Pinellas community bus plan

2012 ON-BOARD SURVEY REPORT

THIS PAGE INTENTIONALLY LEFT BLANK

PINELLAS SUNCOAST TRANSIT AUTHORITY

Pinellas Community Bus Plan

2012 On-Board Survey Report

Prepared For:

Pinellas Suncoast Transit Authority

3201 Scherer Drive
St. Petersburg, FL 33716
Phone: (727) 540-1800
Fax: (727) 540-1913

Prepared By:

Transportation Management & Design, Inc.
1902 Wright Place, Ste 180
Carlsbad, CA 92008
Phone: (760) 476-9600
Fax: (760)476-9602

Tindale-Oliver & Associates, Inc.
1000 N. Ashley Drive, Suite 400
Tampa, FL 33602
Phone: (813) 224-8862
Fax: (813) 226-2106

TABLE OF CONTENTS

LIST OF TABLES

LIST OF MAPS

LIST OF FIGURES

Section 1 – Introduction

As part of the data collection effort for development of the Pinellas Community Bus Plan, an on-board survey of PSTA bus passengers was conducted in September 2012. The survey was designed to collect trip origin-destination information and to collect rider input on current transit services. That information will provide some of the necessary background information for developing service recommendations to be included in the ▮▮▮▮▮▮▮▮▮▮▮▮▮. This report documents the approach and results of the on-board survey effort.

Purpose of Survey

This on-board survey will provide PSTA passenger information that will be used to support service recommendations in the ▮▮▮▮▮▮▮▮▮▮▮. The on-board survey effort will assist PSTA in identifying who is using the system (i.e., demographic questions), in tracking travel behavior of bus riders (i.e., trip origin and destination questions), and in soliciting information on possible improvements to the PSTA system.

In addition to the objectives indicated above, data elements collected via this on-board survey will also be provided to the Pinellas County Metropolitan Planning Organization (MPO) such that they can be utilized as part of any future updates to the MPO's regional travel demand forecasting model.

Report Organization

This on-board survey report is organized into four major sections including this introduction.

Section 2 presents the **Survey Design and Methodology**. This section documents the process used to develop the survey instrument, develop the sampling plan, and distribute the survey. A summary of the overall survey effort performance is also included in this section.

Section 3 outlines the **Data Processing** steps used to prepare the on-board survey data for analysis. Steps include data cleaning and editing as well as data weighting and expansion, among others.

Section 4 documents the **On-Board Survey Results**. Survey data are presented in tabular, graphical, and/or map format. In addition, a series of cross-tabulations have been prepared to further examine the on-board survey results.

Section 5 presents the **Trolley On-Board Survey Results**. Trolley services include the St. Petersburg Downtown Looper and the Jolley Trolley Beach and Coastal Routes. Trolley survey results are reported separately from PSTA on-board survey results.

Section 2 – Survey Design and Methodology

This section documents the steps used to develop the on-board survey instrument and distribute the survey. A survey sampling plan was also developed to identify survey completion goals. At the end of this section, a table is provided that indicates how well the goals in the sampling plan were met.

Survey Instrument

The method for surveying bus riders was the distribution of a self-administered questionnaire to all persons boarding surveyed PSTA bus routes. A number of agencies, including PSTA, the Florida Department of Transportation (FDOT), and the Pinellas MPO, were involved in the development of the survey instrument. That coordination ensured that results from the effort would support data needs for each participating agency. Specifically, an effort was made to include questions that would help satisfy any future updates of the MPO's regional travel demand model.

Two survey instruments, one English language version and one Spanish language version, were developed. A copy of the final survey instruments can be found in Appendix A.

Survey Pre-test

In preparation for the full on-board survey effort, an on-board survey pre-test was conducted on two of PSTA's existing bus routes, Routes 11 and 52, on August 29, 2012. The pre-test was performed to meet two major objectives:

- Ensure that quality data could be collected using the survey instrument.
- Familiarize PSTA and project team staff with on-board survey logistics and staff needs, roles, and responsibilities in preparation for the full on-board survey effort.

The pre-test survey was distributed on the noted bus routes by Tindale-Oliver & Associates, Inc. (TOA) staff. Results from the pre-test consisted of 156 completed surveys. Estimated rider counts drawn from PSTA Automatic Passenger Counters (APC) for the bus trips surveyed totaled 459. Based on those totals, an overall participation rate of 34 percent was achieved for the pre-test. Table 2-1 presents the response rate by question for the pre-test survey effort.

Table 2-1: Pre-Test Response Rate by Question

SURVEY QUESTION #	VALID RESPONSE	% VALID
1 Time	142	91.0%
2 Trip Origin	149	95.5%
3 Trip Origin Location	133	85.3%
4 Access Mode	147	94.2%
5 Bus Stop On Location	131	84.0%
6 Transfer	125	80.1%
7 Trip Destination	135	86.5%
8 Trip Destination Location	106	67.9%
9 Egress Mode	131	84.0%
10 Bus Stop Off Location	119	76.3%
11 If Not By Bus	125	80.1%
12 Fare Payment	129	82.7%
13 # of Vehicles	128	82.1%
14 Live In Home	125	80.1%
15 Driver License	127	81.4%
16 Residency	123	78.8%
17 Employment	125	80.1%
18 Student	120	76.9%
19 Service Improvements	117	75.0%
20 Age	118	75.6%
21 Gender	107	68.6%
22 Race/Ethnicity	116	74.4%
23 Income	110	70.5%

Based on the results from the pre-test, questions on the pre-test survey instrument were deemed effective for the collection of quality data and only minor changes were made. Several other changes were requested based on comments received by PSTA staff. Those changes are outlined below.

- The wording of Question 10 was revised to clarify to the survey respondents that they need to indicate the location of the bus stop where they will get off the LAST bus of the one-way bus trip. This change ensured that respondents were not confused if they took more than one bus to complete their trip.

- A question regarding the frequency of bus use was added to the final survey instrument.
- A question about how transit riders would like to receive information about PSTA services and programs was added to the final survey instrument.

SAMPLING PLAN

For this on-board survey effort, PSTA staff indicated a desire to collect a statistically-significant sample of data that was representative of PSTA ridership. To that end, a sampling plan was developed. Current route-by-route level data for the existing PSTA route network was not available and, because of the expedited schedule for survey distribution, 2009 average daily ridership information by route was used. This information was the latest data available to the project team. It is important to note that 2012 total average daily ridership for PSTA is in line with that of 2009, approximately 45,000 daily weekday boardings, and variations between the two data sets can be attributed to minor ridership variations between routes. Major discrepancies consist of two issues and include the following:

- Route 35 (2009) – The route has been modified several times over the last several years and has since been renamed the Central Avenue Trolley.
- Route 93 (2009) – This route was discontinued in 2010.

For the PSTA on-board survey, a minimum sample size by route was determined using a 95-percent confidence level and a 10-percent confidence interval. The resulting system-wide sample size requirement calculated was approximately 2,792, 2,409, and 1,807 for weekday, Saturday, and Sunday, respectively. For this survey effort, PSTA emphasized the desire to attain a sample size goal of 10 percent of total daily ridership for weekday, Saturday, and Sunday. As a result, sample size goals were adjusted by route and the revised sample size goal was revised. In order to reach the revised sample size goals, 29,000 weekday surveys, 11,000 Saturday surveys, and 7,000 Sunday surveys were packaged and made available for distribution. This represents 64 percent coverage of total weekday ridership, 41 percent coverage of total Saturday ridership, and 57 percent of total Sunday ridership. Tables 2-2 through 2-4 present the sampling plans for each survey day. The last column of these three tables indicates the ratio of surveys distributed on a particular route to corresponding route-level ridership. It is important to note that the confidence level was reduced to 90 percent for some low-productivity routes in order to calculate a realistic sample size goal.

Table 2-2: On-Board Survey Weekday Sampling Plan

Route	Average Weekday Ridership (FYTD 2009)	Confidence Level	Confidence Interval	Sample Size Requirement	Number of Passengers To See	Revised Sample Size Goal	Survey Coverage Ratio
1	212	90%	10%	51	212	51	100%
4	3,486	95%	10%	93	1,743	261	50%
5	835	95%	10%	86	835	125	100%
7	525	95%	10%	81	525	81	100%
11	861	95%	10%	86	861	129	100%
14	1,421	95%	10%	90	710	107	50%
15	533	95%	10%	81	533	81	100%
18	4,874	95%	10%	94	2,437	366	50%
19	5,401	95%	10%	94	2,701	405	50%
20	563	95%	10%	82	563	84	100%
23	827	95%	10%	86	827	124	100%
30	53	90%	10%	30	53	30	100%
32	226	95%	10%	67	226	67	100%
Central Avenue Trolley	1,691	95%	10%	148	1211	184	50%
38	511	95%	10%	81	511	81	100%
52	4,305	95%	10%	94	2,153	323	50%
58	429	95%	10%	58	429	64	100%
59	2,719	95%	10%	93	1,360	204	50%
60	1,805	95%	10%	91	903	135	50%
61	675	95%	10%	84	675	101	100%
62	627	95%	10%	83	627	94	100%
66	963	95%	10%	87	963	145	100%
67	459	95%	10%	79	459	79	100%
68	265	90%	10%	54	265	54	100%
73	536	95%	10%	81	536	81	100%
74	2,088	95%	10%	92	1,044	157	50%
75	489	95%	10%	80	489	80	100%
76	459	95%	10%	79	459	79	100%
78	766	95%	10%	85	766	115	100%
79	2,130	95%	10%	66	1,065	160	50%
Suncoast Beach Trolley	2,795	95%	10%	66	1,397	210	50%
444	52	90%	10%	29	52	29	100%
90	116	90%	10%	43	116	43	100%
97	186	90%	10%	50	186	50	100%
98	96	90%	10%	40	96	40	100%
100x	279	90%	10%	54	279	54	100%
300x	190	90%	10%	50	190	50	100%
Total	**44,818**			**2,792**	**28,460**	**4,523**	**64%**

Table 2-3: On-Board Survey Saturday Sampling Plan

Route	Average Saturday Ridership (FYTD 2009)	Confidence Level	Confidence Interval	Sample Size Requirement	Number of Passengers To See	Revised Sample Size Goal	Survey Coverage Ratio
1	157	90%	10%	47	157	47	100%
4	1,976	95%	10%	92	395	99	20%
5	408	95%	10%	78	327	82	80%
7	364	95%	10%	76	328	82	90%
11	464	95%	10%	80	325	81	70%
14	907	95%	10%	87	363	91	40%
15	314	95%	10%	74	314	79	100%
18	3,024	95%	10%	93	605	151	20%
19	3,672	95%	10%	94	734	184	20%
20	403	95%	10%	78	322	81	80%
23	567	95%	10%	82	340	85	60%
30	32	90%	10%	22	32	22	100%
32	141	95%	10%	57	141	57	100%
Central Avenue Trolley	1,540	95%	10%	146	726	181	50%
38	418	95%	10%	78	334	84	80%
52	1,772	95%	10%	91	532	133	30%
59	1,206	95%	10%	89	362	90	30%
60	1,198	95%	10%	89	359	90	30%
61	464	95%	10%	80	325	81	70%
62	265	95%	10%	71	265	71	100%
66	623	95%	10%	83	374	93	60%
67	303	95%	10%	73	303	76	100%
68	228	90%	10%	52	228	57	100%
73	168	95%	10%	61	168	61	100%
74	1,030	95%	10%	88	412	103	40%
75	427	95%	10%	78	341	85	80%
76	287	95%	10%	72	287	72	100%
78	425	95%	10%	78	340	85	80%
79	851	95%	10%	63	255	64	30%
Suncoast Beach Trolley	1,999	95%	10%	65	400	100	20%
90	105	90%	10%	41	105	41	100%
Total	**25,990**			**2,409**	**10,500**	**2,763**	**41%**

Table 2-4: On-Board Survey Sunday Sampling Plan

Route	Average Sunday Daily Ridership (FYTD 2009)	Confidence Level	Confidence Interval	Sample Size Requirement	Number of Passengers To See	Revised Sample Size Goal	Survey Coverage Ratio
4	749	95%	10%	85	374	94	50%
5	162	95%	10%	60	162	60	100%
7	334	95%	10%	75	301	75	90%
11	145	95%	10%	58	145	58	100%
14	248	95%	10%	69	248	69	100%
15	212	95%	10%	66	212	66	100%
18	1,166	95%	10%	89	466	117	40%
19	1,511	95%	10%	90	453	113	30%
20	320	95%	10%	74	320	80	100%
23	133	95%	10%	56	133	56	100%
Central Avenue Trolley	1,349	95%	10%	145	650	162	50%
38	201	95%	10%	65	201	65	100%
52	1,093	95%	10%	88	437	109	40%
59	812	95%	10%	86	406	101	50%
60	825	95%	10%	86	413	103	50%
61	220	95%	10%	67	220	67	100%
66	219	95%	10%	67	219	67	100%
68	170	90%	10%	48	170	48	100%
74	554	95%	10%	82	333	83	60%
75	324	95%	10%	74	324	81	100%
78	205	95%	10%	65	205	65	100%
79	408	95%	10%	58	245	61	60%
Suncoast Beach Trolley	953	95%	10%	63	286	71	30%
90	106	90%	10%	41	106	41	100%
Total	**12,600**			**1,807**	**7,026**	**1,912**	**57%**

Survey Distribution

The full on-board survey was conducted within a two-week period of time, starting from September 15, 2012, to September 28, 2012. It includes 10 weekdays, 2 Saturdays, and 2 Sundays. Survey implementation was performed beginning the first weekend of the two-week period in order to expedite the survey work, keep to the project schedule, and ensure that any make up work could be accomplished within a consistent bid period.

The full on-board survey was distributed by a team of trained survey personnel. Prior to sending surveyors out on PSTA buses, 2 two-hour orientation sessions were conducted in order to instruct surveyors about their duties and responsibilities, and to address any issues or concerns. A copy of the surveyor orientation notes used in the training can be found in Appendix B.

On-Board Survey Overall Performance Summary

The survey effort returned 11,010 completed surveys; 6,404 on the weekday, 2,963 on Saturday, and 1,643 on Sunday. Table 2-5 compares the number of surveys completed on each PSTA route for weekday, Saturday, and Sunday with the response goals previously indicated in Tables 2-2 through 2-4. When considering the system-wide sampling size requirement, weekday and Saturday survey results did meet the respective response goals. Approximately 86 percent of the Sunday goal was achieved. When analyzed on a route-by-route basis, several routes failed to achieve at least 50 percent of their respective response goals. These routes include:

- Weekday: Route 444
- Saturday: Routes 1, 5, 30, 32, 60, and 90
- Sunday: Routes 11, 23, 60, 78, and 90

Overall, the two-week full on-board survey effort is considered successful. The number of completed surveys was more than expected for certain routes with sample size goals considered difficult to achieve. Those routes include weekday Routes 32, 38, 67, 68, 97, 98, 100X, and 300X. Although the results were positive, there were some aggravating factors that impacted the overall results and that prevented the collection of additional completed surveys. Two major factors include:

- The first two weekdays of survey distribution were performed under rainy conditions.
- Total completed surveys returned by day diminished as the effort progressed over the two-week survey distribution period. Although surveyors made every effort to encourage riders to answer origin-destination questions on subsequent surveys, many bus riders refused surveys saying that they had already completed two, three, even four surveys over the course of the effort.

Table 2-5: Summary of Completed Surveys by Service Day by Route

Route	Weekday Completed Surveys	Weekday Response Goal	Weekday Goal Satisfaction (Y/N)	Saturday Completed Surveys	Saturday Response Goal	Saturday Goal Satisfaction (Y/N)	Sunday Completed Surveys	Sunday Response Goal	Sunday Goal Satisfaction (Y/N)
1	40	51	N	20	47	N	-	-	-
4	280	261	Y	119	99	Y	82	94	N
5	174	125	Y	46	82	N	42	60	N
7	142	81	Y	84	82	Y	69	75	N
11	259	129	Y	117	81	Y	17	58	N
14	296	107	Y	151	91	Y	86	69	Y
15	115	81	Y	76	79	N	39	66	N
18	275	366	N	121	151	N	138	117	Y
19	437	405	Y	180	184	N	75	113	N
20	89	84	Y	83	81	Y	106	80	Y
23	233	124	Y	96	85	Y	25	56	N
30	22	30	N	9	22	N	-	-	-
32	52	67	N	20	57	N	-	-	-
Central Ave Trolley	444	184	Y	267	181	Y	199	162	Y
38	148	81	Y	93	84	Y	49	65	N
52	414	323	Y	153	133	Y	85	109	N
58	75	64	Y	-	-	-	-	-	-
59	274	204	Y	108	90	Y	105	101	Y
60	128	135	N	44	90	N	35	103	N
61	152	101	Y	88	81	Y	37	67	N
62	237	94	Y	60	71	N	-	-	-
66	279	145	Y	160	93	Y	49	67	N
67	162	79	Y	112	76	Y	-	-	-
68	51	54	N	22	57	N	48	48	Y
73	98	81	Y	32	61	N	-	-	N
74	209	157	Y	173	103	Y	76	83	N

Table2-5: Summary of Completed Surveys by Service Day by Route (Continued)

Route	Weekday Completed Surveys	Weekday Response Goal	Weekday Goal Satisfaction (Y/N)	Saturday Completed Surveys	Saturday Response Goal	Saturday Goal Satisfaction (Y/N)	Sunday Completed Surveys	Sunday Response Goal	Sunday Goal Satisfaction (Y/N)
75	118	80	Y	100	85	Y	62	81	N
76	84	79	Y	106	72	Y	-	-	-
78	171	115	Y	93	85	Y	27	65	N
79	228	160	Y	122	64	Y	78	61	Y
Suncoast Beach Trolley	412	210	Y	100	100	Y	106	71	Y
444	11	43	N	-	-	-	-	-	-
90	48	50	N	8	41	N	8	41	N
97	79	40	Y	-	-	-	-	-	-
98	89	54	Y	-	-	-	-	-	-
100x	55	50	Y	-	-	-	-	-	-
300x	40	51	N	-	-	-	-	-	-
Total	**6,404**	**4,523**	**Y**	**2,963**	**2,708**	**Y**	**1,643**	**1,912**	**N**

Section 3 – Data Processing

This section documents the process by which data were prepared for analysis. For this PSTA on-board survey, data processing steps are grouped into two major categories: data cleaning and editing, and data weighting and expansion. Data cleaning and editing ensures that information collected with the completed on-board surveys is valid and accurately reflected in the database for analysis. Data weighting and expansion is performed to ensure that reporting of the survey data is representative of the entire PSTA system. Both steps are closely related in that the data cleaning process maximizes the number of valid records available on which data weighting and expansion can be based.

