

## **CHAPTER THREE:**

### **Evaluation of Existing Transit Service**

#### **INTRODUCTION**

Chapter Three contains two main sections. The first section, a performance evaluation, consists of a detailed overview of the operating and financial characteristics of RTS. This is further divided into a trend analysis. The trend analysis represents RTS's performance over a six-year time period (FY 2000 through FY 2005). The second section addresses how the results of the performance evaluation apply to the goals and initiatives developed for RTS in Chapter Two.

#### **PERFORMANCE EVALUATION OF EXISTING RTS SERVICE**

The following sections outline the performance evaluation methodology and describe the results of the trend analysis. All data used in this section originate from individual National Transit Database reports. These analyses are useful in determining the strengths of RTS as well as areas that may require additional attention.

##### **The Purpose of Performance Review**

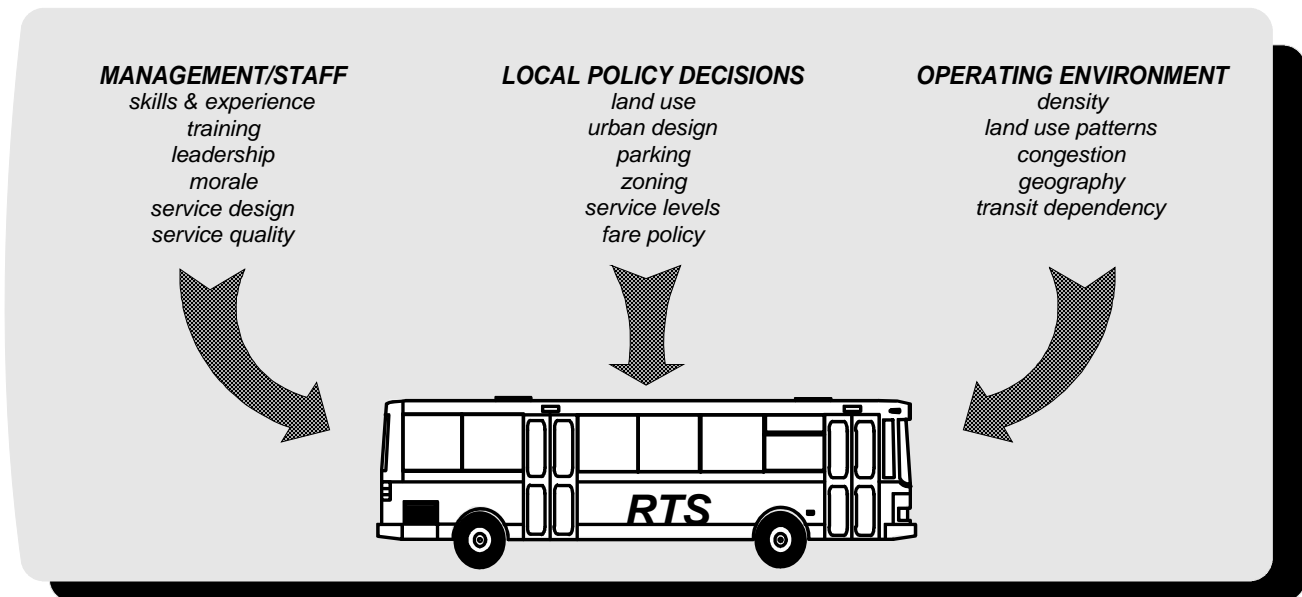
Since a performance evaluation is only one method of analyzing performance of a given public transportation system and is limited only to those aspects included in the analysis, the reader should exercise considerable caution in interpreting the results. These analyses are particularly strong in reviewing cost effectiveness and efficiency; however, they do not relay the extent to which other objectives of the public transportation system are being achieved. For example, the performance evaluation will not directly measure several relevant considerations such as passenger satisfaction with regard to levels of service, taxpayer and public attitudes toward the agency, employee morale, success in attaining minority hiring or contracting goals, quality of planning, contributions to community economic development, air quality improvements, or other goals that may be important to the public transportation system and the community.

In addition, several aspects of quality of service are not measured in a performance evaluation. These include vehicle cleanliness and comfort, operator courtesy, on-time performance, quality of marketing and passenger information support, and level of satisfaction with hours of operations, frequency of service, and geographic coverage of the service. Many of the above-mentioned issues, however, are addressed in RTS's 2001 Comprehensive Operational Analysis (COA) through on-board passenger surveys, bus operator surveys, interviews with local officials, and other forms of public involvement, such as RTS Public Forum meetings. In 2006, RTS will begin the process of developing a public involvement plan to meet the new requirements for future Transit Development Plans. As part of the public involvement plan, RTS will conduct surveys to measure the level of customer satisfaction with RTS's services. These surveys will address customer satisfaction regarding operator courtesy, vehicle cleanliness, service span, frequency and service coverage. Survey results will be used to assist RTS in making future planning, operations, and maintenance decisions.

In addition to understanding the limits of this analysis, the reader should take care in interpreting the meaning of the various performance measures. The evaluation does not necessarily provide information concerning which aspects of performance are within control of the agency and which are not. Figure III-1 denotes the major factors that ultimately affect a given agency's performance.

Performance reviews are a useful and important tool in monitoring and improving transit system performance. However, it must be recognized that the results of trend analysis are only a starting point for gaining a complete understanding of the performance of transit systems. The issues identified as a result of this evaluation provide the basis for a series of questions that can lead to an enhanced understanding of the "hows" and "whys" of system performance.

**Figure III-1**  
**Factors Affecting Transit Performance**



### Performance Review Database

To receive federal funds, transit properties are required to report a variety of data in a standardized format, resulting in what is known as a National Transit Database, or NTD report. These documents provide standardized measures of reporting that enable a more accurate comparison of information among properties. Since 1979, when this reporting requirement was instituted, additional refinements in data collection and reporting have increased the accuracy and comparability of the data. The data are for the fiscal year used by each transit system. For Florida properties, the fiscal year runs from October 1st through September 30th. For other properties, the fiscal year may be different.

**Data Reliability** - All NTD data submitted to the Federal Transit Administration (FTA) are subject to considerable review and validation through manual and automated methods. Each report is thoroughly examined to identify errors, questions, and inconsistencies. FTA specifies problems and requires each reporting agency to respond to these problems before the final report is accepted.

*Data Definitions* - To fully understand the data presented in NTD reports, it is important to understand the definitions of the terms used. In many instances, these definitions differ from initial perceptions and may be subject to interpretation. Appendix B contains a detailed list of definitions for selected terms used by FTA. The data collection procedures further specify exactly what is meant by a given term. For example, a “passenger trip” refers to an individual boarding a transit vehicle. A person riding a bus from the corner to the office takes one passenger trip to work and a second passenger trip to return home. Likewise, a person transferring from one bus to another is considered to make two passenger trips to get to his or her destination.

The national inflation rate, as defined by the percentage change in the Consumer Price Index (CPI) for all items (including commodities and services) from year to year, was used to inflate cost indicators from 2000 through 2005 so that they could be presented in real terms (2005 dollars).

*Performance Indicators and Measures* - The evaluation measures used throughout the performance review are divided into three categories: performance indicators, effectiveness measures, and efficiency measures. Performance indicators report absolute data in the selected categories that are required by NTD reporting. These tend to be key indicators of overall transit system performance. Effectiveness measures typically refine the data further and indicate the extent to which various service-related goals are being attained. For example, the number of passenger trips per capita is an indicator of the effectiveness of the agency in meeting transportation needs. Efficiency measures involve reviewing the level of resources (labor and other costs) required to achieve a given level of output, or service. It is possible to have very efficient service that is not effective or to have highly effective service that is not efficient.

The substantial amount of data available through NTD reporting provides an opportunity to develop a large number of measures. Sets of performance indicators, effectiveness measures, and efficiency measures that are believed to provide a good representation of overall transit system performance have been selected for this analysis. Table III-1 lists the selected indicators and measures provided in this report for directly operated fixed-route transit services.

**Table III-1  
Selected Performance Review Indicators and Measures  
Fixed-Route Transit Services**

| Performance Indicators  | Effectiveness Measures   | Efficiency Measures  |
|---|--|--|
| Service Area Population<br>Passenger Trips<br>Passenger Miles<br>Vehicle Miles<br>Revenue Miles<br>Vehicle Hours<br>Revenue Hours<br>Route Miles<br>Total Operating Expense<br>Total Operating Expense (2005 \$)<br>Total Maintenance Expense<br>Total Maintenance Expense (2005 \$)<br>Operating Revenues<br>Total Employees<br>Vehicles Available for Maximum Service<br>Vehicles Operated in Maximum Service<br>Total Gallons of Fuel Consumed | <b>Service Supply</b><br>Revenue Miles Per Capita<br><br><b>Service Consumption</b><br>Passenger Trips Per Capita<br>Passenger Trips Per Revenue Mile<br>Passenger Trips Per Revenue Hour<br><br><b>Quality of Service</b><br>Average Age of Fleet (years)<br>Revenue Miles Between Incidents<br>Revenue Miles Between Revenue Service Interruptions | <b>Cost Efficiency</b><br>Operating Expense Per Capita<br>Operating Expense Per Passenger Trip<br>Operating Expense Per Passenger Mile<br>Operating Expense Per Revenue Mile<br><br><b>Operating Ratios</b><br>Farebox Recovery<br><br><b>Vehicle Utilization</b><br>Revenue Miles Per Vehicle Mile<br>Vehicle Miles Per Peak Vehicle<br><br><b>Labor Productivity</b><br>Revenue Hours Per Employee<br>Passenger Trips Per Employee<br><br><b>Energy Utilization</b><br>Vehicle Miles Per Gallon<br><br><b>Fare</b><br>Average Fare |

