passenger trip. Lower costs indicate the system is more effective.

3.2.3 Service Effectiveness

Service effectiveness includes two components that measure unlinked passenger trips per revenue mile and per revenue hour. Higher passenger trips per mile and per hour mean the system is moving more persons.

3.3 Peer Systems

The peer systems selected for the evaluation were:

- Buckhead Community Improvement District

- Coral Gables, Florida
- Decatur, Illinois
- Savannah, Georgia
- Scottsdale, Arizona
- Wilmington, North Carolina

3.4 Presentation of findings

The primary reason for a peer group study is to determine if the estimated operating costs of the proposed trolley system are high compared to other agencies. Such a determination is based on a number of operating characteristics and performance measures. Data for transit agencies in the study cities will be collected for operating expenses and revenues. Additional data on hours of revenue service, number of revenue miles, and passenger trips enable the calculation of several indicators of productivity and quality of service.

3.4.1 Peer System Service Characteristics

The purpose of this section is to document the service characteristics of the peer groups. Table 3-1 documents the entity that operates the shuttle system, the fare, days of operation, hours of operation, frequency of service and the population of the area served by the system.

Table 3-1: Peer System Service Characteristics

Peer City [1]	Operated by:	Fare	Days of Operation	Hours of Operation	Frequency of Service	Service Area Population [2]
Buckhead CID, Atlanta, GA [3]	Transportation Management Association (TMA)	Free	Mon. - Fri. Sat.	7:00 am - 10:00 pm; 9:00 am - 10:00 pm	8 - 15 minutes 30 minutes	135,000
Coral Gables, FL	City of Coral Gables	Free	Weekdays	7:00 am - 7:00 pm; Fri. until 10:00 pm	10 minutes	42,249
Decatur, IL	City of Decatur	Free	Mon. - Fri. Sat.	7:00 am - 6:15 pm; 8:00 am - 6:15 pm	15 minutes	81,860
Savannah, GA	Chatham Area Transit	Free	Mon. - Sat. Sun.	7:10 am - 7:09 pm; 9:40 am - 9:55 pm	20 minutes 40 minutes	131,510
Scottsdale, AZ	City of Scottsdale	Free	Mon. - Sat.	11:00 am - 6:00 pm; Thur. until 9:00 pm	10 minutes	202,705
Wilmington, NC	Wilmington Transit Authority (Wave)	Free	Mon. - Fri. Sat.	7:20 am - 9:20 pm; 11:00 am - 9:20 pm	20 minutes 20 minutes	75,838

Notes:
1. All figures, except population, are FY2005 data from phone survey of peer systems.
2. Population figures from 2000 Census, except Buckhead. Marietta population was 59,000.
3. Buckhead population figure from Buckhead CID.

3.4.2 Operating Characteristics

Peer agencies were contacted in order to collect a number of operating characteristics which enable the calculation of transit performance. These operating characteristics are: number of peak vehicles; annual passenger trips; annual operating cost; annual vehicle revenue hours; and annual vehicle revenue miles. Table 3-2 provides such data for shuttle operations for the peer groups. For the Marietta data, the Phase I 15-minute operating plan was used.

Table 3-2: Peer System Operating Characteristics

Peer City [1]	Peak Vehicles	Annual Passenger Trips	Annual Operating Cost	Vehicle Revenue Hours	Vehicle Revenue Miles
Buckhead CID, Atlanta, GA	9	495,000	$1,209,000	31,616	170,243
Coral Gables, FL	5	1,075,000	$1,377,138	21,500	56,000
Decatur, IL	1	30,000	$180,200	3,400	36,800
Savannah, GA	2	132,181	$325,000	6,605	63,350
Scottsdale, AZ	5	200,000	$625,000	11,450	50,000
Wilmington, NC	1	60,026	$150,987	4,880	42,400
Peer Agency:					
Low	**1**	**30,000**	**$150,987**	**3,400**	**36,800**
High	**9**	**1,075,000**	**$1,377,138**	**31,616**	**170,243**
Average	**4**	**332,035**	**$644,554**	**13,242**	**69,799**
Marietta - Low Cost Estimate [2]	**3**	**79,335**	**$354,750**	**6,450**	**80,800**
Marietta - Moderate Cost Estimate [3]	**3**	**79,335**	**$449,565**	**6,450**	**80,800**
Marietta - High Cost Estimate [4]	**3**	**79,335**	**$516,000**	**6,450**	**80,800**

Notes:

1. All figures, are FY2005 data from phone survey of peer systems.
2. Low estimated cost per revenue hour assumed to be $55.00.
3. Moderate estimated cost per revenue hour assumed to be $69.70.
4. High estimated cost per revenue hour assumed to be $80.00.

3.4.3 Performance Measures

Performance measures utilized for this section include the following:

1. Operating expenses per vehicle revenue mile.
2. Operating expenses per vehicle revenue hour.
3. Operating expenses per passenger trip.
4. Passenger trips per vehicle revenue mile.
5. Passenger trips per vehicle revenue hour.

Table 3-2 includes calculated values for the five performance measures for trolley service in the peer cities. Each of these measures is easily calculated. For example, the annual operating expense for Buckhead ($1,209,000) is divided by the number of annual vehicle revenue hours (31,616). The result is $38.24 per vehicle revenue hour, the value recorded in Table 3-2 for Buckhead.

In general, the first three performance measures listed above concerning operating expenses should be low while the last two concerning passenger trips should be high. Operating expenses per vehicle revenue mile and per vehicle revenue hour may be considered measures of efficiency of operations. Operating expenses passenger trip may be considered a measure of productivity. Passenger trips per vehicle revenue mile and per vehicle revenue hour may be considered measures of service provided. Table 3-2 includes the performance measures for the peer cities.

Table 3-2: Peer System Performance Characteristics

	Service Efficiency		Cost Effectiveness	Service Effectiveness	
Peer City	**Cost per Vehicle Revenue Mile**	**Cost per Vehicle Revenue Hour**	**Cost per Passenger Trip**	**Passengers per Vehicle Revenue Mile**	**Passengers per Vehicle Revenue Hour**
Buckhead CID, Atlanta, GA	$7.10	$38.24	$2.44	2.91	15.66
Coral Gables, FL	$11.02	$64.05	$1.28	8.60	50.00
Decatur, IL	$4.90	$53.00	$6.01	0.82	8.82
Savannah, GA	$5.13	$49.21	$2.46	2.09	20.01
Scottsdale, AZ	$6.25	$54.59	$3.13	2.00	17.47
Wilmington, NC	$3.56	$30.94	$2.52	1.42	12.30
Peer Agency:					
Low	**$3.56**	**$30.94**	**$1.28**	**0.82**	**8.82**
High	**$11.02**	**$64.05**	**$6.01**	**8.60**	**50.00**
Average	**$6.33**	**$48.34**	**$2.97**	**2.97**	**20.71**
Marietta - Low Cost Estimate	**$4.39**	**$55.00**	**$4.47**	**0.98**	**12.30**
Marietta - Moderate Cost Estimate	**$5.56**	**$69.70**	**$5.67**	**0.98**	**12.30**
Marietta - High Cost Estimate	**$6.39**	**$80.00**	**$6.50**	**0.98**	**12.30**

The peer cities vary widely on the first measure, with Wilmington, NC having the lowest cost per vehicle revenue mile and cost per vehicle revenue hour. This is likely due to the low cost of living in this area and subsequent lower hourly labor wages, a key operating cost. Coral Gables, FL has the highest cost for the first two measures, and is due mainly to their choice of fuel technology – a gas/electric hybrid system. This trolley system is presently in the process of converting to diesel fuel. Fuel technology is discussed in Section 4.5.

The Marietta trolley system performed better than the peer system average on the first measure, which is surprising considering the round trip length of the initial alignment at 9.4 miles. However, if the very high Coral Gables measure is removed, the average is $6.64 and Marietta is just below the average. Marietta is higher than the average on the second measure, which means it performs worse than the peer average.

Coral Gables has the lowest cost per passenger trip due to the tremendous popularity of the trolley service. Decatur, IL has the highest cost for the same category. The Marietta system performs worse than the peer average in this category.

In the final two categories, passengers per vehicle revenue mile and passengers per vehicle revenue hour, Coral Gables is clearly the providing the most service and Decatur, IL the least. The Marietta trolley performed much worse than the peer average on the remaining two measures.

4.0 PROPOSED TROLLEY SERVICE

A trolley system for Marietta was designed to meet the previously discussed system parameters. This section details route alignment, level of service options, and potential implementation phasing. Route distances have been measured and route travel times estimated based on the alignment characteristics, attraction locations, and service characteristics.

4.1 Phase I

As shown in Figure 2-1, this initial phase will operate from the Marietta Conference Center & Resort to the Kennesaw Mountain National Battlefield Park. Route characteristics are as follows:

- Two-directional linear service provided. Stops are available at key attractions for each direction of travel along the route.
- The round trip route length is approximately 9.4 miles.

An operating plan for ten and 15 minute frequencies was developed based on the route and service characteristics and is presented in Table 4-1.

Table 4-1: Phase I Operating Plan

Route Pattern	Round Trip		Service Freq. (Min.)				Annual		Trolleys		
	Min.	Miles	Day	Peak	Mid	Eve.	Trolley-Miles	Trolley-Hrs	Peak	Mid	Eve.
Conference Center to	35	9.4	M-F	10	10	n/a	100,700	7,140	4	4	0
Kennesaw Mountain			Sa	10	10	n/a	20,500	1,460	4	4	0
Ten Minute Frequency Totals							***121,200***	***8,600***	***4***	***4***	***0***
									Trolley Fleet =		***5***
Conference Center to	35	9.4	M-F	15	15	n/a	67,100	5,360	3	3	0
Kennesaw Mtn			Sa	15	15	n/a	13,700	1,090	3	3	0
Fifteen Minute Frequency Totals							***80,800***	***6,450***	***3***	***3***	***0***
									Trolley Fleet =		***4***

Travel times were estimated with a spreadsheet model that assumes acceleration and deceleration rates appropriate for a trolley vehicle. Maximum assumed trolley operating speeds vary by segment, but generally range from 10 to 20 mph, with 35 mph assumed as a maximum speed on Old Highway 41. As there are many traffic signals along the alignment, an additional 20 percent travel time was added to the calculated run times to account for delays. Trolley dwell times at the designated stops were assumed to be 10 seconds to 2 minutes – depending on the likely passenger activity at the stop. The estimated round trip travel time for Phase I is approximately 35 minutes. This equates to a 16.2 mph average speed. A travel time table for phase I is provided in Appendix A of this report.

4.2 Phase II

As shown in Figure 2-2, this second phase will operate from the Marietta Transfer Center to the Kennesaw Mountain National Battlefield Park. Route characteristics are as follows:

- Two-directional linear service provided. Stops are provided for each direction of travel along the route.
- The round trip route length is approximately 13.7 miles.

An operating plan for ten and fifteen minute service frequencies was developed based on the above route characteristics and is presented in Table 4-2.

Table 4-2: Phase II Operating Plan

Route Pattern	Round Trip Min.	Round Trip Miles	Service Freq. (Min.) Day	Peak	Mid	Eve.	Annual Trolley-Miles	Annual Trolley-Hrs	Trolleys Peak	Mid	Eve.
MTC to Kennesaw Mountain	55	13.6	M-F	10	10	n/a	145,700	10,710	6	6	0
			Sa	10	10	n/a	29,700	2,180	6	6	0
Ten Minute Frequency Totals							***175,400***	***12,890***	***6***	***6***	***0***
									Trolley Fleet =		***8***
MTC to Kennesaw Mountain	55	13.6	M-F	15	15	n/a	97,100	7,140	4	4	0
			Sa	15	15	n/a	19,800	1,460	4	4	0
Fifteen Minute Frequency Totals							***116,900***	***8,600***	***4***	***4***	***0***
									Trolley Fleet =		***5***

Trolley travel times were estimated with the same assumptions identified for Phase I. The resulting round trip travel time estimate is approximately 55 minutes. This equates to a 15.0 mph average speed. A travel time table for Phase II is provided in Appendix A of this report.

4.3 Capital Costs

Based on the operations plan, capital and operations and maintenance costs are estimated for the trolley system. These costs are designed to provide a detailed analysis of how much it will cost to operate the system based on several assumptions. These assumptions include wages, fuel costs, fuel efficiency, and several other factors detailed on the System Parameters pages in Appendix C. Private contractors may be able to operate the trolley system at a lower cost because of market experience, economies of scale, or other reasons, however, these costs provide a baseline for comparing competitive bids.

4.3.1 Capital Costs

Capital costs are one-time charges to purchase durable goods necessary for the trolley system such as vehicles, maintenance facilities, and fueling stations. Additionally, capital costs include expenses such as training. Capital costs are divided into two general

categories: [1] startup and [2] replacement. Startup costs are associated with getting the system up and running and include vehicles, maintenance facilities, fueling facilities, and amenities at the trolley stops. Replacement costs are incurred as vehicles and equipment age and are no longer serviceable.

4.3.2 Start-up Costs

Startup costs include all elements necessary to implement the operations plan. Costs are divided into three broad categories, illustrated in Table 4-3. For this example, a service frequency in Phase I of fifteen minutes was assumed.

Table 4-3: Estimated Phase I Startup Capital Costs

Category	Marietta Trolley
Rolling Stock	$1,000,000
Facilities	n/a
Other	$100,000
Total	**$1,100,000**

Rolling stock costs are based on the number of vehicles (including spares) required to implement the operations plan for each service option. An estimated cost of $250,000 per trolley was assumed, is based on unit cost, and is intended to be conservative. In practice, trolley vehicle costs could be somewhat lower based on the volume of units and options ordered. This also assumes that vehicles are purchased and not leased. Leasing a vehicle will cost approximately $55,000 more per vehicle over the expected life of the trolley system than purchasing the vehicles outright. If sufficient capital funding could be obtained to fund for enough vehicles to implement the Phase I option should be available through federal or other grants, purchasing the vehicles is recommended. Since Contractor, City, or CCT facilities will be used, no capital funding is included. The other category is made up of amenities such as information kiosks, maps, signs, trash receptacles, shelters, and benches. It is envisioned that each trolley stop will include some or all of the amenities listed.

4.3.3 Replacement Costs

When vehicles, facilities, or amenities wear out and can no longer be repaired, they need to be replaced. A conservative estimate for the useful life of rolling stock is 7 years, in comparison to the generally accepted standard of 10 years.

4.4 Operations and Maintenance (O&M) Costs

This section presents operating characteristics and O&M cost estimates for the Marietta Trolley Alternatives. Unlike capital costs that are generally one-time charges, operations and maintenance costs are recurring. O&M costs include wages, benefits, fuel, oil, tires, parts, marketing, office supplies, utilities, and liability insurance estimates. For the purposes of this section, the operating costs will be based on the assumption that a contractor will operate the trolley system similarly to the CCT operation. In this case, the system is operated on a cost per revenue hour basis, with additional funds required for fuel and administration. The fuel cost per revenue hour was estimated by reducing the CCT fuel cost by half. Two phases have been developed for consideration for the trolley system. These phases vary with regards to the number of trolleys, service frequency, service coverage and operating statistics. The estimated operating costs for the trolley service are presented in Table 4-4.

Table 4-4: Estimated Marietta Trolley Operating Costs

Statistic	Phase I: 10 Minute Frequency	Phase I: 15 Minute Frequency	Phase II: 10 Minute Frequency	Phase II: 15 Minute Frequency
Service Statistics				
Peak Trolleys	4	3	6	4
Fleet Trolleys	5	4	8	5
Ann. Rev. Trolley-Hrs.	8,600	6,450	12,890	8,600
Ann. Rev. Trolley-Miles	121,200	80,800	175,400	116,900
O&M Cost				
Trolley Ops - Labor & Maint.	$491,700	$368,700	$736,900	$491,700
Trolley Ops: Fuel	$28,300	$21,200	$42,400	$28,300
Trolley Ops: Administration	$79,400	$59,500	$119,000	$79,400
Total	**$599,400**	**$449,400**	**$898,300**	**$599,400**
Aggr. Cost/Rev.-Hr.	*$69.70*	*$69.70*	*$69.70*	*$69.70*

4.5 Recommended Vehicle Type and Facility Requirements

Technology and vehicle identification are interrelated concepts. All fuel technologies are not available with all vehicle types. Therefore, choosing a particular fuel places constraints upon the available vehicle types and vice versa. This is especially true with electric vehicles because the technology is relatively new and with a very limited number of manufacturers. Since fuel technology limits the available vehicle types, the technology considerations will be addressed first. After this decision is made, a vehicle type that meets the needs of the trolley system should be selected from available vehicles using that technology.

4.5.1 Fuel Technology Identification

A comparison and screening of fuel technologies will be undertaken in this section, resulting in a fuel recommendation. A menu of conventional and alternative fueled

technologies is currently available from a number of manufactures. However, presented is a sample set of vehicle-types, intended to represent broader technology classes. Diesel, Compressed Natural Gas (CNG), propane, battery electric (electric), and hybrid electric (hybrid) technologies have been evaluated. These were chosen for comparison based on availability, reliability, and low emissions. Additionally, these fuel types are currently in service in several trolley applications around the country. A variety of promising alternative fuels are being developed and brought to market, but they are not yet proven technologies and are therefore excluded from this analysis because of availability and reliability concerns.

Diesel is the traditional fuel technology. Diesel fueled vehicles are widely available, reliable, and a proven technology. Most maintenance facilities are equipped for diesel fueled vehicles.

CNG and propane vehicles are very similar in appearance and operation. They look exactly like traditional gas or diesel powered vehicles, unless additional fuel tanks are mounted on the roof of the vehicle. Both use engines and power trains that are similar in design and construction to traditional gas and diesel engines. CNG and propane are the most widely used alternative.

Electric vehicles are significantly different from traditional, CNG, and propane vehicles. A fundamental difference is that they rely on a rechargeable battery for fuel, instead of internal combustion. In contrast to the other fuel technologies, the power train is very simple and consists of a battery pack, motor, transfer gear, and controller. Chattanooga, TN, Miami Beach, FL, and Norfolk, VA all have operating trolley systems that use electric vehicles.