Data Cleaning and Editing

In most cases, raw data needs to be edited for consistency. To perform a uniform data cleaning and editing process for all records, a data dictionary was prepared and is included in Appendix C. In addition, a unique set of data cleaning and editing specifications were written based on the survey instrument used. Those specifications are included in Appendix D. The specifications were applied to database records to eliminate inconsistent or invalid responses and to "salvage" records for the geocoding process. Editing the database in this manner affords a cleaner and more straightforward data analysis process and ensures that records incorporated into the data analysis reflect valid responses. For location questions 3, 5, 8, and 10, additional data research was performed during the geocoding process. That process is further described in a later section.

Geocoding

One of the key aspects of this PSTA on-board survey was to provide representative travel behavior information for the origin-destination analysis and to ensure consistency with the regional travel demand model in the event that the survey data would be used to help calibrate that model in the future. To support that objective, four location questions were included in the on-board survey as follows:

- Trip Origin (Q3)
- Bus Stop On Location (Q5)
- Bus Stop Off Location (Q10)
- Trip Destination (Q8)

The location questions were designed to ask respondents about their one-way trip. To facilitate the collection of accurate information, respondents were asked to indicate one or more different pieces of information, such as place name, address, and/or nearest intersection, that identified their trip origin and destination and where they got on and off the bus. For bus stop on and off locations, respondents were given the opportunity to identify a transfer center, place name, or nearest intersection, if appropriate.

After the data cleaning and editing process, an initial geocoding run was performed for Q3, Q5, Q8, and Q10, respectively. Geocoding is the process of assigning geographic coordinates to data records using ArcGIS software. The first geocoding run included the following steps:

- Perform an automatic geocoding address match. For each location question, this initial geocoding run resulted in approximately 60 to 70 percent valid address matches for the 11,010 survey records collected.
- Correct address and spelling errors. For the addresses that could not be automatically matched, each of the unmatched records was reviewed manually to correct mistakes like misspelled road names, misspelled/missed road prefixes and suffixes, and etc., in order to improve the number of matching records. Further research was completed for records with valid place names to collect more precise address information.
- Eliminate or adjust records that were not correctly reflective of a one-way transit trip. For example, some respondents indicated the same bus stop "on" location and bus stop "off" location. In these cases, necessary adjustments were made to ensure that bus stop on/off locations were within a logical distance of the trip origin/destination address location, respectively.

The results of the first geocoding run resulted in 3,336 valid weekday survey records with matched location questions. That total was below the system-wide goal of 10 percent identified for weekday total ridership in the sampling plan. As a result, it was determined that a second geocoding run was needed to increase the number of valid records. The second geocoding run included the following steps:

- Conduct further research for place names. Records with valid place names were researched on Google Maps and/or MapQuest to obtain specific addresses. The specific addresses were then manually applied to unmatched records after the first run to improve the address matches.
- Conduct research on "Other" place names. Addresses were researched for place name information in the "Other" response category for Questions 2 and 7. This address information was also manually applied to unmatched records after the first run to improve the address matches.
- Quality check one-way trips. An additional effort was taken to make sure records with valid coordinates correctly represent the characteristics of a one-way transit trip.

After performing the second geocoding run, the number of valid weekday survey records for those four location questions increased to 4,241. This jump in the amount of valid origin-destination information was considered a significant improvement in that the final valid record count for the location questions were now within the range of the system-wide goal of 10 percent. Table 3-1 presents the number of valid records for the four location questions by day of week.

Table 3-1: Geocoding Result Summary

Day of Week	Valid Records after First Run	Valid Records after Second Run
Weekday (Q3, Q5, Q8, Q10)	3,336	4,241
Saturday (Q3, Q5, Q8, Q10)	1,612	1,954
Sunday (Q3, Q5, Q8, Q10)	892	1,102

The database was considered clean and ready to use after the data cleaning and editing and geocoding processes were complete. Table 3-2 presents the valid response rate by question based on a review of the final on-board survey database.

Table 3-2: On-Board Survey Valid Response Rate by Question

Survey Question #	Valid Responses	% Valid
1 Time	11,010	100.0%
2 Trip Origin	10,592	96.2%
3 Trip Origin Location	9,411	85.5%
4 Access Mode	10,473	95.1%
5 Bus Stop On Location	8,924	81.1%
6 Transfer	4,994	45.4%
7 Trip Destination	9,775	88.8%
8 Trip Destination Location	9,083	82.5%
9 Egress Mode	9,687	88.0%
10 Bus Stop Off Location	9,140	83.0%
11 # of Vehicles	8,904	80.9%
12 If Not By Bus	8,852	80.4%
13 Fare Payment	8,891	80.8%
14 Frequency of Riding Bus	8,894	80.8%
15 Live In Home	8,817	80.1%
16 Driver License	8,873	80.6%
17 Residency	8,663	78.7%
18 Employment	8,774	79.7%
19 Student	8,525	77.4%
20 Service Improvements	8,492	77.1%
21 PSTA Information Dissemination Preference	8,263	75.0%
22 Age	8,593	78.0%
23 Gender	7,976	72.4%
24 Race/Ethnicity	8,589	78.0%
25 Income	7,835	71.2%

Data Weighting and Expansion

To ensure that data were representative of actual PSTA ridership, survey records were weighted and expanded. To conduct appropriate data weighting and expansion, PSTA staff provided average weekday, Saturday, and Sunday ridership totals from the APC data for September 2012. All cleaned survey data collected by route were expanded to these control totals. As indicated in Section 2, vehicle trips surveyed were selected based on route, day of the week, and time of day. Weighting the data balances any over- or under-representation in the cleaned survey database by any route, by any day, and by trip time of day.

Because respondents surveyed represent only a portion of PSTA riders, the cleaned survey data records were expanded to represent the rider profile of the entire PSTA system. An expansion weight factor was developed based on September 2012 average daily ridership and the number of valid surveys by route and time of day. A very important aspect of the data weighting and expansion process completed for PSTA is that different expansion weights were created for every survey question. This ensured that all survey data for all questions could be used for the analysis. The process used to develop the expansion weight is illustrated in Figure 3-1.

Figure 3-1: PSTA Data Weighting and Expansion Model

| Expansion Weight | = | Average Daily Ridership | / | Valid Surveys | (By Route/Time-of-Day) |

* Time of day defined as peak or off-peak service periods.

Section 4 – On-Board Survey Results

The section documents the results of the PSTA on-board survey analysis. The original on-board survey database has been expanded to represent total PSTA daily ridership levels. Analysis of this expanded database results in a comprehensive picture of the entire PSTA system. The following is a summary of the on-board survey analysis results. On-board survey questions in this chapter are organized into three major categories:

- **Travel Characteristics** – questions about individual trip attributes.
- **Rider Demographics** – questions about who is using the system.
- **Customer Service & Opinions** – questions about potential service improvements and customer service preferences.

Travel Characteristics

Travel characteristics questions were designed to ask respondents about their individual trip attributes and their travel behavior. Topics covered by the travel characteristics questions on the survey include:

- Trip origin type
- Trip destination type
- Trip Origin-Destination Pattern
- Transit stop/station access and egress travel mode
- Transfers
- Vehicle availability
- Mode choice
- Fare type used
- Frequency of transit use

Questions 2 and 7 asked respondents about the type of place they were coming from to start their one-way trip and the type of place they are going to on the same one-way trip, respectively. Figure 4-1 and Figure 4-2 present the results of these two questions. As shown in Figure 4-1, most PSTA bus trips originate at home. The second highest trip origin location is work. Similarly, the two highest destinations are work and home. The trip destination results are shown in Figure 4-2. Responses in the "other" category include work release, hospital/rehab center, and hotel. These responses were not reclassified due to the undisclosed nature of the trip.

Table 4-1 presents a trip purpose matrix, which combines trip origin and destination types to better display the relationship between trip origin and destination locations. Based on the information in that table, home-to-work and work-to-home trips were the most common trip pairs. Shopping/Errand trips also were indicated by as a common trip type.

Figure 4-1 Trip Origin
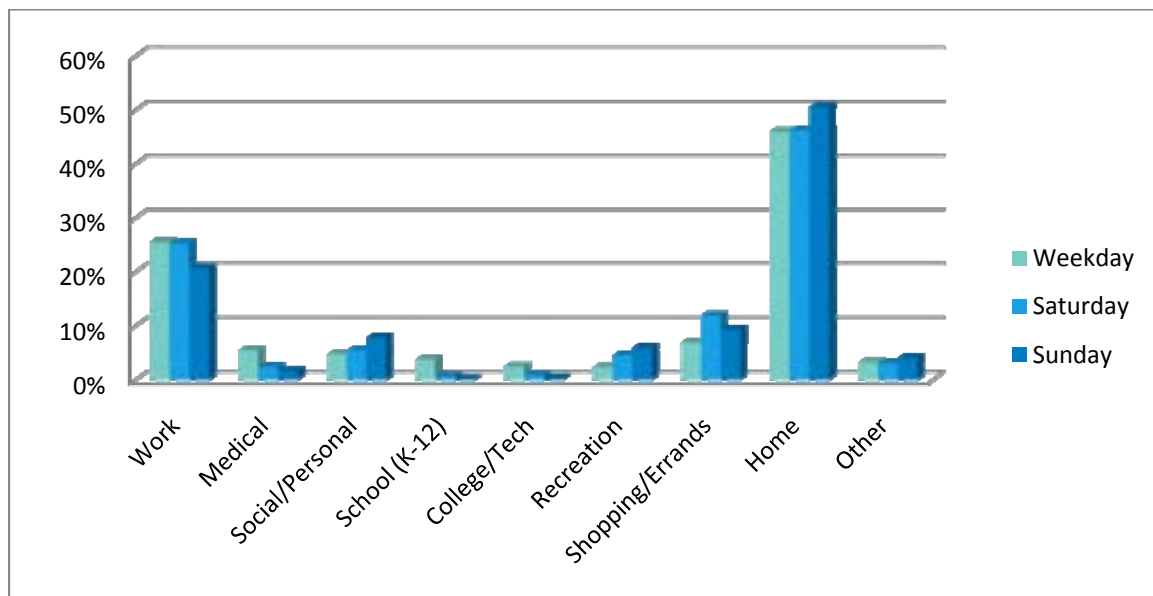
Figure 4-2 Trip Destination
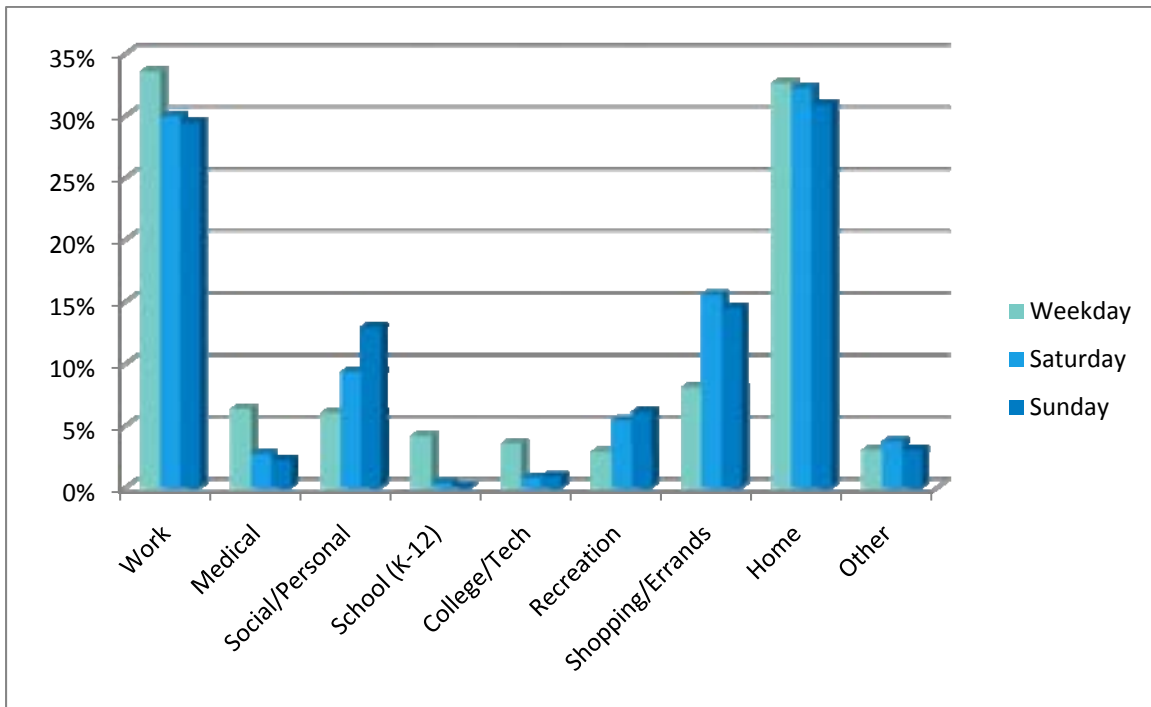
Table 4-1 Weekday Trip Purpose Matrix

Destination Origin	Work	Medical	Social/ Personal	School	College	Recreation	Shopping/ Errands	Home	Other	Total	Percent
Work	2536	61	257	100	135	146	338	6409	112	10095	**25.6%**
Medical	109	533	61	38	8		195	1189	16	2149	**5.5%**
Social/Personal	109	53	449	13	19	51	79	1020	55	1847	**4.7%**
School	121	38	38	319	15	26	39	752	40	1389	**3.5%**
College	54		53	9	182	25	37	640	8	1008	**2.6%**
Recreation	34	16	45		9	319	46	382	9	859	**2.2%**
Shopping/Errands	188	69	119	12	12	99	539	1515	145	2697	**6.9%**
Home	10046	1671	1385	1162	1016	448	1808		585	18120	**46.0%**
Other	313	70	36	18	11	41	150	359	207	1205	**3.1%**
Total	**13510**	**2512**	**2442**	**1671**	**1409**	**1154**	**3231**	**12265**	**1176**	**39370**	**100%**
Percent	**34.3%**	**6.4%**	**6.2%**	**4.2%**	**3.6%**	**2.9%**	**8.2%**	**31.2%**	**3.0%**	**100%**	

Q3 and Q8 asked on-board survey respondents to indicate their trip origin and destination locations, respectively. Answers to each of these two questions can be linked together to create origin-destination (OD) information. The OD trip information can be used to assess the travel patterns of existing PSTA bus riders. This information is an essential input to the development of service improvements in the Pinellas Community Bus Plan. An understanding of travel patterns allows for the identification of concentrations of activity and where the travel to those centers of activity is coming from. In addition, detailed OD data analysis can provide insight regarding more acute travel patterns such as neighborhood level and localized travel behavior.

In order to ensure the results of these two questions are representative of the entire PSTA system, expansion weights were developed based valid survey response for both questions. Such a process links trip start location, origin, and end, destination, locations. All OD trip paris were expanded to the control totals from the PSTA APC data, 44,806 weekday OD trips, 28,169 Saturday OD trips, and 12,761 Sunday OD trips. The resulting OD trip information is point-to-point data that represent all daily trips made by PSTA riders. In order to ensure that this information is clearly presentable and can be meaningfully interpreted, the point-to-point OD trip information was grouped by Traffic Analysis Zone (TAZ). This grouping process converts the point-to-point OD trip information into aggregated TAZ-to-TAZ OD trip information. TAZ boundaries are based on the TAZs included in the MPOs regional travel demand forecasting model.

A trip origin-destination matrix by TAZ was developed based on the expanded survey records for weekday, Saturday, and Sunday, respectively. However, because of the number of TAZs, the trip matrices were too large to be included in table format in the report. Consequently, the OD trip information is presented in map format for better visual illustration.

In order to present weekday OD trips clearly in map format, Pinellas County was divided into three subareas. The three subareas include:

- North County – Service area north of Belleair Rd
- Mid County – Service area between Belleair Road and 38th Ave N.
- South County – Service area south of 38th Ave N.

A threshold of twenty trip pairs between zones was established for map display which is approximately two times the average for number of weekday trips between all TAZs in the study

area. That threshold was established to reduce the large number of OD trip pair lines on the graphic. Map 4-1 shows the weekday OD trip intensity between TAZs for the entire County.

Pinellas **community** *bus plan*

Pinellas Suncoast Transit Authority

Map 4-1:
County-Wide Origin-Destination Trip Intensity

Legend

Trip Intensity (Daily Person Trips)

- 30 - 39
- 40 - 49
- > 49

TAZ Boundary
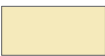
Major Activity Centers

- Major Transit Center
- Transfer Hub
- PSTA Facility
- Regional Mall
- Medical Facility

Tarpon Springs

East Lake

Palm Harbor

Oldsmar

Dunedin

Safety Harbor

Clearwater Beach

Clearwater

Downtown Clearwater

Belleair

Largo

North Beaches

Gandy

Seminole

Pinellas Park

Gateway

Treasure Island

Gulfport

St Pete Beach

South St. Petersburg

Tierra Verde

Maps 4-2 through 4-4 illustrate the weekday OD trip intensity between TAZs within each subarea. A more detailed breakdown of TAZ-to-TAZ information is available using the prepared trip matrices.

