USF Bull Runner
On-Board Survey

Final Report

April 2003
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INTRODUCTION

This report summarizes the results of on-board surveys administered to the University of South Florida’s (USF) Bullet/Bull Runner transit shuttle system customers. The Center for Urban Transportation Research (CUTR) conducted this on-board survey between January 13 and January 24, 2003. The on-board survey was designed to determine customer motivations, origins/destinations, demographics, trip characteristics, travel behavior, and satisfaction with various characteristics of the USF shuttle services.

USF Parking and Transportation Services (PATS) operates five regular fixed bus routes that make up the Bullet/Bull Runner service. The overall span of service is from 7:00 a.m. to 9:30 p.m. Monday through Thursday and 7:00 a.m. to 5:30 p.m. on Friday. Fare on the shuttle is free to all users.

To find out detailed information about ridership on the system, on-board surveys were used for data collection. A survey instrument was developed by CUTR in conjunction with PATS and was used to ensure viable feedback from USF-Tampa Campus students, faculty, staff, visitors and vendors. This information can be used by PATS in a variety of ways including the planning or enhancing of bus schedules, locating new bus stops or service, and developing focused marketing campaigns.

BULLET/BULL RUNNER ON-BOARD SURVEY METHODOLOGY AND PROCEDURES

The on-board survey offered 16 questions that would allow for the collection of descriptive information regarding the demographic and travel behavior characteristics of current USF customers. In addition, customer satisfaction with respect to specific aspects of shuttle service was also analyzed. Overall quality was measured utilizing a series of questions that allowed customers to select from a range of “very satisfied” to “very unsatisfied” to indicate their varying levels of satisfaction with those aspects of service. Finally, customers were asked to list specific transportation service improvements that they felt were a priority for USF based on the proposition that a per credit hour fee could be charged for transportation in the future. For reference, a copy of the questionnaire is included in Appendix A.

CUTR employed USF students to assist in the distribution of the shuttle survey. The survey was designed to be completed by riders while on board the buses and returned to the surveyor as they alighted the bus. Every attempt was made to survey 100 percent of the bus trips on each of the 5 routes. Surveys were printed in the English language only.
To facilitate the collection of surveys, students attempted to distribute and collect survey forms for all riders. CUTR staff trained surveyors regarding procedural instructions to be followed by them when distributing the surveys to riders. Upon boarding a bus, riders were asked to complete a survey form even if they had already done so earlier during the course of the survey period. The surveyors were instructed to personally hand the survey forms to riders and also provide a pencil. No mail-back provision was included for returning the completed surveys. However, if time did not permit, riders were given the opportunity to complete a survey while not on the bus and return it to a bus operator at a later time/date.

After every work assignment was complete, a CUTR employee met the surveyor and collected the survey forms. Surveys were printed with coded control numbers and grouped together by bus run prior to distribution.

A total of 5,100 surveys were available for distribution to the fixed route lines. There were 2,059 usable surveys collected (40.4 percent response rate). CUTR performed all of the survey data entry, tabulations, and review of the tabulated data. Given the sample size of completed surveys, the chance for sample bias is negligible: between two to three percent at the 95 percent confidence level (O'Sullivan, Elizabethan, and Gary R. Rassel, Research Methods for Public Administration, 1989, Longman, New York, p. 131). However, all statistical studies are subject to some degree of error and the origins of the error cannot always be accounted for and, subsequently, corrected.

Prior to analysis, the survey data were weighted using PATS average weekday ridership in order to better project respondent characteristics to Bullet/Bull Runner ridership as a whole. The weighting factors were derived on a route-by-route basis to ensure proper representation of each route’s respective customers. Specifically, a weight for a particular route was calculated by dividing the number of surveys distributed for that route (the proxy for average weekday ridership) by the number of valid surveys returned on the route. As an example, if Route X had a total of 1,000 surveys distributed and 100 completed questionnaires returned during the survey process, then each returned survey would be weighted by a factor of 10.00 (1,000÷100) in the reporting of the overall survey results.
USF-TAMPA CAMPUS CHARACTERISTICS

The USF-Tampa campus is the first, and the largest, of the five campuses distributed throughout the Tampa Bay area. The campus occupies an area of approximately 815 acres on a site near the city’s northern border that is 10 miles from Downtown Tampa (source: USF Campus Master Plan). Fall 2002 enrollment was 32,679, and each year since 1999 the campus has achieved record enrollment increases. USF offers more than 200 degree programs and has awarded a cumulative degree total of almost 200,000 (source: 2002 USF Profile Facts at a Glance).

Demographic profiles for employees, students and parking permits sold were assembled for this on-board survey report and are summarized below.

Employees

According to the USF Infomart, in Fall 2002 the USF Tampa campus had a total of 11,034 employees, as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>2,510</td>
</tr>
<tr>
<td>Administrative &amp; Professional</td>
<td>853</td>
</tr>
<tr>
<td>University Support Personnel System (USPS)</td>
<td>2,127</td>
</tr>
<tr>
<td>Graduate and Student Assistants</td>
<td>2,935</td>
</tr>
<tr>
<td>Other (OPS, Librarians, CWSP)</td>
<td>2,609</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11,034</strong></td>
</tr>
</tbody>
</table>


Students

Fall 2002 enrollment for the Tampa campus reached 32,679, broken down as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Men</th>
<th>Women</th>
<th>Men %</th>
<th>Women %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>24,990</td>
<td>10,537</td>
<td>14,453</td>
<td>42.1%</td>
<td>57.9%</td>
</tr>
<tr>
<td>Graduate</td>
<td>5,592</td>
<td>2,349</td>
<td>3,243</td>
<td>42.0%</td>
<td>58.0%</td>
</tr>
<tr>
<td>Non-degree Seeking</td>
<td>1,699</td>
<td>732</td>
<td>967</td>
<td>43.0%</td>
<td>57.0%</td>
</tr>
<tr>
<td>First-Professional</td>
<td>398</td>
<td>206</td>
<td>192</td>
<td>51.8%</td>
<td>48.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32,679</td>
<td>10,537</td>
<td>14,453</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: USF Infomart, Budget and Policy Analysis

Parking Permits Sold

In Fall 2002, there were a total of 38,508 parking permits sold by Parking and Transportation Services, as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Annual + Semester</td>
<td>4,070</td>
</tr>
<tr>
<td>Staff Reserved + Gold</td>
<td>2,011</td>
</tr>
<tr>
<td>Student Annual + Semester</td>
<td>28,458</td>
</tr>
<tr>
<td>Park-and-Ride Annual</td>
<td>1,661</td>
</tr>
<tr>
<td>Moffit Center Annual</td>
<td>1,581</td>
</tr>
<tr>
<td>Other</td>
<td>727</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>38,508</td>
</tr>
</tbody>
</table>

Source: USF Parking and Transportation Services
ORGANIZATION OF SHUTTLE SURVEY ANALYSIS

The analysis of the Bullet/Bull Runner on-board survey is presented in the following four sections included herein: Trip Characteristics, Customer Demographics, Travel Behavior, and Customer Satisfaction. Each section provides information about the survey results that will be useful in improving the performance and services offered by USF.

The **Trip Characteristics** section details specific attributes of the customers’ individual trips. Trip characteristics gathered from customers include route information, modes of access and egress to/from bus stops, the customers’ initial origins and final destinations. In addition, Question 14 of the survey included a map of the service area with numbered bus stops. Customers were asked to circle the bus stop of origin and place an “X” at the bus stop of their destination. With the data gathered from this question, CUTR was able to establish pairings of origin/destination data by customer for those who responded.

The **Customer Demographics** section changes the focus from the trips that are being made to the persons who are making them. Information was gathered on customers’ gender, campus community status (student, faculty, staff, etc.), parking permits held, and zip code of residence. Specifically, these data will assist PATS in identifying the characteristics of customers utilizing the system, better identify and understand the current market characteristics of its ridership, determine transit’s impact on decal sales, and pinpoint specific customer characteristics/segments that can help direct more focused marketing strategies.

The **Travel Behavior** section looks at customers’ overall transit usage characteristics. This section covers how frequently they ride each week, reasons for using the shuttle, typical daily travel patterns, how long they have been using the Bullet/Bull Runner, and their potential alternative modes are examined as well. In conjunction with the individual trip information, these data can contribute to effective scheduling, planning, service levels, and general policy decisions regarding shuttle service.

Finally, the **Customer Satisfaction** section reviews specific aspects of shuttle service as determined by the customers’ responses to Question 15, which asked customers to rate their perception of 11 different service characteristics as well as the overall quality of shuttle service using a five-point scale (“very satisfied” to “very unsatisfied”). The satisfaction section also includes discussion of customer priorities for service improvements. By utilizing cross-tabulations, CUTR was able to determine satisfaction levels and priorities for improvements desired by faculty, staff, undergraduate and graduate students.
In general, the analyses that follow include a great deal of tabular information. Descriptive text is also provided, primarily for the purpose of introducing subjects, noting, and/or interpreting important findings from the on-board survey results. Finally, the on-board survey analysis portion of this document concludes with a brief summary section that discusses the major findings from the survey.