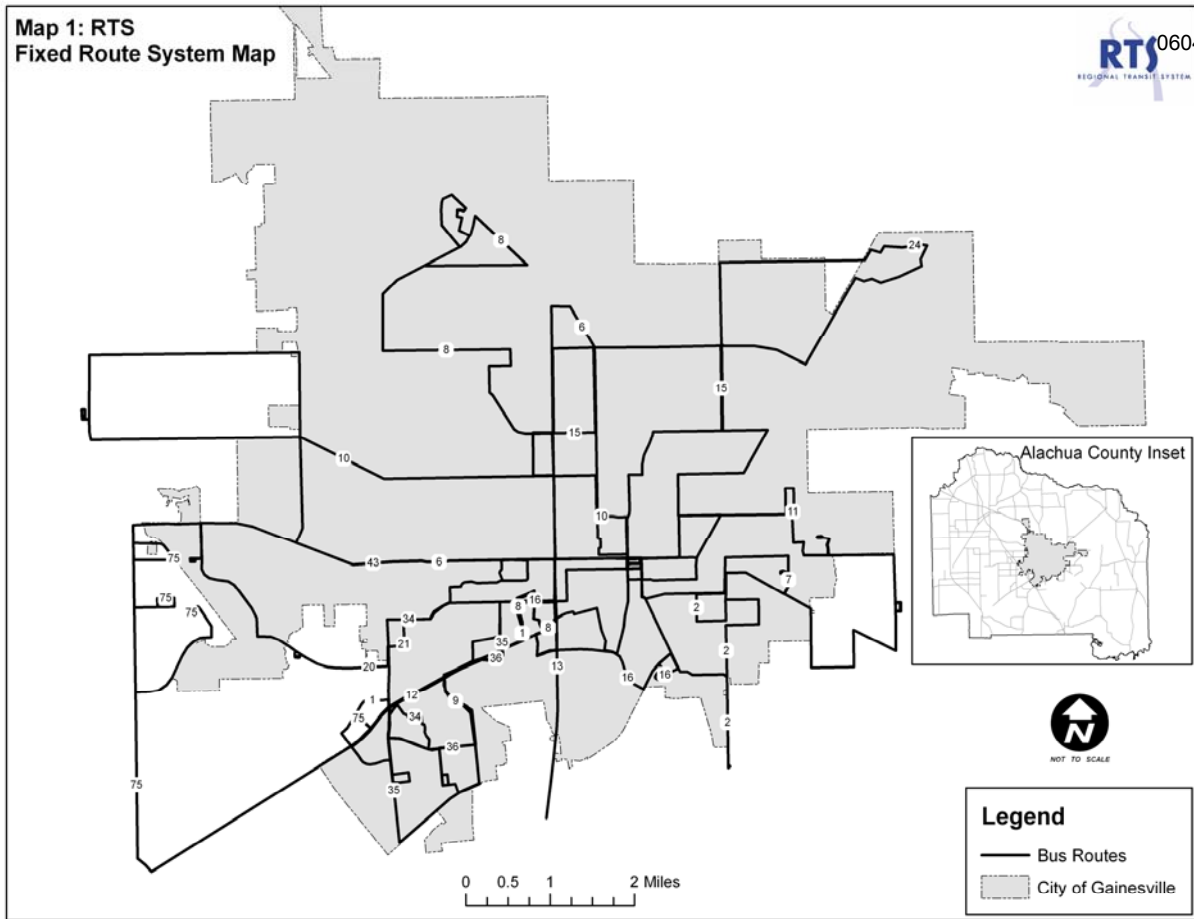
**OVERVIEW OF RTS**

RTS operates as a department of the City of Gainesville Commission, a seven-member public policy body responsible for oversight of all city government operations. RTS provides public transportation services primarily within the Gainesville city limits and surrounding portions of unincorporated Alachua County (see Map 1) through direct operation of its fixed-route motorbus service and provision of ADA-mandated complementary demand-responsive service.

**Operational Characteristics**

During full service weekdays, RTS operates 21 fixed routes, four (4) late evening routes, and nine (9) routes on the University of Florida main campus. RTS's service area covers approximately 74 square miles and serves a population just over 149,000. RTS provides fixed route service six days a week with services spanning from approximately 6:00AM to 3:00AM during weekdays. Service headways during peak service range from eight (8) to sixty (60) minutes and fifteen (15) to ninety (90) minutes during off-peak times. Ten of RTS's 21 fixed routes provide transfer connections in downtown Gainesville while 12 routes run through or adjacent to the University of Florida. Map 1 provides a general overview of RTS's fixed route service structure (campus routes not shown).

Map 1: RTS  
Fixed Route System Map



This performance evaluation focuses on fixed-route service; therefore, demand-response service is not included in the trend analysis. To present a general overview of the transit system, selected performance indicators, effectiveness measures, and efficiency measures are reported in Table III-2. Table III-2 has been modified to more accurately reflect the RTS service area population.

Table III-2  
**Summary of Selected Operating Statistics,  
 Gainesville RTS**

060408

| <b>Performance Indicators</b>         | <b>FY 2000</b> | <b>FY 2001</b> | <b>FY 2002</b> | <b>FY 2003</b> | <b>FY 2004</b> | <b>FY 2005</b> | <b>% Change 2004-2005</b> |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------|
| Service Area Population               | 137,665        | 139,950        | 142,273        | 144,164        | 147,036        | 149,173        | 1.4%                      |
| Passenger Trips                       | 5,180,872      | 6,302,952      | 7,185,018      | 8,103,120      | 8,146,496      | 8,152,989      | 0.1%                      |
| Revenue Miles                         | 1,855,587      | 1,960,692      | 2,147,281      | 2,408,321      | 2,661,644      | 2,668,090      | 0.2%                      |
| Revenue Hours                         | 152,474        | 161,144        | 188,956        | 212,034        | 233,158        | 235,765        | 1.1%                      |
| Total Operating Expense               | \$7,279,463    | \$8,458,929    | \$9,462,631    | \$10,917,692   | \$12,608,960   | \$13,823,592   | 9.6%                      |
| Total Maintenance Expense             | \$1,244,586    | \$1,415,157    | \$1,938,381    | \$2,379,754    | \$2,600,006    | \$3,559,156    | 36.9%                     |
| Total Employees (FTEs)                | 133            | 150            | 163            | 198            | 212            | 254            | 19.8%                     |
| Vehicles Available in Maximum Service | 72             | 82             | 83             | 105            | 105            | 105            | 0.0%                      |
| Vehicles Operated in Maximum Service  | 58             | 72             | 72             | 88             | 88             | 88             | 0.0%                      |
| <b>Effectiveness Measures</b>         |                |                |                |                |                |                |                           |
| Rev. Miles Per Capita                 | 13.5           | 14.0           | 15.1           | 16.7           | 18.1           | 17.9           | -1.1%                     |
| Passenger Trips Per Capita            | 37.6           | 45.0           | 50.5           | 56.2           | 55.4           | 54.7           | -1.3%                     |
| Passenger Trips Per Revenue Mile      | 2.8            | 3.2            | 3.3            | 3.4            | 3.1            | 3.1            | 0.0%                      |
| Average Age of Fleet (years)          | 11.7           | 9.2            | 9.4            | 10.4           | 11.5           | 10.4           | -9.6%                     |
| <b>Efficiency Measures</b>            |                |                |                |                |                |                |                           |
| Operating Expense Per Capita          | \$52.88        | \$60.44        | \$66.51        | \$75.73        | \$85.75        | \$92.67        | 8.1%                      |
| Operating Expense Per Passenger Trip  | \$1.41         | \$1.34         | \$1.32         | \$1.35         | \$1.55         | \$1.70         | 9.7%                      |
| Operating Expense Per Revenue Mile    | \$3.92         | \$4.31         | \$4.41         | \$4.53         | \$4.74         | \$5.18         | 9.28%                     |
| Farebox Recovery Ratio                | 30.7%          | 30.8%          | 43.7%          | 50.5%          | 50.3%          | 52.0%          | 3.4%                      |
| Revenue Hours Per Employee            | 1,146          | 1,074          | 1,159          | 1,071          | 1,099          | 1,086          | -5.2%                     |
| Passenger Trips Per Employee          | 38,954         | 42,020         | 44,079         | 40,295         | 38,441         | 37,571         | -1.8%                     |
| Average Fare                          | \$0.43         | \$0.41         | \$0.58         | \$0.68         | \$0.78         | \$0.88         | 104.7%                    |

## Fixed-Route Trend Analysis

A fixed-route trend analysis for the years 2000 through 2005 was conducted to follow the performance of RTS's directly operated motorbus service over a six-year time period. Data used in this analysis are from RTS's NTD reports. Performance indicators and measures are grouped into categories and presented in tabular form (Tables III-3 through III-12), along with brief discussions of the data. The percent change over the six-year trend period for each indicator and measure is also shown in the tables. Trends are also illustrated graphically in Figures III-2 through III-34.

### Performance Indicators

#### *Ridership and Route Mileage*

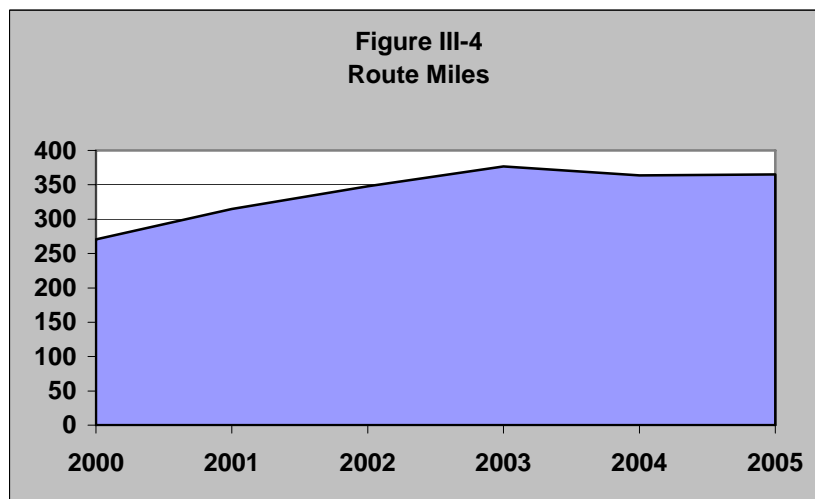
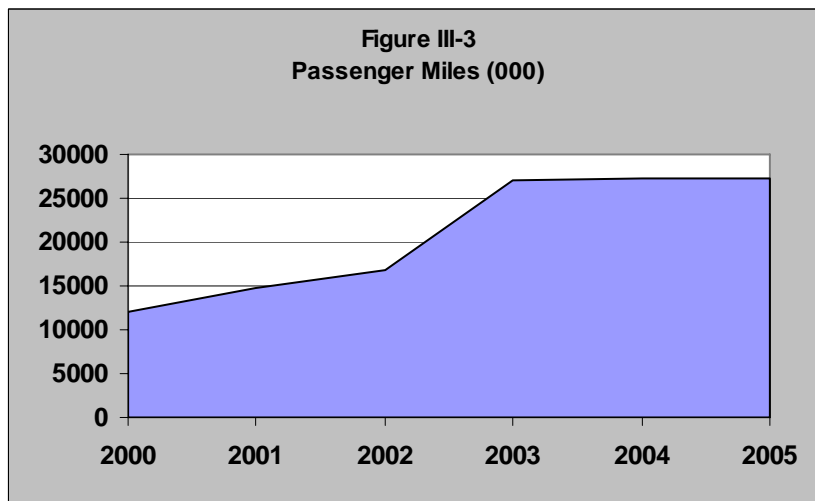
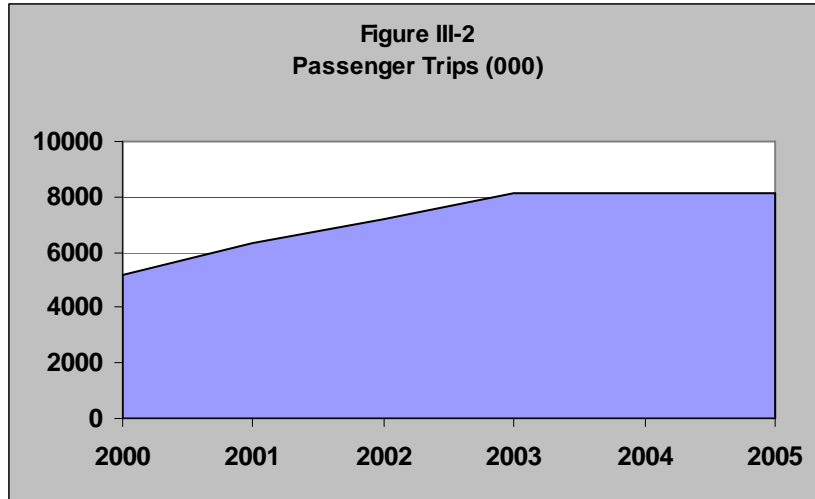
As indicated in Table III-3, ridership on RTS's directly operated fixed-route service increased 57 percent between 2000 and 2004. Ridership has been increasing since 1996 and experienced two significant increases in 1998 and 1999. These increases were primarily due the formation of an interlocal agreement between RTS and the University of Florida to provide students with unlimited prepaid access to all RTS fixed routes with the use of their student identification cards.