Questions 4 and 9 asked respondents to describe how they access the bus stop before boarding the bus and how they will reach their final destination after disembarking the bus. If respondents indicated walking or bicycling, they were asked to note the number of blocks they traveled. If driving was selected, respondents were asked to indicate the number of miles they drove to access the transit system or to reach their final destination. The responses reveal how transit users often must combine various modes of travel in order to complete their individual trip. As shown in Figure 4-3 and Figure 4-4, the majority of PSTA bus customers walk to and from the bus stop/station. The second most common mode of travel used to access the bus stop prior to boarding the bus or access the final destination after disembarking the bus is bicycling, followed by being dropped off. Responses in the "other" category include wheelchair/scooter, taxi, and skateboard.

Figure 4-3 Transit Access

Legend

Trip Intensity
(Daily Person Trips)

- ——— 20 - 29
- ——— 30 - 39
- ——— 40 - 49
- ——— > 49

TAZ Boundary

Major Activity Centers

- 🚌🚌 Major Transit Center
- 🚌 Transfer Hub
- 🚌 PSTA Facility
- 🏬 Regional Mall
- Ⓗ Medical Facility

Tarpon Springs

East Lake

Palm Harbor

Oldsmar

Dunedin

Safety Harbor

Clearwater

Clearwater Beach

Downtown Clearwater

Gandy

Pinellas community bus plan

Pinellas Suncoast Transit Authority

**Map 4-2:
North County Origin-Destination
Trip Intensity**

Pinellas
community
bus plan

Pinellas Suncoast Transit Authority

Map 4-3:
**Mid-County Origin-Destination
Trip Intensity**
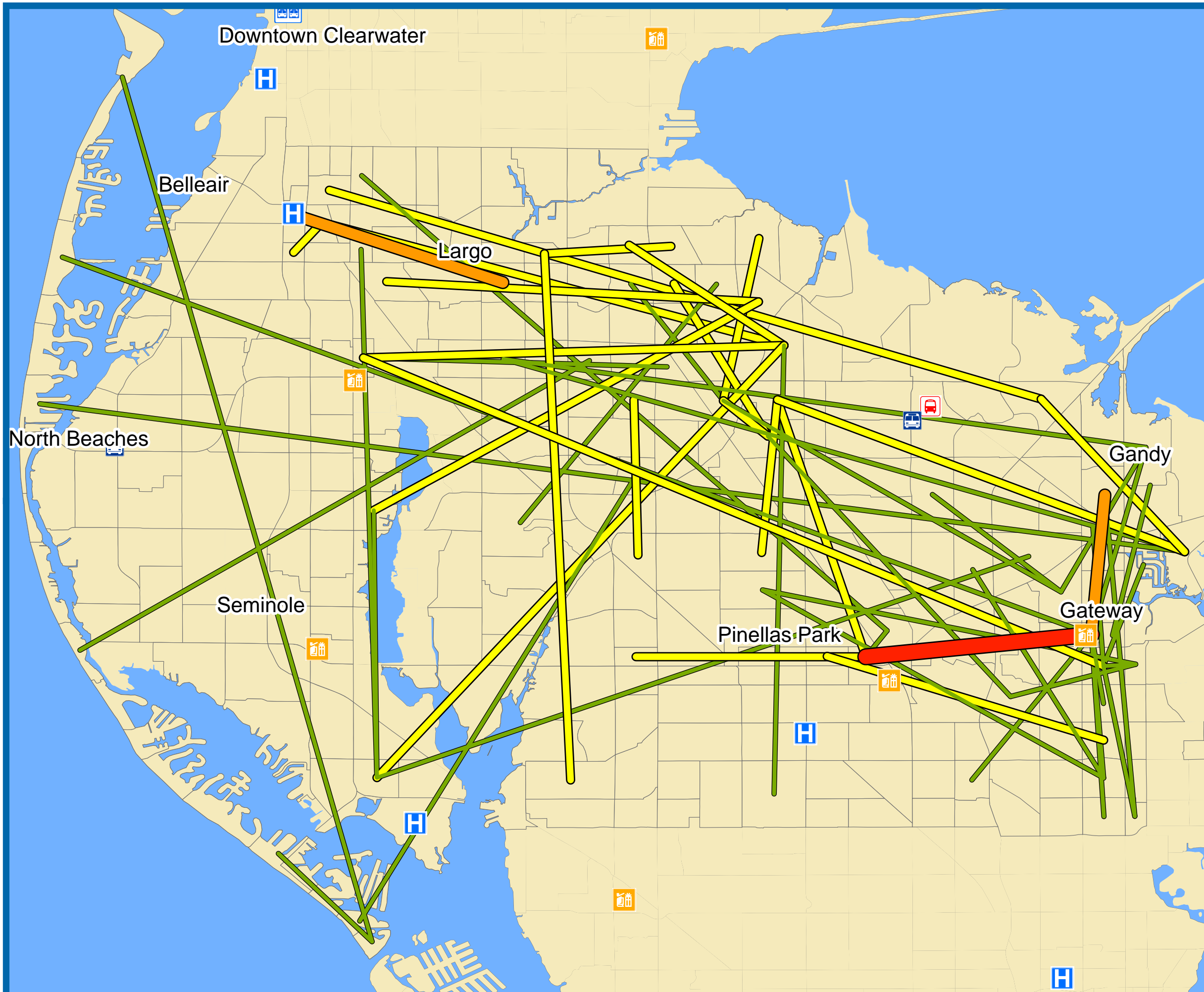
Downtown Clearwater

Belleair

Largo

North Beaches

Seminole

Gandy

Pinellas Park

Gateway

Legend

**Trip Intensity
(Daily Person Trips)**

20 - 29

30 - 39

40 - 49

> 49

TAZ Boundary

Major Activity Centers

Major Transit Center

Transfer Hub

PSTA Facility

Regional Mall

Medical Facility

Treasure Island

Gulfport

St Pete Beach

South St. Petersburg

Legend

**Trip Intensity
(Daily Person Trips)**

20 - 29

30 - 39

40 - 49

> 49

TAZ Boundary

Major Activity Centers

Major Transit Center

Transfer Hub

PSTA Facility

Regional Mall

H Medical Facility
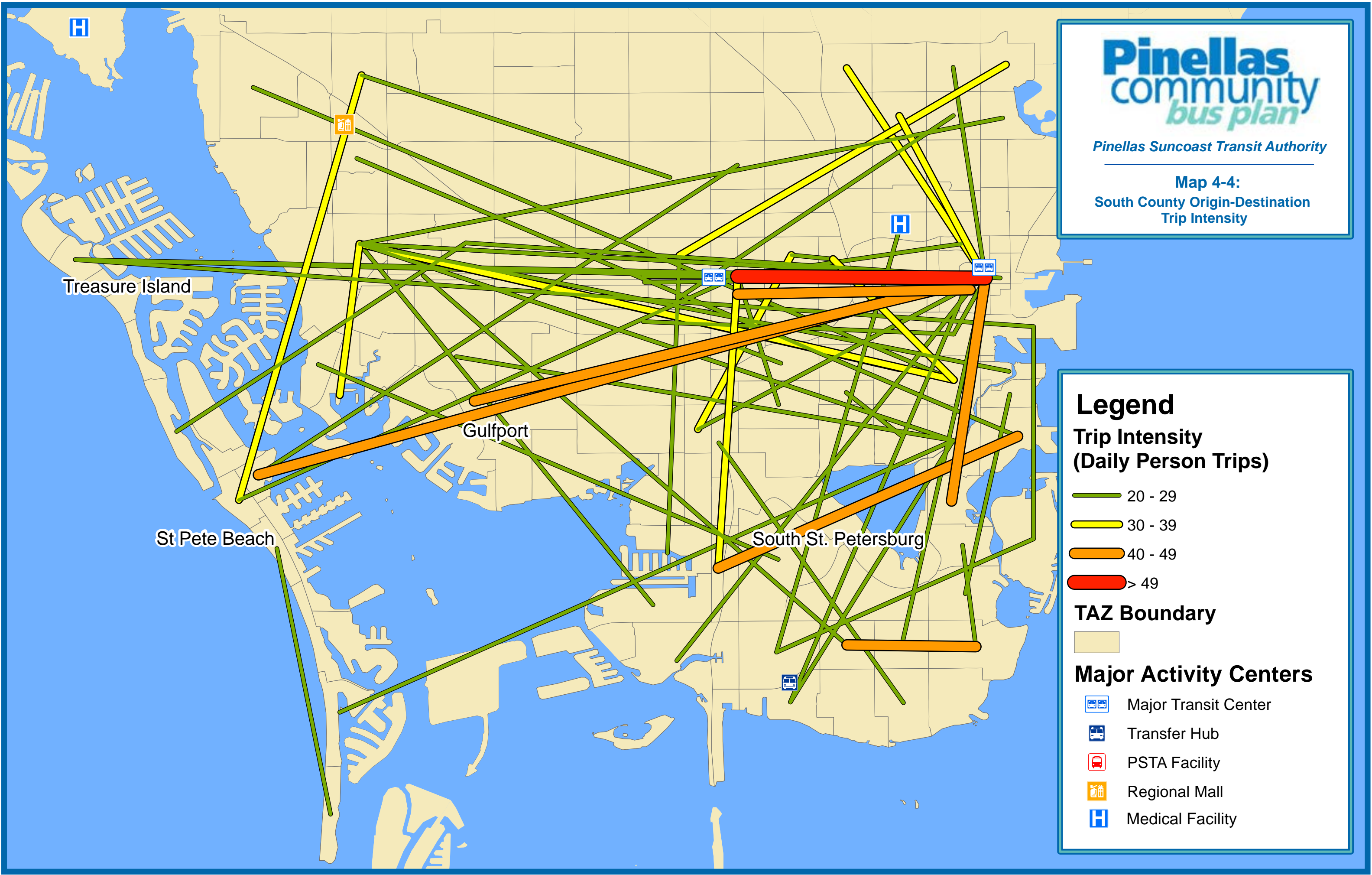
Figure 4-4 Transit Egress
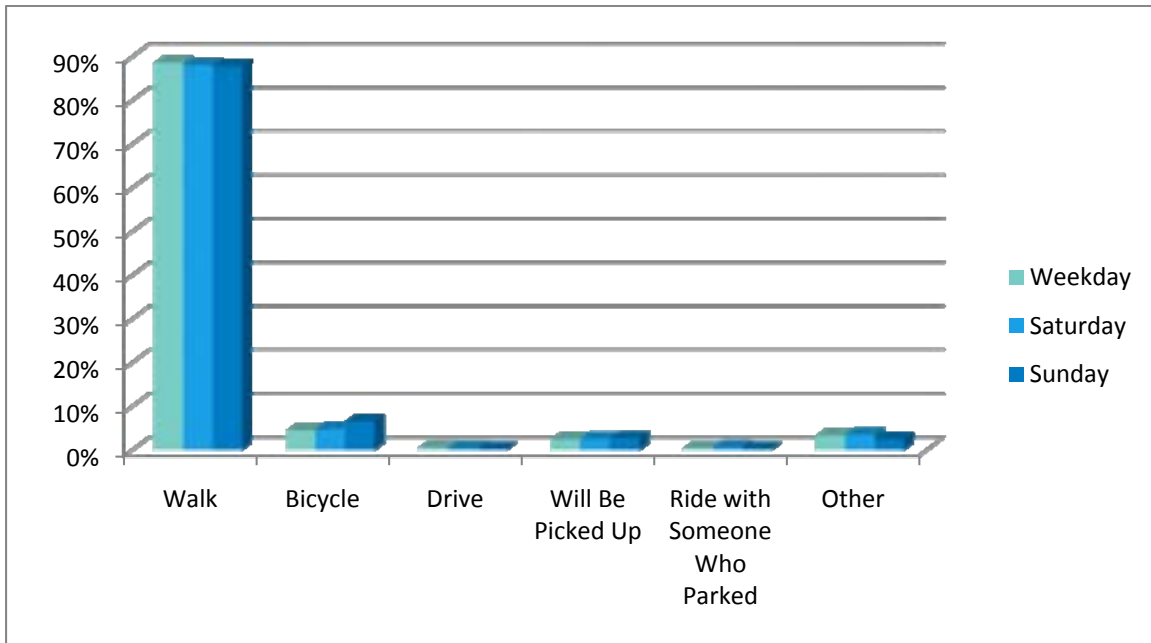
Figure 4-5 and Figure 4-6 illustrate information regarding the walking, biking, and driving distances traveled by PSTA bus riders. As indicated in Figure 4-5, 85 percent walk two blocks or less to access the bus stop. About three-quarters bike five blocks or less to access the bus stop. As shown in Figure 4-6, 84 percent drive three miles or less to access transit services.

Figure 4-5 Number of Blocks Traveled to Access Transit
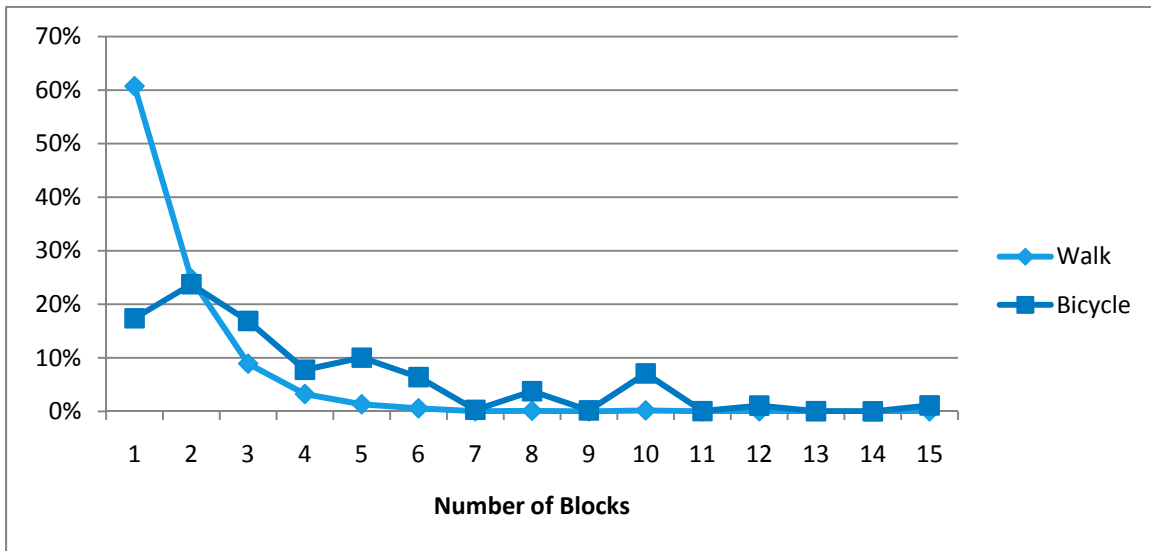
Figure 4-6 Number of Miles Driven to Access Transit
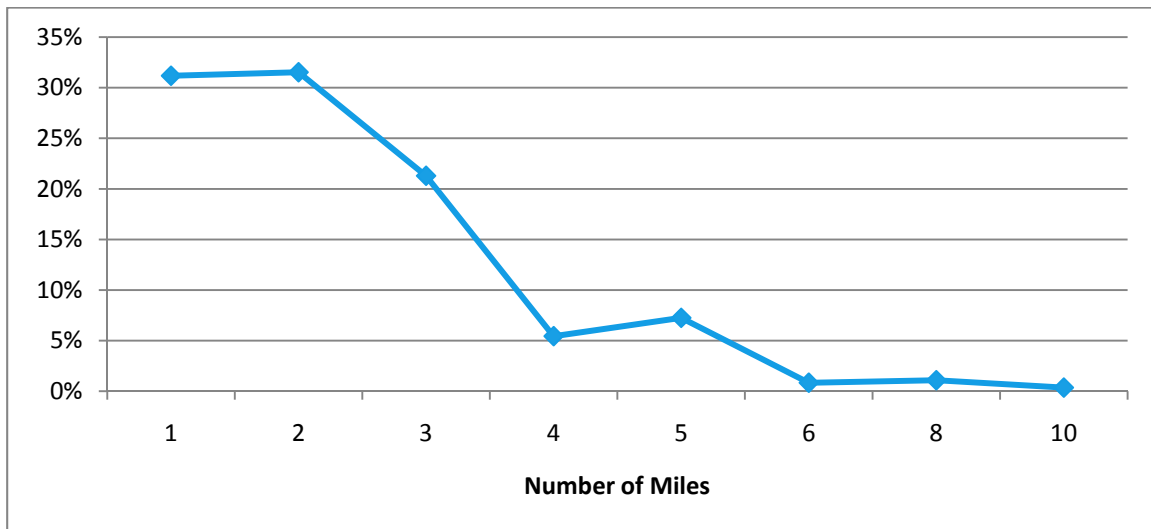
Figure 4-7 and Figure 4-8 illustrate information regarding the walking, biking, and driving distances traveled by PSTA bus riders to their final destinations. Figure 4-7 shows that approximately 90 percent and 82 percent walk two blocks or less and bicycle five blocks or less, respectively, to get to their final destinations after disembarking the bus. As shown in Figure 4-8, 76 percent of those who drive to their final destinations will travel four miles or less.