**ON-BOARD SURVEY OBJECTIVES**

This on-board survey was undertaken in order to achieve a number of specific objectives. The main objectives of the survey include the following:

- Identify and isolate users of the shuttle system among the many potential constituencies that PATS services, and can potentially serve, within the campus community;
- Identify primary motivations for using shuttle services;
- Establish transit’s relationship to and compatibility with other modes of travel to and from campus;
- Establish transit’s impact on parking decal sales and desired reduction of automobile trips to campus;
- Establish a customer-oriented, campus community-oriented approach to future shuttle service improvements; and
- Determine the efficacy of transit service in facilitating the development and growth of the USF campus without negatively impacting the surrounding community.

Interestingly enough, results of on-board surveys are almost never used for purposes of marketing and communications. Even though marketing relies heavily on market segmentation, customer feedback and demographics, the planning process often does not entail or support the development of a detailed marketing and communications strategy. This on-board survey report will serve both planning and marketing interests of PATS by identifying how shuttle services can appeal to different constituency groups.

**Survey Completion Rates**

The questionnaire that was utilized for the 2003 USF Bull Runner on-board survey had a total of 16 questions. The majority of the questions were closed-ended in nature, simply requiring customers to select a response from a preset list. Since a survey did not need to be completely filled out to be included in the analyses, many of the survey records in the final survey database had missing values for various questions. The first of the two survey results we will analyze is the full route system, consisting of all 5 routes. To help
the reader better understand the respondent sample sizes for each of the questions analyzed herein, Table 1-1 presents response rates by question.

Table 1-1
Response Rates by Survey Question

<table>
<thead>
<tr>
<th>Question</th>
<th>Response Rate</th>
<th>Question</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>100.0%</td>
<td>Q14o</td>
<td>69.9%</td>
</tr>
<tr>
<td>Q2</td>
<td>99.5%</td>
<td>Q14x</td>
<td>68.4%</td>
</tr>
<tr>
<td>Q3</td>
<td>99.4%</td>
<td>Q15a</td>
<td>93.2%</td>
</tr>
<tr>
<td>Q4</td>
<td>99.4%</td>
<td>Q15b</td>
<td>93.2%</td>
</tr>
<tr>
<td>Q5</td>
<td>99.0%</td>
<td>Q15c</td>
<td>93.0%</td>
</tr>
<tr>
<td>Q6a</td>
<td>34.8%</td>
<td>Q15d</td>
<td>92.5%</td>
</tr>
<tr>
<td>Q6b</td>
<td>30.8%</td>
<td>Q15e</td>
<td>91.1%</td>
</tr>
<tr>
<td>Q6c</td>
<td>48.3%</td>
<td>Q15f</td>
<td>91.8%</td>
</tr>
<tr>
<td>Q6d</td>
<td>40.0%</td>
<td>Q15g</td>
<td>91.3%</td>
</tr>
<tr>
<td>Q6e</td>
<td>7.9%</td>
<td>Q15h</td>
<td>90.6%</td>
</tr>
<tr>
<td>Q6f</td>
<td>19.9%</td>
<td>Q15i</td>
<td>90.9%</td>
</tr>
<tr>
<td>Q6g</td>
<td>40.0%</td>
<td>Q15j</td>
<td>91.0%</td>
</tr>
<tr>
<td>Q6h</td>
<td>4.6%</td>
<td>Q15k</td>
<td>91.5%</td>
</tr>
<tr>
<td>Q7</td>
<td>97.2%</td>
<td>Q15l</td>
<td>86.1%</td>
</tr>
<tr>
<td>Q8</td>
<td>97.7%</td>
<td>Q16a</td>
<td>83.5%</td>
</tr>
<tr>
<td>Q9</td>
<td>97.8%</td>
<td>Q16b</td>
<td>84.9%</td>
</tr>
<tr>
<td>Q10</td>
<td>97.3%</td>
<td>Q16c</td>
<td>85.2%</td>
</tr>
<tr>
<td>Q11</td>
<td>91.5%</td>
<td>Q16d</td>
<td>85.0%</td>
</tr>
<tr>
<td>Q12</td>
<td>96.4%</td>
<td>Q16e</td>
<td>85.2%</td>
</tr>
<tr>
<td>Q13</td>
<td>92.0%</td>
<td>Q16f</td>
<td>83.4%</td>
</tr>
</tbody>
</table>

Based on the individual question response rates shown in the previous table and on a review of a random sample of completed surveys, it appears that the majority of the customers understood and responded properly to each of the survey questions. Low response rates for individual responses in Question 6 were observed; however, Question 6 was the one question that asked customers to check all that applied.
TRIP CHARACTERISTICS

Question 1 asked customers to provide the route letter/color they were riding at the time of survey completion. Figure 1-1 below shows the breakdown of customers on each Bull Runner/Bullet route.

![Figure 1-1](chart.png)

Figure 1-1
Q1: What Bull Runner route are you currently riding on?

- Green Route A: 17.9%
- Red Route B: 28.6%
- Blue Route C: 28.6%
- Yellow Route D: 17.9%
- Purple Route E: 7.0%
The purpose of Questions 2, 3, and 4 was to allow the customers to describe the nature of their trips in terms of mode of access, place of origin, and final destination. From Figures 1-2, 1-3, and 1-4, which highlight the frequency distributions for the three questions, it is clear that a majority of Bull Runner/Bullet customers:

- Walked to their bus stop;
- Began their trip from home; and
- Traveled to class/library.

**Trip Origin**

Forty-three percent of the on-board survey respondents reported that their trip originated from home, off campus. Approximately 12 percent came from on-campus residence halls, 28 percent from class/library, and 7 percent came from their place of employment.
Mode of Access

The results from the 2003 on-board survey show that 83 percent of the respondents accessed the Bull Runner/Bullet by walking to the bus stop. Another 8 percent of customer drove to access the bus and 5 percent transferred from another Bull Runner route.

Figure 1-3
Q3: How did you get to the bus stop for this trip?
Trip Purpose

Results from this question show that 36 percent of respondents indicated that their trip purpose was to go to class/library, 32 percent to go home off campus and 9 percent to go home on campus. Seven percent of customers were going to work and another 6 percent to University Mall.
ORIGIN/DESTINATION ANALYSIS

On the back of the survey instrument, there was a printed map of the USF Bull Runner Shuttle service area. Campus buildings, bus routes and numbered bus stops were depicted on the map, which also included insets for the 42\textsuperscript{nd} Street/46\textsuperscript{th} Street and the University Mall/University Area Transit Center (UATC) corridors. Question 14, on the front side of the survey instrument, asked customers to place an “O” at the location they boarded the bus and an “X” at the location they would get off the bus. The result of this question enabled CUTR to conduct an analysis to show pairings of origins and destinations for the customers who responded (this question had a 70 percent response rate).

Maps 1-1 through 1-5 below depict the pairings of origins and destinations for each route and Map 1-6 shows the origin/destination pairings for the entire system. Interestingly, customers appeared to have two interpretations of the question: 1) most customers appear to have marked their origin and destination only for the route on which they were traveling and 2) some customers marked their stop of initial origin and their final destination, regardless of whether either was served by the route on which they were riding. Below is a brief discussion of prominent origin/destination pairings for each route.

Route A

Route A showed significant origin activity at the three bus stops along Sycamore Street, which is the primary campus park-and-ride lot. Their destinations primarily included the stops along Maple Street (Business Administration/Cooper Hall area) and the main Library/administration stop along Leroy Collins. Also, campus residents of Village Housing use the Route A to access the center of campus.

Routes B and C

Routes B and C displayed very similar origin/destination pairing patterns. Both routes displayed a greater intensity of activity from stops on 42\textsuperscript{nd} Street. The three primary destinations on campus include the Engineering complex, the administration/library stops on Leroy Collins, and the three bus stops along Maple Street (Business Administration/Cooper Hall area). From the origin/destination pairings, customers appear to not have a preference for the most direct route, meaning that they catch the first bus regardless of whether they have the shortest, or the longest, path to their destination.
**Route D**

Route D displayed a significant amount of activity between the stops along Holly Drive (including the new student residence halls and the Marshall Center) and the UATC and University Mall. It is also on Route D that customers displayed *initial* origins and *final* destinations. It is in this graphic that we see origins on 42nd and 46th Street to the UATC, University Mall, and Village Housing. Also, there is activity between stops on 42nd Street and 46th Street to the Marshall Center.