The number of passenger miles increased by 125 percent from 2000-2005. The largest increase occurred between 2002 and 2003 when passenger miles increased by 61 percent. In fiscal year 2003, RTS obtained a sampling waiver from the Federal Transit Administration to calculate passenger miles based on the average trip length and the number of passenger trips. Over the 2000-2005 period, the average trip length (passenger miles per passenger trip) increased from 2.98 miles in 2000 to 3.35 miles in 2005. The trends for passenger trips and passenger miles are depicted in Figures III-2 and III-3.

The trend for the number of system miles is also shown in Table III-3 and Figure III-4. The number of system miles increased 34.9% over the trend period, with 270.4 system miles in 2000 and 364.9 system route miles in 2005.

**Table III-3**  
**Gainesville RTS - Ridership and Route Miles, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>            | <b>Passenger Trips</b> | <b>Passenger Miles</b> | <b>Route Miles</b> |
|-------------------------------|------------------------|------------------------|--------------------|
| 2000                          | 5,180,872              | 12,123,240             | 270.4              |
| 2001                          | 6,302,952              | 14,748,888             | 315.0              |
| 2002                          | 7,185,018              | 16,812,920             | 347.9              |
| 2003                          | 8,103,120              | 27,153,322             | 376.5              |
| 2004                          | 8,146,496              | 27,298,674             | 363.6              |
| 2005                          | 8,152,989              | 27,312,513             | 364.9              |
| <b>% Change<br/>2000-2005</b> | <b>57.4%</b>           | <b>125.3%</b>          | <b>34.9%</b>       |



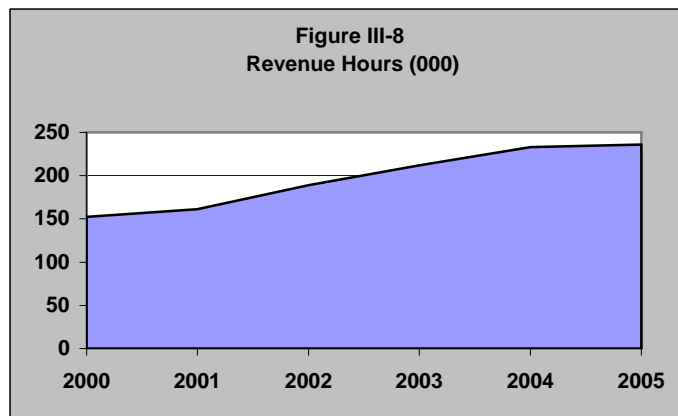
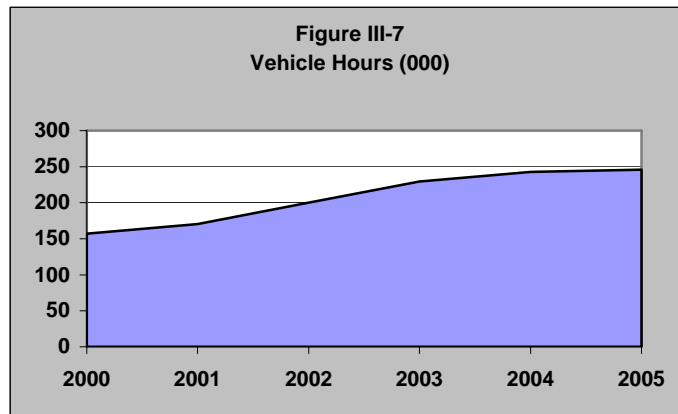
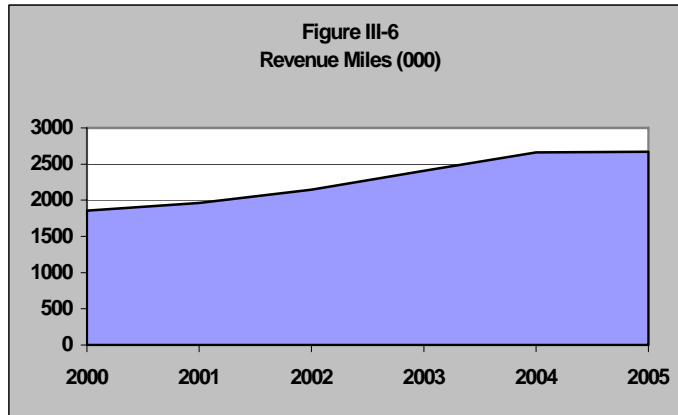
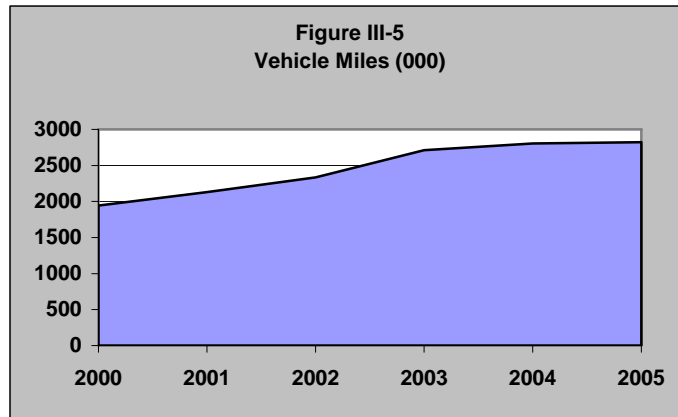
### *Level of Service*

The level of service provided, as measured by vehicle miles and revenue miles, increased over the trend period. Table III-4 shows from 2000 to 2005, that vehicle miles and revenue miles increased at similar rates. These changes are also shown graphically in Figures III-5 and III-6. As the figures show, vehicle miles and revenue miles increased each year and peaked in fiscal year 2005.

Table III-4 also indicates that the numbers of vehicle hours and revenue hours increased significantly between 2000 and 2005, increasing 56 percent and 54 percent, respectively. Vehicle and revenue hours also peaked during fiscal year 2005, as exhibited in Figures III-7 and III-8.

**Table III-4  
Gainesville RTS - Level of Service, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>            | <b>Vehicle Miles</b> | <b>Revenue Miles</b> | <b>Vehicle Hours</b> | <b>Revenue Hours</b> |
|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| 2000                          | 1,942,538            | 1,855,587            | 157,257              | 152,474              |
| 2001                          | 2,129,984            | 1,960,692            | 170,544              | 161,144              |
| 2002                          | 2,332,684            | 2,147,281            | 199,978              | 188,956              |
| 2003                          | 2,710,565            | 2,408,321            | 229,444              | 212,034              |
| 2004                          | 2,806,894            | 2,661,644            | 242,692              | 233,158              |
| 2005                          | 2,820,508            | 2,668,090            | 245,795              | 235,765              |
| <b>% Change<br/>2000-2005</b> | <b>45.2%</b>         | <b>43.8%</b>         | <b>56.3%</b>         | <b>54.6%</b>         |



### *Operating Expenses*

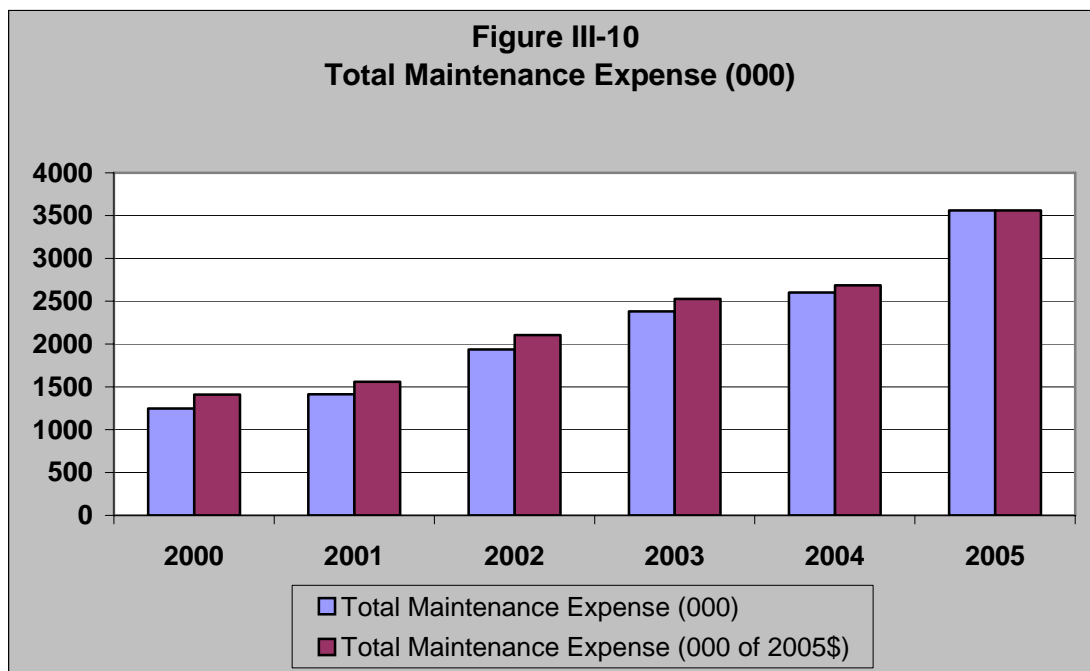
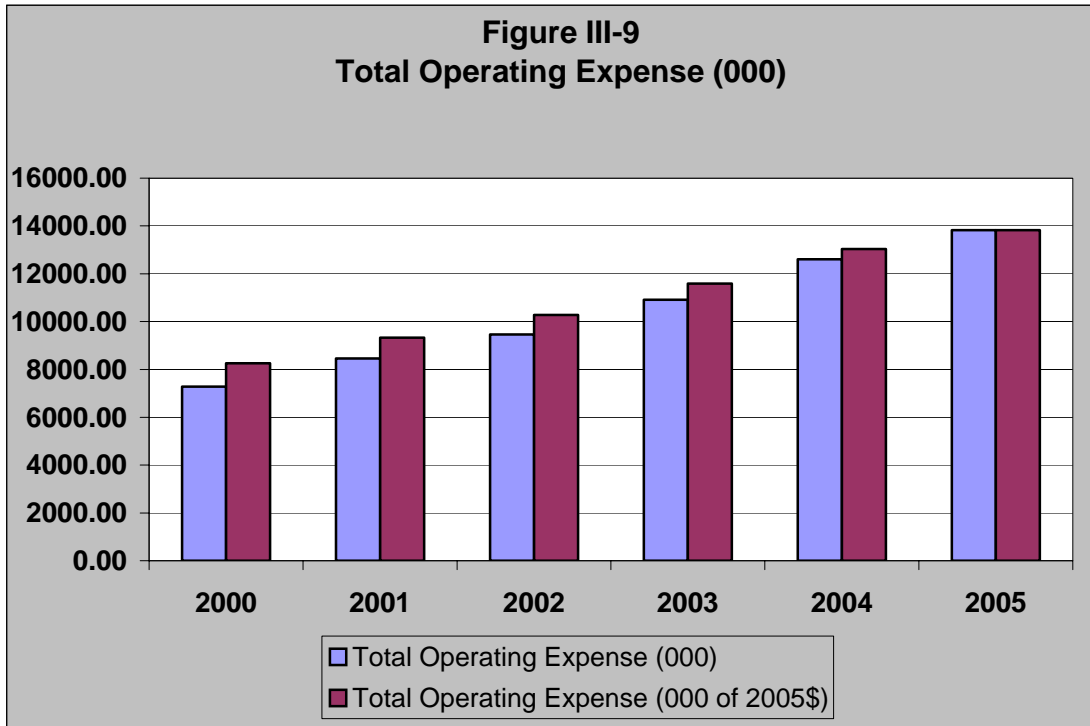
Total operating expense rose 90 percent in nominal terms between 2000 and 2005 as evidenced by Table III-5. However, when these figures are adjusted for inflation, the increase is 67 percent (in 2005 dollars). Total operating expenses have nearly doubled since 2000. This increase is primarily attributable to RTS's efforts to improve fleet conditions and expand transit services. The change in operating expense is exhibited in Figure III-9 in both nominal and real values.