Hybrid vehicles use two fuels for propulsion, one of which is a rechargeable battery. The other fuel is used to run a small alternative power unit (APU) that constantly charges the battery and can be CNG, propane, gasoline, or diesel depending on the application.

4.5.2 Fuel Costs

Fuel cost varies depending on the type of fuel used and the market the fuel is purchased in. Costs for CNG and propane are generally similar and have been traditionally been about 15 percent less than the cost of gasoline and diesel. However, fuel prices are dependant on supply and demand and are generally quite volatile. Additionally, fuel prices may vary depending on the supplier. Electricity is generally the cheapest form of fuel, costing roughly half as much as CNG or propane. However, since fuel accounts for approximately 2% of the operating cost for an average trolley, several other factors are more important for evaluating fuels.

4.5.3 Technology Reliability and Performance

Investigating the reliability of fuel technologies is essential to ensuring the recommended technology will meet the needs of the trolley system. Early CNG and propane engines had several quality problems, but these have been worked out over the course of several years and are now as reliable as traditional engines. Currently, transit authorities and trolley providers using CNG and propane engines report fewer oil changes, due to the cleaner burning fuel, and anticipate engines will last longer than similar gasoline models.

At present, electric and hybrid powertrains are not as developmentally advanced as CNG and propane designs. The electric vehicle industry is still new and several operators have discovered defects in the vehicles, which result in reliability issues. In short, although electric vehicles are fairly reliable, their short ranges and need for strong preventative maintenance make it very important to maintain a sufficient number of spare vehicles.

Examining performance of the various fuels is critical to determining which technologies will meet the overall performance objectives of the trolley network. CNG and propane vehicles are generally comparable to gasoline or diesel powered vehicles. They can climb any grade that can be negotiated by traditional trolley vehicles. Acceleration and top speed is also similar to gasoline or diesel powered vehicles. In contrast to traditional vehicles, their range between refueling is limited to approximately 150 – 250 miles, depending on the configuration and technology of the fuel cylinders. A significant disadvantage of CNG engines is they do not operate well at very high temperatures; fuel compression becomes more difficult to maintain as temperature increases.

4.5.4 Fuel Technology Screening Methodology

The fuel technology screening process is qualitative in nature, but is primarily designed to match the performance and cost characteristics of different propulsion systems with the operational environment of the service area. The chart in Table 4-3 depicts five fuel technologies and how they compare across eleven criteria.

Table 4-3: Comparative Screen of Trolley Technologies

Vehicle Characteristics		Fuel Technology				
		Diesel	CNG	Propane	Electric	Hybrid
Cost	Vehicle	3	3	3	2	1
	Operating	3	3	3	2	2
	Maintenance	3	3	3	2	1
	Fuel	2	2	2	1	2
Reliability	Vehicles in service	3	3	3	1	1
	Dependability	3	3	3	2	2
Performance	Range	3	3	3	1	2
	Power	3	3	3	1	1
Refueling	Convenience	3	3	3	2	3
	Facility Cost	3	1	1	2	1
	Facility Safety Features	2	1	1	3	1
Score		**31**	**28**	**28**	**19**	**17**

The following list provides a description and evaluation of key characteristics compared in the previous table:

- **Cost:**

Made up of four components that include vehicle cost, operating cost, fuel cost, and maintenance. In general lower costs are desirable but other criteria may override cost.

- **Reliability:**

A key measure, it includes two components that are vehicles in service and mechanical reliability. More vehicles in service increases the likelihood that flaws have already been worked out of the technology. Higher mechanical reliability is desirable, because it reduces the need for spares and contributes to schedule reliability.

- **Performance:**

Essential to determining whether the technology is capable of executing the operations plan. Performance is made up of two parts, which are range and grade climbing ability. Longer ranges and higher grade climbing abilities are both desirable.

- **Refueling:**

Includes three components that are fast and convenient refueling, cost of facilities, and facility safety features required. Fast and convenient refueling is required to meet the high service standards in the operations plan. A low cost of facilities is desirable, but it is unlikely that a fueling station will be built as part of the trolley implementation. Facility safety features required refers to additional safety measures needed to deal with potentially explosive fuels.

Each technology in the table was assigned 3 points for each good, 2 points for each fair, and 1 point for each poor. The points were then totaled, hybrid came in last with 17, electric came in fourth with 21, CNG and propane tied for second with 28, and diesel came in first with 31.

4.5.5 Fuel Technology Recommendation

From the screening process, Hybrid and Propane technologies can be eliminated from consideration. Theoretically, Hybrid fuel technology combines some of the best characteristics of electric and fossil fueled propulsion systems but have not been competitive from a capital cost standpoint. They have good range for the size vehicle suited for the trolley system; however, they require the support infrastructure of both types of fuel. More research and development needs to take place on a national level before it becomes advisable for a small system like the Marietta trolley to take on the unknowns in terms of reliability, and maintenance costs of a hybrid fleet.

Propane can be eliminated because the variety of vehicles suitable for a trolley system are not available. Propane presents its own set of issues in the care for vehicles and fueling systems. Although there is no need for high compression, vehicles this size would need very large tanks on board to maintain the range of similar diesel or CNG fueled vehicles. Propane, like CNG, also requires leak detection.

The CNG and electric technologies ranked very closely across the criteria used in the screening process. The advantages of CNG include stronger operating characteristics, especially range, and a wider variety of vehicles that are available and "in service" tested.

Although a fleet of electric vehicles could function reasonably well in the service area, they are not recommended because new maintenance and charging facilities will be necessary to support the system. It is much more practical to use existing infrastructure present in the service area.

Diesel is the most practical technology, because fueling is readily available at existing facilities. Additionally, for reliability, range, performance, and maintenance cost, diesel is the preferred technology.

4.5.6 Vehicle Type Consideration

Since fuel technology narrows the choice of available vehicle types slightly. Representative pictures of vehicle types are included in Appendix B.

5.0 TROLLEY IMPLEMENTATION PLAN

Various options for managing the proposed trolley service are discussed in this section. The management structure must allow for effective and efficient management and control of costs.

The trolley financial plan is also included in this section. Potential federal, state, and local revenue sources that may be available are identified and a five-year financial plan for the recommended service option contains estimates of annual operating and capital costs. In addition, the possible phasing of the trolley system components based on projected costs and available funding over five years of operations is included.

5.1 Potential Trolley System Management Approaches

In this section various management options are described for the proposed trolley program. The selected management structure must allow for effective and efficient management and control of costs. Three potential options are available and are described below.

The trolley service could be sponsored by a qualified local entity or the City of Marietta. Either could decide to totally fund the service or apply for Federal Transit Administration (FTA) funding assistance grants. Since local organizations and municipal governments are not typically positioned to directly operate transit services, direct operation of service was not considered as a viable alternative. A number of national transit management firms specialize in the operation of service, so one approach would be for the sponsor to contract service through a qualified firm under a competitive procurement process. Under this approach, the sponsoring entity would have a transit administrative staff position to coordinate the program. All elements of the service could be included as a contractor responsibility or the vehicles and operating facility could be furnished by the sponsor.

As a first option, the sponsor would have overall responsibility for administering the program and contract with a private service provider that would be responsible for providing all aspects (operations & maintenance facility, trolley stops/shelters, employees, and vehicles) of the trolley service. Based on estimates from area transit contractors the cost of this service would be approximately $80.00 per vehicle revenue hour plus an administration cost to oversee the contract.

A second option would be for the sponsoring entity to have overall responsibility for administering the program and contract with a private service provider that would be responsible for operating the system including trolley stops/shelters. The vehicles and operating facility would be furnished by the sponsoring entity either through direct funding or through available federal grant programs. This option would cost

approximately $55.00 per hour plus an additional cost for administering the contract and the associated vehicle and facility capital costs.

Under either of these approaches, the sponsor would:

- Issue a Request for Proposals (RFP) to qualified firms who would develop and submit technical and cost proposals for a pre-determined level of service specified in the RFP.
- Receive proposals, evaluate, and select the best qualified service provider based on a set of pre-determined evaluation criteria.

A third option would be to consider utilizing Cobb Community Transit (CCT) as the service provider. Since 1989, CCT has provided various types of transit service to the Cobb community and the City of Marietta. CCT's operating facility is conveniently located within the city and the system has traditionally utilized a transit management firm under the contract process previously described. The trolley sponsor could contact CCT to explore the possibility of establishing an interagency operating agreement wherein a public partnership would be formed. The agreement would establish partnering roles and responsibilities for administration, planning, financing, operating, and maintaining the trolley service. CCT has the capability to provide a trolley service and is also very familiar with transit operating regulations as well as the FTA grant process. If CCT were to operate the trolley system, they would also be eligible to receive additional FTA Section 5307 formula funds due to the additional revenue miles produced by the trolley system which could possibly be used to offset some of the capital costs. With CCT operating the trolley service, the need for a full time staff position at the sponsoring agency would most likely not be necessary, however, an additional position could be required at CCT. The FY 2005 CCT cost per vehicle revenue hour was approximately $73.00.

5.1.1 Ridership Estimate Methodology

The method used to estimate potential ridership for the trolley system was based on the observed passenger activity per revenue hour in the peer review. The highest number of passengers per hour (50.0) and the lowest (8.9) were not used and the remaining four factors were found to range from 12.3 to 20.0 passengers per revenue hour. According to the operating estimates for Phase I, the trolley would operate between 6,450 and 8,600 revenue hours per year depending on the frequency of service. To be conservative, the lower revenue hour figure will be used. When multiplied by the low and high factors of the modified peer system average, the estimated Phase I ridership would be between 79,335 and 129,000 passengers per year.

This estimate assumes the trolley system would be fully utilized immediately. Typically, a new service takes from one to three years to mature. Table 5-1 presents a conservative, moderate, and more aggressive estimate of ridership over the first three years, based on the 79,335 passengers per year figure.

Table 5-1: Marietta Trolley Estimated Ridership Scenarios

Year	Ridership Scenario		
	Conservative	Moderate	Aggressive
1	19,834 (25% of Estimate)	39,668 (50% of Estimate)	59,501 (75% of Estimate)
2	43,634 (50% of Estimate)	59,501 (75% of Estimate)	79,335 (100% of Estimate)
3	59,501 (75% of Estimate)	79,335 (100% of Estimate)	99,169 (125% of Estimate)

It was assumed that trolley ridership would originate from a number of potential markets. These market sources could include:

- Visitors to service area attractions
- Marietta Square destined shoppers, diners, and business trips
- Kennestone Hospital employees/visitors
- Selected employment trips
- Other miscellaneous community trips
- CCT riders taking advantage of additional coverage/convenience opportunities

5.1.2 Fare Policy

Simplicity is a key advantage of a free fare system. Since riders will not have to pause to pay a fare trolley boarding will be speeded up allowing for more efficient routes. Another important advantage to a free fare is there is no loss in ridership from fare elasticity.

Because the trolley concept was conceived as a service to enhance mobility and mitigate congestion, fare box recovery is a much lower priority than mobility. However, there are other reasons to consider charging a fare. For example, the Electrowave Trolley in Miami Beach began charging a fare to discourage vagrants from "joy-riding" on the system. Spurious use of the system by vagrants is not likely to be a problem in the study area. Therefore, a free fare system offers by far the most mobility with relatively minor disadvantages.

5.1.3 Vehicles

Vehicles could possibly be funded through federal grants with a 20% local match. As discussed previously in the operations plan, the trolley system will require four to five vehicles in Phase I and five to eight vehicles in Phase II.

5.1.4 Maintenance and Fueling Facilities

A facility for storing, fueling, and maintaining the trolleys is a critical element of a trolley system and could be provided through a service contractor, a local municipality, or CCT depending on the service option utilized.

5.1.5 Infrastructure

In addition to an operating facility, other system infrastructure elements could include a communications system, passenger shelters and stops and other amenities such as kiosks, benches, system maps, display cases, and trash receptacles.

5.2 Short-Term Element

Short-term includes the first three years the trolley is in operation. In contrast to the start up costs, short term funding will pay for operations since all capital expenditures will have been made. For the initial three years of operation, 80% of the operating funds could possibly come from the federal Congestion Mitigation and Air Quality (CMAQ) program, with the 20% local match provided by the trolley system sponsor. Application for CMAQ funds must be made to the Atlanta Regional Commission which has established a structured and competitive process.

5.2.1 Farebox Revenue and Advertising Revenue

Based on the previously referenced fare policy in the operating parameters section, no passenger fares will be charged. Advertising revenue is expected to be minimal as the trolley system is relatively small within a limited service area and therefore would most likely be unable to command higher rates for advertising.

5.2.2 Operating Subsidies

If approved, CMAQ program funds could provide the majority of operating subsidies for up to three years of trolley operations. After this funding was depleted, the entire operating subsidy would have to be provided by the project sponsor.

5.3 Long-Term Element

After three years, CMAQ funding is no longer available for operating the trolley and new sources of funding to meet the long term needs of the trolley system will need to be considered.

A number of strategies could be considered to provide long term funding for the trolley system. The City of Marietta already imposes rental car and lodging tax levies to support

tourism and collects revenue through a Downtown Marietta Development Authority property tax. Consideration could be given to additional similar revenue initiatives. As the end of the three year period approaches, benefits of the trolley system will be easier to measure and will help to determine the choice of an appropriate and equitable approach to long term funding strategies. However, it is critical to determine how the operation of the trolley system will continue to be funded after the CMAQ funds are exhausted.

5.4 Marietta Trolley Financial Plan

Funding for the trolley system could come from several different sources. Potential sources could include local organizations, the City of Marietta, federal grants, system revenues, and other sources. Only certain entities such as transit systems and local municipalities would be eligible to apply for and receive federal transit related grants. Portions of the capital funding could come from the CMAQ grant program, which requires a local match. The CMAQ program funds qualified projects and programs in air quality non-attainment and maintenance areas that reduce transportation related emissions. This program has been available for a number of years, however, a new program is being introduced by the Atlanta Regional Commission (ARC) and the Georgia Regional Transportation Authority (GRTA) to assist in the implementation and initial operation of shuttles in the activity centers of the metropolitan Atlanta region. The Marietta Trolley could be a candidate for this funding source as only new shuttle services within their first three years of operation will be eligible to compete for the funds with only 80% of the total project cost eligible for subsidization. This program has two primary goals: to increase transit ridership within the region and decrease the number of short trips made by private vehicles within activity centers. Program applications must be for projects that evolve from a circulator system plan which is outlined in the program description. Evaluation criteria for candidate projects include:

- Degree of integration with the regional transit system
- Ridership estimates
- System financial stability

5.4.1 Five Year Trolley Operations Funding Requirements

The potential funding options for the first five years are presented in Table 5-2. Operating funds could include CMAQ funds for the first three years of trolley operations. The following table summarizes various scenarios to finance the trolley system operations for the Phase I 15-minute frequency alternative for the first three years, and assumes that the Phase II 15-minute frequency operating plan will be utilized going forward.

Table 5-2: Marietta Trolley Operations Financing Scenarios

Estimated Sources of Operating Funds	Year				
	1 [1]	2	3	4 [2]	5
Passenger Fares	-	-	-	-	-
CMAQ	$360,000	$360,000	$360,000	-	-
Sponsoring Entity	**$90,000**	**$80,000**	**$70,000**	**$550,000**	**$525,000**
Advertising	-	$10,000	$20,000	$50,000	$75,000
Total Operating Funds	**$450,000**	**$450,000**	**$450,000**	**$600,000**	**$600,000**

Notes:
1. Years 1, 2, and 3 assume Phase I 15-minute operating plan.
2. Years 4 and 5 assume Phase II 15-minute operating plan.

Eighty percent of the initial trolley operating funds could come from CMAQ for the first three years, with the sponsoring entity and/or others contributing the required 20% local match. All start up costs, including the vehicles and infrastructure necessary to implement the operations plan, are capital costs.

Private contributions from businesses, attractions, or others that might benefit from the service could also be part of the funding package. Funds of this nature could be channeled through a non-profit agency to the trolley system.

6.0 RECOMMENDATIONS

The recommendations for the Marietta Trolley service are presented as follow and are based on detailed analysis, observations, and input from peer groups and the Study Advisory Committee:

- Determine potential trolley service sponsor(s) and funding sources.
- Based on input from the Advisory Committee, focus future planning and implementation efforts for service inauguration to coincide with the opening of the Aviation Museum at Marietta.
- Continue coordination with relevant planning partners including Cobb DOT, CCT, ARC, City of Marietta, and GRTA.
- If capital funding could be obtained through federal or other grants, purchasing the vehicles is recommended.
- Diesel is the most practical technology, as fuel is readily available at existing facilities. Additionally, for reliability, range, performance, and maintenance considerations, diesel is the preferred vehicle technology.
- Consider conducting a parking study to determine the location of park and ride facilities for accessing the shuttle system and to estimate appropriate parking fees for utilizing the lot.

APPENDIX A: ESTIMATED TRAVEL TIME TABLES

Marietta Trolley Study
Phase I Travel Time Estimates
Marietta Conference Center to Kennesaw Mountain

Station/Stop	Speed (mph)	Distance (miles) Incr.	Distance (miles) Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
Marietta Conference Center			**0.00**			**0:00:00**	**0:00:00**
	20	0.30		0:01:05	0:00:13		
Marietta Cemetery			**0.30**			**0:00:10**	**0:01:28**
	10	0.10		0:00:39	0:00:08		
Reynolds St. Turn			0.40			0:00:00	0:02:15
	25	0.07		0:00:13	0:00:03		
Cherokee St. Turn			0.47			0:00:00	0:02:30
	25	0.40		0:01:04	0:00:13		
Cobb County Courthouse			**0.87**			**0:00:30**	**0:04:17**
	10	0.21		0:01:21	0:00:16		
Mount Zion Baptist Church			**1.08**			**0:00:30**	**0:06:24**
	30	1.03		0:02:21	0:00:28		
Kennestone Hospital			**2.11**			**0:00:30**	**0:09:44**
	35	2.50		0:04:38	0:00:56		
Kennesaw Mountain Park			**4.61**			**0:02:00**	**0:17:17**
	35	2.50		0:04:38	0:00:56		
Kennestone Hospital			**7.11**			**0:00:30**	**0:23:21**
	30	1.10		0:02:29	0:00:30		
Marietta Welcome Center			**8.21**			**0:00:30**	**0:26:50**
	10	0.10		0:00:39	0:00:08		
Whitlock Ave. Turn			8.31			0:00:00	0:27:36
	15	0.38		0:01:32	0:00:18		
Powder Springs St. Turn			8.69			0:00:00	0:29:27
	15	0.47		0:01:57	0:00:23		
Marietta Cemetery			**9.16**			**0:00:10**	**0:31:57**
	20	0.30		0:01:00	0:00:12		
Marietta Conference Center			**9.46**			**0:02:00**	**0:35:09**
Totals			**9.46**	**0:23:36**	**0:04:43**	**0:06:50**	**0:35:09**
					Avg. Speed (mph) =		***16.15***

NOTES:
1. Run times based on 1.5 mphps acceleration and 2.5 mphps deceleration rates, and a max. operating speed of 35 mph.
2. Station distances based on URS measurements.