**Route E**

Route E displays a significant amount of activity between the Medical Complex/College of Public Health and the Marshall Center (including the parking garage). Secondarily, there is activity between the Credit Union/Zeta Hall stop and the Health Sciences complex.
Map 1-3
Origin and Destination Pairs - Route C

Legend
- Route C Origin & Destination Pairs
- Bull Runner Route C
- Bull Runner Stops

USF Golf Course
University Area Transit Center
University Square Mall
CUSTOMER DEMOGRAPHICS

Typical demographic-related questions include asking customers their age, gender, ethnic heritage, total household income, household vehicle availability and drivers licensure. In discussions with PATS staff, CUTR and PATS agreed that a majority of these characteristics were not necessary for USF. In determining customer demographics for the shuttle, CUTR and PATS felt it was more important to gain customers’ status in the campus community (e.g. faculty, staff, student), gender, parking permits held, and zip code of residence.

Campus Community Status- Question 10 asked customers to check if they are a faculty member, staff, undergraduate student, graduate student, vendor or visitor. As expected, 93 percent of Bullet/Bull Runner customers are students. The resulting data set from this question is used through the remainder of this report for isolating and segmenting customers to determine motivations for using the shuttle, daily travel patterns, satisfaction, and priorities for improvements to shuttle services.
Gender - System wide, more women utilize the Bullet/Bull Runner service than men. Women account for over 58 percent of total ridership while men account for approximately 42 percent of total ridership.

Parking Permits Held - Question 12 asked customers to indicate the parking permit they hold on campus. The most significant result of this question is that 71 percent of customers do not have a parking permit. In conjunction with Question 10, this data set was also utilized in segmenting motivations for using the shuttle, daily travel patterns, satisfaction and priorities for future improvements.
Since the characteristics of campus community status and parking permits held are utilized substantially in this report, a cross-tabulation of these two questions was conducted. Table 1-2 below shows the results.

### Table 1-2
Comparison of Parking Permits Held (Question 12)
Among Faculty, Staff, Students, Visitors and Vendors (Question 10)

<table>
<thead>
<tr>
<th>Parking Permit Held</th>
<th>Faculty</th>
<th>Staff</th>
<th>Visitor</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
<th>Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserved</td>
<td>16.2%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Gold Staff</td>
<td>0.0%</td>
<td>1.2%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Green Staff</td>
<td>24.3%</td>
<td>18.1%</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Visitor</td>
<td>0.0%</td>
<td>0.8%</td>
<td>7.1%</td>
<td>0.3%</td>
<td>0.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Resident (on-campus)</td>
<td>0.0%</td>
<td>1.2%</td>
<td>0.0%</td>
<td>8.8%</td>
<td>1.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Non-resident (off-campus)</td>
<td>5.4%</td>
<td>0.8%</td>
<td>0.0%</td>
<td>11.3%</td>
<td>11.3%</td>
<td>20.8%</td>
</tr>
<tr>
<td>Park-and-ride</td>
<td>29.7%</td>
<td>23.0%</td>
<td>0.0%</td>
<td>10.6%</td>
<td>3.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>No Parking Permit</td>
<td>24.3%</td>
<td>54.7%</td>
<td>92.9%</td>
<td>68.4%</td>
<td>82.7%</td>
<td>79.2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Question 10 establishes that students make up 93 percent of shuttle ridership and Question 12 establishes that seventy-one percent of customers do not own a parking permit. The primary reason for running this data set is to isolate the constituency groups not holding a parking permit. For instance, 93 percent of visitors and 79 percent of vendors do not hold a permit; however, they are an extremely small percentage of overall ridership. The important statistics are that 68.4 percent of undergraduate and 82.7 percent of graduate students using the Bullet/Bull Runner do not hold a parking permit.
Zip Code of Residence - Question 13 asked customers to supply their zip code of residence. Zip codes can assist in targeting customer origins and also determining customers who commute to campus and use the shuttle while on campus. Figure 1-8 below shows that 58 percent of customers live in zip codes 33613 (north of campus) and 33620 (USF campus). An additional 10 percent live in zip code 33617, which is Temple Terrace.
TRAVEL BEHAVIOR

A series of questions were included on the survey questionnaire to establish the Bull Runner customers’ travel behavior characteristics. These questions included:

- Frequency of use (Question 5);
- Reason for riding the Bull Runner (Question 6);
- Typical Daily Travel Pattern (Question 7);
- Alternative travel modes to transit (Question 8); and
- Length of use (Question 9);

Frequency of Use - Question 5 asked customers how many days per week they utilized Bull Runner service. As shown in Figure 1-9, six of ten customers use the Bull Runner/Bullet services five days per week (60 percent). Occasional riders (one day a week or 2-3 times per month) account for about 5 percent of customers.
Reason for Riding the Bull Runner – Reasons for using the Bullet/Bull Runner could be as variable as the individuals who use them. The campus community has a number of constituency groups who access campus each day through a variety of modes and they may use shuttle service for different reasons. Examples include:

- Faculty, staff and students who drive to campus and park but then use the shuttle for limited travel needs;

- Students who live on campus, may (or may not) have cars and permits but are limited to specific parking lots, thereby using shuttle services to get around campus;

- Students who live off-campus who do not have, want or need a parking decal;

- Students who live off-campus and drive, park and then ride the shuttle on campus;

- Faculty, staff and students who live off-campus and utilize a park-and-ride lot;

- Faculty, staff and students who study and work at the health sciences complex; and

- Visitors to campus.

Isolating the various constituency groups and identifying their motivations for using shuttle service is a challenge. Question 6 asked customers to choose from a list of responses indicating the reasons they use the shuttle and were asked to check all answers that apply. Figure 1-10 below details those responses.
Q6: What are the reason(s) you ride the Bull Runner/Bullet?

- It is too difficult to hunt for parking around campus: 36.6%
- Parking on campus is too expensive: 32.5%
- Bus is a convenient way to get to and from campus: 47.5%
- Bus is a convenient way to get around campus: 40.4%
- I park in park-and-ride lot and use the shuttle: 9.9%
- Bus is cheaper than driving to and from campus: 20.2%
- Car is not available: 38.0%
- Other: 4.5%
Since customers were allowed to check all responses that applied, it appears as though the two most prevalent motivations for using the shuttle are that it is a convenient way to get to and from campus and a convenient way to get around campus. Only 10 percent of customers indicated that they use a park-and-ride lot and use the shuttle to get around campus.

To further isolate reasons for riding, a cross-tabulation of Question 6 was conducted with Question 10 to segment reasons for riding among faculty, staff, undergraduate and graduate students, and Question 12 to segment reasons for riding based on parking permits held (recall that in the results to Question 12, 71 percent of all Bullet/Bull Runner customers do not own a parking permit). Allowing customers to select all responses that applied created a cross-tabulation that was tricky to conduct.

Rather than determine the primary reason for using the shuttle among campus community groups, CUTR was able to determine the prevalence of responses given based on the number of customers within each group. In Question 10, 39 respondents are faculty, 248 respondents are staff, 3,954 respondents are undergraduate students, and 1,122 respondents are graduate students. To cross-tabulate Question 10 with Question 6, a determination was made regarding the number of times eligible persons in a specific group selected one of the responses in Question 6, and then a percentage was determined. For instance, in Table 1-3 below, 28 of 39 faculty members selected the answer “It is too difficult to hunt for parking around campus,” making this the most prevalent answer among faculty members. Table 1-3 displays a comparison of reasons for riding among faculty, staff and students.
### Table 1-3
Comparison of Reasons for Riding (Question 6) Among Faculty, Staff and Students (Question 10)

<table>
<thead>
<tr>
<th>Reason for Riding</th>
<th>Faculty</th>
<th>Staff</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is too difficult to hunt for parking around campus</td>
<td>28</td>
<td>64</td>
<td>1,643</td>
<td>263</td>
<td>23.4%</td>
</tr>
<tr>
<td>Parking on campus is too expensive</td>
<td>6</td>
<td>73</td>
<td>1,509</td>
<td>194</td>
<td>17.3%</td>
</tr>
<tr>
<td>Bus is a convenient way to get to and from campus</td>
<td>16</td>
<td>111</td>
<td>1,891</td>
<td>564</td>
<td>50.2%</td>
</tr>
<tr>
<td>Bus is a convenient way to get around campus</td>
<td>4</td>
<td>88</td>
<td>1,746</td>
<td>352</td>
<td>31.3%</td>
</tr>
<tr>
<td>I park in a park-and-ride lot and use the shuttle</td>
<td>11</td>
<td>49</td>
<td>427</td>
<td>43</td>
<td>3.8%</td>
</tr>
<tr>
<td>Bus is cheaper than driving to and from campus</td>
<td>2</td>
<td>37</td>
<td>917</td>
<td>154</td>
<td>13.7%</td>
</tr>
<tr>
<td>Car is not available</td>
<td>0</td>
<td>73</td>
<td>1,370</td>
<td>600</td>
<td>53.5%</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>12</td>
<td>176</td>
<td>46</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

**Faculty**

The most prevalent reason for riding among faculty members is the difficulty in hunting for parking around campus. However, faculty members also noted the convenience of the shuttle as a way to get to and from campus.