Total maintenance expense is a subset of total operating expense. The table below and Figure III-10 show that maintenance expenses, in nominal terms, increased similarly to operating expenses until 2002 when the increase in maintenance expenses began outpacing the increase in operating expenses. Total maintenance expense increased nearly 37 percent between 2001 and 2002, and 32 percent between 2004 and 2005. These increasing expenditures are attributable to RTS's efforts to improve fleet conditions. These efforts include but are not limited to hiring additional maintenance personnel, purchasing lift equipment, and increasing training for mechanics. In addition, the high average fleet age and diversity of vehicles in the fleet continue to pose a challenge for controlling maintenance expenses. Overall, maintenance expense increased by 186 percent between 2000 and 2005; however, when inflation is considered, maintenance expense increased by 152 percent during this time.

**Table III-5  
Gainesville RTS - Operating Expenses, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>        | <b>Total Operating Expense</b> | <b>Total Operating Expense (2005 \$)</b> | <b>Total Maintenance Expense</b> | <b>Total Maintenance Expense (2005 \$)</b> |
|---------------------------|--------------------------------|--|----------------------------------|--|
| 2000                      | \$7,279,463                    | \$8,255,000                              | \$1,244,586                      | \$1,411,550                                |
| 2001                      | \$8,458,929                    | \$9,328,230                              | \$1,415,157                      | \$1,560,590                                |
| 2002                      | \$9,462,631                    | \$10,272,660                             | \$1,938,381                      | \$2,104,310                                |
| 2003                      | \$10,917,692                   | \$11,588,200                             | \$2,379,754                      | \$2,525,900                                |
| 2004                      | \$12,608,960                   | \$13,036,200                             | \$2,600,006                      | \$2,688,100                                |
| 2005                      | \$13,823,592                   | \$13,823,592                             | \$3,559,156                      | \$3,559,156                                |
| <b>% Change 2000-2005</b> | <b>89.9%</b>                   | <b>67.5%</b>                             | <b>186.0%</b>                    | <b>152.2%</b>                              |

**NOTE: Inflation rates were taken from the U.S. Department of Labor**



### *Operating Revenues*

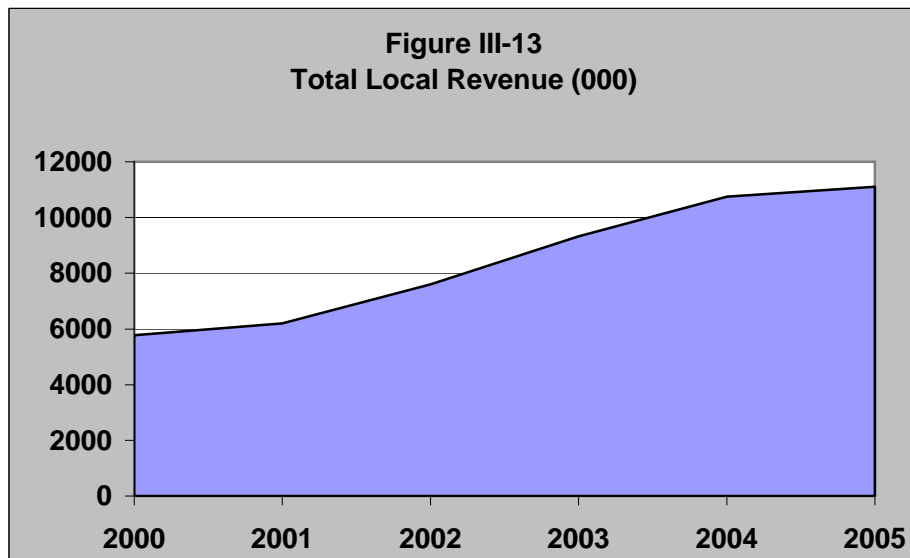
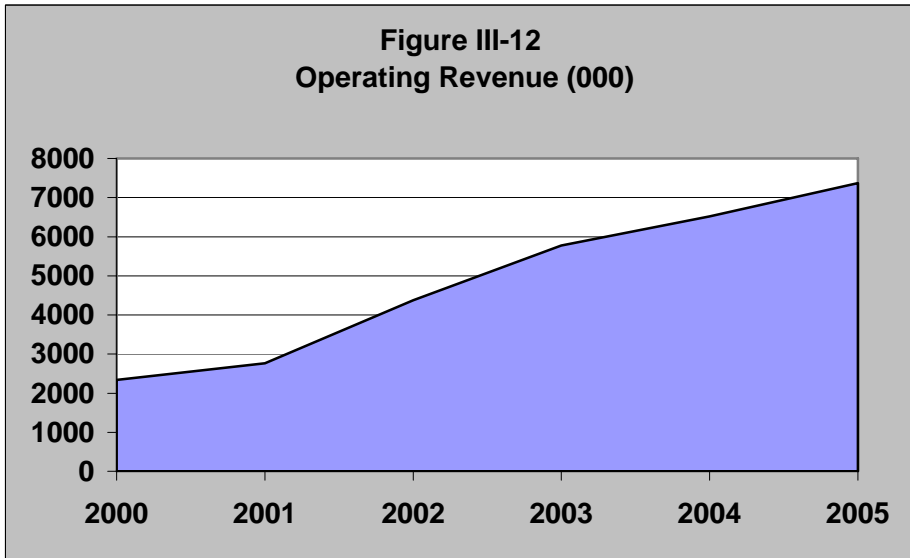
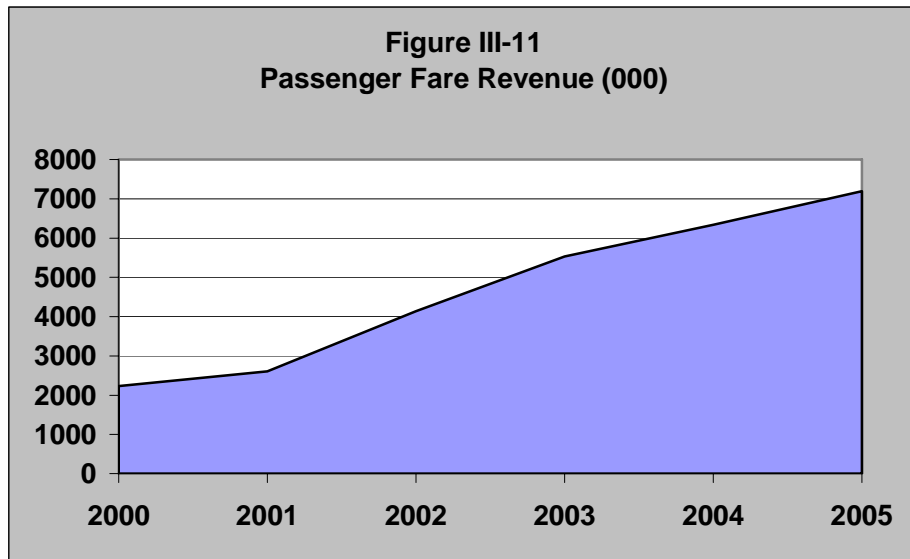
From 2000 to 2005, passenger fare revenue from RTS fixed-route service steadily increased, as evidenced in Table III-6. Passenger fares are the revenues earned from carrying passengers and, for RTS, include fares from contracts, passes, and revenue collected directly from the farebox. Fares collected through contracts, or special transit fares, comprise the majority of RTS passenger fare revenue at 90 percent. The remaining ten (10) percent of passenger fares is collected at the farebox and through the sales of passes. Figure III-11 also illustrates the trend for fare revenue.

Operating revenue includes passenger fares as well as auxiliary transportation funds and non-transportation revenues (such as investment income). Table III-6 below and Figure III-12 show that this indicator increased significantly over the six-year period. This increase is primarily due to RTS's and the University of Florida's efforts to enhance transit service to students both on and off campus.

Lastly, the trend for total local revenue is exhibited in Table III-6 and Figure III-13. Total local revenue consists of all revenues originating at the local level, including operating revenue and passenger fare revenue (excluding state and federal assistance). Total local revenue increased over 92 percent from 2000 to 2005.