Prepared by URS

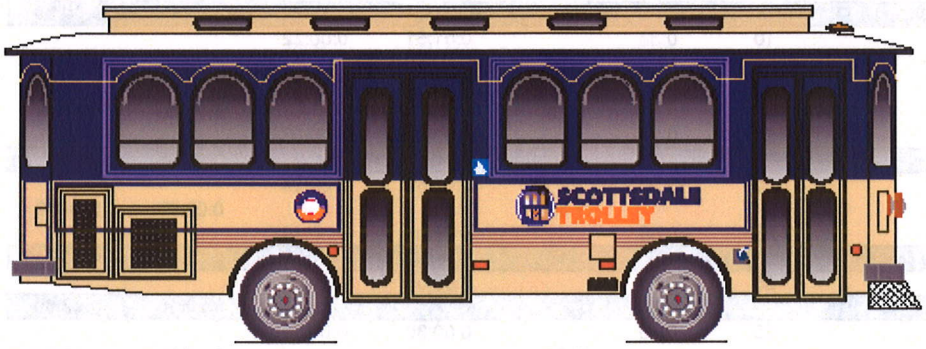
Marietta Trolley Study
Phase II Travel Time Estimates
MTC to Kennesaw Mountain

Station/Stop	Speed (mph)	Distance (miles) Incr.	Distance (miles) Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
Marietta Transfer Center			**0.00**				**0:00:00**
	10	0.30		0:01:51	0:00:22		
Fairground St.Turn			0.30			0:00:00	0:02:13
	25	0.45		0:01:08	0:00:14		
S. Cobb Dr. Curve			0.75			0:00:00	0:03:35
	25	0.25		0:00:42	0:00:08		
Aviation Museum			**1.00**			**0:02:00**	**0:06:25**
	20	0.60		0:01:59	0:00:24		
Dixie Ave. Turn			1.60			0:00:00	0:08:48
	20	0.50		0:01:35	0:00:19		
Marietta Conference Center			**2.10**			**0:00:30**	**0:11:12**
	20	0.30		0:01:05	0:00:13		
Marietta Cemetery			**2.40**			**0:00:10**	**0:12:40**
	10	0.10		0:00:39	0:00:08		
Reynolds St. Turn			2.50			0:00:00	0:13:27
	25	0.07		0:00:13	0:00:03		
Cherokee St. Turn			2.57			0:00:00	0:13:42
	25	0.40		0:01:04	0:00:13		
Cobb County Courthouse			**2.97**			**0:00:30**	**0:15:29**
	10	0.21		0:01:21	0:00:16		
Mount Zion Baptist Church			**3.18**			**0:00:30**	**0:17:36**
	25	1.03		0:02:43	0:00:33		
Kennestone Hospital			**4.21**			**0:00:30**	**0:21:22**
	35	2.50		0:04:38	0:00:56		
Kennesaw Mountain Park			**6.71**			**0:02:00**	**0:28:56**
	35	2.50		0:04:38	0:00:56		
Kennestone Hospital			**9.21**			**0:00:30**	**0:34:59**
	35	1.10		0:02:14	0:00:27		
Marietta Welcome Center			**10.31**			**0:00:30**	**0:38:10**
	10	0.10		0:00:39	0:00:08		
Whitlock Ave. Turn			10.41			0:00:00	0:38:57
	15	0.38		0:01:32	0:00:18		
Powder Springs St. Turn			10.79			0:00:00	0:40:47
	15	0.47		0:01:57	0:00:23		
Marietta Cemetery			**11.26**			**0:00:10**	**0:43:18**
	20	0.30		0:01:00	0:00:12		
Marietta Conference Center			**11.56**			**0:00:30**	**0:45:00**
	20	0.52		0:01:34	0:00:19		
Butler St. Turn			12.08			0:00:00	0:46:52
	20	0.61		0:01:55	0:00:23		
Aviation Museum			**12.69**			**0:02:00**	**0:51:10**
	15	0.26		0:01:07	0:00:13		
Fairground St. Curve			12.95			0:00:00	0:52:31
	25	0.40		0:00:59	0:00:12		
Clay St. Turn			13.35			0:00:00	0:53:42
	15	0.32		0:01:19	0:00:16		
Marietta Transfer Center			**13.67**			**0:02:00**	**0:54:31**
Totals			**13.67**	**0:37:52**	**0:07:34**	**0:11:50**	**0:54:31**
					Avg. Speed (mph) =		***15.04***

NOTES:
1. Run times based on 1.5 mphps acceleration and 2.5 mphps deceleration rates, and a max. operating speed of 35 mph.
2. Station distances based on URS measurements.

Prepared by URS

APPENDIX B: VEHICLE EXAMPLES



New Services Recommendations

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1.0 INTRODUCTION

1.1 Background

The 2003 CCT Transit Development Plan (TDP) recommended two new services in the near-term category which have not been implemented. The proposed services included Route 80 to operate between the Marietta Transfer Center and downtown Acworth and a Call and Ride Service for the Austell area that would connect with Route 30 in Mableton.
To further refine the TDP new service recommendations, the Transit Planning Study (TPS) included a task to assess the feasibility for establishing the most appropriate future services to the Acworth/Kennesaw and Austell/Powder Springs areas.

The New Services Recommendations Technical Report documents the process undertaken and resources required for potential new CCT service recommendations. The following considerations are included in this process:

- Compile demographic and socioeconomic data and other relevant service area information
- Review current CCT local and express services
- Consider relevant GRTA service plans
- Review current and projected growth, development, and travel patterns
- Consider input received from CCT riders, stakeholder interview, and subsequent public meetings
- Balance service needs with system resources
- Determine most appropriate service types and parameters
- Establish future service recommendations
- Prepare resource and cost requirements for implementation

2.0 SERVICE AREA CHARACTERISTICS

Cobb County is located in the northwest portion of metro Atlanta. The City of Marietta is the county seat and other municipalities include Acworth, Austell, Kennesaw, Smyrna and Powder Springs. According to 2004 U.S. Census estimates, Cobb's population exceeds 654,000.

Cobb has 22.1 million square feet of developed office space, more than 20 million square feet of retail space, and more than 38.7 million square feet of industrial space. Close to 1 million square feet of additional commercial space is in development. Most jobs in Cobb County are in the service industry with retail and manufacturing close behind. Cobb County's school system is the County's largest single employer with just under 14,000 employees. WellStar Health System is second with almost 10,000 employees.

Understanding the demographics of Cobb County is vital to identifying transit needs and developing transit services which address those needs. This section details several characteristics of the County related to providing transit service, including population, employment, and major travel generators.

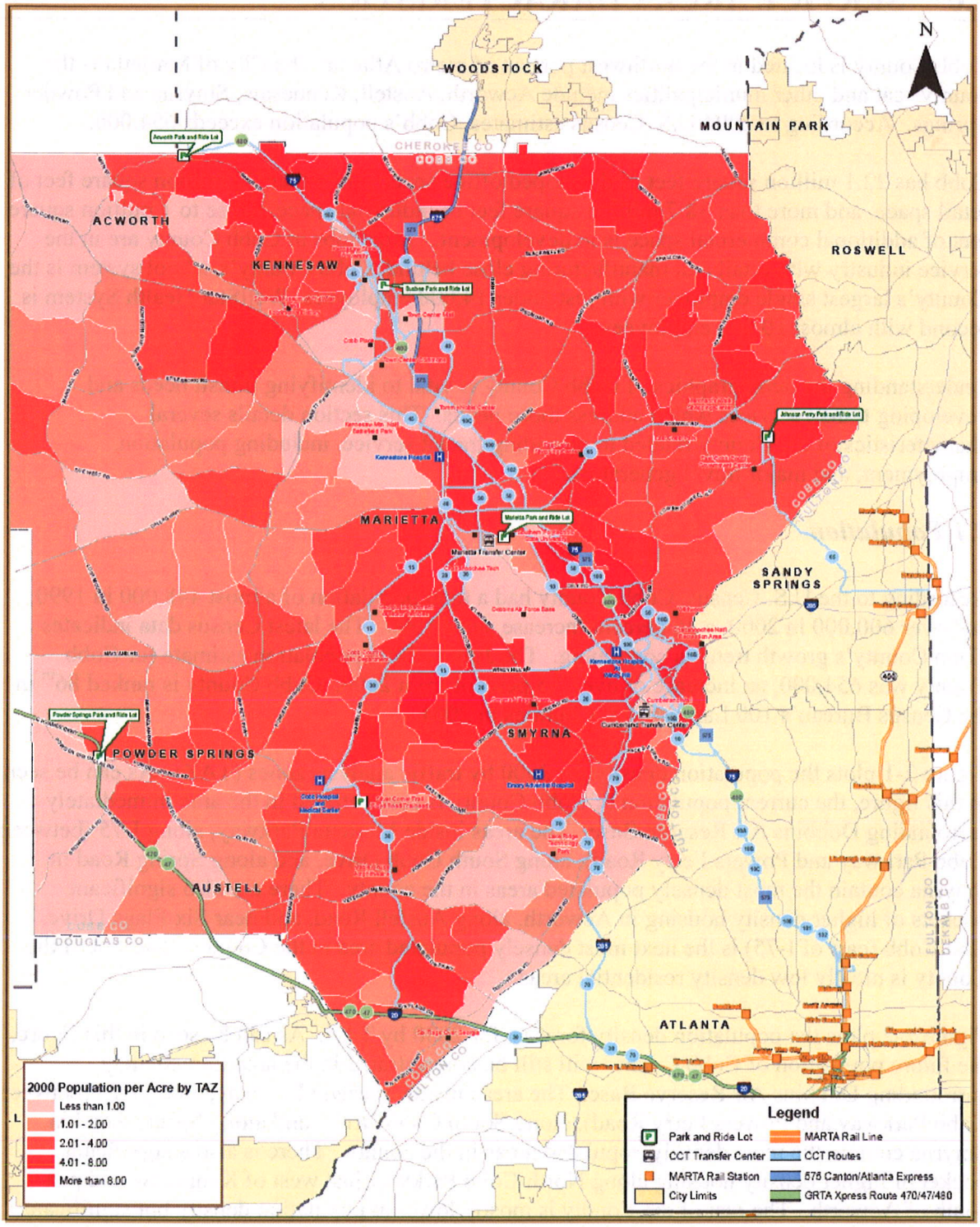
2.1 Population

According to the U.S. Census, Cobb County had a total population of almost 448,000 in 1990 and over 600,000 in 2000, a 36 percent increase since 1990. The latest Census data indicates Cobb County's growth trend is continuing. The July 1, 2004 population estimate for Cobb County was 654,000, an increase of over 7.5 percent from 2000. Cobb County is ranked 86th in the Census Bureau's 100 Largest U.S. Counties in 2004

Figure 2-1 plots the population density for 2000 by traffic analysis zones (TAZ). As can be seen in this figure, the current population of Cobb County is concentrated in the area immediately surrounding Dobbins Air Reserve Base. The areas inside Marietta Parkway, along I-75 (between Cobb Parkway and Powers Ferry Road), along South Cobb Drive, and along Spring Road in Smyrna contain the most densely populated areas in the county. There are also significant pockets of higher density housing in Acworth, along Austell Road, and near Six Flags Drive. East Cobb (east of I-75) is the next most densely populated area in the County. The rest of the County is mostly low density residential areas.

Figure 2-2 plots the population density forecast for 2030 by TAZ. As can be seen in this figure, the future population of Cobb County will still be concentrated in the area immediately surrounding Dobbins Air Reserve Base. The areas inside Marietta Parkway, along I-75 (between Cobb Parkway and Powers Ferry Road), along South Cobb Drive, and along Spring Road in Smyrna contain the most densely populated areas in the county. There is also a significant pocket of higher density housing along North Cobb Parkway just west of Kennesaw and just south of Acworth. The rest of the County is mostly lower in population density but significant growth is anticipated throughout the County.

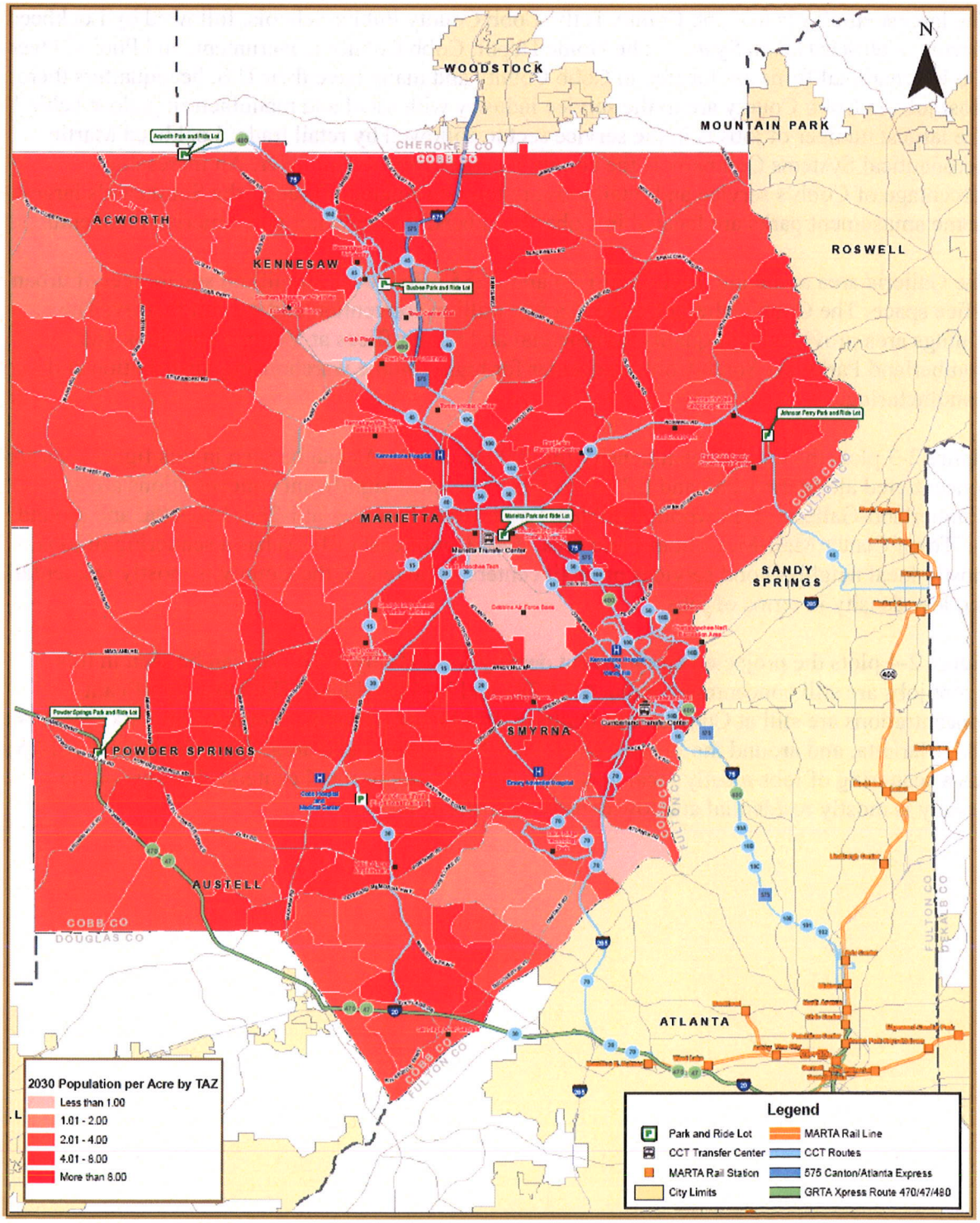
Figure 2-1: 2000 Estimated Population Density by TAZ