**Staff**

The most prevalent reason for riding among staff members is that the shuttle is a convenient way to get to and from campus with 45 percent selecting this response. However, just under 30 percent of staff members indicated that they do not have a car available and another 35 percent also noted the convenience of the shuttle as a way to get around campus.

**Undergraduate Students**

Undergraduate students form the majority of shuttle customers and displayed an affinity for most of the choices in Question 6. The most prevalent response is that the bus is a convenient way to get to and from campus, with 47.8 percent selecting this response. However, undergraduate students also agree that hunting for parking around campus is
difficult (41.5 percent), parking on campus is expensive (38.1 percent) and the bus is a convenient way to get around campus (44 percent).

**Graduate Students**

The most prevalent answer given by graduate students is that they use the shuttle because a car is not available with 53.5 percent selecting this response. Graduate students also noted the convenience of the shuttle as a means to get to and from campus.

Table 1-4 below presents a comparison of reasons for riding based on parking permits held.

<table>
<thead>
<tr>
<th>Reason for Riding</th>
<th>Staff*</th>
<th></th>
<th>Re</th>
<th>Non-</th>
<th>rk and</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=90</td>
<td>%</td>
<td>N=368 %</td>
<td>N=580 %</td>
<td>N=526 %</td>
<td></td>
</tr>
<tr>
<td>It is too difficult to hunt for parking on campus</td>
<td>38 42.2%</td>
<td>159 43.2%</td>
<td>391 67.4%</td>
<td>267 50.8%</td>
<td>1,137 29.8%</td>
<td></td>
</tr>
<tr>
<td>Parking on campus is too expensive</td>
<td>3 3.3%</td>
<td>40 10.9%</td>
<td>152 26.2%</td>
<td>283 53.8%</td>
<td>1,294 33.9%</td>
<td></td>
</tr>
<tr>
<td>Bus is a convenient way to get to and from campus</td>
<td>45 50.0%</td>
<td>109 29.6%</td>
<td>235 40.5%</td>
<td>101 19.2%</td>
<td>2,104 55.1%</td>
<td></td>
</tr>
<tr>
<td>Bus is a convenient way to get around campus</td>
<td>30 33.3%</td>
<td>217 59.0%</td>
<td>196 33.8%</td>
<td>200 38.0%</td>
<td>1,544 40.4%</td>
<td></td>
</tr>
<tr>
<td>I park in a park-and-ride lot and use the shuttle</td>
<td>35 38.9%</td>
<td>35 9.5%</td>
<td>38 6.6%</td>
<td>372 70.7%</td>
<td>91 2.4%</td>
<td></td>
</tr>
<tr>
<td>Bus is cheaper than driving to and from campus</td>
<td>6 6.7%</td>
<td>39 10.6%</td>
<td>98 16.9%</td>
<td>70 13.3%</td>
<td>885 23.2%</td>
<td></td>
</tr>
<tr>
<td>Car is not available</td>
<td>23 25.6%</td>
<td>32 8.7%</td>
<td>103 17.8%</td>
<td>17 3.2%</td>
<td>1,901 49.8%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>2 2.2%</td>
<td>44 12.0%</td>
<td>7 1.2%</td>
<td>11 2.1%</td>
<td>170 4.5%</td>
<td></td>
</tr>
</tbody>
</table>

*Staff includes Reserved, Gold Staff and Green Staff parking permits*

In the table above, there are respondents who indicated that they hold a parking permit in Question 12 but in Question 6 responded that they ride the shuttle because a car is not available. It seems counter-intuitive that customers would hold a parking permit if they do not have a car available to them for personal use. However, these combinations of responses were given in each category. To ensure accuracy, CUTR inspected a stack of individual surveys and in fact, these combinations of responses were observed on individual surveys. It is possible that customers simply misread Question 12 or have
individual circumstances regarding “availability” of a car for their personal use. Despite this statistical anomaly, the data in Table 1-4 remains useful.

**Staff Parking Permit Holders**

Among staff parking permit holders, the most prevalent reason for riding is that the bus is a convenient way to get to and from campus. However, staff parking permit holders also noted the difficulty in hunting for parking (42.2 percent), and park-and-ride lot usage (38.9 percent).

**Resident (on-campus) Student Parking Permit Holders**

Not surprisingly, on-campus student parking permit holders use the shuttle as a convenient way to get around campus with 59 percent selecting this response. As noted earlier, on-campus students who hold parking permits are restricted to specific parking lots. This group also noted the difficulty in hunting for parking (43.2 percent).

**Non-resident (off-campus) Student Parking Permit Holders**

Non-resident student parking permit holders noted the difficulty in hunting for parking around campus as the most prevalent response (67.4 percent). They also noted the convenience of the shuttle in getting to and from campus (40.5 percent) and getting around campus (33.8 percent).

**No Parking Permits Held**

As noted above, a vast majority of Bullet/Bull Runner customers do not hold a parking permit (70 percent of overall ridership). Similar to the responses for undergraduates in Table 1-3, those that hold no parking permit note the convenience of the shuttle as a way to get to and from campus (55.1 percent) as the response given most often. About 50 percent in this group also noted the lack of availability of car as a reason for riding the shuttle.

**Typical Daily Travel Pattern**

Question 7 asked customers to select a statement that best described their daily travel pattern. There was a list of six prepared answers that outlined different travel modes including driving, walking, bicycling, shuttle use, HARTline, and carpooling. Response #7 was an “other” category, for which approximately 350 individual responses were captured. It is clear the students living in on-campus residence halls did not feel the
choices in Question 7 adequately addressed their circumstances. Fortunately, customers made a tremendous effort to describe their daily travel pattern if it did not fit within the six choices given. From those “other” responses, CUTR was able to group them into additional categories. Figure 1-11 below depicts daily travel patterns to campus.

The predominant daily travel pattern for shuttle customers (49.8 percent) is to ride the Bullet/Bull Runner to and from campus, indicating that a majority of customers live in the 42nd/46th Street areas served by the Bullet. Another 22 percent walk to campus and then use the shuttle on campus. Approximately 15 percent of customers indicate that they drive to campus and park, then use the shuttle for travel around campus. In the “Other”
response categories, 2.2 percent indicated that they live on campus and use the shuttle for travel around campus, another 2.0 percent walk to and from campus and then (a variety of behaviors), meaning that their travel patterns are unique to them as individuals.

To further isolate daily travel patterns, a cross-tabulation of Question 7 was conducted with Question 10 to segment faculty, staff, undergraduate and graduate students, and Question 12 to segment daily travel patterns based on parking permits held. Since customers were only allowed to select one response in questions 7 and 10, these cross-tabulations are not as complicated as those in Tables 1-3 and 1-4 above. Tables 1-5 and 1-6 present the results.

### Table 1-5
Comparison of Daily Travel Patterns (Question 7)

<table>
<thead>
<tr>
<th>Daily Travel Pattern</th>
<th>Faculty</th>
<th>Staff</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive (or motorcycle) to campus and park, then ride bus</td>
<td>46.2%</td>
<td>22.2%</td>
<td>13.9%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Walk to campus, then ride bus around campus</td>
<td>7.7%</td>
<td>6.7%</td>
<td>21.7%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Bicycle to, on and from Campus</td>
<td>7.7%</td>
<td>0.0%</td>
<td>1.7%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Ride Bullet/Bull Runner to and from campus</td>
<td>30.8%</td>
<td>38.9%</td>
<td>49.5%</td>
<td>64.9%</td>
</tr>
<tr>
<td>Ride HARTline and transfer to/from Bull Runner to campus</td>
<td>7.7%</td>
<td>24.4%</td>
<td>2.6%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Ride with someone to and from campus, then ride bus</td>
<td>0.0%</td>
<td>1.1%</td>
<td>2.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>6.7%</td>
<td>8.1%</td>
<td>2.5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The results of this cross-tabulation yielded a pleasant surprise. While it is expected that faculty and staff would primarily drive to campus and park, 30.8 percent of faculty and 38.9 percent of staff actually ride the shuttle to and from campus. As expected, undergraduate and graduate students predominantly use the shuttle to travel to and from campus. Walking is the second most prevalent mode of travel.
Table 1-6
Comparison of Daily Travel Patterns (Question 7)
Based on Parking Permits Held (Question 12)