**Table III-6  
Gainesville RTS - Operating Revenues, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>            | <b>Passenger Fare Revenue</b> | <b>Operating Revenue</b> | <b>Total Local Revenue</b> |
|-------------------------------|-------------------------------|--------------------------|----------------------------|
| 2000                          | \$2,231,243                   | \$2,336,803              | \$5,775,600                |
| 2001                          | \$2,603,365                   | \$2,744,222              | \$6,197,494                |
| 2002                          | \$4,139,096                   | \$4,256,602              | \$7,602,954                |
| 2003                          | \$5,531,141                   | \$5,647,602              | \$9,324,561                |
| 2004                          | \$6,325,217                   | \$6,517,146              | \$10,748,863               |
| 2005                          | \$7,193,151                   | \$7,370,188              | \$11,108,171               |
| <b>% Change<br/>2000-2005</b> | <b>222.4%</b>                 | <b>215.4%</b>            | <b>92.3%</b>               |



### *Employees, Vehicles, and Fuel Consumption*

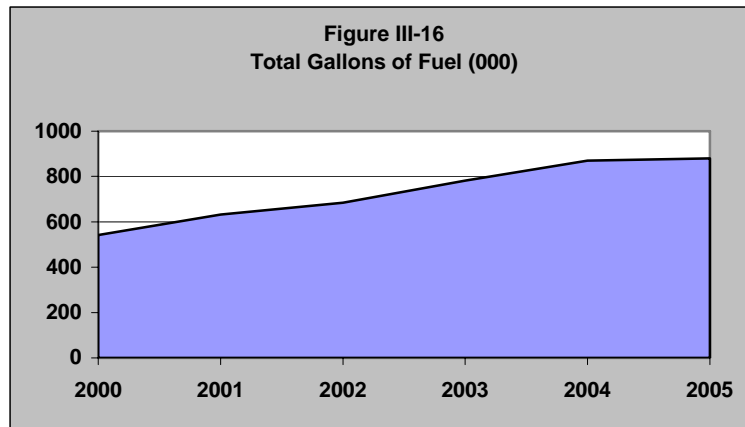
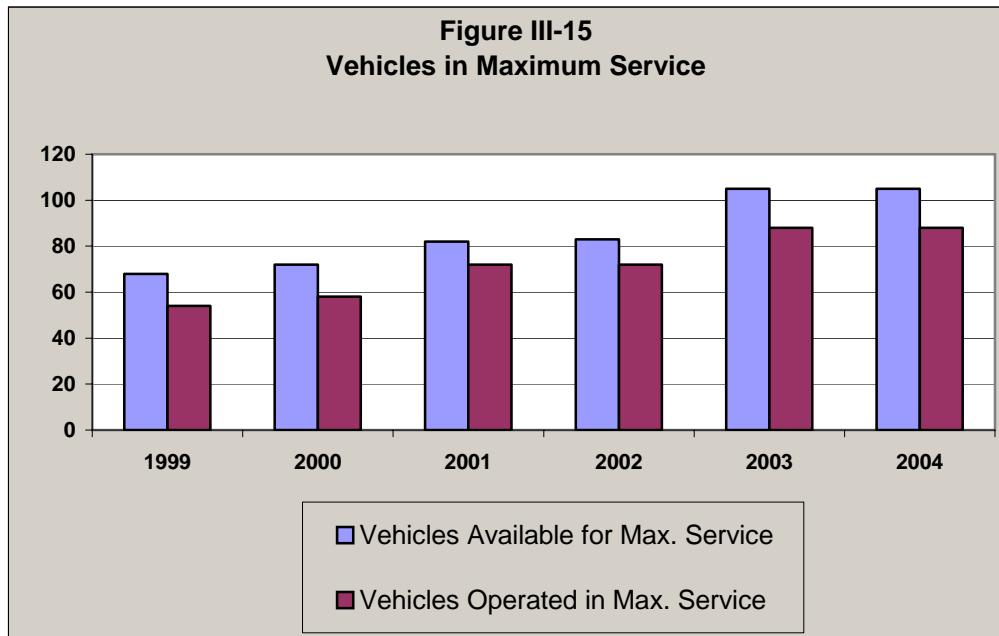
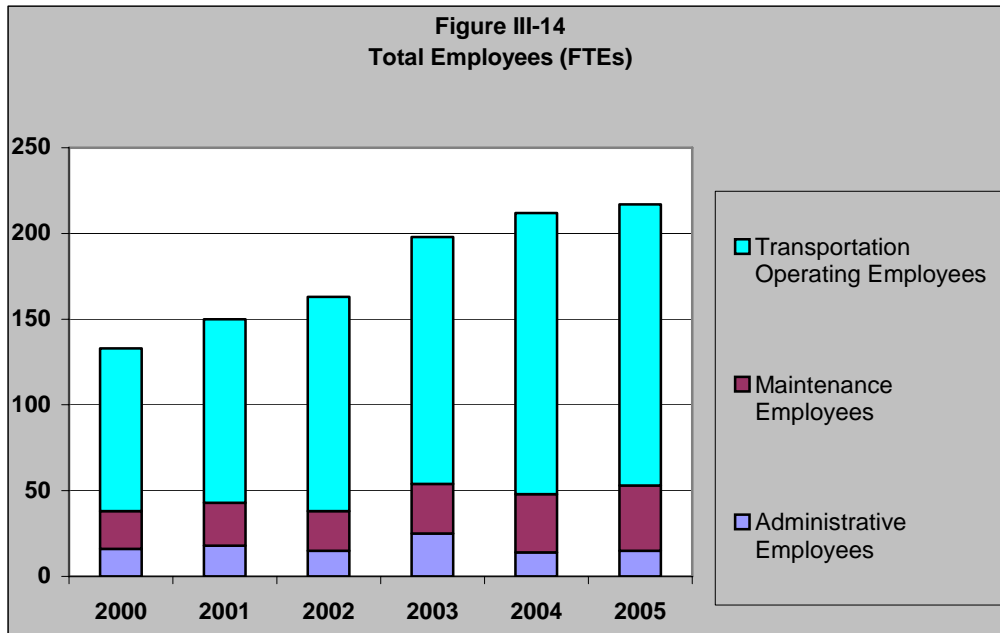
The total number of employees at RTS is represented by full-time equivalents (FTEs). Table III-7 indicates that total employee FTEs increased 63 percent to 217 employees in 2005. Figure III-14 illustrates the trend graphically, and also shows the difference among the three employee categories: administrative employees, maintenance employees, and transportation operating employees.

The number of vehicles available for and operated in maximum service are also outlined in Table III-7. The changes between 2000 and 2001 were significant, with a 24 percent increase in vehicles operated in maximum service. Changes from 2000 to 2005 were also significant for vehicles available and vehicles operated in maximum service, showing increases of nearly 46 percent and nearly 52 percent respectively. Since 2000, the number of vehicles available for maximum service has increased to 105. Figure III-15 shows this trend, and indicates that the number of vehicles operated in maximum service remained at 72 in 2001 and 2002 before increasing again to 88 in 2003.

Finally, the total gallons of fuel utilized for each year in the trend period is presented in Table III-7. The table and Figure III-16 indicate that fuel consumption increased by 62 percent over the trend period, peaking in 2005 with 879,828 gallons of fuel.

**Table III-7  
Gainesville RTS - Employees, Vehicles, and Fuel Consumption, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>        | <b>Total Employees (FTEs)</b> | <b>Vehicles Available for Max. Service</b> | <b>Vehicles Operated in Max. Service</b> | <b>Total Gallons of Fuel Consumed</b> |
|---------------------------|-------------------------------|--|--|---------------------------------------|
| 2000                      | 133                           | 72   | 58                                       | 541,401                               |
| 2001                      | 150                           | 82   | 72                                       | 631,816                               |
| 2002                      | 163                           | 83   | 72                                       | 684,798                               |
| 2003                      | 198                           | 105  | 88                                       | 782,558                               |
| 2004                      | 212                           | 105  | 88                                       | 869,419                               |
| 2005                      | 217                           | 105  | 88                                       | 879,828                               |
| <b>% Change 2000-2005</b> | <b>63.2%</b>                  | <b>45.8%</b>                               | <b>51.7%</b>                             | <b>62.5%</b>                          |



## Effectiveness Measures

### *Service Supply and Service Consumption*

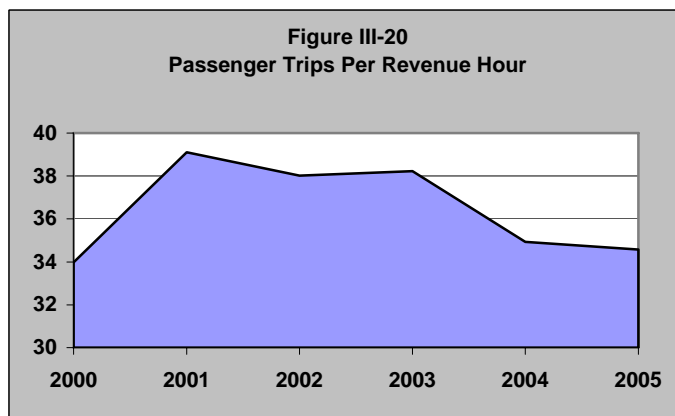
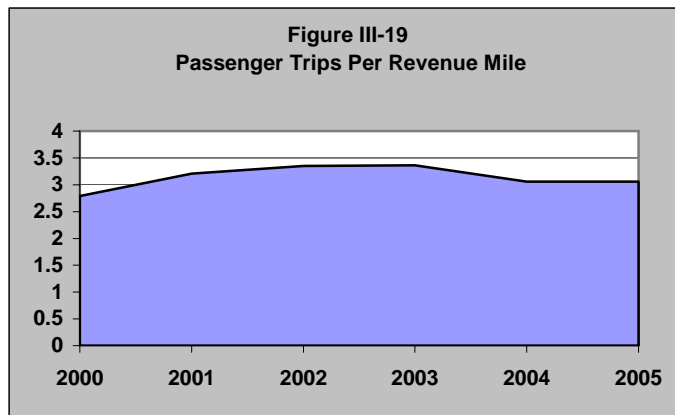
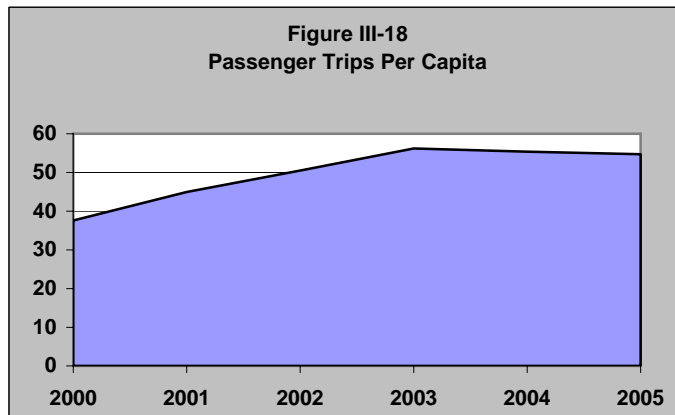
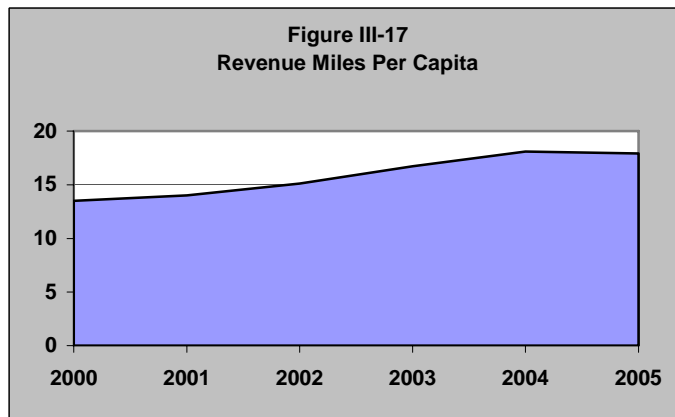
The number of revenue miles per capita is one method of evaluating the level of service supply. Over the trend period from 2000 to 2005 this measure increased over 32 percent, as shown in Table III-8. Figure III-17 depicts the trend and also indicates that the measure peaked in fiscal year 2004 with 18.1 revenue miles per capita.

Measures of the level of service consumption are also summarized in Table III-8 and in Figures III-18 through III-20. One such measure is number of passenger trips per capita. Between 2000 and 2005, this measure increased by 70 percent. The table and Figure III-18 illustrate how this measure peaked in 2003 (at 56.2 trips per capita) and then decreased slightly to 54.7 in 2004.