Source: 2000 US Census

January 2006

Figure 2-2: 2030 Estimated Population Density by TAZ



Source: 2000 US Census

January 2006

0 2.5 5 Miles

2.2 Employment

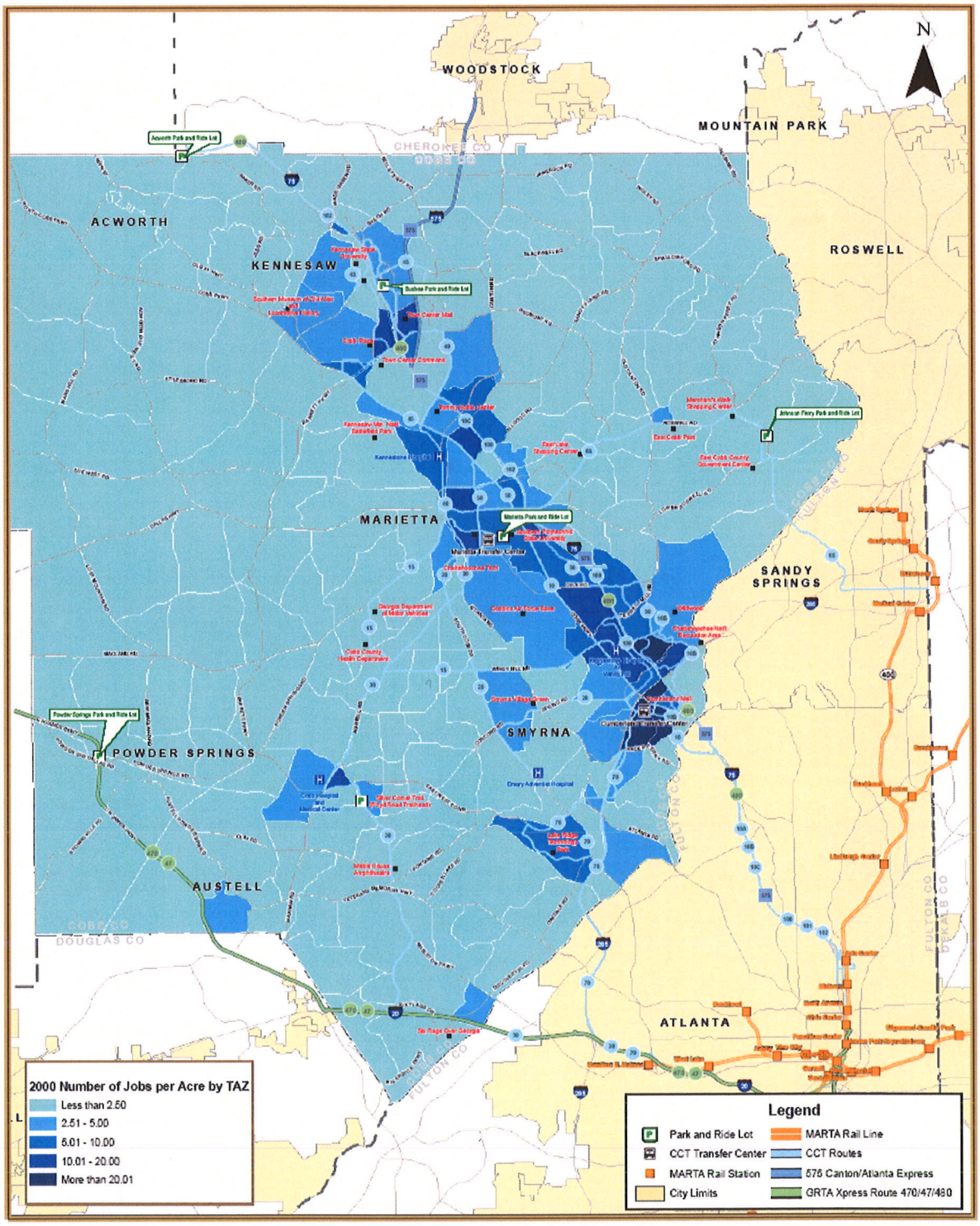
The largest employer in Cobb County is the Cobb County Public Schools, followed by Lockheed Martin, WellStar Health System, The Home Depot, Cobb County Government, and Publix. Over 200 international firms are located in Cobb County and many have their U.S. headquarters there. Most jobs in Cobb County are in the service industry with retail and manufacturing close behind. The largest number of jobs is in the service sector, followed by retail trade; Lockheed Martin Aeronautical Systems Company is the county's largest private employer. An increasing percentage of Cobb's service and retail jobs are tourism-related. Three of the Southeast's largest theme amusement parks are located in Cobb: Six Flags, White Water and American Adventures.

The Galleria area at the intersection of I-75 and I-285 offers over 20 million square feet of urban office space. The Cobb Galleria Centre is a $40 million convention and exhibit facility. The Vinings area provides high-quality commercial and retail offices at Vinings Overlook and Cumberland Parkway. South Cobb is a center for high-volume warehousing, distribution and manufacturing.

Figure 2-3 plots the employment density for 2000 by TAZ. As can be seen in this figure jobs are concentrated along the I-285 and I-75 corridors. The most significant concentrations are at Cumberland-Galleria, Wildwood, Dobbins, South Cobb Parkway at I-285, Marietta, and around the Town Center Mall-McCollum Field area. East Cobb (east of I-75) has a scattering of jobs mostly local neighborhood services or retail centers. The rest of the County is mostly residential and low density in terms of jobs.

Figure 2-4 plots the projected employment density for 2030 by TAZ. As can be seen in this figure jobs are still concentrated along the I-285 and I-75 corridors. The most significant concentrations are still at Cumberland-Galleria, Wildwood, Dobbins, South Cobb Parkway at I-285, Marietta, and around the Town Center Mall-McCollum Field area. East Cobb (east of I-75) has a scattering of jobs mostly local neighborhood services or retail centers. The rest of the County is mostly residential and low density in terms of jobs.

Figure 2-3: 2000 Estimated Employment Density by TAZ



Source: 2000 US Census

January 2006

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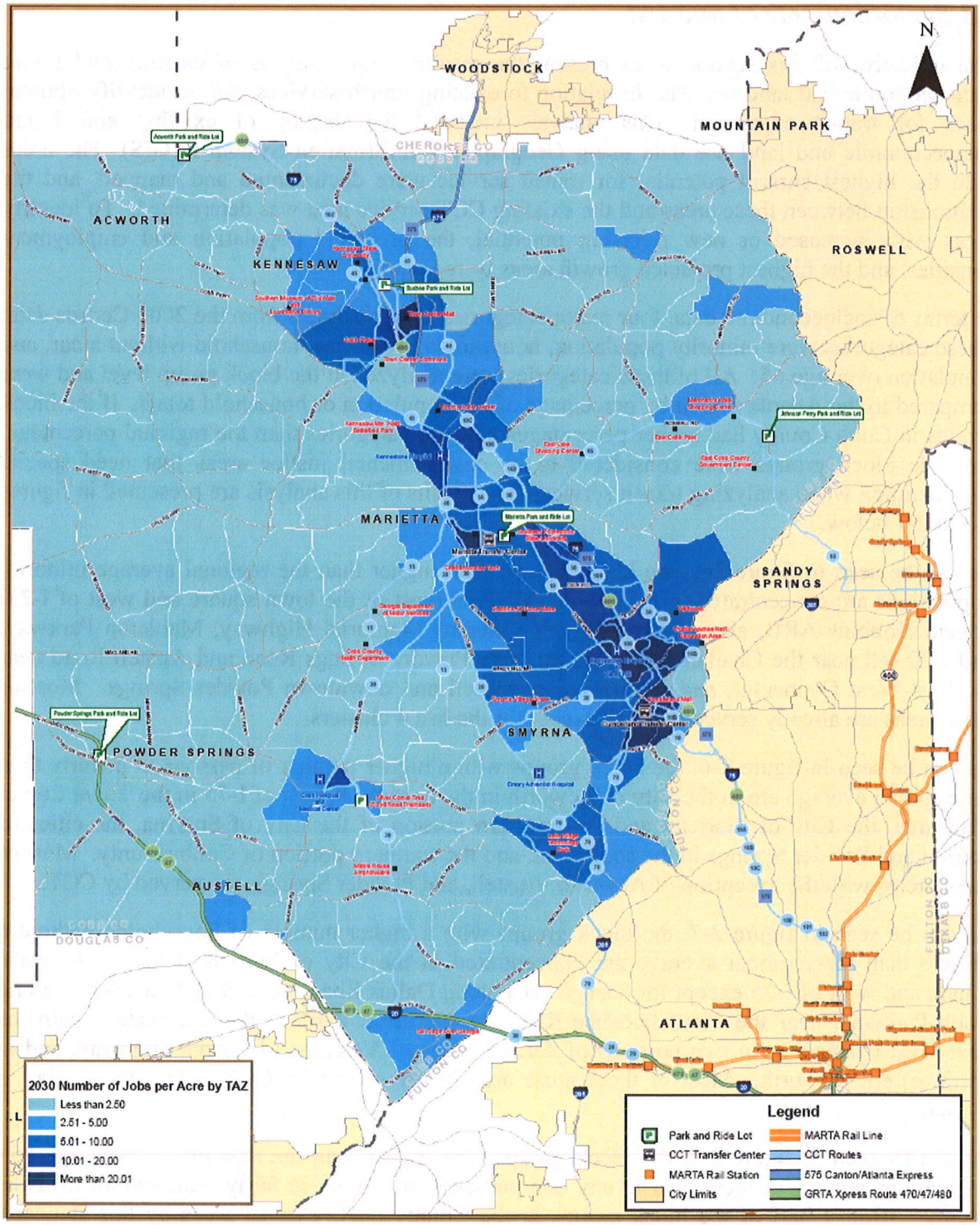
Figure 2-4: 2030 Estimated Employment Density by TAZ



Source: 2000 US Census

January 2006

0 2.5 5 Miles

2.3 Socioeconomic / Land Use

The objective of this section is to present the results of an analysis of existing and future socioeconomic and land use data in relation to existing transit services, and to identify optimal areas for transit expansion. This analysis included the display of existing and future socioeconomic and land use data using Geographical Information System's (GIS). The areas with the highest current potential for transit service were documented and mapped, and the relationship between these areas and the existing CCT service area was determined. To identify areas with increased or new ridership potential, the projected population and employment densities, and the highest projected growth areas were mapped.

In terms of socioeconomic data, four major categories were analyzed from the 2000 Census data. These categories were minority population, households in poverty, household without a car, and population over age 65. All of these categories were analyzed at the block group level and were compared to the Atlanta region by percentage of the population or household totals. If the block groups in Cobb County had higher percentages of these categories than the regional percentage, then the block groups were considered to be environmental justice areas that need special consideration when analyzing transit service. The results of this analysis are presented in figures 2-3 to 2-7 below.

As can be seen in figure 2-5, the block groups with higher than the regional average minority populations are concentrated in the City of Marietta (east of the town square and west of I-75) around Dobbins ARB, along Atlanta Road, Veterans Memorial Highway, Mableton Parkway, and I-20 (all near the Chattahoochee River), near Powder Springs Road and Austell Road near the East-West Connector, and in downtown Austell and downtown Powder Springs. Most of these areas are already served by CCT except for the last 4 clusters.

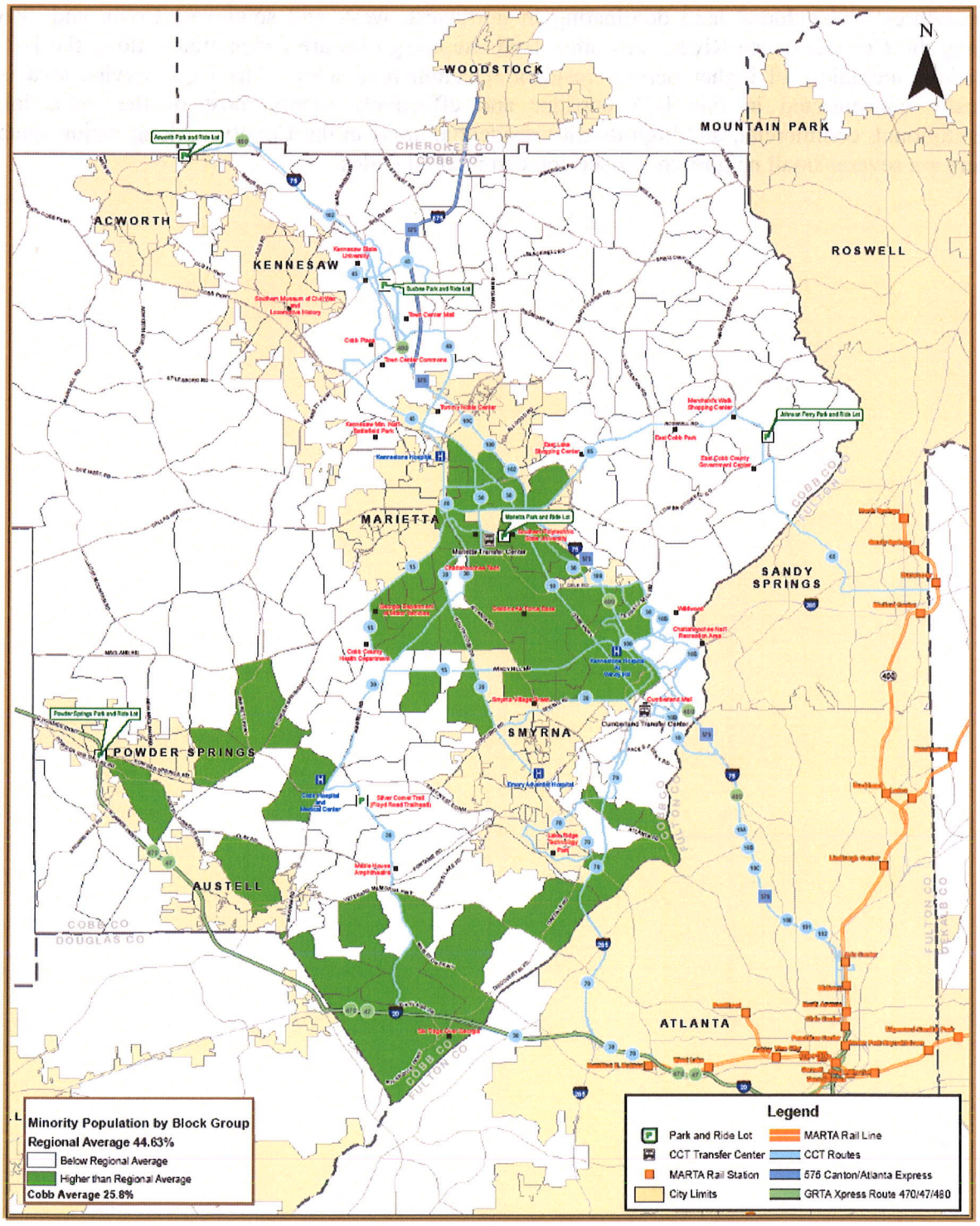
As can be seen in figure 2-6, the block groups with a higher number of persons in poverty than the regional average are in the City of Acworth in the northwest, east of I-75 in the Town Center Mall area, the City of Marietta and the northern portion of the City of Smyrna, the cities of Austell and Powder Springs in the southwest, and the southern portion of Cobb County. Most of these areas, with the exception of Acworth, Austell, and Powder Springs, are served by CCT.

As can be seen in figure 2-7, the block groups with a higher number of households without a vehicle than the regional average are concentrated in the City of Marietta (east of the town square and west of I-75 except for a small area along Dallas Road) around Dobbins ARB, along Cobb Parkway, near the Chattahoochee River, near Austell Road at the intersection with the East-West Connector, in two portions of Austell south of Veterans Memorial Highway, and in northwestern Acworth. Most of these areas are already served by CCT except for the last 3 clusters.

As can be seen in figure 2-8, the block groups with higher than the regional average age 65+ populations are not concentrated in any one particular area but are fairly scattered all over the county. Almost half of the block groups in the County qualify as EJ areas by this standard. Many of these areas are already served by CCT but significant block groups in northwest, west, southwest, and east Cobb are not.

As can be seen in figure 2-9, the land uses in Cobb County are fairly uniform throughout the County with low density residential areas dominating the County and open space/forest/undeveloped land dominating in northwest, west, and southwest Cobb, and also along the Chattahoochee River. All other land use categories are concentrated along the I-75 corridor including all higher density residential commercial uses. The CCT service area is mostly concentrated in this I-75 corridor and effectively serves most of the industrial, institutional, commercial, and high density residential areas in the County. Along major roads there are several small neighborhood-serving commercial nodes.