<table>
<thead>
<tr>
<th>Daily Travel Pattern</th>
<th>Staff*</th>
<th>Visitor</th>
<th>Resident/On-campus</th>
<th>Non-Resident/Off Campus</th>
<th>Park-and-Ride</th>
<th>No Parking Permit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive (or motorcycle) to campus and park, then ride bus</td>
<td>47.1%</td>
<td>33.3%</td>
<td>12.4%</td>
<td>32.9%</td>
<td>76.0%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Walk to campus, then ride bus around campus</td>
<td>11.8%</td>
<td>11.1%</td>
<td>23.3%</td>
<td>10.5%</td>
<td>4.1%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Bicycle to, on and from Campus</td>
<td>2.9%</td>
<td>0.0%</td>
<td>1.6%</td>
<td>1.4%</td>
<td>0.7%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Ride Bullet/Bull Runner to and from campus</td>
<td>26.5%</td>
<td>33.3%</td>
<td>24.0%</td>
<td>43.3%</td>
<td>15.8%</td>
<td>60.2%</td>
</tr>
<tr>
<td>Ride HARTline and transfer to/from Bull Runner to campus</td>
<td>8.8%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.9%</td>
<td>1.4%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Ride with someone to and from campus, then ride bus</td>
<td>2.9%</td>
<td>0.0%</td>
<td>4.7%</td>
<td>3.3%</td>
<td>0.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>22.2%</td>
<td>34.1%</td>
<td>6.7%</td>
<td>1.4%</td>
<td>5.0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Staff includes Reserved, Gold Staff and Green Staff parking permits

The most significant result of this cross-tabulation is that 60% of those who do not hold a parking permit ride the shuttle to and from campus. Also, it is clear (and discussed above) that on-campus resident students did not feel adequately represented in the choices provided in Question 7 (e.g. 34.1 percent of students with on-campus resident parking permits responded to the “other” category). Their primary mode of travel is to walk on campus and/or use the shuttle because their permits are restricted to specific lots.
Alternative Travel Modes to Transit – Question 8 asked customers how they would complete their trip if they did not utilize Bullet/Bull Runner service. Results of this question indicate that 56 percent of customers would walk. A total of 33 percent of customers indicated they would drive or ride with someone, which would entail generating vehicle trips to campus. This result is critical as a partial means of determining the efficacy of transit service in terms of mitigating campus development and accommodating future enrollment growth. By reducing the number of external and internal automobile trips, the host community benefits by not having those automobile trips generated on surrounding roadways.

![Figure 1-12](Q8: How would you make this trip if not by bus?)

- Drive: 1.8%
- Walk: 55.9%
- Ride with someone: 11.2%
- Taxi: 0.9%
- Bicycle: 7.2%
- Other: 3.1%
Length of Use - Question 9 asked customers how long they have been using the Bullet/Bull Runner service. This question has importance because generations of student populations, with incoming freshmen and outgoing graduates, fluctuate at greater rates than do urban transit systems. Also, the Bull Runner is relatively young with its first year of service dating to 1998 and the first year of significantly expanded service dating to August 2000. Interestingly, Figure 1-13 indicates that 53 percent of customers have ridden for less than one year and 45 percent have used the service for one year or more. Results from this question indicate that once customers begin using the service, they continue to find it useful in future academic years.
CUSTOMER SATISFACTION

One question was included on the survey questionnaire to ascertain customer satisfaction with specific aspects of shuttle service and a second question asked customers to provide priorities for future improvements. Question 15 asked customers to rate their satisfaction with 11 different service characteristics as well as overall satisfaction with Bullet/Bull Runner service using a five-point scale (“very satisfied” to “very unsatisfied”). Cross-tabulations enabled CUTR to ascertain satisfaction ratings for faculty, staff, undergraduate and graduate students using Question 10.

Question 16 asked customers to consider a hypothetical question: If a transportation fee is charged on a per credit hour basis each semester, what improvements would be of greatest importance? Although this question was obviously intended for students, faculty and staff did rightfully weigh in on this question. They may have prioritized improvements based on their individual circumstances or based on what they felt would be best for students in the future.

Satisfaction Ratings — Customers were asked to rate their individual levels of satisfaction with each of a number of Bullet/Bull Runner service characteristics using a scale of 1 to 5 where 1 is “very unsatisfied” and 5 is “very satisfied”. Using this scoring system an average score was calculated for each service characteristic. The resulting mean scores give a better indication of overall customer satisfaction with each of the service characteristics. Figure 1-14 presents all of the average customer satisfaction ratings for the service characteristics included in Question 15. Table 1-7 shows the satisfaction ratings for faculty, staff, undergraduate and graduate students.

Any average rating greater than 4.0 indicates that customers are significantly satisfied with shuttle service. Those that fall between 3.0 and 3.99 usually indicate that customers are somewhat satisfied with those service characteristics. Overall, the Bullet/Bull Runner scores greater than 4.0 in 5 service characteristics, including overall satisfaction, ability to reach destinations, minimal need for transfers, weekday evening span of service, and bus driver courtesy. The characteristic that scored the lowest was buses arriving on time, which scored a 3.36. Since printed transit information materials contain neither a fixed-route schedule nor a guarantee for frequency of buses, it is likely that customers are expressing dissatisfaction with the length of time they wait for a bus as opposed to actual comparisons by customers of scheduled vs. actual arrival times at bus stops.
Figure 1-14
Overall Systemwide Satisfaction

- Overall satisfaction with the Bull Runner: 4.21
- Frequency of Service: 3.53
- Ability to get where you want to go using the bus: 4.18
- Ability to reach destination with minimal number of transfers: 4.27
- Ease of transfer between buses: 3.93
- Buses arriving on time: 3.36
- Time it takes to make trips by bus: 3.81
- Time of day of latest buses on weekdays: 4.16
- Time of day of earliest buses on weekdays: 3.71
- Availability of seats on the buses: 3.79
- Bus driver's courtesy: 4.30
- Ability to connect to HARTline regional system: 3.83
### Table 1-7
**Comparison of Satisfaction Ratings (Question 15)**
among Faculty, Staff and Students (Question 10)

<table>
<thead>
<tr>
<th>Service Characteristic</th>
<th>Faculty</th>
<th>Staff</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall satisfaction with Bull Runner</td>
<td>4.39</td>
<td>4.52</td>
<td>4.17</td>
<td>4.24</td>
</tr>
<tr>
<td>Frequency of Service</td>
<td>3.87</td>
<td>4.10</td>
<td>3.47</td>
<td>3.55</td>
</tr>
<tr>
<td>Ability to get to destinations using shuttle</td>
<td>3.95</td>
<td>4.44</td>
<td>4.23</td>
<td>3.96</td>
</tr>
<tr>
<td>Ability to reach destinations with minimal transfers</td>
<td>4.41</td>
<td>4.43</td>
<td>4.31</td>
<td>4.12</td>
</tr>
<tr>
<td>Ease of transfers between buses</td>
<td>4.07</td>
<td>4.19</td>
<td>3.94</td>
<td>3.80</td>
</tr>
<tr>
<td>Buses Arriving on Time</td>
<td>4.15</td>
<td>3.96</td>
<td>3.25</td>
<td>3.54</td>
</tr>
<tr>
<td>Travel time (time it takes to make trip)</td>
<td>3.97</td>
<td>4.09</td>
<td>3.77</td>
<td>3.87</td>
</tr>
<tr>
<td>Weekday morning span of service (hours of service)</td>
<td>4.51</td>
<td>4.41</td>
<td>4.14</td>
<td>4.16</td>
</tr>
<tr>
<td>Weekday evening span (hours of service)</td>
<td>4.35</td>
<td>4.18</td>
<td>3.70</td>
<td>3.62</td>
</tr>
<tr>
<td>Availability of seats</td>
<td>4.23</td>
<td>4.29</td>
<td>3.63</td>
<td>4.20</td>
</tr>
<tr>
<td>Bus driver courtesy</td>
<td>4.80</td>
<td>4.65</td>
<td>4.23</td>
<td>4.46</td>
</tr>
<tr>
<td>Ability to connect to HARTline regional system</td>
<td>4.26</td>
<td>4.22</td>
<td>3.81</td>
<td>3.81</td>
</tr>
</tbody>
</table>

Overall, faculty and staff have greater levels of satisfaction; however, they represent a smaller percentage of ridership and presumably utilize service less often than students. Undergraduate students have the lowest satisfaction with buses arriving on time (3.25 rating vs. 3.36 for system wide ratings). However, the Bullet/Bull Runner scores greater than 4.0 in overall satisfaction for all four constituency groups.