Additional measures of service consumption are numbers of passenger trips per revenue mile and per revenue hour, which are generally influenced by the supply and demand of transit service. From 1999 to 2003, passenger trips per revenue mile increased steadily. In 2004, this upward trend ceased primarily due to the affects of an active hurricane season, which reduced ridership for several days in September 2004. These measures all demonstrate a recent decline in the level of service consumption for RTS.

**Table III-8  
Gainesville RTS - Service Supply and Service Consumption, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>        | <b>Revenue Miles Per Capita</b> | <b>Passenger Trips Per Capita</b> | <b>Passenger Trips Per Revenue Mile</b> | <b>Passenger Trips Per Revenue Hour</b> |
|---------------------------|---------------------------------|-----------------------------------|---|---|
| 2000                      | 13.5                            | 37.6                              | 2.8                                     | 34.0                                    |
| 2001                      | 14.0                            | 45.0                              | 3.2                                     | 39.1                                    |
| 2002                      | 15.1                            | 50.5                              | 3.4                                     | 38.0                                    |
| 2003                      | 16.7                            | 56.2                              | 3.4                                     | 38.2                                    |
| 2004                      | 18.1                            | 55.4                              | 3.1                                     | 34.9                                    |
| 2005                      | 17.9                            | 54.7                              | 3.1                                     | 34.6                                    |
| <b>% Change 2000-2005</b> | <b>32.6%</b>                    | <b>70.7%</b>                      | <b>10.7%</b>                            | <b>1.8%</b>                             |



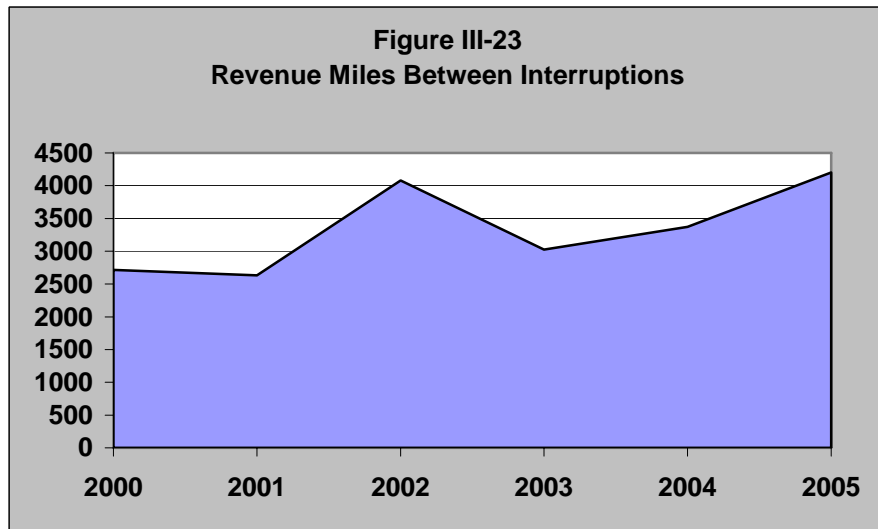
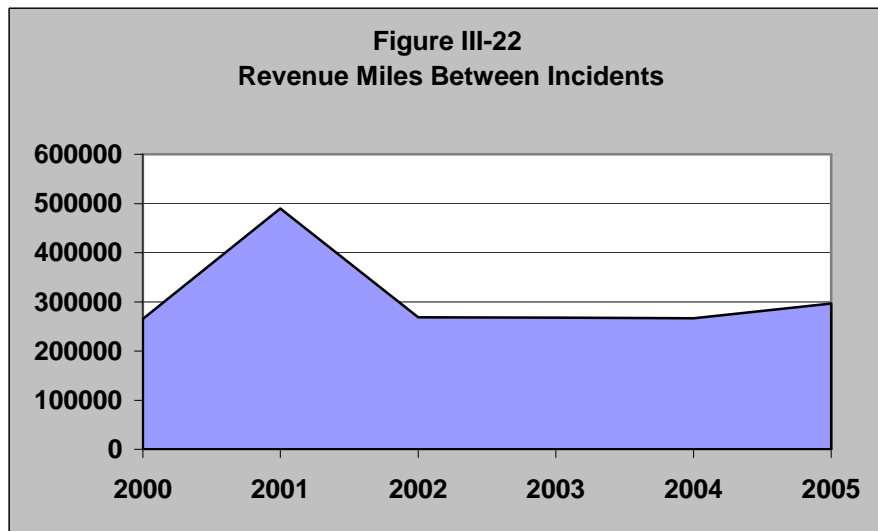
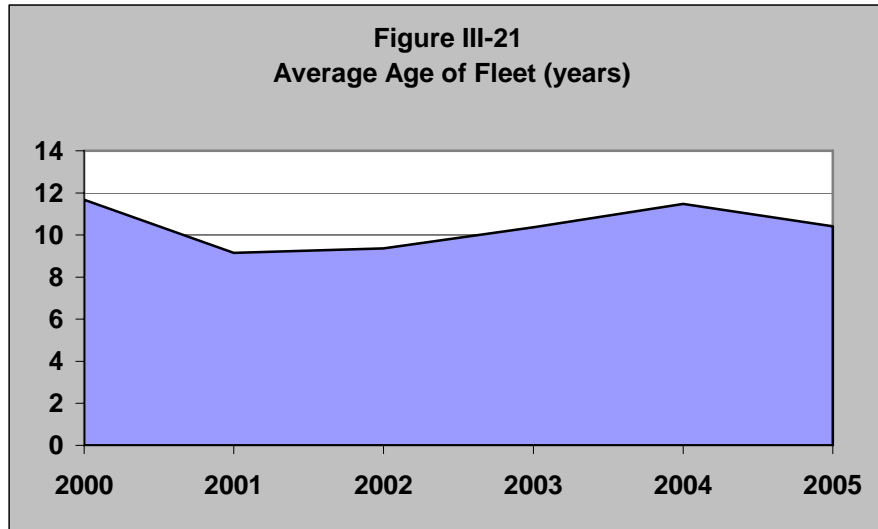
### Quality of Service

Table III-9 shows the trend for the average age of RTS's vehicle fleet. The average age of the fleet is also represented graphically in Figure III-21. During the trend period, the average fleet age remained relatively constant despite a slight age decrease in 2001 due to the arrival of 23 new buses. Since 2001 the average fleet age has gradually returned to the age present in 2000. It is important to note that these figures are calculated based on the fleet conditions that existed at the end of each fiscal year. In February 2005, RTS received nine new buses that have decreased the age to the level present in 2003. Even with the inclusion of these 9 new buses, nearly half of the RTS fleet is past the retirement age prescribed by the Federal Transit Administration. RTS plans to improve the quality of its fleet by purchasing 8 to 15 new buses each year through 2010. This replacement plan will allow RTS to reduce fleet age and decrease any associated maintenance costs.

The numbers of revenue miles between safety incidents and between revenue service interruptions helps RTS measure the safety and reliability of transit services. The table below indicates that revenue miles between safety incidents overall increased 25 percent between 2000 and 2005. The number of revenue miles between interruptions (roadcalls) increased nearly 55 percent over the trend period. This measure increased sharply in 2002 to 4,082 before dropping to 3,025 in 2003. Since 2004 revenue miles between interruptions has increased for two consecutive years to reach a six-year high of 4,202 in 2005. The increase in this measure between 2003 and 2005 demonstrates a decline in the number of interruptions and, therefore, an overall increase in the level of reliability. The trends for these two measures are shown in Figures III-22 and III-23.

**Table III-9  
Gainesville RTS - Quality of Service, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>        | <b>Average Age of Fleet (years)</b> | <b>Revenue Miles Between Incidents</b> | <b>Revenue Miles Between Interruptions</b> |
|---------------------------|-------------------------------------|--|--|
| 2000                      | 11.7                                | 265,084                                | 2,717                                      |
| 2001                      | 9.2                                 | 490,173                                | 2,632                                      |
| 2002                      | 9.4                                 | 268,410                                | 4,082                                      |
| 2003                      | 10.4                                | 267,591                                | 3,025                                      |
| 2004                      | 11.5                                | 266,164                                | 3,369                                      |
| 2005                      | 10.4                                | 296,454                                | 4,202                                      |
| <b>% Change 2000-2005</b> | <b>-11.1%</b>                       | <b>25.8%</b>                           | <b>54.7%</b>                               |



## Efficiency Measures

### *Cost Efficiency*

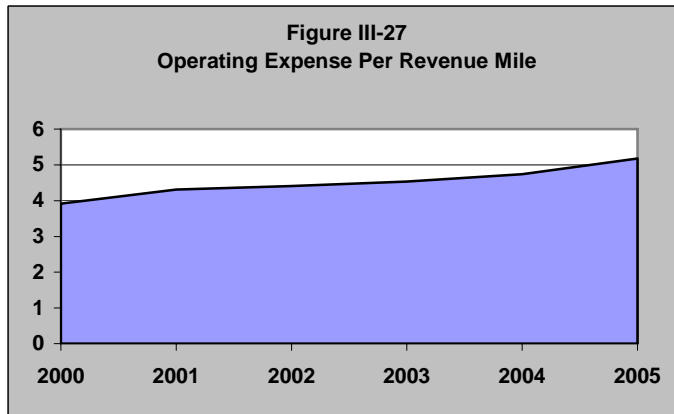
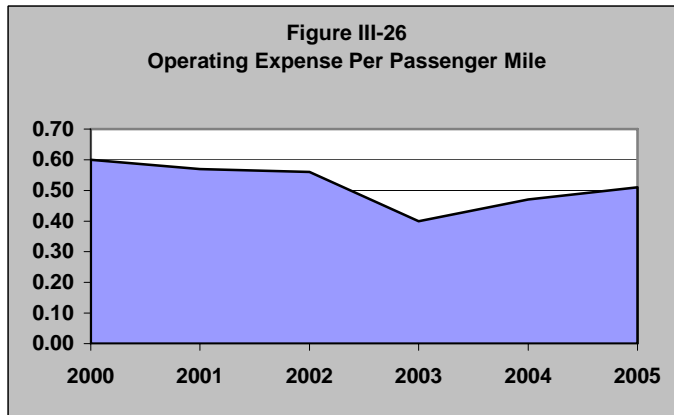
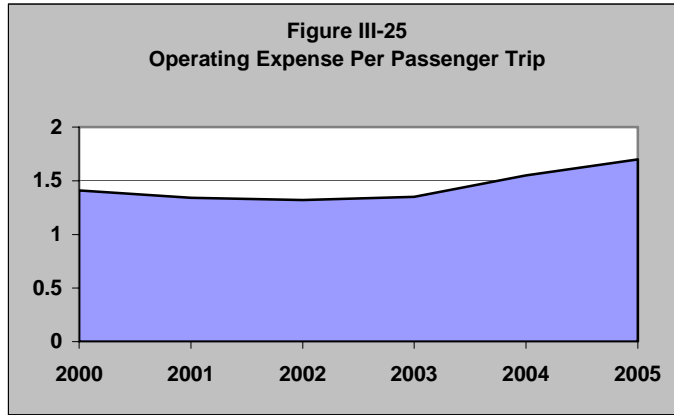
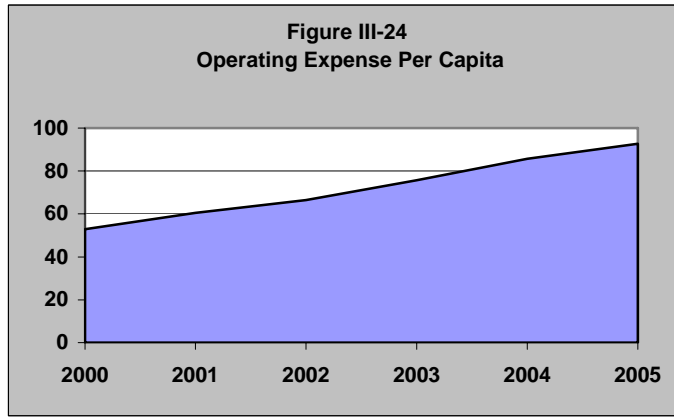
Operating expense ratios, as shown in Table III-10, are nominal values and help to measure the RTS's overall cost efficiency. The table indicates that operating expense per capita increased by 104 percent during the trend period. The operating expense per capita peaked in 2004 at \$87.46. The trend for this measure is also depicted in Figure III-24.