Figure 4-7 Number of Blocks Traveled to Final Destination
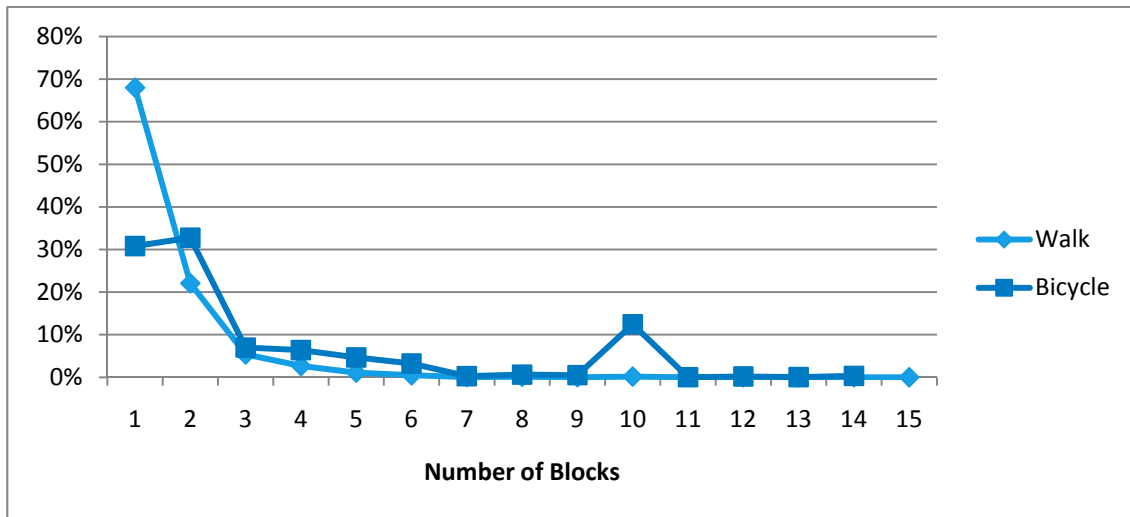
Figure 4-8 Number of Miles Driven to Final Destination
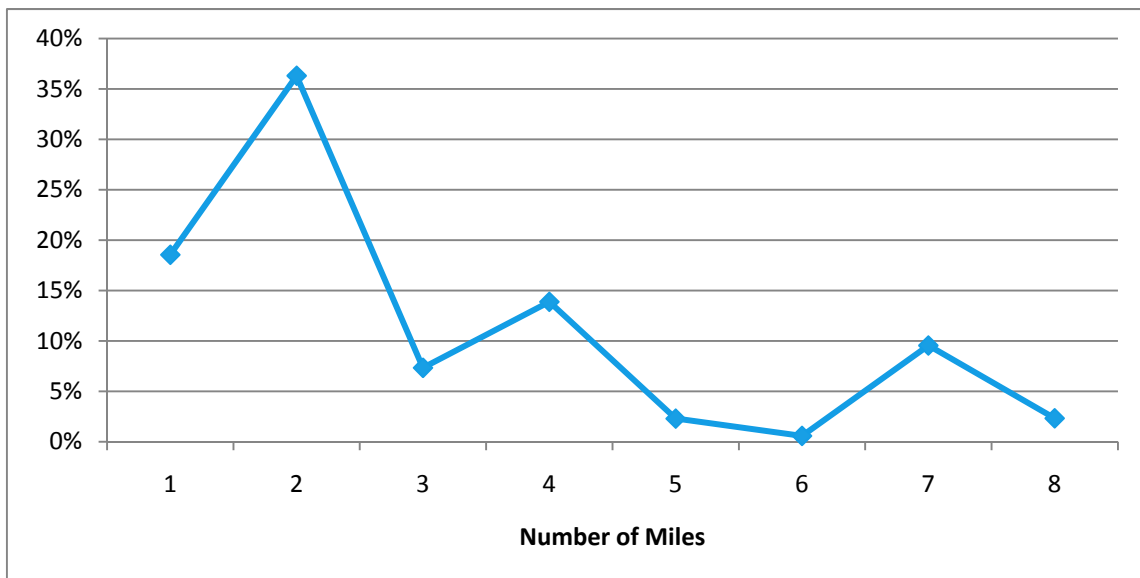
Question 6 of the on-board survey asked respondents about their transfer activity. That question asked respondents to list, in order, all of the bus routes they will use to make the one-way trip they were currently completing. The data collected for this question were used to determine the number of transfers used by PSTA bus riders and also to identify the most frequent route transfer combinations.

To conduct the transfer analysis, a series of data cleaning and quality control steps had to be performed. A clean data set was needed to examine the number of transfers occurring between routes and to assess transfer combinations for persons utilizing three or more buses to complete their one-way trip. The data cleaning and editing process can be summarized in the following steps:

- For null responses, populated data with the route the survey was distributed on.
- Only records indicating more than one bus route will be used to complete the analysis.
- Remove round trip (A, B, A, B) (A, B, B, A) (A, A, A, A) information
- Check for valid responses to the route question. Remove values that do not fall within PSTA or neighboring bus systems.
- Quality check responses and update as necessary (77 to 777, etc)
- Flag routes as "HART" or "PCPT" where appropriate based on transfer information, for example, a start address in Tampa, starting on a HART route, and then transferring to the 100X to go to St. Petersburg.
- Spot check data to determine whether transfer combinations are possible for multi-transfer responses.

The initial results of the survey indicate that a total of 4,994 persons transferred buses to complete their one-way trip. Based on the total number of valid survey responses (11,010), approximately 45 percent of respondents indicated that they would need to use two or more buses to complete their trip. It is important to note that because of the stringency of the transfer data cleaning process, an appropriate sample size that achieved sampling plan goals for statistical significance was not achieved. Additionally, because of the nature of the on-board survey, survey respondents may have transferred buses but failed to indicate that transfer correctly in their survey response. The analysis for this question was performed on valid responses and was not weighted or expanded. It is likely that more transfers are occurring on the PSTA bus system than are indicated by the on-board survey. Table 4-2 notes the total number of respondents who indicated needing to make one, two, or three transfers to complete their trip, broken down by the day of the week they were surveyed.

Of the valid transfer responses, there were 3,641 of the 4,994 total that indicated a single transfer. Of the valid transfer responses, 970 respondents indicated two valid transfers and 383 indicated three valid transfers.

Table 4-2 Transfers per Trip

Day	1 Transfer	2 Transfers	3 Transfers
Weekday	2200	597	253
Saturday	947	248	100
Sunday	494	125	30
Total	3641	970	383

Single transfer activity records were extracted from the database to create transfer activity matrices. The use of matrices was employed for the transfer analysis because matrices serve as a user-friendly format for viewing and assessing one-to-one relationships. This is useful in relating bus transfer activity since the matrices facilitate the review of transfers occurring between all routes.

Using single transfer records from the database, matrices were prepared for weekday, Saturday, and Sunday service. These matrices were also split according to fare payment. A quality control check was then performed to ensure that the transfer activity reflected in the matrices is consistent with PSTA bus route schedules. Table 4-3 shows the top ten routes experiencing transfers by day of week and period. The results indicate that Routes 14, 19, and 52 experienced a high volume of transfers during every survey period. Weekday, Saturday, and Sunday transfers for passengers who paid the full cash fare are shown in Tables 4-4, 4-5, and 4-6. Weekday, Saturday, and Sunday transfers for passengers who paid using a PSTA pass are shown in Tables 4-7, 4-8, and 4-9.

Table 4-3 Top Ten Transfer Routes by Time of Day and Day of Week

Top 10 Weekday Transfer Routes			Top 10 Saturday Transfer Routes			Top 10 Sunday Transfer Routes		
Route	Period	Number of Transfers	Route	Period	Number of Transfers	Route	Period	Number of Transfers
52	Off Peak	113	14	Off Peak	52	35	Off Peak	33
19	Off Peak	111	19	Off Peak	52	35	Peak	28
35	Off Peak	97	66	Off Peak	50	18	Off Peak	27
52	Peak	86	35	Peak	47	52	Off Peak	26
19	Peak	83	74	Peak	47	59	Off Peak	25
14	Off Peak	82	52	Off Peak	47	20	Peak	24
18	Off Peak	76	74	Off Peak	45	79	Off Peak	23
59	Peak	73	35	Off Peak	44	19	Off Peak	21
78	Peak	72	75	Off Peak	37	18	Peak	21
62	Off Peak	69	18	Off Peak	36	14	Off Peak	20

Table 4-4 Weekday Transfer Matrix for Full Cash Fares

From / To	1	4	5	7	11	14	15	18	19	20	23	30	35	38	52	58	59	60	61	62	66	67	68	73	74	75	76	78	79	90	97	98	100	300	HART 1	HART 6	HART 30	Suncoast Beach Trolley	Total
1																																		1					1
4	4		4		2	1	1	1			1	1	5		2	1	2									1								3					29
5		2		2					2				1							1																			8
7									2					1			1								1	1													6
11		2	1			1	1	2	3				1	1	2		1												2		1								18
14			3		2				4		1		3	1	2		1									1			2										19
15				1	1	1			5								1									1													10
18		1	1		1	1			1	1			1	1	2	2	5	3	1	3	1	3	2		1	1		1					2						35
19			1	1	2	2	1			2			2		3	1	1	2		2	1	8			2	2		1	2	1				4					41
20				1				2									1																						4
23		4	2			2							1		1		1								1	1			1										14
30																						1																	1
32			1																	1																			2
35		1				1		2	2		2						1												3									1	13
38		2						1	1				1				1			1						2			1										10
52						1		5	7											1	5	2		1		1	1		4				1						29
58				1																																			1
59							1	2							2			1	1	1									2									1	11
60								2	4											2	1							1	1									1	12
61																	1		1			1																	3
62									4	1							1		1						1			3	1				1						13
66								1	3								1	2	2	2				1	2			1											15
67								1	4													1						2										1	9
68			2						1					1																								1	5
73								1									1	2	1									1				2							8
74								2	1						5		1		1		1												1						12
75		2							2					2										1															7
76									1					1											1														3
78								1	5								1		1	2	2			1	2			1											16
79				1				2	5	1			3		4		2								2														20
90																	1																						1
97			1																							1													2
98									1																														1
100																									2										1		1		4
200									1																														1
300	1																1																			1			3
Suncoast Beach Trolley				1		1		1									1	3	2	1					2				1									1	14
Jolley Trolley																																						1	1
HART 2																																		1					1
HART 6																																		1					1
HART 8																																		1					1
Total	5	14	14	6	12	11	4	26	59	3	6	1	19	7	30	4	24	15	7	13	14	15	6	7	11	10	3	10	18	1	1	2	6	11	1	1	1	7	405

Table 4-5 Saturday Transfer Matrix for Full Cash Fares

From / To	1	4	5	7	11	14	15	18	19	23	30	35	38	52	59	60	61	62	66	67	68	73	74	75	76	78	79	90	Central Avenue Trolley	Suncoast Beach Trolley	Total
4					1					1				1									3	1				1			8
7	1	1																					1				1				4
11								1	3	1		2		1									1								9
14		2	1					2	1					1																	7
15				1				1	4				1		1																8
18		1			1		1					1	1	2	1			1	2	1			1		1					1	15
19						1						2		1	2	2			4	3			1		1		1		2		20
20		2			1			2							1			1													7
23									1																						1
35			1			2		2	3																		1				9
38				1	1			1						2																	5
52		1			1			1	5														1			1	1				11
58																			2												2
59						1		1	2			1		1				2	1								1				10
60																		1	1												2
61								1						1									1		1	1					5
62									1					2																	3
66									1	1				1	2	1	2								1	1					10
67									4											1							1				6
68								1			1							1													3
73								1		2					1						1										5
74		1				2		2						3	1			1									2				12
75		1						1	2					1									2								7
76																				1							1				2
78								1	1					1						1			1		1						5
79		1						1	1						2							1		1		1					7
Suncoast Beach Trolley								1								1							1								3
Total	1	10	2	2	3	8	1	18	31	5	1	6	2	17	12	4	2	7	11	7	1	1	11	2	5	4	7	1	2	2	186

Table 4-6 Sunday Transfer Matrix for Full Cash Fares

From / To	4	7	11	14	15	18	19	20	35	38	52	59	60	61	66	74	75	79	90	Suncoast Beach Trolley	Total
4						1		1		3						1					6
5						1			1												2
7																		1			1
11																		1			1
14							1									1					2
15		1					1		1												3
18			1						1	1						1					4
19											2	3	2	1	1						9
23									1												1
35	1			1		3						1						2	1	2	11
38					1																1
52					1	1	2														4
59	1					1	2			1											5
60						1	3				1				1					1	7
61						1					1	1									3
66											1			2							3
68							1														1
74							3										2				5
75							1														1
78						1															1
79				1		2	1									1					5
Central Avenue Trolley										2											2
Suncoast Beach Trolley									2		1	1									4
Total	2	1	1	2	2	12	15	1	6	7	6	6	2	3	2	4	2	4	1	3	82

Table 4-7 Weekday Transfer Matrix for Pass Users

From / To	1	4	5	7	11	14	15	18	19	20	23	30	32	35	38	52	58	59	60	61	62	66	67	68	73	74	75	76	78	79	97	98	100	200	300	444	HART 5	HART 6	HART 8	HART 10	Suncoast Beach Trolley	Total
1		1		2				1						2	1									1																		8
4	1		11	2	2	5	2	12	1	4	7	2	3	15	3	9	4	20								7	2			2			5								1	120
5		7			4	3		2	10		1		1	3	1	2					1						1			2	1										1	40
7		4	4		3	1	1	3	4					2		2														2	1											27
11		1	7	1		4	2	4	9		1			5		6		1								4				2		2									3	52
14	1	8	5	4	4		1	7	7	1	4			4	1	6		9												3												65
15		2	2		4	2		4	1					1	1	7		1			1					1	1			1	1										30
18	1	6	2	1	3	10	3		3		1	4	2	1	2	10	5	21	7	2	11	1	10	1		7	2	4	1	5	1	1									2	130
19			5		2	5	1	8			3			9	3	21	1	5	13		1	2	8			7	3	1	5	6	1	1	1								1	113
20		5			3	1		3			6					2		1									1		1													23
23	1	10	6				1	6	1	2				5				3			1		3		3	4	2			3											1	49
30															1			1																								2
32		3						2																																		5
35		5	1		4		1	6	11		1					5		3								2				5	1										8	53
38		2	2		1			4	4		1					2					3		1				4			5												29
52		3	2		6	1		10	19	1				3				9	8	6	5	10	7	1	5	5	1	4	5	3		1									3	118
58		2			1			2	4					1		1		3																								14
59	1	6	4		1	2		9	6	1	2			2	1	10	1				1	1				2	3	1		4											7	65
60		1						3	9							3		3		3	2	2				1			3		1	1	1								4	33
61								4						2		7		1	3		1	7	6			2		2	5													40
62				1				3	7						1	6	2	3	4				2			5	2	1		3		2									1	43
66								6	3							7		1	3	6		1	1	1	2	1		1	1	1		1									3	38
67									7							4					4					2			1	3											4	25
68															2						1									3											3	9
73			1					4							1	3		6	3			2	3			6				1		1									1	32
74		7	1	3	2	2		6	9	1	1			1		6	3	3			3	3				1	1		3		1	1							1			58
75		2	1													4										1		2	1	3												14
76								2	1							1				2		2	4			2			3												3	20
78								5	4							4			6	2	1	4	4			4		2		1		1									3	41
79		2	2	3		2	1	2	3	3	2			4		4	2	4			2					1	3	2				1										43
90								1	1																																	2
97				1				1	1							1		1								1							2									8
98									1							1		2											2	1												7
100		4														2										2									1							9
300			2								2										1																	1	1	1		10
444																		1									2															3
Suncoast Beach Trolley									1					15	3	8	8				2		1					3		1												42
HART 1																																	3									3
HART 2																																	1									1
HART 6																																							1			1
HART 7																																	1									1
HART 8																																							1			1
HART 9																																							1			1
HART 19																																	1									1
HART 27																																	1									1
HART 30																																								1		1
HART 36																																	1									1
Total	5	81	58	17	41	38	13	122	130	14	34	6	5	73	17	139	18	107	57	19	41	38	41	9	27	56	26	19	29	58	6	10	14	1	8	3	1	1	1	1	48	1,432

Table 4-8 Saturday Transfer Matrix for Pass Users

From / To	4	5	7	11	14	15	18	19	20	23	30	32	35	38	52	59	60	61	62	66	67	68	73	74	75	76	78	79	90	Suncoast Beach Trolley	Total
1											1					1															2
4		1	2	2	2	2	6	1	1	2	3	1	11	4	3	13								5	1			2			62
5					1	1		1					1												1						5
7	3	2		1	2		1	3															1					3			16
11	1	1	1			1	2	4	1				1	2	2									1				2	1		20
14	1	2	1	3		1	2	4		1			6		3	1												1			26
15	2			1	3		1	2					1			1															11
18	2	2		2	1			7					1				6	5	4	1	3	2		4	2	1	2	1		3	49
19		2			3		1		1				3	1	4	1	2			3	2		1	3			7	1			35
20	1			3	1		5						1						1						2			1			15
23	1						1	1	3				3	1	1							1	2	1				1			16
32									1																						1
35	2	4	1	1	2			2	1	2				1		1												2		4	23
38	1						1	5	1				3		1	1			1			1		1				1			17
52		1		2		1	4	9					3			1		2	1	3	2		2	1	3	2	3	4		1	45
59	3	1					8	3	1				2	1	3			2	2					2	1			1		1	31
60							1	6							4				1	1	5	2				1	2			1	24
61															5		4			2	3			1		2				2	19
62							1									1							1				1	1			5
66							4	5							9	3			1				2	5		2				2	34
67							3	3															1				1				8
68		1					1		1	1																				1	5
73			1				3		1						1	1			1					2			1				11
74	2		1				5	2	1	1					4	1				1					11			3			32
75	2			1			2	2					1	1	2	1								1				1			14
76							1	1							1			1	1		1									4	10
78						1	3	3							3			2		1	1						1			1	16
79	1			3	1	1	3	4		1		1	3	1	1	4						1			2						27
90		1																													1
Suncoast Beach Trolley							2						4		1	2	1			3				1			2				16
Central Avenue Trolley																1															1
Total	22	18	7	19	16	8	59	70	12	9	4	2	44	12	54	39	14	6	12	23	10	4	11	26	22	11	17	25	1	20	597

Table 4-9 Sunday Transfer Matrix for Pass Users

From / To	1	4	5	7	11	14	15	18	19	20	23	35	38	52	59	60	61	66	68	73	74	75	78	79	90	Suncoast Beach Trolley	Central Avenue Trolley	Total
4			1	1	1	1	2	5		6		3		1	2						3	1		1				28
5					1									1								2		1				5
7		2			1	1			4		1	2	2		1				2					2		1		19
11			3			1			1					2										1				8
14		1			2			2	4			4	1											3		1		18
15		1		1				2	1			2												1				8
18		3		1	1	1	1		1			3			6	2			4		1			1		1		26
19						3						6		3	5	3					2	1	2	2				27
20		1		1	1	2		1						1										1				8
23												1			1				1						1			4
35		3		1	1	2		1	4					1					1		1			1		4		20
38		1							1										1					1				4
52		2	1			2		4	8			3				5		1			3		1	1	1	2	2	36
59		7		4		1		4				1		1			1	1			1	1		1		1	1	24
60									4		1			3		2							1			2		13
61								1										1			1			1				4
66	1													2		1												4
68			1					1																3		3		8
74		2						2	2			1		1	1		1							1		1		12
75		1											1	1	1				3	1	1							9
78									4																	4		8
79		2	2		1	1		1	1		1	1	1	1	1						1	1						15
90			1	1																								2
Suncoast Beach Trolley												6		3	2				1									12
Total	1	26	9	10	9	15	3	24	35	6	3	33	5	21	20	11	4	3	13	1	14	6	4	20	2	21	3	322

Table 4-10 presents the most frequent transfer combinations for respondents making two and three transfers. Records reflecting two-transfer activity with less than 5 counts and records reflecting three-transfer activity with less than 2 counts were excluded from the table.