Figure 2-5 Minority Population by Block Group

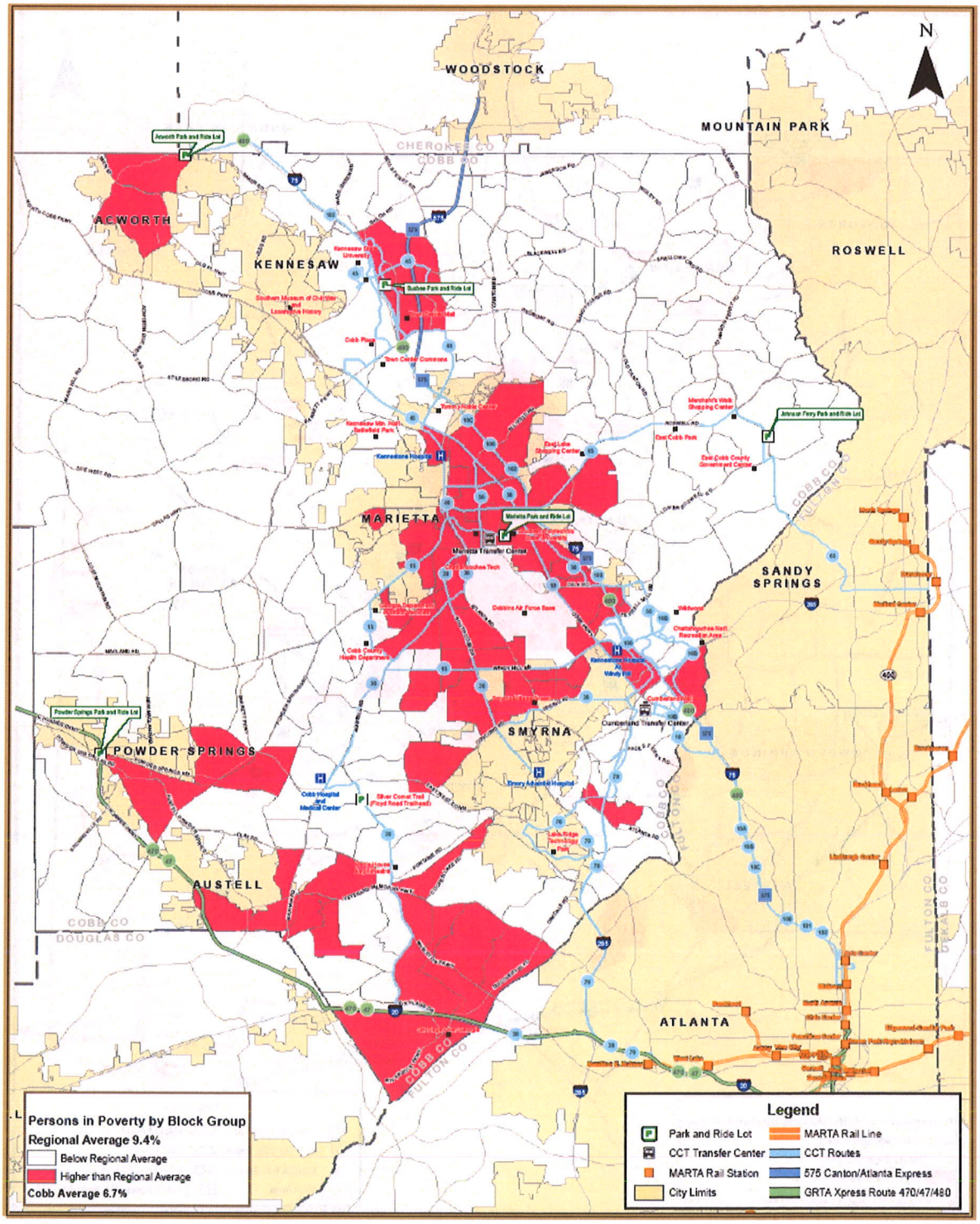


Source: 2000 US Census

January 2006

0 2.5 5 Miles

Figure 2-6 Persons in Poverty by Block Group



Source: 2000 US Census

January 2006

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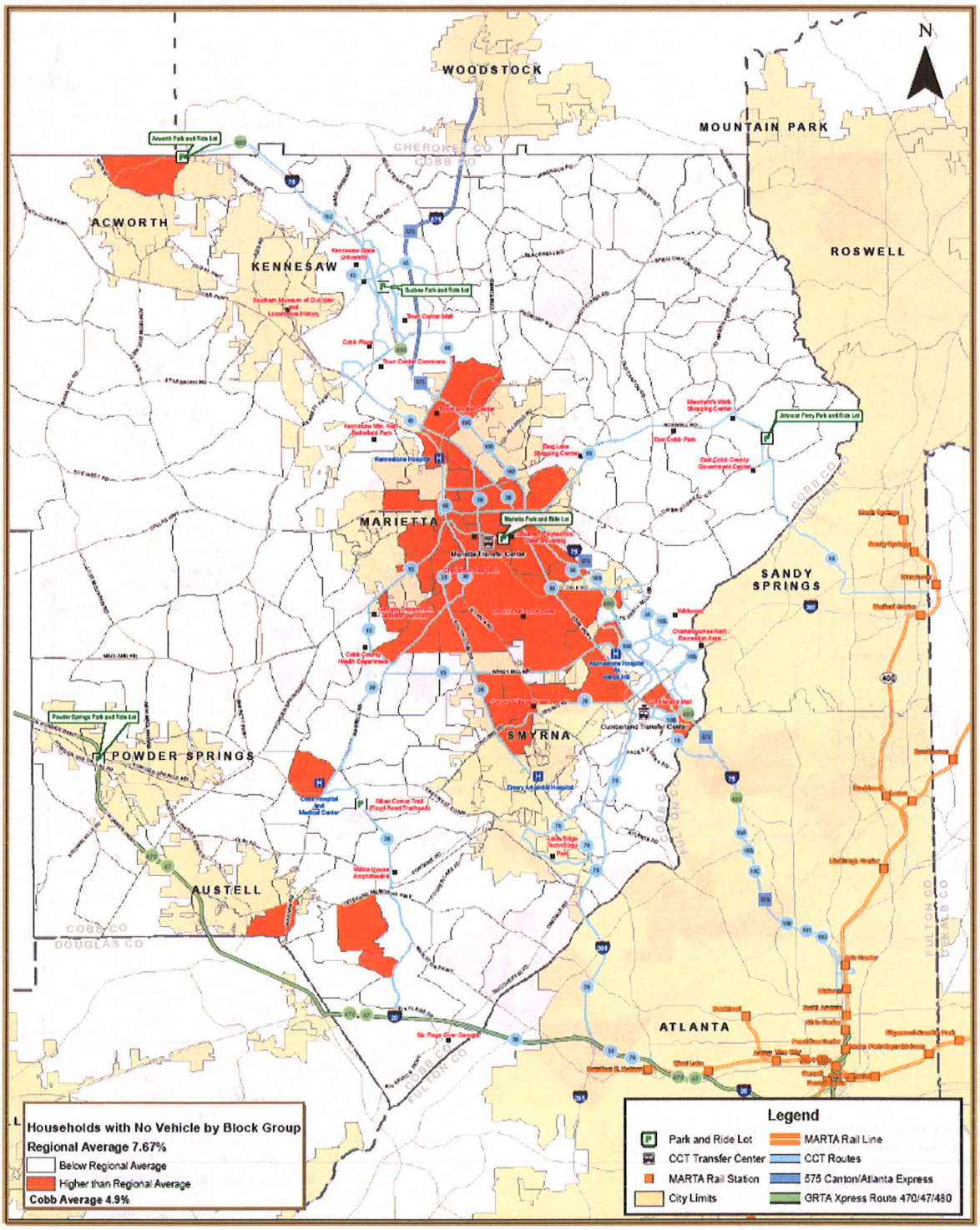
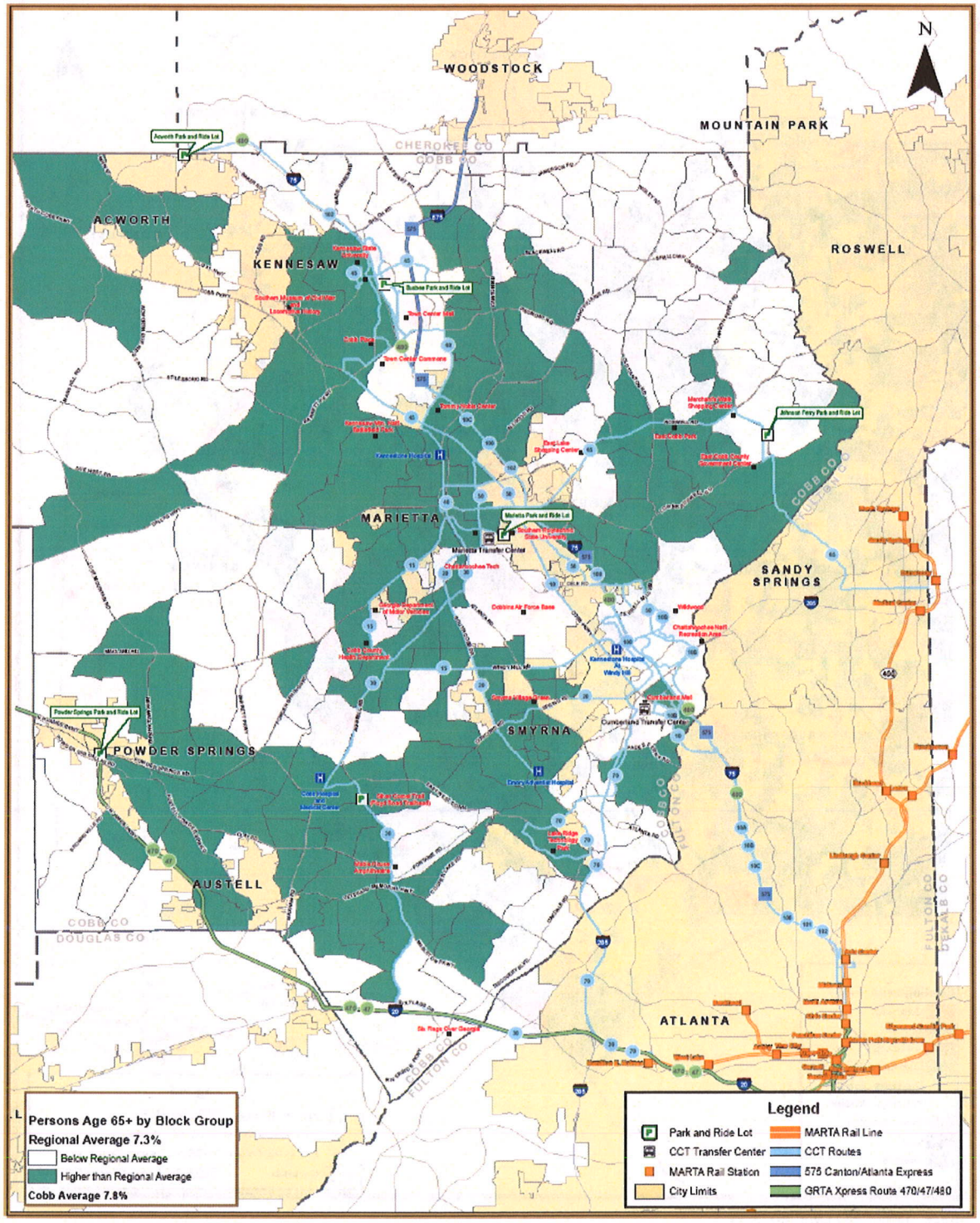
Figure 2-7 Households with No Vehicle by Block Group



Source: 2000 US Census

January 2006

Figure 2-8 Age 65 and Older by Block Group

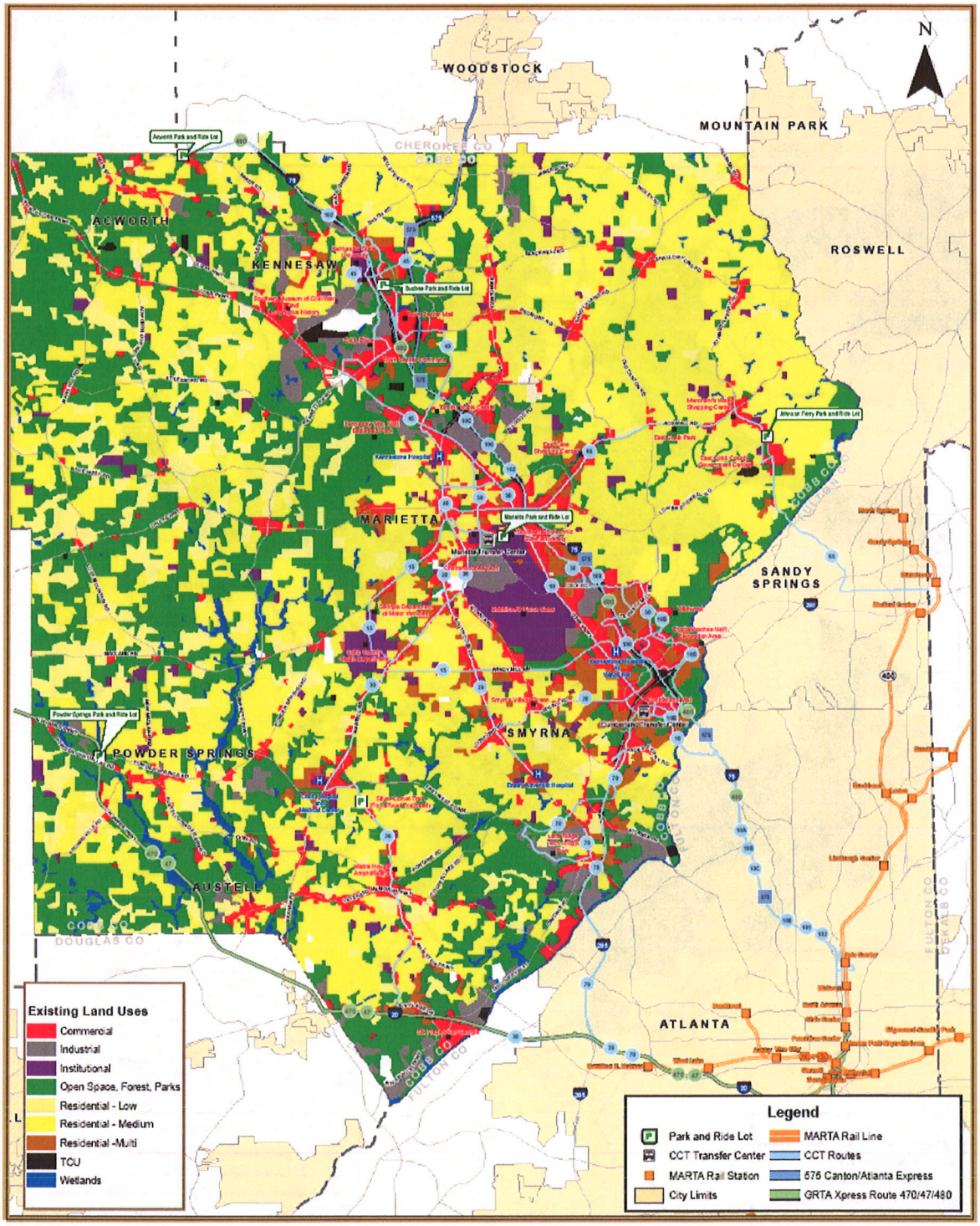


Source: 2000 US Census

January 2006

0 2.5 5 Miles

Figure 2-9 Land Uses near CCT Routes



Source: 1999 ARC Landpro Data

January 2006

0 2.5 5 Miles

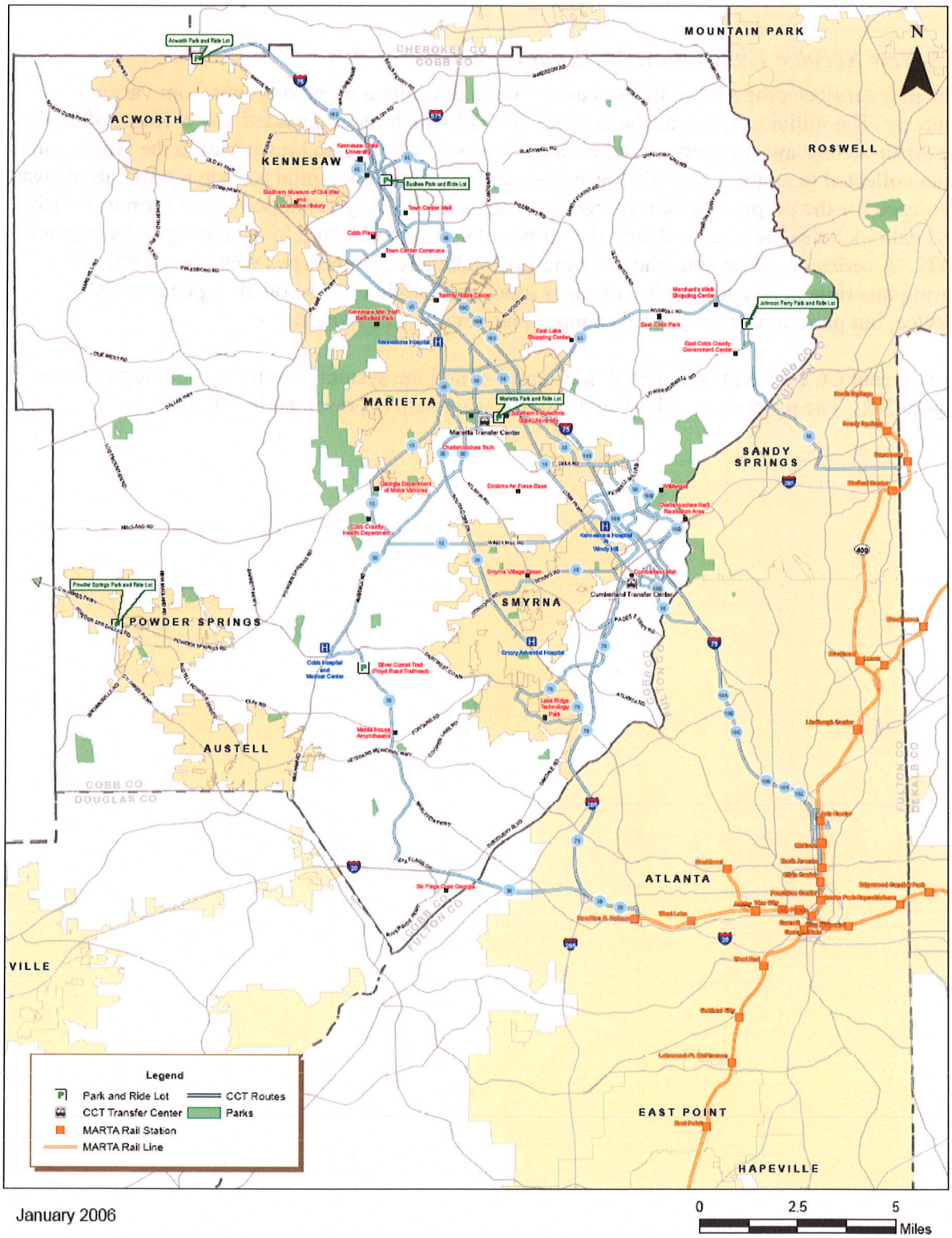
3.0 FUTURE CCT SERVICE OPTIONS

3.1 New Service Evaluation Methodology

The new services proposed in this document were developed based on input from various sources. The initial source was the 2003 CCT TDP which recommended a new Route 80 in the Acworth-Kennesaw area and a new service (Call and Ride/demand response) in the Austell area. Data collected to analyze the existing system and to propose potential service modifications was also used for the purpose of identifying those areas most likely to support some form of transit. The data includes the ridecheck and the on-board survey conducted in the spring and summer of 2005. A series of public awareness forums and stakeholder interviews was also conducted during this time period to solicit passenger input and public opinion on all aspects of CCT service, but particularly on desired changes and new service requests.

The current CCT system is depicted in Figure 3-1 and the system activity by bus stop is shown in Figure 3-2. The proposed CCT system modification map is presented in Figure 3-3.