Operating expense per passenger trip increased by 4 percent while operating expense per passenger mile decreased 27 percent between 1999 and 2004, as noted in Table III-10. The operating expense per passenger trip peaked in 2004 at \$1.55, while the operating expense per passenger mile peaked in 1999 at \$0.65. Figures III-25 and III-26 illustrate these trends graphically.

Operating expense per revenue mile is the final ratio analyzed for this evaluation. As summarized in Table III-10, this measure increased by 19 percent between 1999 and 2004. Between 1999 and 2000, this measure decreased from \$4.00 to \$3.92 reaching its lowest level for the trend period. As with the other measures, the values for operating expense per revenue mile of service are also presented in graphical form in Figure III-27.

**Table III-10  
Gainesville RTS - Cost Efficiency, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>        | <b>Operating Expense Per Capita</b> | <b>Operating Expense Per Passenger Trip</b> | <b>Operating Expense Per Passenger Mile</b> | <b>Operating Expense Per Revenue Mile</b> |
|---------------------------|-------------------------------------|---|---|---|
| 2000                      | \$52.88                             | \$1.41                                      | \$0.60                                      | \$3.92                                    |
| 2001                      | \$60.44                             | \$1.34                                      | \$0.57                                      | \$4.31                                    |
| 2002                      | \$66.51                             | \$1.32                                      | \$0.56                                      | \$4.41                                    |
| 2003                      | \$75.73                             | \$1.35                                      | \$0.40                                      | \$4.53                                    |
| 2004                      | \$87.75                             | \$1.55                                      | \$0.47                                      | \$4.74                                    |
| 2005                      | \$92.67                             | \$1.70                                      | \$0.51                                      | \$5.18                                    |
| <b>% Change 2000-2005</b> | <b>75.25%</b>                       | <b>20.6%</b>                                | <b>-15.0%</b>                               | <b>32.1%</b>                              |



*Farebox Recovery, Average Fare, and Labor Productivity*

The farebox recovery ratio, which represents the amount of operating expenses covered by passenger fare revenue, increased 82 percent over the trend period, as noted in Table III-11. The growth in the farebox recovery from fiscal year 1999 to fiscal year 2004 is directly related to cooperative efforts between RTS and University of Florida to fund the services that students find most beneficial. Excluding contractual agreements the farebox recovers approximately six percent of the total annual operating expense.

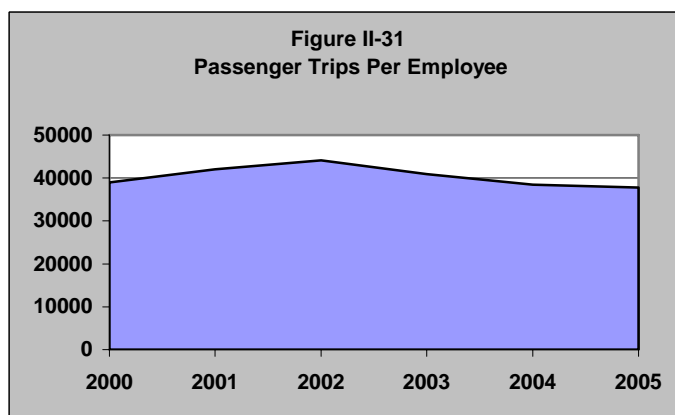
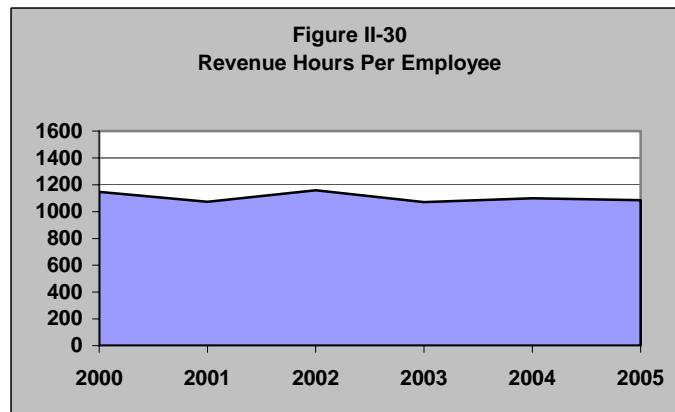
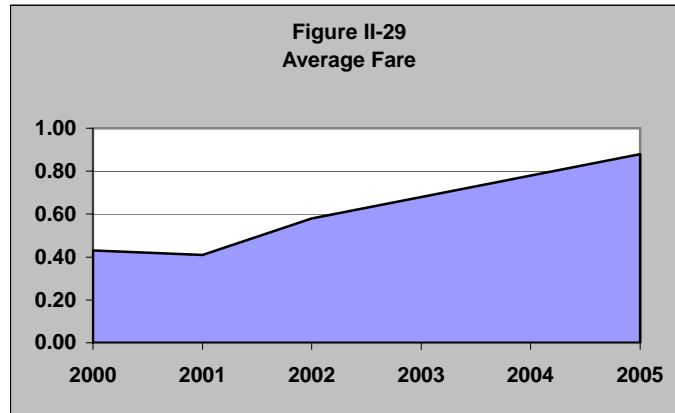
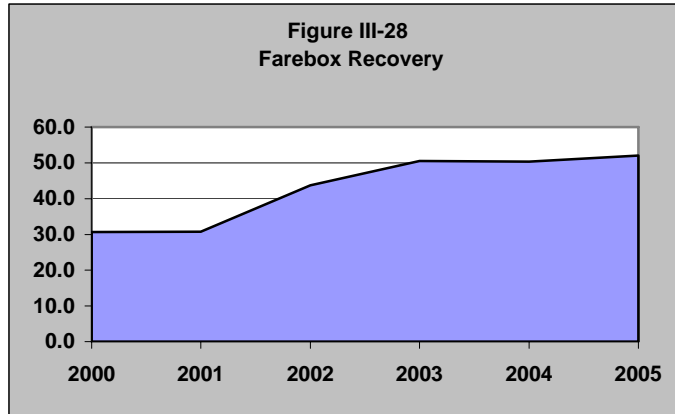
The average fare per passenger trip has also increased over the trend period as illustrated in Table III-11. The trend for RTS's average fare is exhibited in Figure III-29.

RTS's labor productivity is measured by the numbers of revenue hours per employee and passenger trips per employee over the six-year trend period. Table III-11 below indicates that revenue hours per employee increased 17.4 percent and passenger trips per employee increased 19.5 percent. Figure III-30 reveals that revenue hours per employees peaked in 2002. Figure III-31 reveals that the passenger trips per employee also peaked in 2002.

**Table III-11  
Gainesville RTS - Farebox Recovery, Average Fare, and Labor Productivity,  
Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>        | <b>Farebox Recovery Ratio</b> | <b>Average Fare</b> | <b>Revenue Hours Per Employee</b> | <b>Passenger Trips Per Employee</b> |
|---------------------------|-------------------------------|---------------------|-----------------------------------|-------------------------------------|
| 2000                      | 30.7%                         | \$0.43              | 1,146                             | 38,954                              |
| 2001                      | 30.8%                         | \$0.41              | 1,074                             | 42,020                              |
| 2002                      | 43.7%                         | \$0.58              | 1,159                             | 44,079                              |
| 2003                      | 50.5%                         | \$0.68              | 1,071                             | 40,925                              |
| 2004                      | 50.3%                         | \$0.78              | 1,100                             | 38,427                              |
| 2005                      | 52.0%                         | \$0.88              | 1,086                             | 37,571                              |
| <b>% Change 2000-2005</b> | <b>69.4%</b>                  | <b>104.7%</b>       | <b>-5.2%</b>                      | <b>-3.1%</b>                        |