Table 4-10 Directional Route Transfer Combinations Summary

# of Transfers	Transfer Combination	Number of Counts
Two Transfers	Route 4 to Route 74 to Route 19	12
	Route 19 to Route 74 to Route 4	8
	Suncoast Beach Trolley to Route 60 to Route 19	7
	Route 4 to Route 18 to Route 19	6
	Route 18 to Route 60 to Route 19	6
	Route 11 to Route 20 to Route 4	5
	Route 4 to Route 59 to Route 79	5
	Route 75 to Route 79 to Route 35	5
Three Transfers	Route 5 to Route 7 to Route 11 to Route 4	2
	Route 15 to Route 5 to Route 59 to Route 32	2
	Suncoast Beach Trolley to Route 68 to Route 18 to Route 74	2
	Route 11 to Route 4 to Route 35 to Route 79	2
	Route 66 to Route 61 to Route 18 to Route 59	2
	Route 5 to Route 35 to Route 20 to Route 7	2
	Route 66 to Route 19 to Route 78 to Route 60	2

Several general conclusions about PSTA transfer activity can be drawn based on the results of the transfer analysis and Tables 4-3 through 4-8.

- The five PSTA routes that experience the largest volume of transfer activity include Routes 4, 18, 19, 35, and 52.
- The top five route combinations that experience the highest volume of one-transfer activity for weekday, Saturday, and Sunday service include:
  - Route 19 and Route 52 (93)
  - Route 4 and Route 59 (62)
  - Route 18 and Route 59 (68)
  - Route 14 and Route 19 (48)
  - Route 4 and Route 35 (Central Avenue Trolley) (47)
- The majority of valid transfer responses for each day, weekday (78%), Saturday (76%), and Sunday (78%), utilize some sort of pass.

- Approximately 25 percent of valid transfer responses indicate payment of the full cash fare.

Question 11 asked respondents how many working vehicles are at their home. This question gleans insight into the possible number of "choice" or discretionary riders using PSTA services. As shown in Figure 4-9, 36 percent of weekday bus riders and 30 percent of weekend bus riders have one or more working vehicle at their home.

Figure 4-9 Vehicle Availability
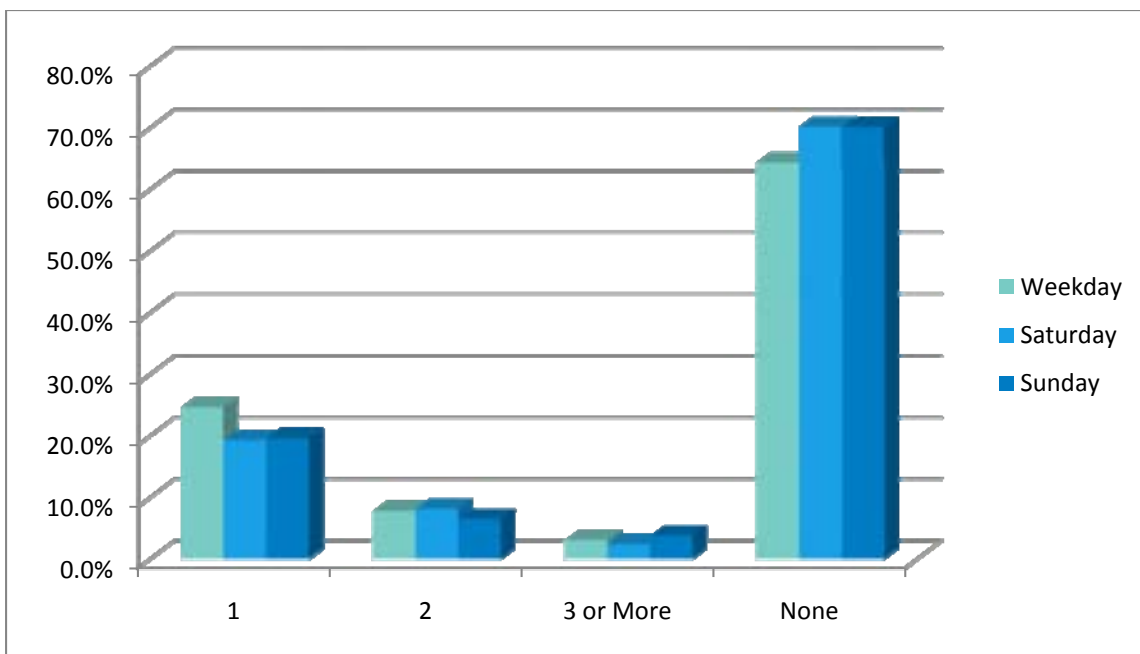
Figure 4-10 illustrates the results to Question 12 that asked the respondent how he/she would make the one-way trip if not by bus. The most common responses provided were "wouldn't make trip," followed by "ride with someone." These responses, along with the large distribution of individuals who would walk or bicycle, reflect that a significant proportion of PSTA riders rely on the transit service as their primary mode of transportation. The results also give an indication of the proportion of "choice" or discretionary riders who are currently using PSTA bus service. Approximately 11 percent of weekday and Saturday bus riders and eight percent of Sunday bus riders indicated that they would drive to complete their trip if they could not complete it by bus.

Figure 4-10 Mode Choice
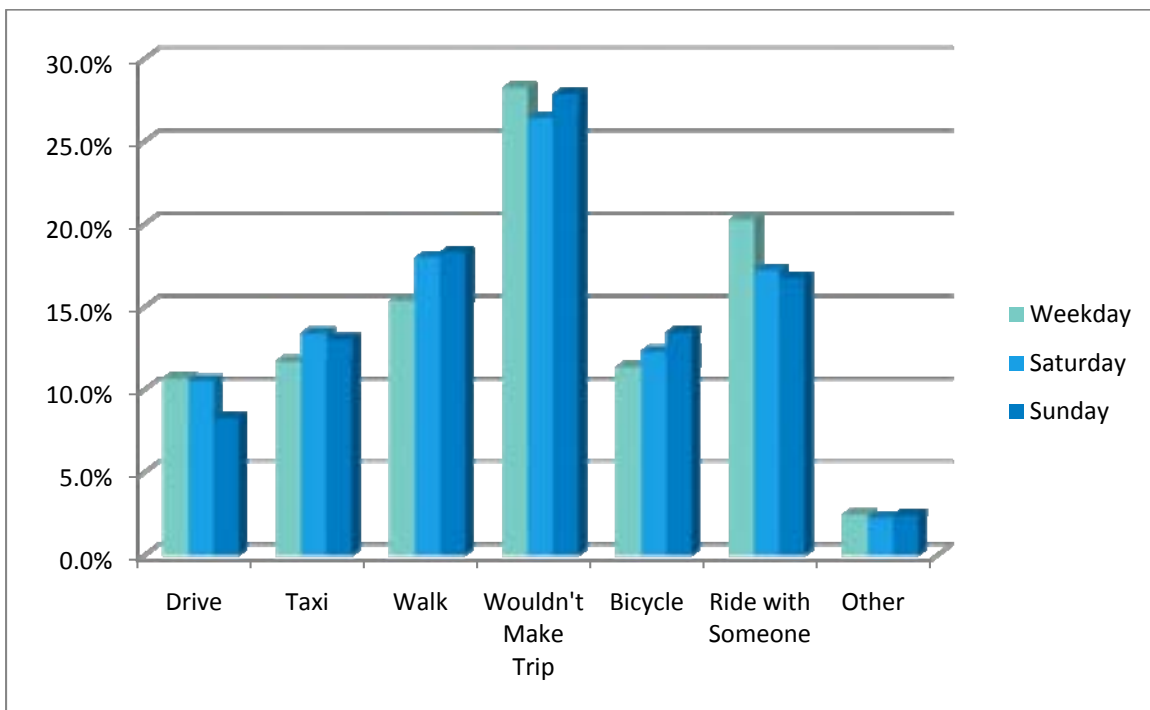
Question 13 asked respondents to indicate the type of fare they paid to ride the bus. Figure 4-11 illustrates the results to this question. "Cash fare" and "31-day pass" are the top two fare payment methods indicated by riders. Of the 426 respondents who chose "other" as a fare payment method, 20 percent indicated using a "10-day/ride pass," 19 percent indicated a "senior/disabled/Medicare fare," 18 percent indicated a "youth/student reduced fare," and 12 percent indicted using an "MPO bus pass."

Figure 4-11 Fare Payment Type
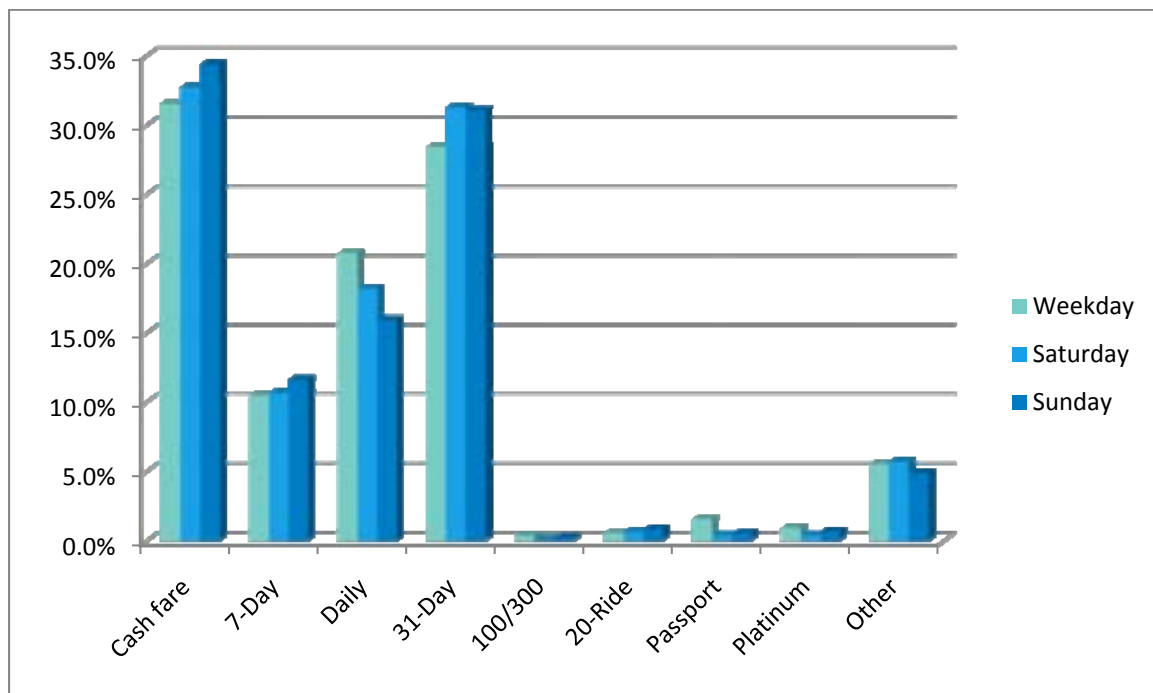
In Question 14, respondents were asked to indicate how many days a week they ride the bus. Approximately 70 percent of bus riders use the bus five or more days per week. As shown in Figure 4-12, 30 percent of weekday bus riders use the bus five days per week, and 37 percent of Sunday bus riders ride daily.

Figure 4-12 Frequency of Transit Use
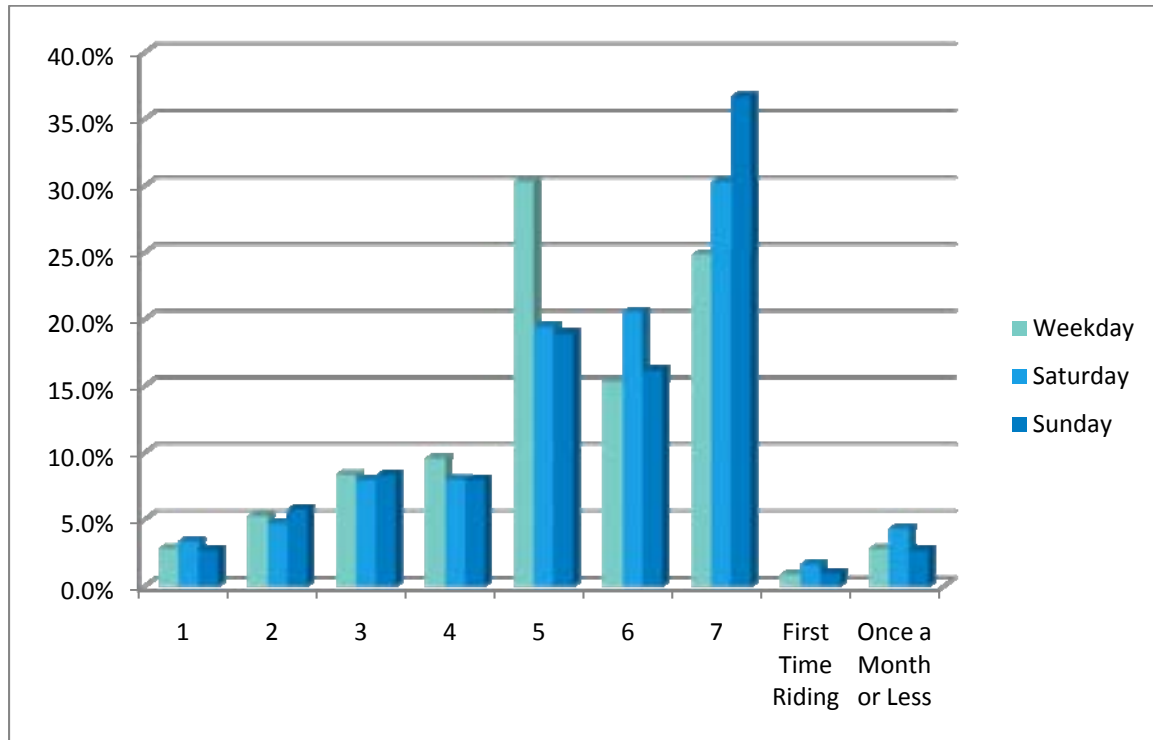
Rider Demographics

The demographic portion of the survey includes a variety of questions that queried respondents about their household income levels, age, gender, and ethnicity, among other things. Other topics covered by the demographic questions include reasons for using PSTA service and how often riders use PSTA service. These types of questions allow PSTA to construct a profile of the average bus rider.

As shown in Figure 4-13, household size was fairly evenly distributed. Fifty-five percent of bus riders said they live in one- or two-person households. About 57 percent of bus riders do not have a valid driver's license, a figure that was consistent across weekday, Saturday, and Sunday survey results (Figure 4-14). As shown in Figure 4-15, the vast majority of bus riders live in

Pinellas County for at least six months out of the year. Figure 4-16 displays the remaining PSTA rider demographic information. About half of bus riders work full-time, and approximately 20 percent of bus riders indicated they are currently a student. Sixty-two percent of bus riders were between the ages of 25 and 54. Nearly one-quarter of bus riders are 25 to 34 years old. PSTA's transit users are slightly more likely to be female (51 percent versus 49 percent). On weekdays, bus riders are 5 percent more likely to be female, while Saturday bus riders are slightly more likely to be male. Bus riders are most likely to be white. Finally, nearly one-quarter of bus riders report earning less than $5,000 per year, and 72 percent earn less than $25,000.