Figures 1-15 through 1-26 below detail the actual breakdowns of satisfaction expressed in percentages for the system as a whole.
Figure 1-16
Q15B: Frequency of Service

- Very Satisfied: 20.5%
- Somewhat Satisfied: 35.0%
- Neutral: 26.1%
- Somewhat Unsatisfied: 13.9%
- Very Unsatisfied: 4.5%

Figure 1-17
Q15C: Ability of Riders to Get Where They Want to Go Using the bus

- Very Satisfied: 42.8%
- Somewhat Satisfied: 37.3%
- Neutral: 15.8%
- Somewhat Unsatisfied: 3.6%
- Very Unsatisfied: 0.6%

Figure 1-18
Q15D: Minimal Number of Transfers to Get Where They Want To Go

- Very Satisfied: 49.0%
- Somewhat Satisfied: 32.5%
- Neutral: 15.3%
- Somewhat Unsatisfied: 2.9%
- Very Unsatisfied: 0.3%
Figure 1-19
Q15E: Ease of Transferring

- Very Satisfied: 32.9%
- Somewhat Satisfied: 31.9%
- Neutral: 31.0%
- Somewhat Unsatisfied: 3.6%
- Very Unsatisfied: 0.6%

Figure 1-20
Q15F: How Regularly Buses Arrive On Time

- Very Satisfied: 17.6%
- Somewhat Satisfied: 31.4%
- Neutral: 26.8%
- Somewhat Unsatisfied: 17.5%
- Very Unsatisfied: 6.7%

Figure 1-21
Q15G: Travel Time

- Very Satisfied: 26.5%
- Somewhat Satisfied: 5.0%
- Neutral: 23.3%
- Somewhat Unsatisfied: 7.6%
- Very Unsatisfied: 2.2%
Figure 1-25
Q15K: Bus Operator’s Courtesy

- Very Satisfied: 51.6%
- Somewhat Satisfied: 31.4%
- Neutral: 13.7%
- Somewhat Unsatisfied: 2.5%
- Very Unsatisfied: 0.8%

Figure 1-26
Q15L: Ability to Connect to HARTline Regional System

- Very Satisfied: 31.8%
- Somewhat Satisfied: 23.6%
- Neutral: 41.5%
- Somewhat Unsatisfied: 2.2%
- Very Unsatisfied: 0.9%
Priorities for Improvements

Question 16 asked customers if a transportation fee is imposed on a per credit hour basis each semester, what improvements would be of greatest importance. As noted earlier, although this question was directed primarily at students since they would ultimately pay the fee, faculty and staff also weighed in on the importance of service improvements. Figure 1-27 below details the overall means on a rating scale of “1” (not important) to “5” (most important). Table 1-8 shows priorities for service improvements for faculty, staff, undergraduate and graduate students.

![Figure 1-27: Q16: Priorities for Service Improvements](image-url)

- More HARTline service to and from campus: 3.35
- More shuttle routes on campus: 3.97
- More shuttle routes to areas off campus: 4.24
- More buses with greater frequency on campus: 4.33
- More hours of service each day on campus: 4.09
- More park-and-ride lots on campus: 3.47
Table 1-8
Comparison of Priorities for Service Improvements (Question 16) among Faculty, Staff and Students (Question 10)

<table>
<thead>
<tr>
<th>Service Characteristic</th>
<th>Faculty</th>
<th>Staff</th>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>More HARTline service to and from campus</td>
<td>3.26</td>
<td>3.91</td>
<td>3.26</td>
<td>3.55</td>
</tr>
<tr>
<td>More shuttle routes on campus</td>
<td>3.47</td>
<td>4.11</td>
<td>3.94</td>
<td>4.06</td>
</tr>
<tr>
<td>More shuttle routes to areas off campus</td>
<td>3.52</td>
<td>4.35</td>
<td>4.18</td>
<td>4.40</td>
</tr>
<tr>
<td>More buses with greater frequency on campus</td>
<td>3.87</td>
<td>4.32</td>
<td>4.30</td>
<td>4.43</td>
</tr>
<tr>
<td>More hours of service each day on campus</td>
<td>3.52</td>
<td>3.98</td>
<td>4.02</td>
<td>4.35</td>
</tr>
<tr>
<td>More park-and-ride lots on campus</td>
<td>3.39</td>
<td>3.57</td>
<td>3.49</td>
<td>3.38</td>
</tr>
</tbody>
</table>

Clearly, the priority for faculty, undergraduate and graduate students is more buses with greater frequency on campus, as this item was the highest rated in their respective groups. Staff rated more shuttle routes to areas off campus as a slightly higher priority than more buses with greater frequency on campus. All constituency groups agree that more park-and-ride lots are not as high a priority. Staff members are the group that most favor more HARTline service to and from campus, rating this item a 3.91, higher than all other constituency groups. Faculty, undergraduate, and graduate students all agree that more shuttle routes to areas off campus are the second highest priority.

Figures 1-28 through 1-33 below detail the actual breakdowns of priorities for improvement expressed in percentages for the system as a whole.

Figure 1-28
Q16A: Level of importance of More HARTline Service to and From Campus
Figure 1-29
Q16B: Level of Importance of More Shuttle Routes on Campus

- Very Important: 44.7%
- Somewhat Important: 22.3%
- Neutral: 23.4%
- Somewhat Unimportant: 2.6%
- Very Unimportant: 6.4%

Figure 1-30
Q16C: Level of Importance of More Routes to Areas Off Campus

- Very Important: 58.2%
- Somewhat Important: 18.8%
- Neutral: 16.5%
- Somewhat Unimportant: 1.4%
- Very Unimportant: 5.1%

Figure 1-31
Q16D: Level of Importance of More Buses With Greater Frequency on Campus

- Very Important: 59.0%
- Somewhat Important: 21.2%
- Neutral: 15.8%
- Somewhat Unimportant: 1.3%
- Very Unimportant: 2.7%
Figure 1-32
Q16E: Level of Importance of More Hours of Service Each Day on Campus

- Very Important: 50.3%
- Somewhat Important: 21.7%
- Neutral: 19.9%
- Somewhat Unimportant: 2.5%
- Very Unimportant: 5.6%

Figure 1-33
Q16F: Level of Importance of More Park and Ride Lots on Campus

- Very Important: 32.5%
- Somewhat Important: 15.7%
- Neutral: 31.1%
- Somewhat Unimportant: 5.0%
- Very Unimportant: 14.6%
CONCLUSION

As reported in a separate concurrency report prepared for the City of Tampa, ridership on the Bullet/Bull Runner has shattered all projections since its inception in 1998. Both on-campus and off-campus service has been well received by the campus community. The key is to maintain the momentum into the future so that shuttle service can continue to grow with the campus community and be a better, more appealing and more effective resource for all constituent groups at the USF-Tampa campus. Earlier in this report, a total of six objectives were outlined for USF-PATS to use from the on-board survey in order to fulfill its current and future mission. This section also examines implications of this on-board survey on marketing and communications, and provides a horizon for future service improvements.

Comparison of On-board Survey Objectives and Results

Below is a listing of those objectives and results from the on-board survey that supports those objectives.

- Identify and isolate users of the shuttle system among the many potential constituencies that PATS can potentially serve within the campus community.

  
  **Critical Results for this Objective: Questions 10 and 12**

  - 94 percent of all Bullet/Bull Runner customers are students, 73 percent are undergraduate students and 21 percent are graduate students;
  - 71 percent of all Bullet/Bull Runner customers do not hold a parking permit on campus. Eleven percent hold a non-resident (off campus) student parking permit, 10 percent hold a park-and-ride permit and 7 percent hold a resident (on-campus) student permit.
• Identify primary motivations for using shuttle services.

**Critical Results for this Objective: Questions 6, 10 and 12**

- The convenience of the shuttle as a means to get to and from campus and around campus is the primary motivation for usage among all shuttle customers.
- Faculty members use the shuttle because of the difficulty in hunting for parking;
- Staff members cite the convenience of using the shuttle to get to and from campus;
- Undergraduate students cite many reasons for using the shuttle including the convenience factors, difficulty in hunting for parking, the expense of parking and the lack of availability of a car.

• Establish transit’s relationship to and compatibility with other modes of travel to and from campus;

**Critical Results for this Objective: Questions 7, 10 and 12**

- Half of all Bull Runner/Bullet customers use the shuttle to and from campus as their primary mode of travel each day. Another 22 percent walk to campus each day and then use the shuttle and 15 percent drive or motorcycle each day, then ride the bus.
- 31 percent of faculty and 39 percent of staff members who use the shuttle travel to and from campus on the shuttle as their usual mode of travel each day.
- 24 percent of staff members use HARTline and transfer to the shuttle each day.
- 60 percent of Bullet/Bull Runner customers use the service 5 days a week; another 17 percent use at least 4 days a week.
• Establish transit’s impact on parking decal sales and desired reduction of automobile trips to campus;

**Critical Results for this Objective: Questions 6 and 12**

- 71 percent of Bullet/Bull Runner customers do not hold a parking permit.
- Based on parking permits held, it appears that about 50 percent of students do not have a car available for personal use; therefore the other 50 percent do.
- One-third of Bullet/Bull Runner customers said they would either drive or ride with someone to campus if they did not make the trip by the shuttle, all of which would create external automobile trips generated by the campus.

• Determine the efficacy of transit service in facilitating the development and growth of the USF campus without negatively impacting the surrounding community.