Note: \*Maintenance employees were added to FTE



### *Vehicle Utilization and Energy Utilization*

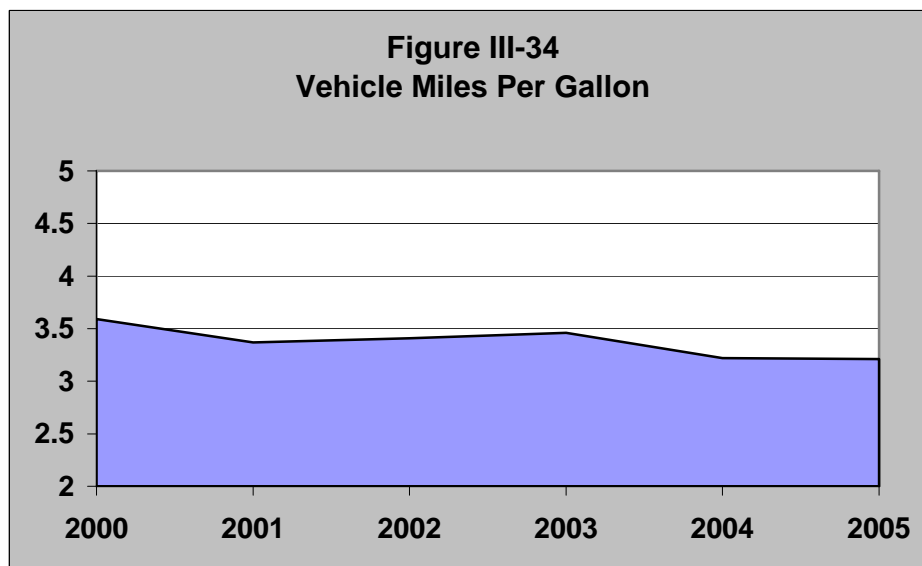
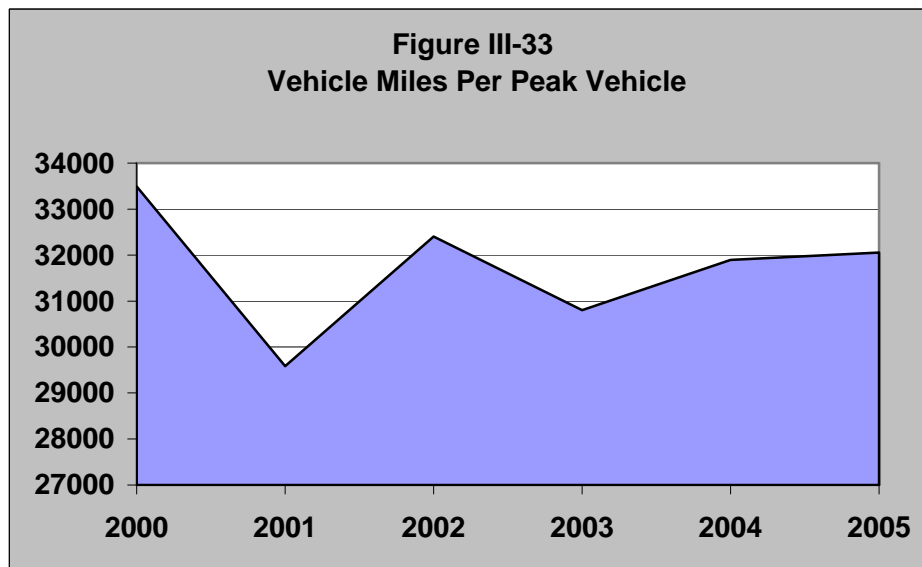
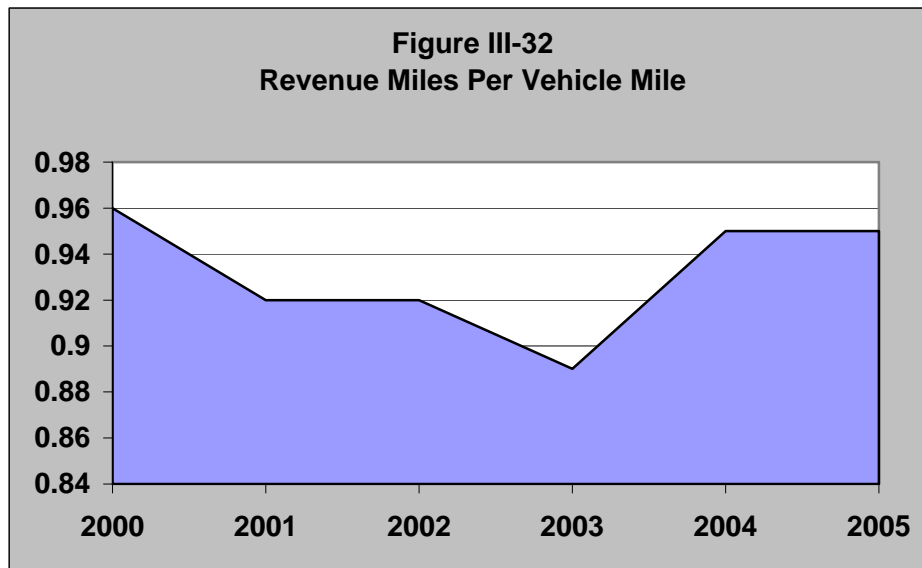
Two measures of vehicle utilization are the number of revenue miles per vehicle mile and the number of vehicle miles per peak vehicle. Table III-12 shows that the number of revenue miles per vehicle mile remained more or less constant throughout the trend period.

Throughout this period, the measure has been close to 0.95 revenue miles per vehicle mile, with the exception of 2003 when it was 0.89. The number of vehicle miles per peak vehicle fluctuated during the six-year period; however, the table indicates that the value of this measure has only dropped by less than half a percent over the six-year period. Figures III-32 and III-33 present these two measures in a graphic format.

Finally, the fuel efficiency of RTS's fixed-route fleet can be measured by the number of vehicle miles per gallon. As can be seen from Table III-12, this measure decreased over the six-year period. The declining trend in fuel efficiency is likely due to a combination of factors that include increasing traffic congestion, increasing fleet age, and more hours of service. This trend is also represented in Figure III-34.

**Table III-12  
Gainesville RTS - Vehicle Utilization and Energy Utilization, Fixed-Route Trend Analysis**

| <b>Fiscal Year</b>        | <b>Revenue Miles Per Vehicle Mile</b> | <b>Vehicle Miles Per Peak Vehicle</b> | <b>Vehicle Miles Per Gallon</b> |
|---------------------------|---------------------------------------|---------------------------------------|---------------------------------|
| 2000                      | 0.96                                  | 33,492                                | 3.59                            |
| 2001                      | 0.92                                  | 29,583                                | 3.37                            |
| 2002                      | 0.92                                  | 32,398                                | 3.41                            |
| 2003                      | 0.89                                  | 30,802                                | 3.46                            |
| 2004                      | 0.95                                  | 31,896                                | 3.22                            |
| 2005                      | 0.95                                  | 32,051                                | 3.21                            |
| <b>% Change 2000-2005</b> | <b>-1.0%</b>                          | <b>-4.3%</b>                          | <b>-10.6%</b>                   |



## APPLICATION TO RTS GOALS

A useful tool for assessing the performance evaluation results is the review of proposed system goals introduced previously in Chapter One. Specific performance review measures can be identified to assist in the determination of the extent to which RTS is meeting each of the stated goals. The proposed goals and initiatives (and related strategies) can be found in Chapter One, while Table III-13 denotes appropriate effectiveness and efficiency measures directly relating to the assessment of RTS with respect to each of the stated goals.

Tables III-13 through III-15 specifically address the trend performance measures applicable to each of the goals. For each measure, the percent change from 2000 to 2005 and from 2004 to 2005 is provided from the section containing the fixed-route trend analysis. These tables provide a practical overview of RTS's performance over time.

It is important to note that interpretation was purposely omitted from this section since the intent is not to suggest that this performance evaluation is the only mechanism for assessing whether system goals are being achieved. The performance measures do not comprehensively cover the objectives identified under each goal in Chapter Two. Many of the objectives cannot be analyzed through this methodology and require additional information or a more subjective evaluation. However, a consideration of the applicable measures provides a useful starting point for fully understanding the status of RTS in its efforts to achieve these goals. Therefore, the applicable measures are outlined in the tables, but the interpretation of these measures as they relate to the achievement of system goals is left to the reader.

**Table III-13  
Performance Measures Applied to RTS Goals**

| <b>Goals</b>  |  | <b>Applicable Performance Measures</b>   |
|---------------|--|--|
| <b>Goal 1</b> | Fulfill the adopted RTS Vision for Transit in Gainesville                            | <u>Service Consumption</u><br>Passenger Trips Per Capita<br>Passenger Trips Per Revenue Mile<br>Passenger Trips Per Revenue Hour   |
| <b>Goal 2</b> | Communicate the role of transit in the Gainesville Community                         | No applicable performance measures in NTD database. Specific actions are addressed as system enhancement.  |
| <b>Goal 3</b> | Enhance RTS Facilities   | No applicable performance measures in NTD database. Specific actions addressed as system enhancements.   |
| <b>Goal 4</b> | Increase service availability  | <u>Cost Efficiency</u><br>Operating Expense Per Capita<br>Operating Expense Per Passenger Trip<br>Operating Expense Per Passenger Mile<br>Operating Expense Per Revenue Mile<br><br><u>Service Supply</u><br>Revenue Miles Per Capita<br><br><u>Operating Ratios</u><br>Farebox Recovery<br><br><u>Vehicle Utilization</u><br>Revenue Miles Per Vehicle Mile<br>Vehicle Miles Per Peak Vehicle<br><br><u>Labor Productivity</u><br>Revenue Hours Per Employee<br>Passenger Trips Per Employee<br><br><u>Energy Utilization</u><br>Vehicle Miles Per Gallon |
| <b>Goal 5</b> | Enhance the presence of transit through Fixed Facilities and Transit Oriented Design | No applicable performance measures in NTD database. Specific actions are addressed in the recommendations as system enhancements.  |
| <b>Goal 6</b> | Use technology and Innovative Approaches in the Provision of Transit Services        | No applicable performance measures in NTD database.  |

**Table III-14**  
**Status of Goal 1: Fulfill the Newly adopted RTS Vision for Transit in Gainesville**

| Applicable Performance Measure   | Trend: % Change<br>2000-2005 | Trend: % Change<br>2004-2005 |
|----------------------------------|------------------------------|------------------------------|
| <b>Service Consumption</b>       |                              |                              |
| Passenger Trips Per Capita       | +45.5%                       | -1.3%                        |
| Passenger Trips Per Revenue Mile | +10.7%                       | 0.0%                         |
| Passenger Trips Per Revenue Hour | +1.7%                        | -1.0%                        |

**Table III-15**  
**Status of Goal 3: Increase Service Availability**

| Applicable Performance Measure       | Trend: % Change<br>2000-2005 | Trend: % Change<br>2004-2005 |
|--------------------------------------|------------------------------|------------------------------|
| <b>Cost Efficiency</b>               |                              |                              |
| Operating Expense Per Capita         | +75.3%                       | +8.1%                        |
| Operating Expense Per Passenger Trip | +20.6%                       | +9.7%                        |
| Operating Expense Per Passenger Mile | -15.0%                       | +13.0%                       |
| Operating Expense Per Revenue Mile   | +32.1%                       | +9.3%                        |
| <b>Service Supply</b>                |                              |                              |
| Revenue Miles Per Capita             | +32.6%                       | -1.1%                        |
| <b>Operating Ratios</b>              |                              |                              |
| Farebox Recovery Ratio               | 69.4%                        | 3.4%                         |
| <b>Labor Productivity</b>            |                              |                              |
| Revenue Hours Per Employee           | -5.2%                        | -5.2%                        |
| Passenger Trips Per Employee         | -3.1%                        | -1.8%                        |
| <b>Vehicle Utilization</b>           |                              |                              |
| Revenue Miles Per Vehicle Mile       | -1.0%                        | 0.0%                         |
| Vehicle Miles Per Peak Vehicle       | -4.3%                        | +0.5%                        |
| <b>Energy Utilization</b>            |                              |                              |
| Vehicle Miles Per Gallon             | -10.6%                       | -0.3%                        |

## CONCLUSIONS

A summary of RTS's performance strengths and weaknesses based on the fixed-route trend analysis is presented in Table III-17. This table is not intended to suggest the extent of the strength or weakness but to identify those performance areas wherein the trend has improved or worsened between 2000 and 2005. A performance strength is defined as any performance area that improved or was maintained over the trend analysis time period. A performance weakness is defined as a trend that declined over the trend period.

**Table III-17**  
**RTS Performance Strengths and Weaknesses, Fixed-Route Trend Analysis**

| Performance Strengths   | Performance Weaknesses  |
|---|---|
| Service Consumption<br>Cost Efficiency<br>Service Supply<br>Operating Ratio | Energy Utilization<br>Vehicle Utilization<br>Labor Productivity<br>Quality of Service- Age of Fleet |

Trend analysis can be a very valuable tool for developing a better understanding of RTS performance and for identifying target areas for additional attention and improvement. Performance evaluation measures do not comprehensively cover all of the objectives of a transit system. Many objectives cannot be measured with this mechanism and require additional information or more subjective evaluation. However, the results of the trend analysis provide a useful introduction to a full understanding of the performance of RTS and complement other components of this study.