Figure 4-13 Household Size
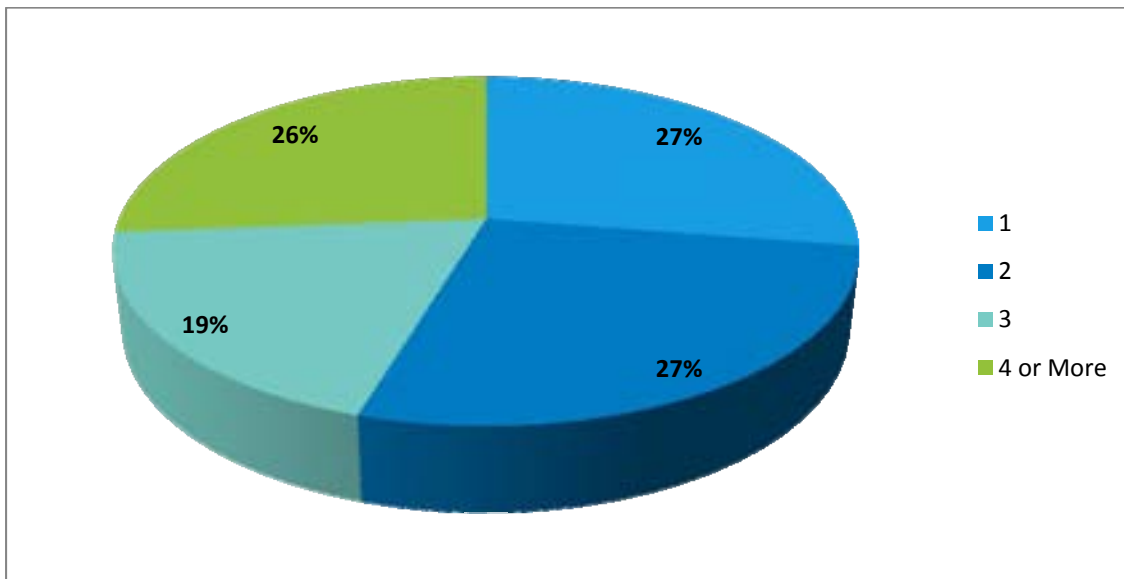
Figure 4-14 Possession of Valid Driver's License
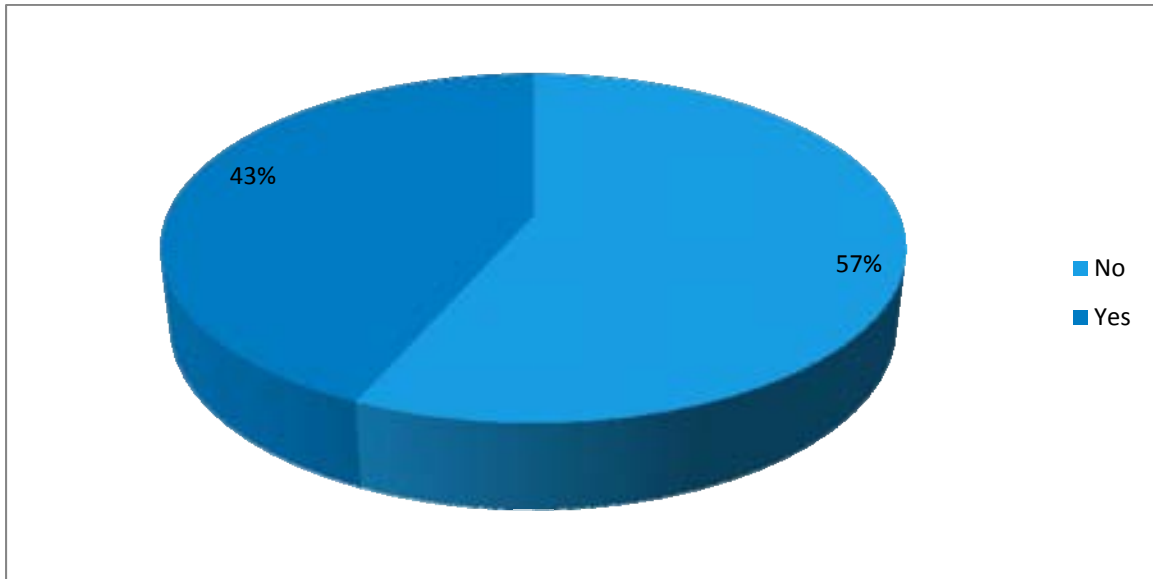
Figure 4-15 Annual Length of Residency in Pinellas County
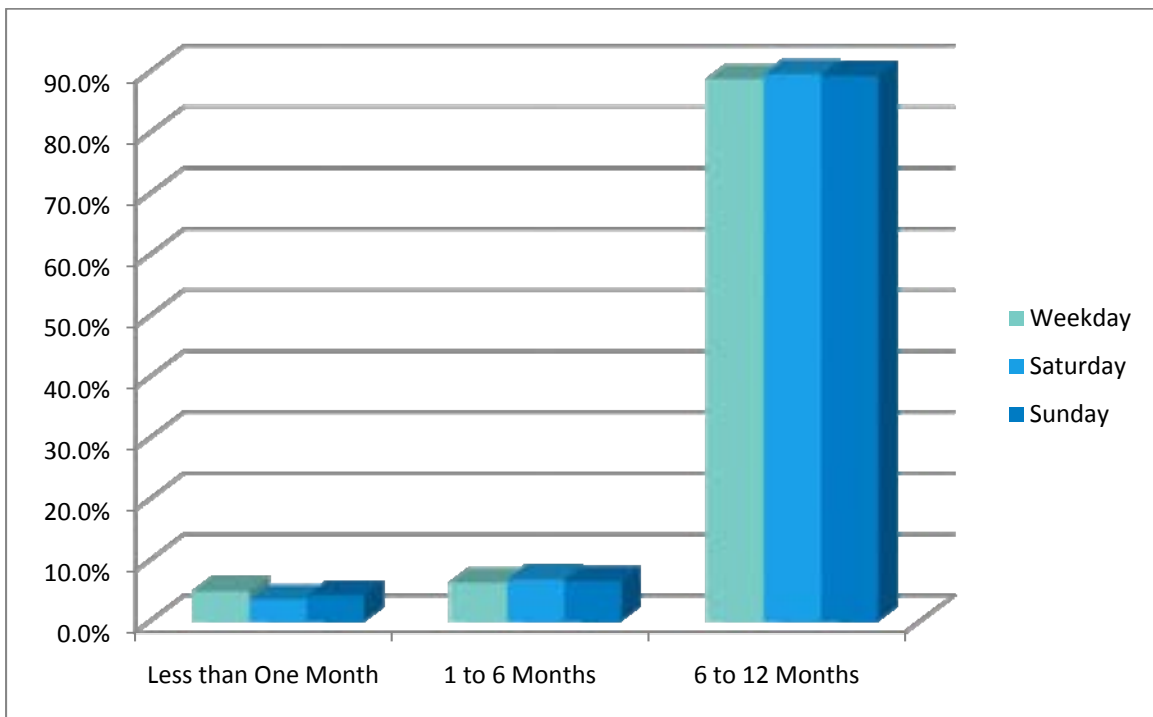
Figure 4-16 PSTA Rider Demographic Information
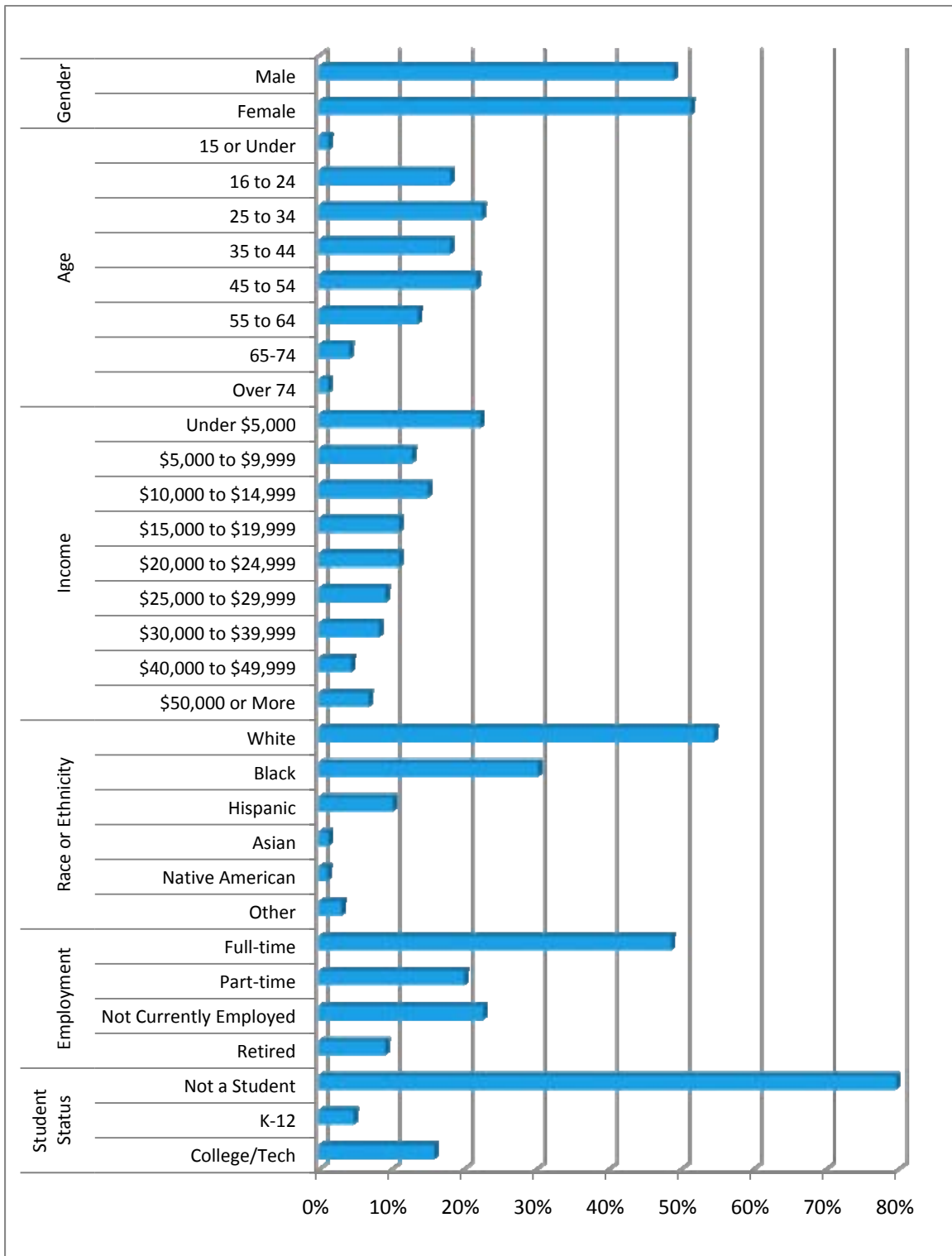
To enhance the demographic data analysis, cross-tabulations were performed for fare types paid by age group, income, and residency status. As shown in Figure 4-17, the PSTA rider cohort that pays the full cash fare includes bus riders under the age of 25. Use of "cash fare" payments generally decreases as age increases. Bus riders aged 45 to 54 had the highest rates of "31-day pass" use. The highest rates of "daily pass" use are by those aged 25 to 44. In terms of income level, "cash fare" payments are largely split among the different groups, as shown in Figure 4-18. "31-day pass" use generally decreases as income increases. "Daily passes" are used at the highest rates by bus riders making $30,000 to $49,999. Figure 4-19 shows fare payment type by the length of residency per year in Pinellas County. "Cash fares" and "daily passes" are used at the highest rates by respondents living in Pinellas County less than one month per year, while "31-day passes" are used largely by respondents living in the county for longer periods, 6 to 12 months per year.

Figure 4-17 Fare Payment Type by Age Group

	15 or Under	16 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	Over 74
Cash Fare	46%	42%	35%	33%	29%	27%	22%	31%
7-Day	10%	12%	11%	12%	11%	9%	3%	4%
Daily	13%	17%	21%	21%	15%	17%	24%	21%
31-Day	4%	22%	27%	27%	37%	34%	33%	26%
100X/300X	0%	0%	0%	0%	0%	0%	0%	0%
20-Ride Premium	0%	1%	0%	1%	1%	1%	0%	3%
Passport	0%	1%	1%	2%	1%	2%	1%	0%
Platinum	11%	3%	0%	0%	0%	0%	1%	1%
Other	15%	4%	4%	4%	5%	9%	16%	14%
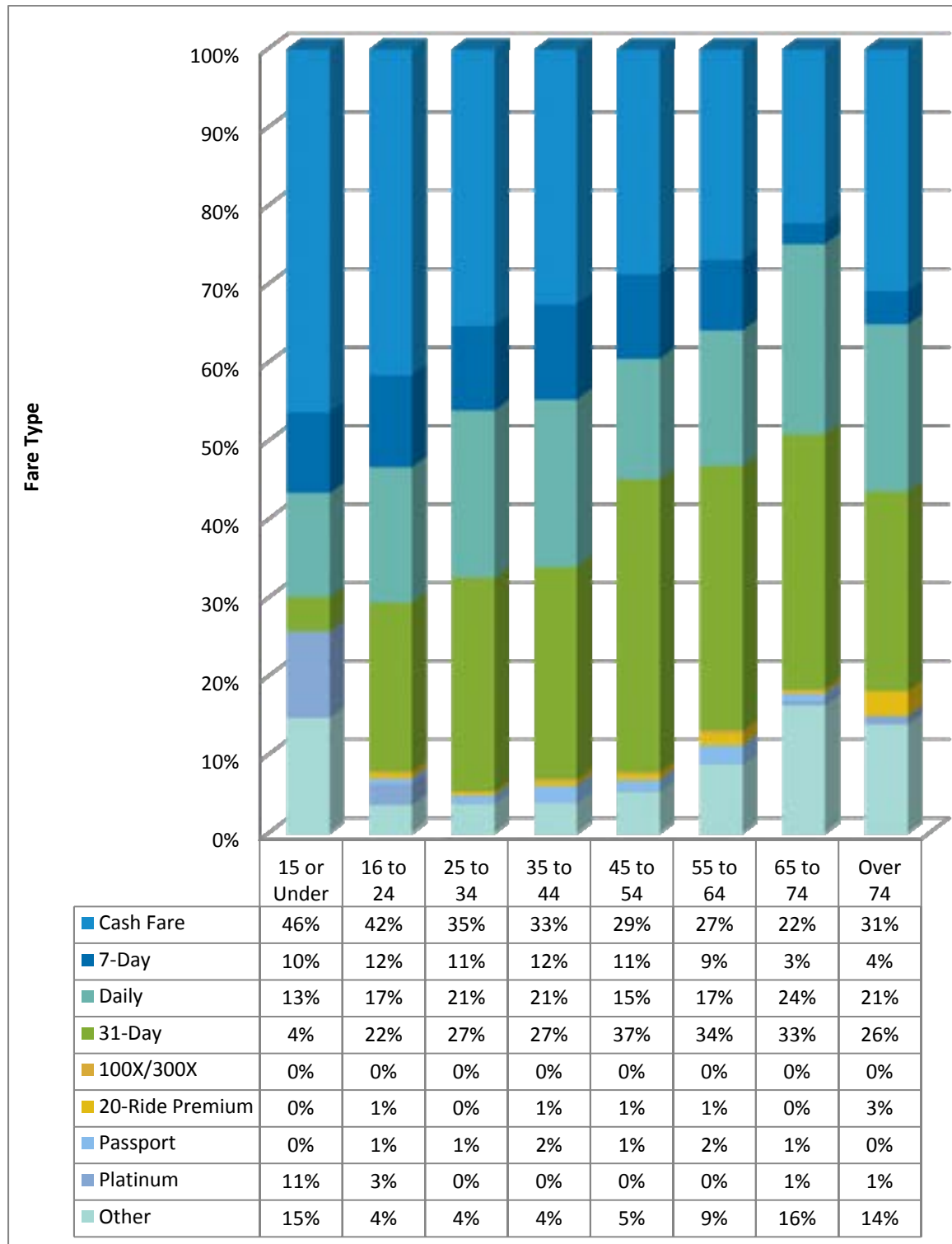
Figure 4-18 Fare Payment Type by Income Level