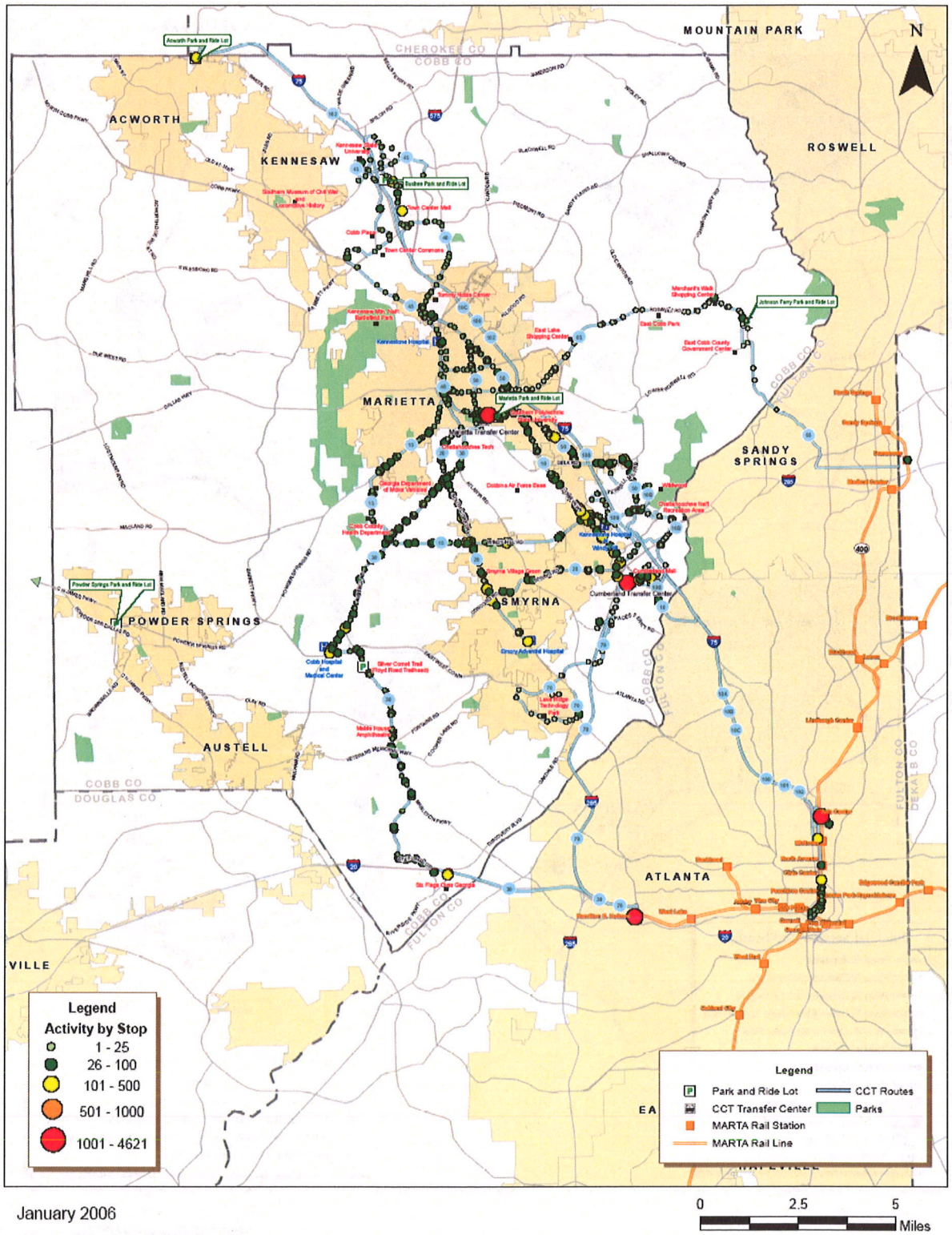
Figure 3-1: Current CCT System Map



January 2006

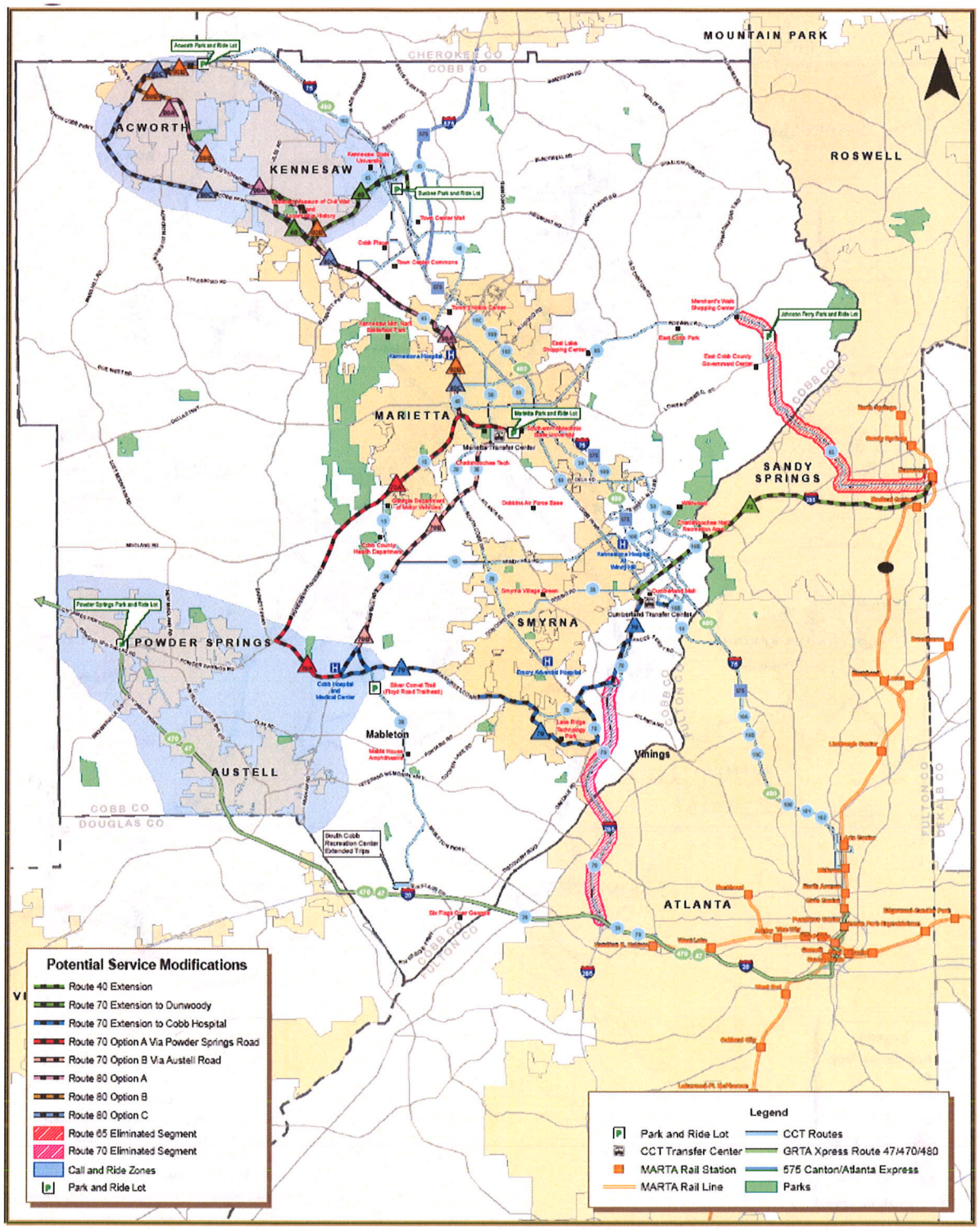
0 2.5 5 Miles

Figure 3-2: CCT System Activity by Stop



January 2006

Figure 3-3: Proposed CCT System Modifications



January 2006

0 2.5 5 Miles

Table 3-1 was presented at a series of five public meetings conducted during January 2006 which included:

- January 17 - Powder Springs and Austell
- January 19 - Acworth and Kennesaw
- January 31 - Marietta

Table 3-1: Description of Proposed CCT Service Enhancements and Modifications

Potential Service Modifications	
Route	**Proposed Modification Description**
10	Increase Saturday frequency from 30 to 15 Minutes
15	Extend weekday service hours from 9:38 PM to 12:00 AM and add earlier am trip from MTC
20	Add earlier AM trip from MTC
30	Increase Weekday peak period frequency from 30 to 15 Minutes, extend service hours from 9:55 PM to 12:30 AM, and extend off peak service to Cobb County Recreation Center on Six Flags Drive
30	Increase Saturday frequency from 60 to 30 minutes
40	Extend weekday service hours from 10:40 PM to 12:00 AM
40	Extend route to downtown Kennesaw
45	Extend weekday service hours from 9:13 PM to 12:00 AM
50	Extend weekday service hours from 10:13 PM to 12:00 AM
70	Extend from South Atlanta Road via East / West Connector to Cobb General Hospital and extend to Marietta Transfer Center
100	Add 4:40 PM inbound trip
Potential Service Eliminations	
Route	**Proposed Elimination Description**
65	Eliminate segment from Johnson Ferry / Roswell Road to Dunwoody MARTA Station
70	Eliminate segment from South Atlanta Road to Holmes MARTA Station
Potential New Services	
Route	**Proposed New Service Description**
80	New weekday service to Acworth / Kennesaw area
Sunday Service	Consider implementation of selected Sunday routes to include Routes 10 and 30 and complementary paratransit service
Flexible Route Service	New weekday demand response zone service for northwest and southwest areas

The potential new services and alignment modifications are described as follow:

3.2 Route 80

The prior TDP recommended a new Route 80 along Old Highway 41 to Acworth City Hall. The new Route 80 was proposed to operate as a weekday local route with all day hourly service from Marietta Transfer Center to Acworth via South Marietta parkway, Church Street, North Cobb Parkway and Old Highway 41 to downtown Acworth. Route 80 would provide service to several important destinations, including:

- Marietta Transfer Center
- Downtown Marietta
- Kennestone Hospital
- Downtown Kennesaw
- Downtown Acworth (western end)

Detailed review of this proposed service including area characteristics and development changes underway and pending along with input received through public and stakeholder input resulted in three routing options developed for further review and comment. The previously described routing was designated as Option A with outer segment modifications to extend the route from downtown Acworth to the Acworth Park and Ride Lot identified as Option B and a third Option C for the route to continue along North Cobb Parkway and Lake Acworth Drive to the Acworth Park and Ride Lot.

The three proposed Route 80 options are depicted in Figure 3-3.

3.3 Route 70 Modifications

Route 70 is currently the most poorly performing local route in the CCT system. The proposed modified Route 70 would provide new mobility options and a transfer connection for citizens of Southwest Cobb to reach the Cumberland Galleria area faster and allow for the potential of locating a new transfer point near Cobb General Hospital. The hospital is one of the busiest bus stops along Route 30 which is one of the fastest growing CCT routes. If a stronger ridership base for the Route 70 could be forthcoming from this proposed extension, then additional service expansion into the lower-density portions of southwest Cobb would be more feasible for future consideration.

The Route 70 extension would operate as a local route with weekday and Saturday service from Cumberland Transfer Center to the Cobb General Hospital via the East-West Connector. It would mimic the existing routing of the Route 70 until it reached the current time point at South Cobb Drive and Industrial Boulevard. It would then travel west on South Cobb Drive to the East-West Connector, proceed along the East-West Connector to Austell Road, turn north on Austell Road, right on Hurt Road, right on Floyd Road, and finally left on the East-West Connector to return to Cumberland Transfer Center. The new portion of Route 70 would service to several important destinations, including:

- Cumberland Transfer Center
- East-West Connector
- Cobb General Hospital

The routes recommended for long-term implementation and the estimated annual operating cost of implementing the long-term recommendations are presented in Table 4-3.

Table 4-3: Estimated Annual Operating Cost of Long-Term Implementation

Long-Term Priority		
Route	**Recommended Service Options**	**Total Estimated Additional Annual Operating Cost***
40	Extend weekday to serve downtown Kennesaw.	**$228,100**
80	New route to the Kennesaw/Acworth area	**$336,200**
Conceptual Service	Limited weekday service for Austell/Powder Springs and Acworth/Kennesaw areas	**$311,000**
Long-Term Priority Sub-Total:		**$875,300**
Short-Term Priority Sub-Total:		**$436,000**
Total Service Modifications:		**$1,311,300**
Estimated Additional Paratransit Costs		**$414,000**
Grand Total:		**$1,725,300**

*** Note: Represents total cost - less estimated farebox revenue.**

4.2 Service Options Not Recommended for Implementation

The following revisions were not recommended for implementation:

- Route 15 - To accommodate rider requests and offer additional travel opportunities, extend weeknight service from 9:38 PM to 12:00 AM. Not recommended at this time due to current lower evening ridership.
- Route 40 - In response to rider requests and to offer later travel opportunities, extend weeknight service from 10:40 PM to 12:00 AM. Not recommended at this time due to current lower evening ridership.
- Route 45 - In response to rider requests and to offer later travel opportunities, extend weeknight service from 9:13 PM to 12:00 AM. Not recommended at this time due to current lower evening ridership.

4.3 Service Options Requiring Further Review

The following routes are recommended for further review by CCT staff:

- Route 30 - Observe ridership response to weekday service improvements and determine if investment in improving Saturday frequency from 60 to 30 minutes is warranted.

The modified Route 70 could eventually be further extended northward to MTC in two directions to operate as a connecting local route to tie in with Route 30 or Route 15 and reinforce the frequency on one of these routes for a portion of the alignments. The modified Route 70 could be extended west along the East-West Connector to Powder Springs Road (a commonly requested new service area), then northeast along Powder Springs Road to connect with Route 15 and follow its alignment to MTC.

Another option would be to extend the modified Route 70 from Cobb General Hospital south along Floyd Road to match the alignment of the Route 30 all the way to the Holmes MARTA station. Either one of these routing options would improve service frequency on the affected segments of routes 15 or 30 and could make the short term recommendations to improve Route 30 frequency less pressing. Either option could be used to reinforce the Cobb General Hospital location as a potential transfer center for South Cobb which is ideally located between Powder Springs, Austell, Mableton, Marietta, and Smyrna.

The Georgia Regional Transportation Authority (GRTA) Regional Transit Action Plan (RTAP) included a recommendation to extend Route 70 from the MARTA Holmes Station to Perimeter Center via I-285. This extension was originally anticipated for implementation in 2005 but the schedule has been delayed. It is proposed to pursue this recommendation in conjunction with the previously described modifications to Route 70. This extension will require elimination of service between the South Atlanta Road area and the MARTA Holmes Station which currently exhibits extremely low ridership. This new portion of Route 70 would provide service to several important destinations including:

- Cumberland Transfer Center
- Cumberland-Galleria Malls
- Perimeter Center-Perimeter Mall
- MARTA North Line

The proposed Route 70 options are depicted in Figure 3-3.

3.4 Route 65 Segment Elimination

Route 65 is a low productivity service. It is proposed to eliminate the segment of Route 65 between the Johnson Ferry Road Baptist Church Park and Ride Lot and the MARTA Dunwoody Station due to very low ridership. Service on this segment has previously been reduced and currently seven trips operate during weekday peak periods. Elimination of this segment would, however, discontinue CCT service to and from the Dunwoody MARTA station. The proposed Route 65 modification is shown in Figure 3-3.

3.5 Route 40 Extension

An extension of Route 40 to downtown Kennesaw would operate on weekdays local with all day service from the existing Route 40 terminus at Kennesaw State University (KSU) via Chastain Road/McCollum Parkway, Old Highway 41, North Main Street, Jiles Road, North Cobb Parkway, McCollum Parkway back to the regular Route 40 pattern at KSU. The new Route 40 would provide service to several important destinations, including:

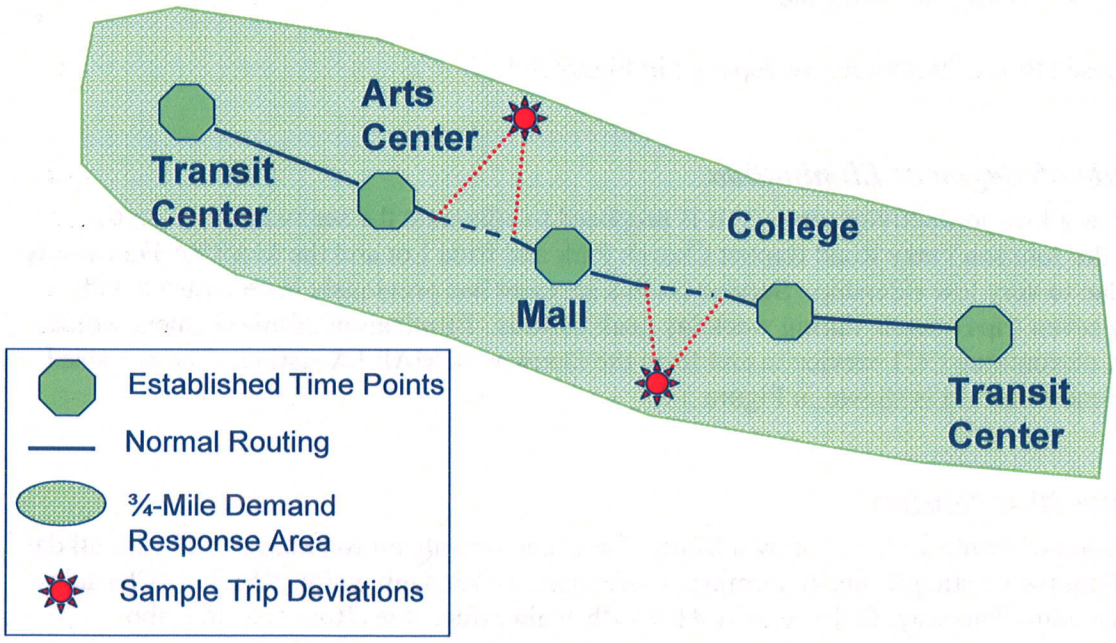
- McCollum Parkway
- Downtown Kennesaw
- North Cobb Parkway
- Kennesaw State University

The proposed Route 45 extension is depicted in Figure 3-3.

3.6 New Flexible / Demand Response Services

The prior TDP recommended a Call and Ride demand response service for the Austell area based out of the proposed Mableton Amphitheater Park and Ride Lot. As the Acworth/Kennesaw and Austell Powder Springs areas are emerging as potential implementation sectors for CCT services, a step approach to deploying service was proposed through a pilot program of combining fixed route and demand response service into a flexible route concept. The service as envisioned would operate only within the defined northwest and southwest sectors as shown in Figure 3-3. The specific routing(s) would be determined within the sectors to connect various key locations and activity areas. The service would be provided by smaller transit vehicles on weekdays between approximately 9:00AM and 4:00PM with connection(s) to CCT routes. Scheduled service would connect identified time points and also provided requested passenger pick-ups and drop-offs within ¾ mile of the normal routing. Depending on the success of the pilot program, service could eventually be expanded or considered for implementation of regular local service. Figure 3-4 is an example of this type of service.