**Critical Results for this Objective: Questions 15 and 16**

- Among all Bullet/Bull Runner customers, overall satisfaction with service is very high (rating of 4.21 on a scale of 1 to 5).
- Customers are very satisfied with their ability to get to their destination using the shuttle (4.18), ability to reach destinations with minimal number of transfers (4.27), span of service in the evening (4.16), and bus operator courtesy (4.30)
- Faculty and staff are satisfied with more service characteristics than students. Faculty gave the shuttle an average rating of 4.0 or better in 9 service characteristics, staff in 11 characteristics, undergraduate students in 5 characteristics, and graduate students in 5 characteristics.
- 67 percent of non-resident (off-campus) parking decal holders indicate they use the shuttle because it is too difficult to hunt for parking around campus, thereby reducing internal automobile trips.
• Establish a customer-oriented, campus community-oriented approach to future shuttle service improvements; and

Critical Results for this Objective: Questions 15 and 16

- Among all Bullet/Bull Runner customers, they are the least satisfied with buses arriving on time, frequency of buses, and the time of day earliest buses operate on weekdays.

- Among all Bullet/Bull Runner customers, the highest priority for future service improvements is more buses with greater frequency on campus (4.33) with more shuttle routes to areas off campus (4.24) as the second highest priority. These two priorities are the same when segmented into faculty, staff, undergraduate and graduate students.

- Staff members are the most supportive of more HARTline service to campus, rating this item a 3.91 (higher than faculty and students).

- Undergraduate and graduate students agree that more hours of service on campus each day is a priority.
Implications for Marketing and Communications

When customers give us feedback, they provide valuable insights that can be used to communicate with other customers, potential customers, and sometimes even those who will never use transit service. There is always a difference between our customers and our customer bases: customers are those who use transit services, customer bases are those people who fit the same description as customers but, for whatever reason, do not use transit services. In many cases, potential customers do not use transit services out a simple lack of awareness of how those services might benefit them as individuals. Throughout this on-board survey report, CUTR segmented members of the campus community (faculty, staff, undergraduate and graduate students), parking permits held, typical daily travel patterns, motivations for using service, satisfaction ratings and priorities for improvement. This section attempts to define messages that are tailored to various constituent groups on campus. Although CUTR researchers do not have a background in the marketing and advertising industry, it does not preclude us from attempting to offer input that could be used marketing/advertising professionals in the future.

To faculty members:

Park once! Let Bull Runner do the rest.

Did you know that faculty members who use the Bull Runner Shuttle say they use it because hunting for parking around campus is a nightmare? If the Bull Runner can’t meet all of your travel needs, then just park once each day and we will do the rest. We have five routes and more than 400 daily trips operating all over campus, to University Mall, and to the student residential areas north of campus. Who knows, you might even be able to keep your office hours on the bus!

To off-campus staff, undergraduate and graduate students:

Your USF I.D. + HARTline + Bull Runner = Money in YOUR pocket

The Bull Runner Shuttle service has always been provided free to all members of the campus community. However, did you know that showing your USF Identification card to a HARTline bus driver gets you a ride anywhere in the system for free*? Did you know that the Bull Runner has 84 daily trips between the University Area Transit Center and campus each day? HARTline helps us
extend our service area to where you want to live. We’re there for you, 84 times a day!

*Excludes HARTline express routes

To off-campus undergraduate students:

You go to class, let your car sleep in!

Hasn’t your car been good to you? But how good have you been to your car? You make it fly in the morning to catch that 8:00 a.m. class and then you place it in peril every time you look for a parking space. Give your car a break—Let Bull Runner/Bullet take you to and from campus. We have 180 daily trips between campus and the 42nd Street, 46th Street and Skipper Road areas, operating from 7:00 a.m. to 9:30 p.m. each weekday and until 5:30 on Fridays.

Why pay twice to park your car?

Students, do you realize that your rent includes paying for parking? Apartment complexes spend a lot of money to build and maintain parking lots, and you pay. When you purchase a parking decal on campus, guess what? You are paying to build and maintain parking lots. So why pay twice to park your car? Let the Bull Runner get you there. We have five routes providing more than 400 daily trips on campus, 84 trips between campus and University Mall, and 180 trips between campus and the apartment complexes on 42nd and 46th Streets, and Skipper Road.

Class and a Movie, What a deal.

Students, did you know that the Bull Runner now has more than 80 daily trips between campus and the University Mall cinemas? Our relationship with the movie theater has enabled us to offer you more classes each semester. Now, the deal gets even sweeter. If you ride the Bull Runner to class at University Mall, you will be eligible to win two tickets to see a movie! Just fill out an entry form, place it in the box on the bus and each week we will draw a winner. The Bull Runner—we even give you a break from cramming.
To graduate students:

No car? No problem! The Bull Runner will get you there

We know that many of our graduate students come from around the world to study at USF. Many of you will not have a car during your time of study. We are here to serve you! The Bullet/Bull Runner now has five routes providing more than 400 trips each day on campus, 84 between campus and University Mall, and 180 trips between campus and the apartment complexes on N. 42nd and 46th Streets, and Skipper Road. We’re there for you, graduate students.

To Parents of Incoming Freshmen:

Does my son or daughter need a car at USF?

Parents, we all know that the cost of a college education will become more expensive in Florida. You must make many decisions about your incoming freshman’s education. One of those decisions is whether to provide your freshman with a car. You are well aware of the expense of car payments, insurance, fuel and maintenance on a car. Studies show that owning a car adds $____ annually to the cost of a college education. At USF, students living on campus can obtain a parking decal, but parking is restricted to specific lots. Students living off campus can also obtain a parking decal, but as enrollment grows a decal becomes more of a “hunting license” than a guarantee of a parking space.

Whether your son or daughter lives on campus or off campus, the USF is here to meet your son or daughter’s travel needs. Students can ride HARTline for free simply by showing their USF Student I.D., and the Bull Runner/Bullet shuttle service is there to meet our students’ needs. We now have five routes that provide more than 400 daily trips on campus, 84 trips between campus and University Mall, 84 trips between campus and the HARTline University Area Transit Center, and 180 trips between campus and the apartment complexes on N. 42nd and 46th Streets. Each year we continue to add more service, both on-campus and off-campus.
You can rest assured that our service is safe, comfortable and convenient for students. In fact, a recent survey of students who use the Bull Runner/Bullet services revealed that 70 percent of students do not own a parking permit and they cited the convenience of the shuttle service as their reason for using it. Students also displayed very high satisfaction ratings for their ability to reach their destinations using the Bull Runner/Bullet services. For more information about HARTline and shuttle services, contact USF-PATS at (813) 974-3990.
FUTURE SERVICE IMPROVEMENTS

This section takes the feedback provided by Bull Runner/Bullet customers and address future service improvements. The areas discussed in this section include:

- More buses, greater frequencies on-campus;
- More shuttle routes to areas off campus;
- Hours of service;
- Flexible, on-demand and subscription services;
- Coordination with HARTline Marketing; and
- Transit Information

More Buses, Greater Frequencies On-campus

When the USF Master Plan Transportation Element established the perimeter roads around campus as the future of vehicle circulation, transit services were then designed to serve those perimeter roads. One of the initial concerns about shuttle service on campus was the manner in which campus community members would compare walk times and distances versus the time it takes to walk to a bus stop, wait for a bus, and travel on a bus to a destination on campus. Those initial concerns have been more than answered in this survey as many respondents cited the convenience of the shuttle service as their motivation for using it. However, the message is clear from all constituency groups in the campus community: they do not want long wait times at bus stops. Since there are no printed schedules that provide customers with timetables or a guarantee of frequency, there could also be a perception disconnect between PATS and its customers regarding the timing of buses. PATS clearly wants to position shuttle services such that customers do not begin to believe that walk times are faster than bus wait and travel times.

There are many factors influencing running times, frequencies and number of buses serving campus routes. For example, during many times of the day there is heavy pedestrian activity on Maple Street that causes traffic to stop as pedestrians cross to and from Sun Dome lots. Heavy traffic on Fletcher Avenue, 42nd and 46th Street can also cause buses to be caught in traffic.
Purchasing more buses and placing them in service is one solution to meeting this customer demand. However, another solution is to create operational flexibility in real time and use “plug” buses to operate routes when buses are tied up in traffic. If PATS is constantly aware of the location of buses in real time, then dispatchers can make a determination of where and when to plug buses to keep routes operating on time. Plug buses can also be sent (deadheaded) to a variety of locations to begin a route in order to keep it on time.

More shuttle routes to areas off campus

Off-campus shuttle service has proven that services can be provided by, for and to the campus community with routes and service levels that are targeted to benefit the USF Tampa campus constituencies. Correspondingly, the unlimited access (U-Pass) program between USF and HARTline has demonstrated that HARTline is also very successful in serving the needs of the campus community with its regional route network. To date, the U-Pass program has generated an average 15,500 passenger trips per month with a potential for many more in the future. When planning for future shuttle routes off campus, consideration should be given to the following:

- Shuttle routes should continue to serve the immediate campus community and support HARTline’s efforts to gain ridership on the regional fixed-route network;

- Shuttle routes should serve areas of new student residential development as detailed in the USF Concurrency Report, including new development on Bearss Avenue west of Bruce B. Downs, new developments along 37th Street/Rocinate/138th Avenue, and 50th Street.