	Under $5,000	$5,000 - $9,999	$10,000 to $14,999	$15,000 to $19,999	$20,000 to $24,999	$25,000 to $29,999	$30,000 to $39,999	$40,000 to $49,999	$50,000 or More
Cash Fare	30%	31%	29%	33%	34%	34%	38%	38%	41%
7-Day	12%	10%	11%	9%	11%	14%	10%	12%	8%
Daily	18%	18%	19%	18%	19%	19%	21%	23%	18%
31-Day	32%	32%	33%	32%	29%	25%	26%	19%	20%
100X/300X	0%	0%	0%	0%	0%	0%	0%	1%	1%
20-Ride Premium	1%	1%	0%	0%	1%	1%	1%	1%	2%
Passport	1%	0%	1%	1%	1%	2%	2%	3%	5%
Platinum	1%	0%	1%	0%	1%	1%	0%	0%	1%
Other	6%	7%	6%	6%	4%	3%	2%	3%	5%
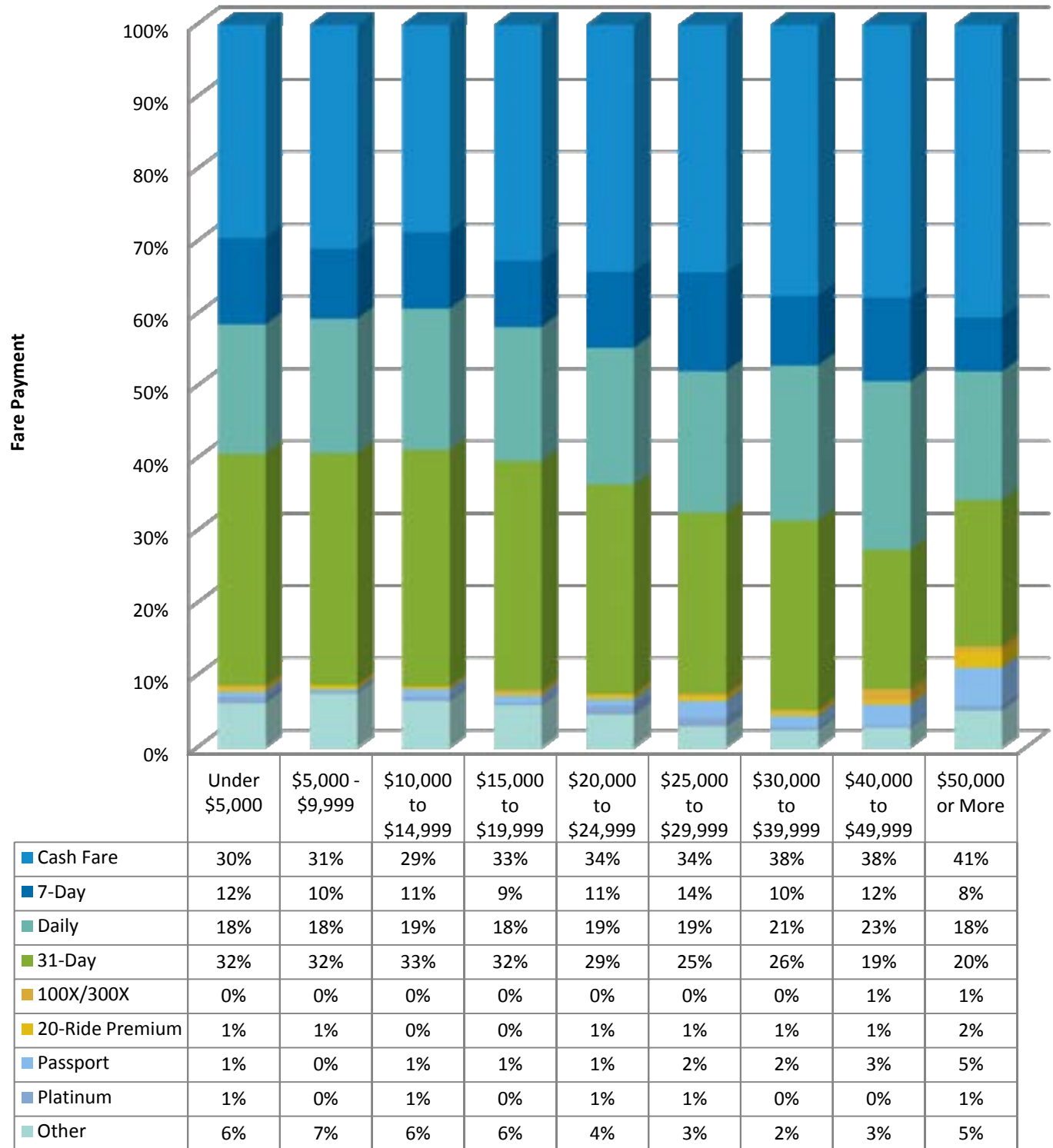
Figure 4-19 Fare Payment Type by Length of Residency in Pinellas County per Year

	Less than 1 Month	1 to 6 Months	6 to 12 Months
■ Cash Fare	43%	39%	32%
■ 7-Day	10%	13%	10%
■ Daily	23%	18%	19%
■ 31-Day	13%	23%	30%
■ 100X/300X	1%	0%	0%
■ 20-Ride Premium	1%	1%	1%
■ Passport	6%	1%	1%
■ Platinum	1%	2%	1%
■ Other	2%	4%	6%
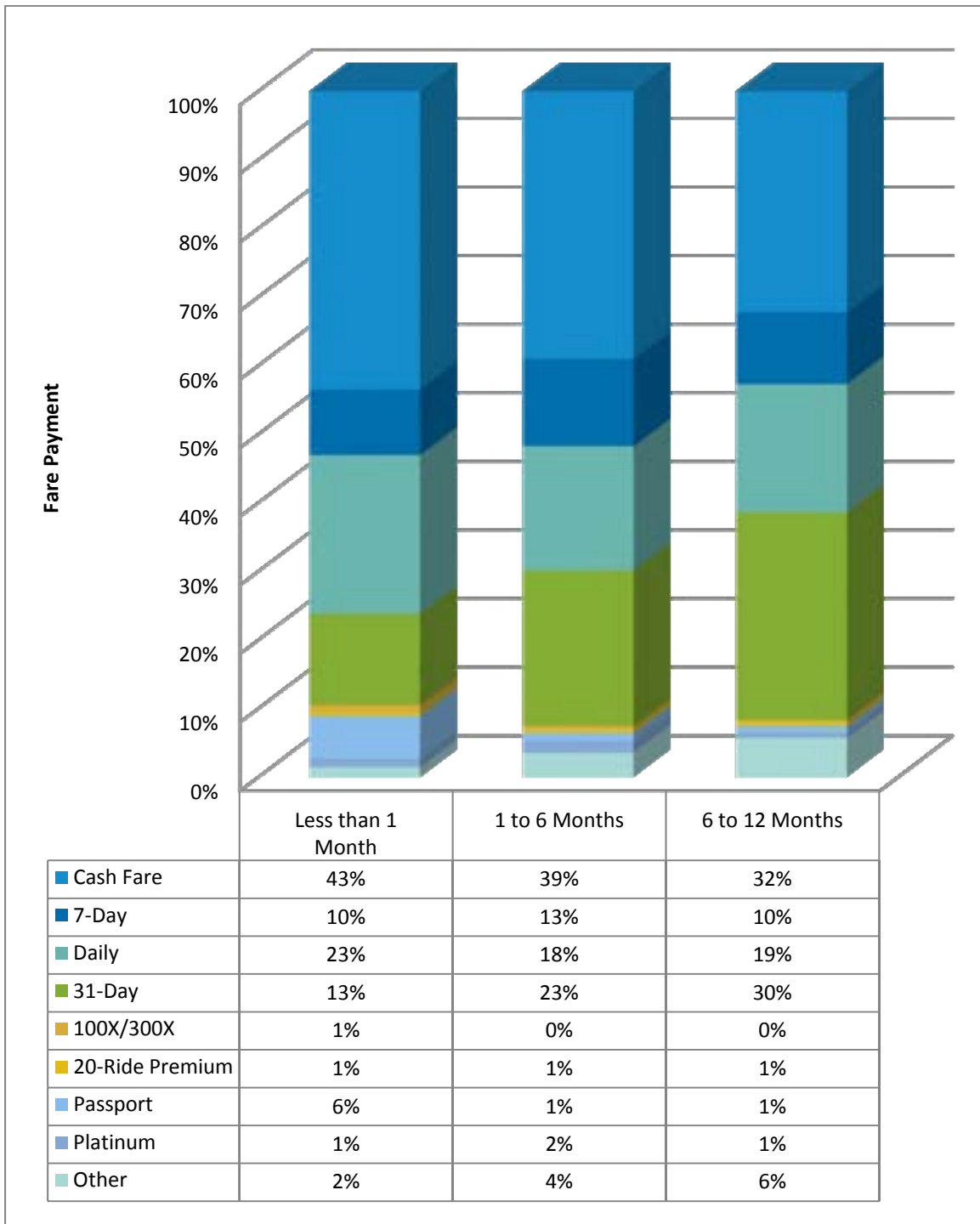
Customer Service & Opinions

Customer service and satisfaction questions queried respondents regarding improvements to PSTA services and about their preferences regarding customer service information. Question 20 asked respondents to select from a list of eight potential service improvements that they believed would make PSTA better for them to use. Figure 4-20 displays the results to this question. Percentage totals do not sum to 100 percent because survey respondents were allowed to select more than one improvement.

Figure 4-20 Preferred Improvements Summary
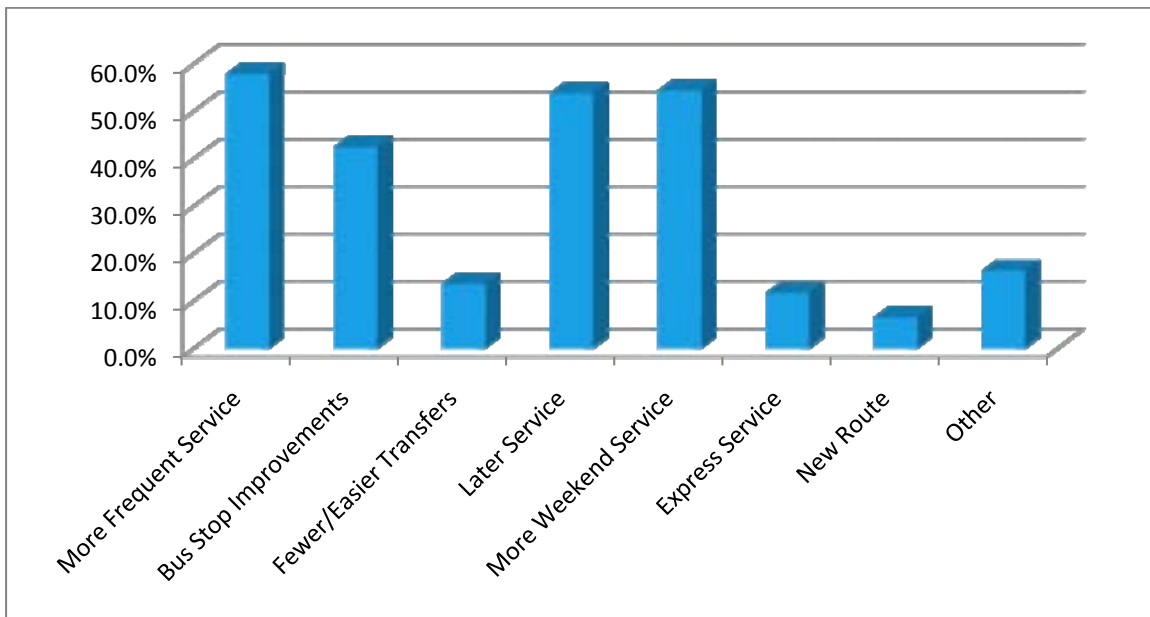
As shown in Figure 4-20, "more frequent service on existing routes," "later service on existing routes," and "more weekend service" were the top three preferred improvements indicated by PSTA bus riders. Figure 4-21 shows the "more frequent service on existing routes" category divided into weekday, Saturday, and Sunday responses (58 percent, 59 percent, and 55 percent, respectively). Saturday bus riders indicated an increased preference for more weekend service than weekday bus riders, as shown in Figure 4-22. Weekday bus riders indicated the greatest preference for "express/faster service" (Figure 4-23). As part of the "express/faster service" response category, bus riders were asked to specify where they would like to see express service. Answers to this question varied widely. The top express services mentioned by respondents were along US 19, from St. Petersburg to Tampa, along Route 52, and from

Clearwater to St. Petersburg. Respondents who chose "new route" were also given an opportunity to indicate a preference for the location of these enhancements. The most commonly cited new route locations were from St. Petersburg to Tampa, Central Plaza to Treasure Island, Clearwater to St. Petersburg, and Clearwater to Tampa. Write-in responses for improvement requests referenced in the "other" category included the following, in order of the number of comments received:

- **Operator concerns** – Includes driver courtesy, driving skills, and the need for additional training.
- **On-time performance**
- **Fare issues** – Includes references to the cost of the fare and the need to have more outlets to purchase passes.
- **Accolades/positive responses**
- **On-board bus amenities/comfort** – Includes the need for cleaner better maintained vehicles, feeling too cold on the bus, and the need for a wi-fi connection.
- **Safety/security**

Figure 4-21 More Frequent Service on Existing Routes
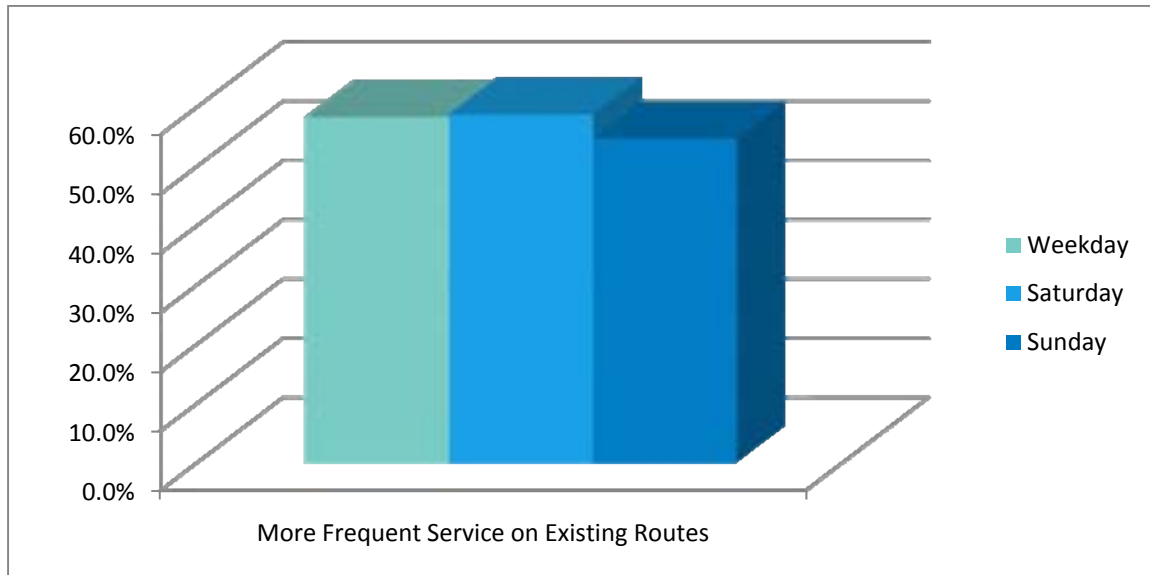
Figure 4-22 More Weekend Service on Existing Routes

More Weekend Service on Existing Routes
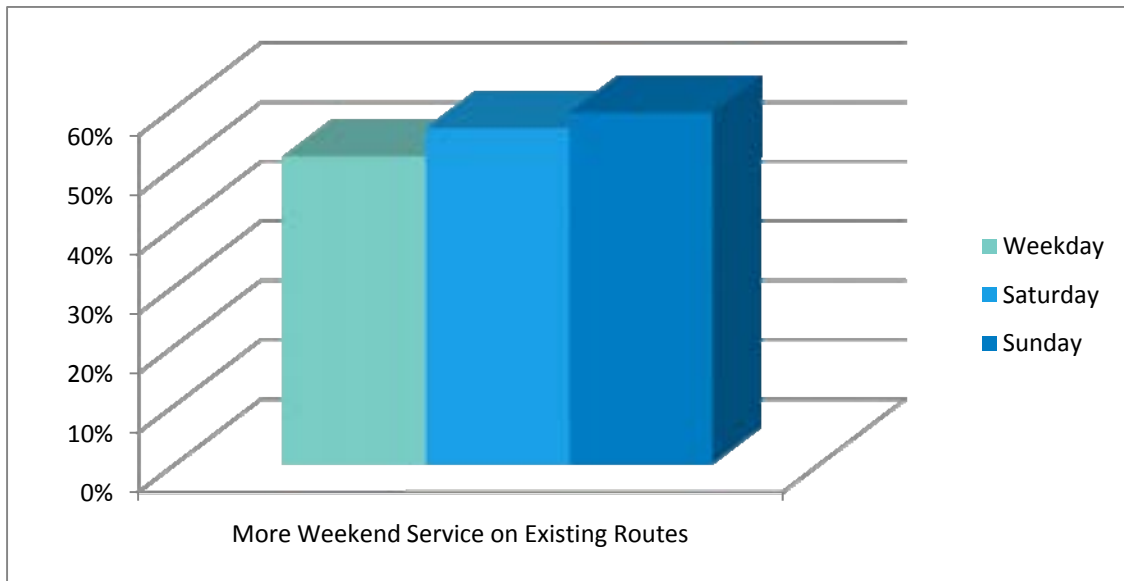
Figure 4-23 Express/Faster Service

Express/Faster Service
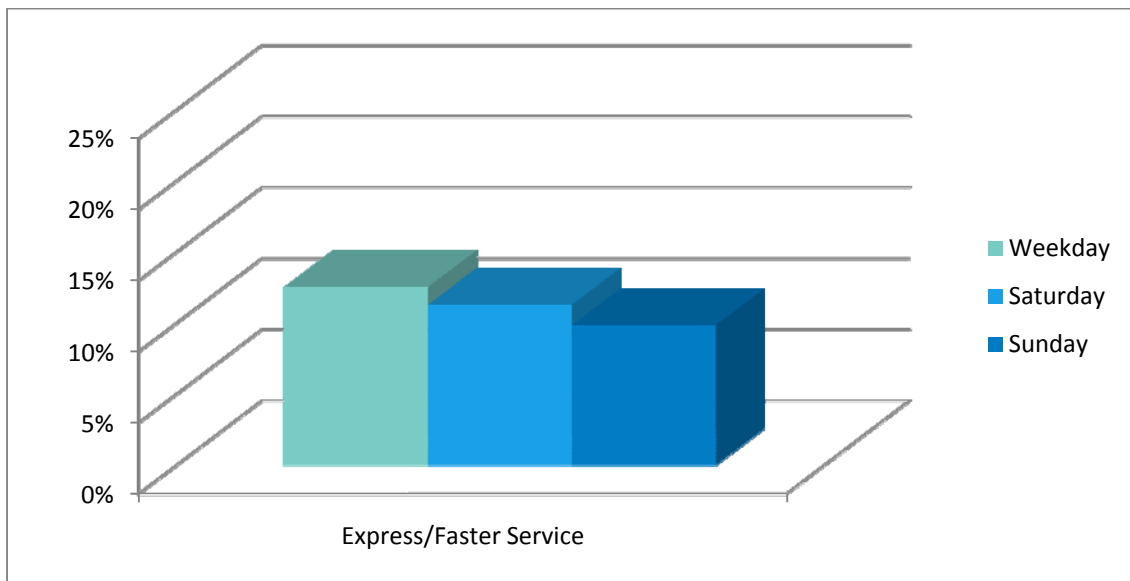
Figure 4-24 shows bus rider preference for receiving information about PSTA services and programs. Forty-nine percent of respondents prefer to receive information via PSTA's website. Responses in the "other" category included mail, email, text, and smartphone/ cellphone. Percentage totals do not sum to 100 percent because survey respondents were allowed to

select more than one method of receiving information. Additionally, Figure 4-25 shows a crosstab of bus riders who prefer to receive information via the PSTA website by age group. Ninety-one percent of those who prefer to learn about PSTA services and programs from the website are 16 to 54 years old.