Figure 3-4: Example of Flexible Route Concept



4.0 RECOMMENDATIONS

Based on the further review of the future potential services and input received from the public meeting process, the following recommendations have been prepared. The recommendations regarding the proposed service options are grouped in three categories: recommended service options, service options not recommended for implementation, and service options requiring more study/evaluation. The recommended service options are divided into two categories depending on when they are recommended for implementation: short-term and long-term. Additionally, paratransit recommendations are presented in this section.

4.1 Recommended Service Options and Cost Estimates

The routes recommended for short-term implementation and the estimated annual operating cost of implementing the short-term recommendations are presented in Table 4-2.

Table 4-2: Estimated Annual Operating Cost of Short-Term Implementation

Short-Term Priority		
Route	**Recommended Service Options**	**Total Estimated Additional Annual Operating Cost**
30	Increase weekday peak frequency, extend certain night service hours, and extend trips to South Cobb Recreation Center	**$310,900**
70	Eliminate segment of route to/from MARTA Holmes Station Extend route weekday and Saturday via East-West Connector to Cobb General Hospital and via Powder Springs Road to Marietta Transfer Center.	**n/a**
15	Add earlier weekday morning trip	**$8,300**
20	Add earlier weekday morning trip	**$8,700**
50	Extend weeknight service	**$34,500**
10	Increase Saturday frequency	**$73,600**
Short-Term Priority Sub-Total:		**$436,000**

*** Note: Represents total cost - less estimated farebox revenue.**

The routes recommended for long-term implementation and the estimated annual operating cost of implementing the long-term recommendations are presented in Table 4-3.

Table 4-3: Estimated Annual Operating Cost of Long-Term Implementation

Long-Term Priority		
Route	**Recommended Service Options**	**Total Estimated Additional Annual Operating Cost***
40	Extend weekday to serve downtown Kennesaw.	**$228,100**
80	New route to the Kennesaw/Acworth area	**$336,200**
Conceptual Service	Limited weekday service for Austell/Powder Springs and Acworth/Kennesaw areas	**$311,000**
Long-Term Priority Sub-Total:		**$875,300**
Short-Term Priority Sub-Total:		**$436,000**
Total Service Modifications:		**$1,311,300**
Estimated Additional Paratransit Costs		**$414,000**
Grand Total:		**$1,725,300**

*** Note: Represents total cost - less estimated farebox revenue.**

4.2 Service Options Not Recommended for Implementation

The following revisions were not recommended for implementation:

- Route 15 - To accommodate rider requests and offer additional travel opportunities, extend weeknight service from 9:38 PM to 12:00 AM. Not recommended at this time due to current lower evening ridership.
- Route 40 - In response to rider requests and to offer later travel opportunities, extend weeknight service from 10:40 PM to 12:00 AM. Not recommended at this time due to current lower evening ridership.
- Route 45 - In response to rider requests and to offer later travel opportunities, extend weeknight service from 9:13 PM to 12:00 AM. Not recommended at this time due to current lower evening ridership.

4.3 Service Options Requiring Further Review

The following routes are recommended for further review by CCT staff:

- Route 30 - Observe ridership response to weekday service improvements and determine if investment in improving Saturday frequency from 60 to 30 minutes is warranted.

- Route 45 - Due to low ridership, terminate service after 7:00 PM.
- Route 65 - Due to low ridership, eliminate segment of route between Johnson Ferry / Roswell Roads and MARTA Dunwoody Station.
- Route 100 - Monitor operations of new GRTA Xpress routes operating in Cobb County to determine if need exists to provide additional inbound afternoon trip from downtown Atlanta.
- Flexible Route / Demand Response Services - If daily service is not deemed necessary for the Austell/ Powder Springs and Kennesaw/Acworth areas, implementing flexible route/demand response service three days per week in Kennesaw/Acworth and two days per week in Austell/Powder Springs may be feasible.
- Sunday Service – Consider implementation of selected Sunday routes to include Routes 10 and 30 and complementary paratransit service.

4.4 Paratransit Recommendations

The following route recommendations will either extend paratransit service hours or expand paratransit service into areas where currently no CCT service is provided:

Extension of Service Hours
- Route 30 - Extend weekday service from 9:55 PM to 12:30 AM
- Route 50 - Extend weeknight service from 10:13 PM to 12:00 AM.

The extension of service hours is expected to have little impact on paratransit costs as current paratransit ridership after 9:00 PM is extremely low.

Service Area Expansion
- Route 40 – The weekday extension from KSU to downtown Kennesaw will expand the paratransit service area.
- Route 70 – The elimination of the route segment between South Atlanta Road and MARTA Hamilton E. Holmes Station and the proposed weekday extension from Cumberland Transfer Center to MARTA Dunwoody Station should have no impact on paratransit service because the route will operate on major interstates. The extension from South Atlanta Road via East-West Connector to Cobb General Hospital will slightly increase the paratransit service area.
- Route 80 – Service provided from downtown Kennesaw to downtown Acworth and/or the Acworth Park and Ride lot via either Old Highway 41 or North Cobb Parkway will require an expansion of complementary paratransit service.

The Route 80 recommendation is very similar to that proposed in the 2003 TDP. The TDP recommended at least one additional paratransit vehicle, and possibly two vehicles, depending on the paratransit trip activity that actually occurs. The Route 80 alignment passes through downtown Kennesaw, and would encompass most of the paratransit expansion area generated by the Route 40 extension.

The additional paratransit service area required by the extension of Route 70 is very limited because paratransit service is currently provided on the east and west ends of the East/West Connector due to Route 70 and Route 30 local service, respectively. The addition of one or two

paratransit vehicle for Routes 40 and 80 should be sufficient to also provide paratransit service for the segment of the East/West Connector not currently in the paratransit service area.

Cobb County
Transit Planning Study

Public and Community Involvement Summary Report

URS

March 2006

CCT

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1.0 Introduction

A key and ongoing element of the TPS was to obtain meaningful input from local citizens, CCT riders, stakeholders, public officials, employers, and other groups. This was accomplished through a structured and extensive public involvement program The primary methods of sharing study information and obtaining local input were through study awareness forums aimed at riders, system-wide passenger survey, stakeholder interviews, attendance at selected community meetings, a focus group meeting, and a series of county-wide public meetings.

2.0 Public Awareness Forums

Five Public Awareness Forums were scheduled between July 19-27, 2005 and are summarized as follow:

2.1 July 19th-Busbee Park and Ride

The forum covered all morning (eleven trips) from 5:25am-8:00am. Over 300 TPS fact sheets and comment forms were distributed to boarding passengers. 125 comment forms were completed/returned and were summarized. No riders refused to accept the information or form and a few passengers discussed individual issues such as:
-Buses adhering to schedule
-Air conditioning performance
-Operator performance-attitude/skill
-Implement HOV/BRT
-CCT service good and buses comfortable
A preliminary review of the comment forms indicate:
-Virtually all respondents use Route 100 for work and most use the service on a daily basis
-Approximately 40% also use MARTA service
-A number of comments indicate service is desired in various Cherokee County locations and a few diverse Cobb locations such as Bells Ferry, West Cobb, East Cobb etc.
- Comments included:

- Run according to schedule
- Implement HOV lanes
- Provide better access for pass purchase
- Ensure working A/C-repair leaks and seats
- Provide additional trips-earlier, later, midday, and Saturday
- GRTA bus seats too close together

2.2 July 20th-Marietta Transfer Center

The forum covered service activity on all routes from 10:00am-2:00pm. Over 300 TPS fact sheets and comment forms were distributed to passengers and 117 comment forms were completed/returned and were summarized. Only a few passengers were not interested in receiving the information offered. And individual issues were mentioned such as:
-More frequent service
-Unfriendly bus operators
-Sunday service
-Later service
A review of the comment forms indicate:
-Most respondents use service for multiple purposes including work/school-medical/social and use on multiple days of week-many daily
-Most ride multiple routes
-Majority of respondents also use MARTA

-Service is needed on Thornton Road, Powder Springs Road south of County Services Road, Cartersville, Powder Springs, Wade Green, South Austell Road, Canton, Whitlock Avenue-West Cobb, Sandy Plains, Powers Ferry, Macland Road, Acworth/Kennesaw, Bells Ferry, Hwy 92, and E/W Connector.
-Approximately 50% answered "No" to "Does CCT meet your travel needs? Responses indicate desire for more frequency, Sunday service, and longer hours.
Comments included:

- Sunday service
- Buses pass up passengers
- More frequent Saturday service
- Fare is reasonable
- Operators need to be more courteous

2.3 July 21st-MARTA ARTS Center Station

MARTA was not able to accommodate this forum as the system was on an elevated security threat level of "Code Orange" due to recent terrorist transit related events in London and the subsequent London events that occurred on the morning of July 21st. This forum was replaced with a Route 30 on-board passenger survey on trips not surveyed during the systemwide on-board survey.

2.4 July 26th-Acworth Park and Ride

The forum covered all morning (six trips) from 5:30am-8:00am. Over 100 TPS fact sheets and comment forms were distributed to boarding passengers. Forty comment forms were completed/returned and were summarized. No rider refused to accept the information or form and a few passengers discussed individual issues such as:
-Buses adhering to schedule
-Air conditioning performance, especially in afternoons
-Customer service agents do not know about system or selling fare media
-Need service in Cherokee County
-CCT service very important/valuable
A preliminary review of the comment forms indicate:
-Virtually all respondents use Route 102 for work and most use the service on a daily basis
-Over 50% also use MARTA service
-A number of comments indicate service is desired in various Cherokee County locations, continue into downtown Atlanta from Arts Center and express service to Dunwoody.
- Comments included:

- Run according to schedule
- Implement HOV lanes
- Provide better access for pass purchase
- Ensure working A/C-repair leaks and seats
- Provide additional trips-earlier, later, midday, and Saturday

2.5 July 27th-Cumberland Transfer Center

The forum covered service activity on all routes from 9:30am-1:30pm. Over 200 TPS fact sheets and comment forms were distributed to passengers and 129 comment forms were completed/returned and were being summarized. Very few passengers were not interested in receiving the information offered. Individual issues were mentioned such as:

-More frequent service, particularly less than sixty minutes because you can wait almost sixty minutes if you just miss a connection

-Sunday service

-Later service to Cumberland, Town Center & Delk Rd.

A review of the comment forms indicate:

-Most respondents use service for multiple purposes including work/school-medical/social and use on multiple days of week-many daily

-Most ride multiple routes, but Route 10 was the most prevalent

-Majority of respondents also use MARTA

-Relatively few passengers wrote on the backs of the comment form. Some of the comments were: Offer Sunday service, express service is needed from Cumberland to MARTA Five Points Station, layovers at Cumberland are too long, Bus drivers need courtesy classes, extend service hours and increase service frequency.

-Approximately 50% answered "No" to "Does CCT meet your travel needs? Responses indicate desire for more frequency, Sunday service, and longer hours.

Comments included:

- Sunday service
- More frequent weekday service
- More frequent Saturday service
- Extend service hours
- Schedule adherence issues

3.0 On-Board Passenger Surveys

The purpose of the survey was to collect origin and destination data, access and egress mode, fare payment method, demographic data, and service evaluation data directly from CCT riders. A total of 1,550 completed and usable surveys were collected out of the 5,901 surveys distributed for a response rate of 26%. Subsequent to the data collection, data were processed, edited, geocoded, and weighted/expanded.

The passenger survey methodology consisted of a random sample of weekday and Saturday trips that covered every route and every time period based on the results of the ride check. The survey was conducted among CCT local and express route riders during the months of June and July 2005. The same checkers who worked on the prior ride check task also distributed the surveys. The survey was designed to collect origin and destination data, access and egress mode, fare payment method, demographic data, and service evaluation data. A total of 1,550 completed and usable surveys were collected out of the 5,901 surveys distributed for a response rate of 26%. Subsequent to the data collection, data were processed, edited, geocoded, and weighted/expanded. Key findings of the survey were:

- The most common home cities were Marietta, Atlanta, Smyrna, Kennesaw
- 18% of the weekday ridership and 14% of the Saturday ridership transfer from other systems to CCT
- The most common trip purpose is home to work (35% L; 50% E)
- The second most common trip purpose is work to home (20% L; 39% E)
- The next most common trip purposes are: Home to Social/Church/Personal (7%), Home to Medical (2%), and Home to College/University (2%)
- The majority of local riders pay with cash fare (76%)
- The majority of express riders pay with 31-day pass (39%) or Express 20-ride (18%)
- The majority of local riders ride 5 or more days a week 58%
- The majority of Express riders ride 5 days a week 81%
- The riders rank the system overall at 3.6 out of 5
- Local riders want Sunday service (64%), more frequent buses (46%), and to end service later (33%)
- Express riders want more frequent service (53%), to end service later (29%), and service to un-served areas (19%)
- 52% of local riders own no vehicles
- 70% of express riders own 2 or more vehicles
- Local riders are younger (61% <34)
- Express: (69% 35-64 years old)
- The majority of local riders earn less than $35,000
- The majority of express riders earn more than $35,000
- The most common requests for new service were: Service from Lindbergh Rail Station, from Cumberland Mall to north line of MARTA, along Terrell Mill Road, and along Powder Springs Road

In addition to the system-wide passenger survey, a follow up on-board survey was conducted in September 2005 on selected Route 30 weekday trips that were not included in the prior survey. This effort was undertaken to replace the public awareness forum that was cancelled and targeted specifically at this route due to the rapid ridership growth that is occurring. The Route 30 survey form was offered to boarding passengers by bus operators on five selected northbound trips beginning at the MARTA Holmes Station and at bus stops between Holmes Station and South Cobb Drive. The forms (152) were collected in a deposit box on the bus and the results are summarized as follow:

- 26% of surveyed Route 30 riders indicated they also use Route 10, and 21% of Route 30 respondents use Route 15
- At least 39% of respondents stated they use CCT at least five times per week
- 67% of Route 30 riders cited Work as a primary trip purpose. 33% of these riders identified more than one activity as a primary purpose for their trip
- 79% of Route 30 riders indicated they use MARTA in addition to CCT. Of these multi-service riders, more than half use MARTA at least three times per week
- 48% of Route 30 respondents felt that CCT provides adequate frequency, hours, and days-of-service to meet their travel needs
- Among Route 30 respondents finding CCT service inadequate, expanded evening or late-night service hours (49%) was the most cited need, followed by Sunday service (39%)
- Among critical and/or constructive comments, the largest number of Route 30 comments related to Sunday service and schedule adherence
- Sunday service was a revealed demand for 31% of persons surveyed on Route 30, based on all comments received
- The most desired destinations for CCT Local bus respondents (on Route 30 and at the Transfer Centers) included Austell, Powder Springs, Thornton Road, the East-West Connector, Mableton Parkway, Lithia Springs (Douglas County) and Fulton Industrial Boulevard (Fulton County)

4.0 Stakeholder Interviews

Stakeholder interviews are one of many methods contained in the Cobb County Transit Planning Study Public Involvement Plan that were specifically designed to educate and inform the community about the study, as well as solicit meaningful input. Stakeholder interviews are particularly important because they allow the project team to directly learn about transit issues and concerns during in the study process. Furthermore, stakeholder interviews provide one-on-one interaction, which is important when discussing issues of a sensitive nature.

Eleven questions were prepared which covered a number of CCT and general transit related topics. To provide consistency and guide the interview process, all interviewees were asked the same questions as follow:

1. On a scale of 1-10, with 1 indicating not important and 10 indicating very important, how would you rank public transportation when compared with other quality of life indicators such as health care, crime, taxes, employment, or environmental issues?

2. What types of public transportation are most appropriate for Cobb County- Bus, Rail, demand response, van pools, other?

3. Are you aware of the current GRTA study for implementing HOV/BRT along I-75?

4. What is your perception of the current CCT system, facilities and service?

5. How does (or could) CCT service impact your organization/community?

6. Are there current needs for additional or fewer CCT services? If so, where and/or when?

7. As public transit service is dependent on subsidies, what is the most appropriate funding source?

8. Do you believe that transit service should be provided by the County or through a regional entity?

9. As CCT has been experiencing increased ridership over the past few years, what do you feel is responsible for this growth?

10. Do you believe that the current escalating fuel prices will promote additional public interest in using CCT?

11. Is there anything else you would like to comment on regarding local, countywide, or regional transit?

Key stakeholders were identified early in the study process that included appointed and elected officials, agency representatives, and community leaders. Thirty-four stakeholders were interviewed between June and November 2005. Thirteen interviews were conducted in person and twenty-one via telephone.

The following is a summary of the key responses and points gathered from the stakeholder interview process:

- The first question was included to gage participant ranking of transit as compared with other social and community issues. Thirty of the participants offered ranking numbers which ranged between 3 and 10 and averaged 6.7 which indicates relatively high importance and interest placed on transit.
- Responses to the second question indicated that a mix of services is needed both now and in the future including local/feeder bus, express bus, vanpools, activity area shuttles, demand response, BRT, LRT, and/or commuter rail.
- Virtually all interviewees were aware of the GRTA I-75 HOV/BRT study, however, very few were aware of the details, public meetings, or status of the study.
- As the Transit Planning Study will review the CCT fare structure, the question pertaining to various funding sources was chosen to gage the stakeholder's degree of interest in fares or user fees as a funding source for transit service. Only three interviewees mentioned "reasonable" fares, while the majority favored a mix of funding including federal, state, and local tax related sources.
- Since CCT is a direct Cobb County provided service, yet there is increasing interest through providing transit services through a regional approach, this question was included to solicit stakeholder interest in this matter. The responses revealed:
  -Eleven favored a county system
  -Thirteen favored a regional system
  -Seven felt either option or a mixed approach were viable
  -Three offered no opinion
- CCT is viewed very favorably by the vast majority of the stakeholders. Positive areas mentioned included management, appearance of facilities and equipment, and service reliability. Only one response was negative which was based on the lack of countywide service connectivity. Some respondents mentioned that CCT does an excellent job considering its funding limitations. Topics mentioned for improvement included expansion of service, increased emphasis on marketing, and improved access for persons with disabilities. A few interviewees could not respond to this question due to their lack of experience with or knowledge about CCT.