- The 42nd Street/46th Street corridor, as well as other student residential corridors, should be expanded to provide direct service to commercial uses along Fletcher, the UATC, and University Mall, enabling students living in that area to fulfill other mobility needs besides class and library (the current primary trip purpose).
Hours of Service

Customers in all constituency groups expressed high satisfaction with the morning span of service; however, undergraduate and graduate students expressed much lower levels of satisfaction with weekday evening span of service, which currently ends at 9:30 p.m. In the original Pilot Circulator study, CUTR built schedules for a span of service in the early morning based on the first class period time and in the evening based on the ending time of the last evening classes. Perhaps evening service needs another benchmark, such as the hours from open to close for the USF Main Library. Students may wish to have more flexibility to use service late at night for studying at the library. This could also benefit on-campus students who study at the library, use the Marshall Center and/or participate in recreational activities on campus.

Current USF-Tampa Campus Main Library hours are as follows:

Monday - Thursday:  7:30 a.m. - 12:00 a.m.
Friday: 7:30 a.m. - 6:00 p.m.
Saturday: 10:00 a.m. - 5:00 p.m.
Sunday: 12:00 p.m. – 12:00 a.m.

As funding becomes available, PATS should consider extending evening hours of service to midnight Monday-Thursday, and 6:00 p.m. on Friday. As weekend services are implemented, service hours should encompass, at a minimum, the main library’s operating hours.

Flexible, On-demand and Subscription Service

Some universities, most notably Harvard and UNC-Chapel Hill, have implemented flexible, on-demand services for students. Students call a phone number on campus and inform the transit representative of their location and desired destination, at which point a bus (or other vehicle) is dispatched to transport the student. In some cases on-demand service is used as a security measure similar to an escort service for women at night. There can be limitations such as offering service only after dark or during specified hours, and limiting the overall service area.

Flexible, on-demand service could be a means for PATS to expand the service area of the shuttle system without necessarily operating new fixed routes on fixed schedules. It
can also be used as a means for identifying future routes by establishing subscription services. For example, if an on-demand service reveals an apartment complex on 56th Street in Temple Terrace has a high concentration of students, but other complexes in the area do not, then the flexible service could become a subscription service that operates a specified number of daily trips between that apartment complex and campus. Consequently, if there are a number of apartment complexes on 56th Street that contain high numbers of students, then a fixed-route, fixed-schedule service could then be established. Finally, on-demand service could be of benefit to students with disabilities. Working with the Office of Students with Disabilities, PATS could provide services to those students who have individual circumstances in traveling to and from campus each day.

Implementing a program of this type also offers operational benefits for PATS. Although flexible, on-demand service can create a greater expense on a per passenger basis, the same vehicles and drivers used for this type of service could also be used as plug buses on fixed-routes described above. This could further enhance both operational and cost efficiencies.

**Coordination with HARTline Marketing**

HARTline currently has a link on its opening web page providing information about the USF Fare-Free Bus Ride Program to USF faculty, staff and students. There is also a printed brochure distributed throughout the campus community. Between August 2002 and January 2003, ridership has grown to an average of 15,500 passenger trips per month, approximately 700 passenger trips per weekday. HART’s printed information does a good job of describing the HART fixed-routes that serve the USF Tampa campus (Routes 5, 6, 18, 83 and 57LX). Ridership statistics show that a majority of monthly ridership is generated by these 5 routes. However, ridership reports by route show that Routes 1 (Florida Avenue), 2 (Nebraska Avenue) and 12 (22nd Street) are also generating significant numbers of passengers. Therefore, PATS should work with HARTline when the printed information materials are updated to add these three routes as transfer routes at the UATC.

PATS should also take the suggestions in the Marketing and Communications section above and work with the HARTline Marketing Department to determine whether there are additional messages that can be used in future marketing materials.
Transit Information

The current brochure for the Bull Runner Shuttle Routes has positive attributes including a good depiction of the route network, a description of enhanced services, hours of service, a description of the mall express service, and guidelines. There are also a few deficiencies: there is no printed timetable by route, no guarantee of frequency of buses by route (except Route D), and no graphic depiction of University Mall service (the map includes a word description that the Route D continues to the UATC and University Mall). Future updates of printed materials should somehow address the issue of wait times for customers so they know what to expect when waiting at a stop.

PATS is also in the process of procuring an automated system to display the time until the next bus at key bus stop locations in the system. This will be a tremendous enhancement to Bull Runner/Bullet customers and strong consideration should be given to establishing displays at all sheltered stops and major activity points as identified in the ridecheck completed for this report.
APPENDIX A

ON-BOARD SURVEY INSTRUMENT
DEAR BULL RUNNER CUSTOMER: USF Parking and Transportation Services would like your input to help improve the Bull Runner. PLEASE take a few minutes to complete the following survey. Please check (T) the correct box, write out, or circle your answers. Your participation in the attached survey is totally voluntary. If you do not wish to participate, please return the blank form to the surveyor or bus driver. Your responses to this survey will be combined with responses from hundreds of other riders and will not in any way identify you personally. If you are not able to complete the survey while on the bus, please take it with you and return it on another trip. THANK YOU.

1. On what Bull Runner route are you currently riding? (Please T only ONE):
   - Green Route A
   - Red Route B
   - Blue Route C
   - Yellow Route D
   - Purple Route E

2. Where did you come from before you got on the bus for THIS trip?
   - Home (Off Campus)
   - Work
   - Class/Library
   - Other (please specify)

3. How did you get to the bus stop for THIS trip? (Please T only ONE):
   - Walked
   - Drive
   - Ride with someone
   - Taxi
   - Bicycle
   - Other (please specify)

4. Where are you going on THIS trip? (Please T only your FINAL destination):
   - Home (Off Campus)
   - Work
   - Class/Library
   - Other (please specify)

5. How often do you ride the Bull Runner? (Please T all that apply):
   - 5 days per week
   - 4 days per week
   - 3 days per week
   - Less than one day per week

6. What are the reason(s) you ride the Bull Runner/Bullet? (Please T all that apply):
   - It is too difficult to hunt for parking around campus.
   - Parking on campus is too expensive.
   - Bus is a convenient way to get to and from campus.
   - Bus is a convenient way to get around campus.
   - I park in a park-and-ride lot and use the shuttle.
   - Bus is cheaper than driving to and from campus.
   - Car is not available.
   - Other (please specify)

7. Please indicate below the statement that best describes your daily travel pattern: (Please T only ONE)
   - Drive (or motorcycle) to and from campus, then ride bus around campus
   - Walk to campus, then ride bus around campus
   - Bicycle to, from and on campus
   - Ride Bull/Bus to and from campus
   - Ride HARTline and transfer to Bull Runner to and from campus
   - Ride with someone to and from campus and then take bus around campus
   - Other (please specify)

8. How would you make this trip if not by bus? (Please T only ONE)
   - Drive
   - Walk
   - Ride with someone
   - Taxi
   - Bicycle
   - Other (please specify)

9. How long have you been using the Bull Runner services?
   - Less than 6 months
   - 6 months to 1 year
   - More than 1 year

10. You are (a)...
    - Faculty
    - Staff
    - Student
    - Visitor
    - Undergraduate Student
    - Graduate Student
    - Vendor
    - Undergraduate Student
    - Graduate Student
    - Vendor
    - Visitor

11. Your gender is...
    - Male
    - Female

12. Your parking permit is...
    - Reserved
    - Resident (on-campus) student
    - Gold Staff
    - Non-resident (off-campus) student
    - Green Staff
    - Park-and-Ride
    - Visitor

13. What is the zip code of your local residence?

14. On the backside of this survey there is a map of shuttle routes and bus stops. Please place an "O" at the location where you get ON the bus, and an "X" at the location where you get OFF the bus.

15. How satisfied are you with each of the following? Very Satisfied Neutral Very Unsatisfied
   - a. Your overall satisfaction with the Bull Runner
   - b. Frequency of service (how often buses run)
   - c. Your ability to get where you want to go using the bus
   - d. My ability to reach my destination with a minimal number of transfers
   - e. How easy it is to transfer between buses
   - f. How regularly buses arrive on time
   - g. The time it takes to make a trip by bus
   - h. Time of day the earliest buses run on weekdays
   - i. Time of day the latest buses run on weekdays
   - j. Availability of seats on the buses
   - k. The bus driver's courtesy
   - l. Ability to connect to HARTline regional system

16. If a transportation fee is charged to you on a per credit hour basis each semester, what improvements would be of greatest importance to you? (Please indicate below)

Thank you for completing the survey.

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Instructions: Place an "O" on the stop where you got on the bus, and an "X" on the stop where you will get off the bus.