- A question was included to ascertain the need for additional or fewer CCT services. Eight interviewees had no opinion, five felt additional services were generally needed, and the remainder suggested such revisions as:
  -More service to the Six Flags, Dallas Highway, south Cobb, and Kennesaw/Acworth areas.
  -Sunday service on major routes
  -More frequent and later services
  -Kennesaw and Marietta circulator services
  -More regional coordination of services
  -More express-less local service improvements
- In terms of CCT's impact to the community, the responses were varied and included:
  -Mobility for service workers to support new developments
  -There is always a genuine need for transit services in a community
  -More transit dependent persons are locating to Cobb County
  -Reduce auto usage through increased usage of transit
  -More service needs are apparent such as NW and SW areas, later service, and improved travel options.
- There were a number of primary reasons citied for the increase in CCT ridership which include the continuing population and business growth, increasing diversity of Cobb residents, increasing cost of fuel, worsening traffic congestion, and expanded/improved CCT services.
- The vast majority of participants felt additional interest and usage would be forthcoming for transit (CCT) in response to higher fuel prices. Specific comments of interest included:
  -Concern about higher fuel cost on CCT operating budget
  -Carpooling will also increase
  -When gasoline reaches somewhere between $3.00-$5.00 per gallon, a very significant increase for transit usage will occur.
- The final question was placed as a "catch all" to solicit any additional input. A number of participants felt that they had adequately answered the questions, but the following general points were offered:
  -We must all work together on transit issues
  -We need a regional plan and process for transit
  -We must sell transit to the public
  -All transit modes must work together
  -Services should be coordinated regionally
  -The most pressing needs must be defined
  -Transit needs more "choice" riders

The following is a list of interviewees along with the interview date and status of conducted via telephone or in-person.

NAME	Organization	INTERVIEW DATE-05	STATUS
Annette Kesting	Cobb BOC-District 4	June 23	In person

William Dunaway	Marietta Mayor	July 26	Telephone
Mike Malone	Lockheed-Martin	July 26	Telephone
Earle Holley	Kennesaw State Univ.	July 26	Telephone
Harold Pitner	WellStar Kennestone Hospital	July 26	Telephone
Michael Perla	PLAN	July 27	Telephone
Skip Spann	Town Center CID	July 28	Telephone
Dan Valentine	IMPACT	July 28	Telephone
Diane Bradford	Cobb School Board	August 1	Telephone
Jeannine Redden	Cobb Senior Services	August 1	Telephone
John Jerkins	Austell Mayor	August 2	In person
Deane Bonner	Cobb NAACP	August 2	Telephone
Micky Blackwell	Marietta Trolley	August 4	In person
Ron Dulaney	Chattahoochee Tech.	August 10	Telephone
Rob Hosack	Cobb Community Dev.	August 23	In person
Bill Cooper	Cobb Chamber of Com.	August 24	Telephone
Cherie Newton	CCT-AAC	August 25	Telephone
Tad Leithead	Cumberland CID	August 29	Telephone
David Hankerson	Cobb County Manager	August 29	In person
Michael Hughes	Cobb Economic Dev.	August 30	Telephone
Lewis Walker	Cobb Schools & Seniors	August 30	Telephone
Sam Olens	Cobb BOC-Chairman	August 31	In person
Helen Goreham	Cobb BOC-District 1	September 6	In person
Jim Ritchey	GRTA	September 13	In person
Leonard Church	Kennesaw Mayor	September 16	In person
Thea Powell	CCT-TAB Chair	September 16	Telephone
Charles Azebeokhai	Southern Polytechnic SU	September 19	Telephone
Joe Thompson	Cobb BOC-District 2	October 4	In person
Tommy Allgood	Acworth Mayor	October 10	In person
Lauren Weathers	GA Hispanic C of C	October 11	Telephone
Chris Miller	Smyrna City Planner	October 11	Telephone
Patricia Vaughn	Powder Springs Mayor	October 19	In person
Dan Brown	US Park Service	October 20	In person
Randy Cook	Cobb WS Hospital	November 13	Telephone

5.0 Focus Group Meeting

A focus group meeting was conducted of selected community and transportation representatives to seek input for obtaining guidance for developing study recommendations. Input provided by the focus group participants was considered for recommending modifications to any proposed new services and revisions to the current CCT fare structure.

The meeting was held from 11:00am-2:00pm on December 15, 2005 in the Cobb Water Department training room. Twenty-four participants were identified and invited to participate in the meeting, 21 indicated they would attend, and 15 actually attended as listed below.

PARTICIPANT	ORGANIZATION
Marline Elkins	PLAN
Cherie Newton	CCT-TAB
John Thompson	CCT-TAB
Harold Pitner	Wellstar Hospitals
James Savage	CCT
King Lance	CCT (Bus Operator)
Pam Breeden	Cobb Senior Services
Roger Henze	GRTA
Pam Conner	City of Powder Springs Planning
Michael Hughes	Cobb County Economic Development
William B.Dunaway	City of Marietta Mayor
David Schilling	ARC
Lanie Shipp	Town Center CID
Brad Bowers	Cobb County Finance
Darryl Simmons	City of Kennesaw Planning

Handouts included agenda, presentation, proposed service map, draft public meeting notice, CCT map, and fare information table. The input provided by the participants is listed and summarized by category as follows:

5.1 Proposed Modified and New CCT Services

-Service is needed on Dallas Highway to the new high school area to serve the school, county complex, and job opportunities occurring from the increased commercial developments

-A trolley type service is being studied in the Marietta area and improved service to Kennestone Hospital should be considered

-What is the actual time of "short term" service changes? Answer was 1-5 years

-Routes 15 and 20 can provide needed earlier trips from MTC through conversion from deadhead to revenue service

-Paratransit service will have to be considered for expanded and eliminated services

-Route 30 needs a minor extension during certain times (midday and Saturday) to the County Recreation Center on Six Flags Drive near Factory Shoals Road
-Route 30 headway improvement from 30 to 15 minutes will only initially be needed during the am & pm rush periods
-Delay implementing extra pm trip on Route 100 until after GRTA Route 481 initiated and determine if still needed along with any other headway/time revisions
-Re: Proposed expansion of route late night service hours. The routes originally had these times but were scaled back due to low ridership which was prevalent at that time, but is probably justified now
-Provide more description of Call and Ride service
-Seniors perceive safety (falling) and walking distances as barriers to using transit. Better information including marketing/education and access to stops are needed
-Senior trip destinations from Senior Services limited to medical, bank, and senior centers; serve only 17% of senior population
-New assisted living centers being developed in Kennesaw area
-Consider trolley type vehicle for seniors as it would be more appealing and target NW and SW areas
-Kennesaw seeing more condominium type developments-Jiles Road area
-Powder Springs concerned about limited number of area destinations
-Consider modifying Call and Ride area to Hospital complex-connection to Route 30
-Could CCT accept vouchers for seniors?
-Why is 65segment ridership so low and what about paratransit impact-grandfather?

5.2 CCT Fare Structure Analysis

-CCT operating funding sources include: 51% Local, 29% Fares, 18% federal, and 2% state
-Time of day limitations on senior fare seems to be confusing
-Need to obtain number of passes by type sold per month
-It would be good to reduce cash fares (even though difficult to achieve due to many low income users) as it slows the boarding process and is expensive to process
-A goal should be to increase fare recovery above 30%, but group felt that any change(s) should be done as "package" in conjunction with service changes
-Marketing needs to be undertaken to help users understand fare information from a community friendly perspective and consider fare as a "gift certificate" format
-The regional transit study is going to review regional fares and any CCT change should wait on results from of this effort
-There should not be a transfer charge as it was viewed as a penalty for riders who must transfer to complete their entire trip
-Largest bus operator fare concern is boarding passengers who do not have the entire fare amount required

-Should consider special transfer to allow off bus to shop and then use transfer to continue trip on same route
-If CCT express fare made consistent with GRTA Xpress fares, it could be viewed as a penalty to existing riders
-Methods to increase express usage should be explored such as increased pass sales outlet locations
-Any fare increase should consider timing, package approach, and a more simplified structure

At the conclusion of the meeting, a comment form was distributed to the participants and a request was made for them to complete the form and return it to Cobb DOT.

6.0 Public Meetings

A series of meetings were held to present information on the Transit Planning Study (TPS) along with preliminary proposals for new and modified CCT service options for public review and comment. The meetings were held in an open house format with a presentation. Information was displayed and distributed on proposed service modifications to existing CCT routes, new local service options in the Kennesaw/ Acworth and Powder Springs/Austell areas, and the Marietta area. A question/answer session was held immediately following each presentation and attendees were furnished comment forms and requested to return them prior to leaving the meeting.

6.1 Meeting Schedule

Date/Time	Location	Attendees
January 17, 2006 1:00pm-3:00pm	Powder Springs-Ford Center	6
January 17, 2006 5:00pm-7:00pm	Austell-Threadmill Complex	8
January 19, 2006 1:00pm-3:00pm	Acworth-City Hall	7
January 19, 2006 5:00pm-7:00pm	Kennesaw-Community Center	12
January 31, 2006 4:00pm-7:00pm	Marietta-Central Library	35

6.2 *Meeting Materials*

- Handouts:
  -Public Meeting Notice
  -Participant Comment Form
  -Description of Potential CCT Service Enhancements and Modifications
  -CCT System Map and other Cobb DOT information brochures
  -Transit Planning Study Project Overview
- Displays:
  -CCT Map
  -Proposed
  -CCT Passenger Activity by Bus Stop
  -County Current and Future Demographic Maps

6.3 Presentation and Discussion

A PowerPoint slide presentation was made at each meeting between 15 and 30 minutes after the meeting started. Due to the crowd and later arriving attendees, 3 presentations were made at the Marietta meeting. Articles appeared in the Marietta Daily Journal in follow up to the Kennesaw and Marietta meetings. Attendees were encouraged to provide comments or ask questions which are reflected in the summaries that follow.

6.4 Public Input Received

- Participant Comment Form by Question (48 returned)

1. In what area do you live?

12 Southwest Cobb	20 Marietta/Central Cobb
5 Northwest Cobb	1 Smyrna/Vinings/Cumberland
5 East Cobb	5 Other

2. Which potential service modifications do you feel would be most beneficial?
   - 2 Favor the Flex Route concept
   - 3 Favor the East-West Connector/Powder Springs alternative with a 181 signature petition in support of this option.
   - 20 Oppose the Route 65 segment elimination
   - 1 Request for Route 470 to go to Midtown
   - 2 Request earlier and later service
   - 6 Request Sunday service
   - 3 Request Cumberland/Dunwoody service
   - 2 Prefer Route 80 Option B
   - 2 Prefer Route 80 Option C
   - 1 Requests service to Canton Highway
   - 1 Requests more Route 100 trips
   - 6 Favor service increase on Route 30
   - 1 Requests maps in buses and advertisement on buses
   - 1 Requests park and ride midday and Saturday service
   - 2 Favor Route 10 frequency improvement
   - 1 Favors a KSU/Kennesaw Route 40 extension

3. Are you opposed to any of the potential CCT service modifications?
   23 answered No, however, a number opposed the Route 65 segment elimination and others did not provide an answer.

4. Are there additional CCT service modifications you believe are needed?
   - -Route 45 is always late around 12:00pm
   - -Need Sunday service
   - -Need service to Powder Springs
   - -Need rail service to Acworth
   - -Route 10 should operate to 1:00am
   - -Route 80 is needed
   - -Do not eliminate Route 65 segment
   - -Buses should run at least every 30 minutes-not hourly
   - -Need Marietta circulator service to include High School on Whitlock Avenue

5. 26 Forms contained additional comments which included:
   - -CCT should have restrooms at transfer stations
   - -1/2 fare should be honored at all times
   - -Route 40 should travel nearer Barrett Parkway business park areas
   - -Use smaller buses on lighter utilized routes
   - -Inaugurate Sunday service
   - -Improve time transfer reliability

-Thanks for improving Routes 10/15 early morning connections
-Route 45 should operate every 30 minutes
-Install more shelters
-A driver is rude on Route 40
-Drivers should be allowed to participate (in public meetings?)
-Prefer Options for 70A and 80C
-MARTA transfer difficult from bus via rail to CCT bus
-Opposed to eliminating Route 65 segment
-Need a Route 470 to Midtown
-Need park and ride on Highway 5/Sandy Plains area
-CCT should hold periodic public meetings
-Public meetings should be on Saturdays
-Need park and ride near Cumberland
-Favor flex route to Powder Springs; proposed 9-4 service hours too limited
-Route 575 useless-poor afternoon trip times
-All shelters should be provided by county-not through contract
-Ignore GRTA proposal to reconfigure CCT routes to coincide with BRT implementation
-MARTA should be extended to suburbs as buses are always delayed in traffic congestion

- Input received from email and telephone calls:
  -One petition with 7 names and 12 individual messages opposing the Route 65 segment elimination
  -One request to provide transit service between Acworth and Marietta
  -Concerns about Route 10B pertaining to schedule adherence, the need for an additional afternoon trip, a stop request on Northside Drive
  - One request to serve the South Cobb High School/Florence Road area
  -Need Route 100 service to downtown between 8:00am and 10:20am and consider more express service from MTC to downtown during the midday

6.5 Summary of Public Meetings

In addition to comments received on the proposed service enhancements and modifications, a number of recurring themes emerged that are reflective of other public and community input previously received during the TPS. Input on service changes indicate:

-There is significant opposition to eliminating the recommended segment of Route 65
-There is some interest in flexible service concept to the Powder Springs/Austell and Acworth/Kennesaw areas
-There is interest in regular service to the Acworth/Kennesaw area
-There is interest in enhancing Route 30 service frequency and hours
-There is significant interest in modifying Route 70 to the East-West Connector and traveling via Powder Springs Road to MTC
-There is significant interest in Sunday service

On February 16, 2006, the Acworth Mayor and Board of Aldermen adopted a resolution that expressed support for the CCT Transit Planning Study, supported extension of regular CCT service to Acworth, and supported the proposed Route 80 options for providing service to downtown Acworth and to Cobb Parkway as this would provide the best possible alternative to Acworth residents and those visiting the City.

7.0 Community Meetings

Additional community meeting attendance and corresponding citizen input included the June 16th District Four Town Hall Meeting in Mableton, the July 11th Boston Community Resident Organization Meeting, and the July 30th Back to School Jam sponsored by the Austell Community Taskforce (ACT).

7.1 District Four Town Hall Meeting

Study team members attended the June District Four Town Hall meeting that was held in Mableton. A number of topics were discussed and comment forms were distributed, however, no forms were returned by attendees.

7.2 Boston Community Resident Organization Meeting

The Boston Community is a public housing area near Cobb Parkway and Roswell Street in Marietta. Study team members attended the meeting and three comment forms were returned from meeting participants that indicated:

-Multi-purpose trips are taken on transit
-None use other transit system services
-Other areas requested for service include Allgood Road, Washington Avenue, Barrett Parkway, and downtown Atlanta
-Most respondents feel the service frequency, days, and hours meet their travel needs

7.3 ACT Back to School Jam

An opportunity occurred on July 30, 2005 to obtain community input for the TPS through the ACT Back to School Jam held at the South Cobb Recreation Center on Six Flags Drive. A member of the study team attended as this event draws a large number of attendees and TPS comment forms were made available for distribution and collection through Cobb District Four Commissioner Kesting's office. Fifty-two forms were returned to Cobb DOT and are summarized as follow.

7.4 Comment Form

Eight questions were stated as follow on the comment form:

1. What is your primary current means of transportation?

__ Personal vehicle __ Bus Transit __ Carpool/Vanpool Other:_____

2. Do you currently use CCT service? __Yes __ No If no, why not?

3. If yes, what routes or services do you use? Please also include any other regional transit services. 4. Are these services meeting your needs? __Yes __ No If no, why not?

5. Please identify any destinations that you need to access that are not served by CCT.

6. Does CCT provide adequate frequency, hours, and days of service to meet your travel needs? __Yes __No If no, please explain what is needed.

7. If you use transit, what is the primary purpose of your trip?
__ Work __ School __ Medical __ Social __ Recreation Other_____

8. Please share any additional thoughts or comments on the back of this sheet and return it prior to leaving

- Thirty-eight respondents indicated that a personal vehicle was their primary mode of transportation with 12 indicating bus transit, and 2 carpool/vanpool
- Twenty-four answered yes and 29 answered no to currently using CCT services
- The majority of those using CCT indicated Route 30 (18) with routes 10, 15, 60, and 65 receiving one response each
- Nineteen responded "yes" and 20 responded "no" to services meeting needs. Most of the "no" responses did not offer specific reasons, but service not operating on time, service ends too early at 9:00pm, too slow, and lack of Sunday service
- Destinations identified for service included Mableton Parkway to FIB, Bankhead Highway, Summerlin Subdivision, Factory Shoals to Thornton Road, Powder Springs, Maxham Road, and Austell, E/W Connector
- Sixteen respondents indicated no to adequate service citing need for longer hours, Sunday service, and service not on time
- Trip purpose was answered for 10 work, 21 multiple categories, 4 recreation, 2 social, 1 school and 2 other
- Eighteen individual comments are summarized as follow:
  - -Provide Mableton to Fulton service
  - -Need bus on Sunday
  - -Need more sidewalks between Powder Springs and Austell Roads
  - -Need to ride (transit) on Sunday
  - -Need more bus routes
  - -More access and sidewalks
  - -I don't use the service
  - -Need to extend how far it comes down so people don't have to walk so far
  - -Need Sunday service and extended pick up times
  - -Do not go all the way down Austell Road
  - -Need extended service down to Maxham Road
  - -Buses should run better than they are

In addition to assisting in the identification of service needs, the public involvement process enhanced understanding of the existing system performance and image from both the stakeholder's and passenger's perspective.

-Send more buses to Mableton
-Need transfer information in Spanish
-Need buses all over Cobb and on time
-Bus service to residential areas of Six Flags Drive
-Need service to be on time and on Sunday
-There are no buses in some areas

8.0 Summary

In addition to assisting in the identification of service needs, the public involvement process enhanced understanding of the existing system performance and image from both the stakeholder's and passenger's perspective. While stakeholders and CCT users are generally supportive of the system and services, many requests were received for new and expanded services.