Figure 4-24 Preferred Method of Receiving Information about PSTA Services and Programs
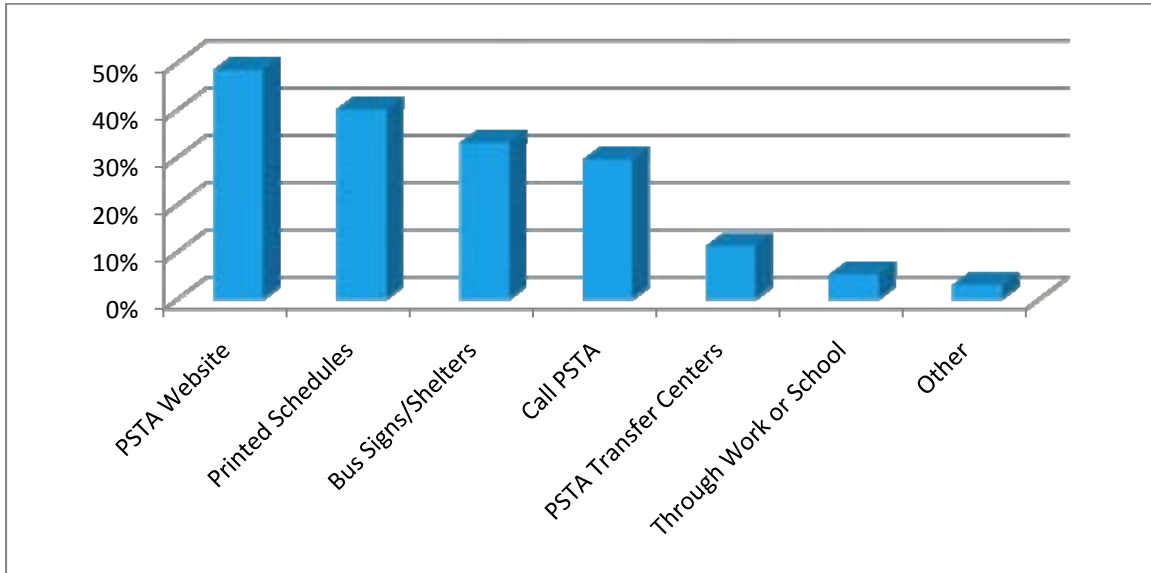
Figure 4-25 Preference to Receive Information via PSTA Website by Age Group
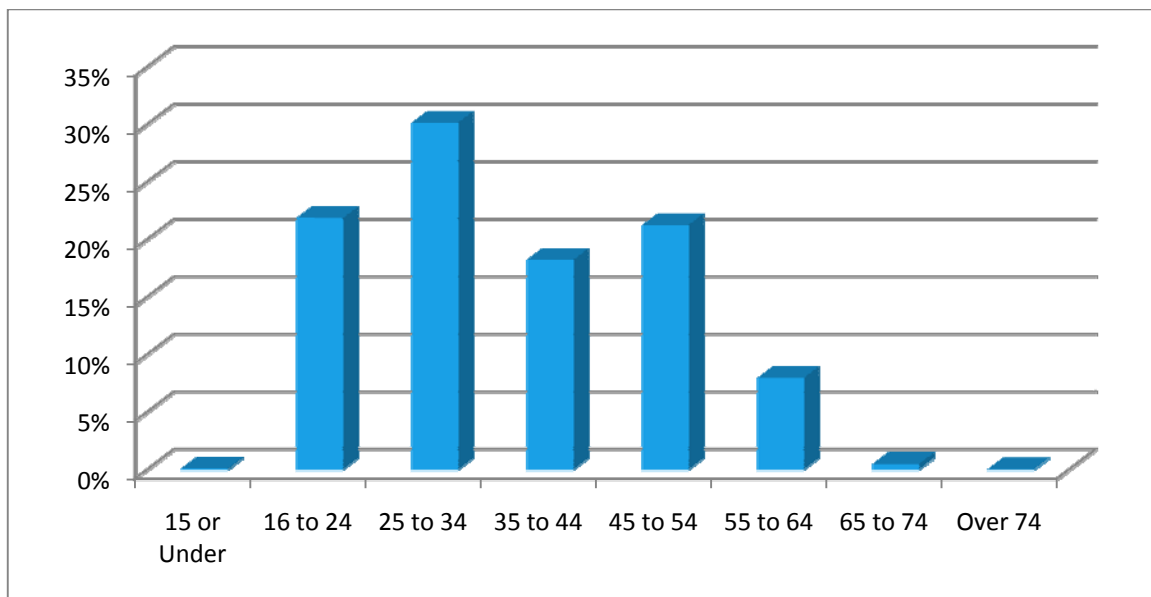
On-Board Survey General Conclusions

Results from the on-board survey provide insight into various aspects of PSTA fixed-route bus service. Salient conclusions drawn from the on-board survey analysis are summarized in this section.

- The largest share of PSTA bus trips are home-to-work/work-to-home trips. Approximately 41 percent of bus riders indicated they either made home-to-work trips or work-to-home trips.

- Concentrations of bus trip origins and destinations can be found throughout Pinellas County. A larger number of high activity origin and destination locations can be found in the south part of the County than in the north part of the county.

- Major areas of transit trip activity can be found around the following major activity locations:
    - Tyrone Square Mall
    - Downtown St. Petersburg
    - Downtown Clearwater
    - Shoppes at Park Place
    - Gateway Mall
    - North Pinellas Park/East Largo
    - Central Avenue in St. Petersburg

- The majority of respondents who indicated transferring buses indicated using some sort of pass to board the bus, 78 percent on weekdays, 76 percent on Saturday, and 78 percent on Sunday.

- There is some evidence of "choice" riders making use of the PSTA system, as shown in Figure 4-10, 11 percent of weekday bus riders would drive to complete their trip if they could not complete it by bus.

- Bus riders are primarily regular users of the service and reside in Pinellas County for more than six months out of the year.

- PSTA bus riders indicated more frequent service on existing routes, later service, and more weekend service as the three most desirable service improvements for PSTA.

Section 5 – Trolley On-board Survey Results

An on-board survey was conducted in October 2012 to collect rider input on three of the privately owned and operated fixed bus routes in Pinellas County, including the Jolley Trolley Beach Route, Jolley Trolley Coastal Route, and the Downtown Looper in St. Petersburg. Information on current transit services was collected to provide direction for future service improvements and policies. This trolley survey process was similar to the process followed for PSTA's fixed routes where a self-administered questionnaire was distributed to all persons boarding a trolley bus during the survey period. The survey questionnaire was shorter than the questionnaire used for PSTA's fixed-route service as it was designed for visitors and persons making shorter trips that typically do not connect to the larger service. A copy of the trolley on-board survey instrument can be found in Appendix A. Table 5-1 shows the days that each of the trolley services were surveyed.

Table 5-1 Survey Date

Service	Day
Jolley Trolley Beach Route	Weekday, Friday, Saturday, Sunday
Jolley Trolley Coastal Route	Friday, Saturday, Sunday
Downtown Looper	Weekday, Friday, Saturday, Sunday

The surveys were distributed on 50 percent of all Jolley Trolley Beach Route and Jolley Trolley Coastal Route fixed bus runs for each day of coverage. For the Downtown Looper, surveys were distributed on 100 percent of the bus runs for one weekday and weekend bus coverage. Bus runs reflect operator work shifts and were used to identify the 50-percent service coverage and corresponding surveyor work plan.

Data Management

The data cleaning process followed for the PSTA fixed-route service survey was predominantly the same for the trolley surveys. This included identifying any spelling errors, reclassifying other

responses, and performing range checks to ensure that valid responses were within the proper ranges. More detailed data cleaning and editing information can be found in Section 2 of this report.

Because of the nature of the trolley services and the types of persons that utilize those services, it was determined that it would be too difficult to collect enough completed surveys to achieve a statistically-significant sample size. Since the sample size is not statistically representative of the total rider population, no data weighting or expansion factors were applied. The raw numbers are used to present the information gained from the survey. In addition, it is important to note that, while generalities may exist in the data, it is not representative. Therefore, the term "respondents" has been used to clarify survey results.

On-Board Survey Results

A total of 473 Trolley bus riders completed the survey. Of that total, 95 surveys were completed on the weekday, 109 were completed on Friday, 178 were completed on Saturday, and 91 were completed on Sunday. Table 5-2 notes how many surveys were completed on each trolley route each day. Table 5-3 presents the response rate by question for the survey effort. As shown in Table 5-3, an average response rate by question of 81 percent was achieved for the survey.

Table 5-2 Trolley Response Rates by Day

	Beach Jolley Trolley	Coastal Jolley Trolley	Looper
Weekday	62	-	33
Friday	21	27	61
Saturday	16	111	51
Sunday	46	33	12

Table 5-3 Question Response Rates

Survey Question #	Valid Responses	% Valid
1. Time	463	97.9%
2. Trip Origin	471	99.6%
4. Access Mode	471	99.6%
5. Trip Destination	462	97.7%
7. Egress Mode	470	99.4%
8. If Not By Bus	466	98.5%
9. Fare Payment	468	98.9%
10. Residency	435	92.0%
11. Employment	440	93.0%
12. Student	420	88.8%
13. Service Improvements	308	65.1%
14. Age	438	92.6%
15. Gender	398	84.1%
16. Race/Ethnicity	429	90.7%
17. Income	375	79.3%

Similar to the data analysis conducted for the PSTA system on-board survey, questions were divided into three major categories: travel characteristics, rider demographics, and rider satisfaction.

Travel Characteristics

Travel characteristics questions are designed to ask respondents about their individual trip details and their travel behavior. Topics covered by the travel characteristics questions on the trolley survey include the following:

- Trip origin (type)
- Trip destination (type)
- Transit stop/station access and egress travel mode
- Fare payment

Questions 2 and 5 asked respondents about the type of place they were coming from to start their one-way trip and the type of place they were going to on the same one-way trip, respectively. Figures 5-1 and 5-2 present the results to these two questions. As shown in Figure

5-1, 38 percent of respondent transit trip types were "recreational." The second highest trip origin indicated by respondents was "home," at 29 percent. Similarly, the two highest trip destinations were "recreation" and "home" (see Figure 5-2).
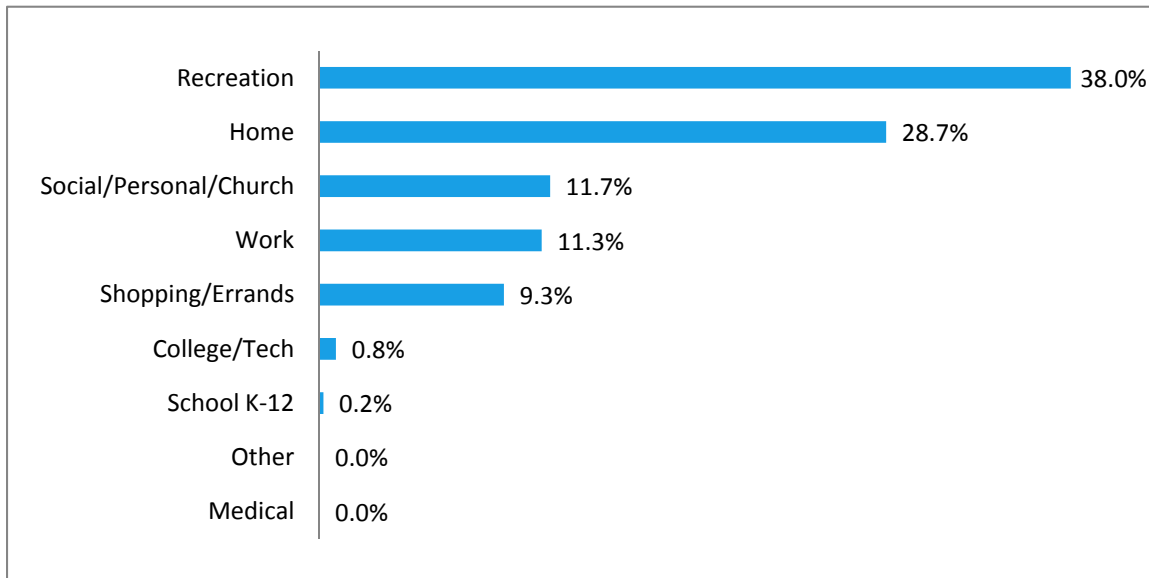
Figure 5-1 Trip Origin Summary

Category	Percent
Recreation	38.0%
Home	28.7%
Social/Personal/Church	11.7%
Work	11.3%
Shopping/Errands	9.3%
College/Tech	0.8%
School K-12	0.2%
Other	0.0%
Medical	0.0%

Figure 5-2 Trip Destination Summary

Category	Percent
Recreation	44.4%
Home	24.9%
Social/Personal/Church	16.7%
Shopping/Errands	8.7%
Work	4.8%
College/Tech	0.6%
Other	0.0%
School K-12	0.0%
Medical	0.0%
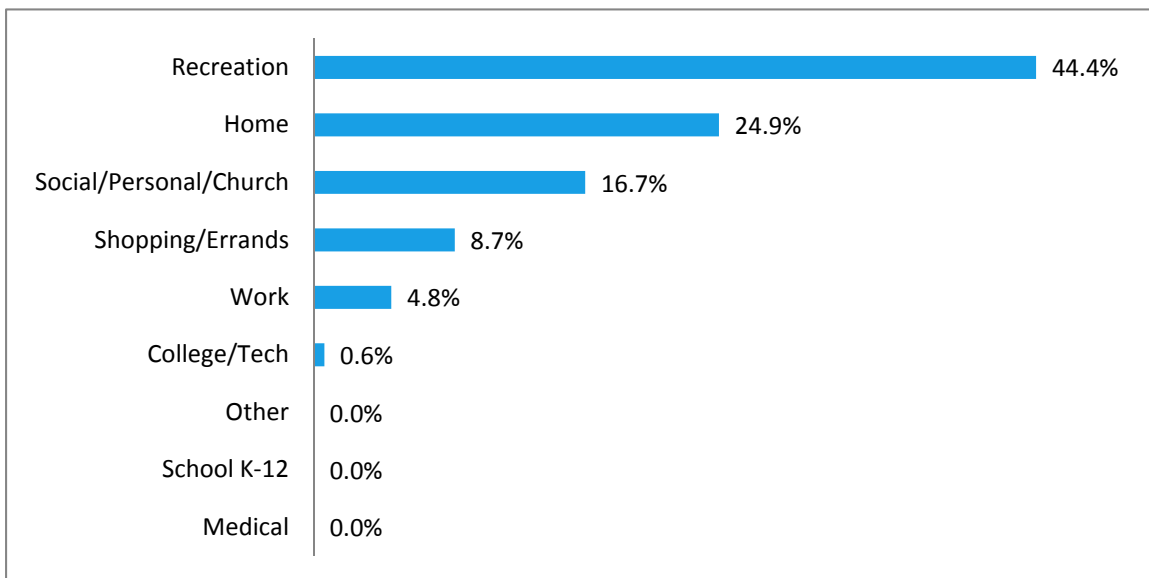
Table 5-4 shows a trip purpose matrix, which combines trip origin and destination types to better display the relationship between trip origin and destination locations. Based on information in this table, home-to-recreation and recreation-to-home trips were the most common trip pairs. "Shopping/Errands" trips also were indicated by respondents as a common trip type. Of the 455 valid responses received for the origin and destination questions, almost 20 percent indicated respondents were travelling to or from "shopping/errands".

Questions 4 and 7 asked respondents to describe how they get to the bus stop to board the bus and how they will reach their final destination once they get off the bus. The responses to these questions reveal how even the trolley users must combine various modes of travel in order to complete their individual trip. As shown in Figures 5-3 and 5-4, the predominant travel mode used by respondents get to and from the bus stop is walking.

Table 5-4 Trip Origin and Destination Matrix

Where are you COMING FROM NOW?	What type Place are you GOING TO NOW?							
	Work	Social/ Personal	College /Tech	Recreation	Shopping/ Errands	Home	Total Origins	% Total Origins
Work	6	2	0	7	2	36	53	11.7%
Social/Personal	1	20	0	15	3	14	53	11.7%
School (K-12)	0	0	0	0	0	1	1	0.2%
College/Tech	0	0	0	2	0	2	4	0.9%
Recreation	0	21	1	100	15	36	173	38.0%
Shopping/Errands	1	4	0	9	9	21	44	9.7%
Home	14	30	2	71	10	0	127	27.9%
Total Destinations	22	77	3	204	39	110	455	
%Total Destinations	4.8%	16.9%	0.7%	44.8%	8.6%	24.2%		

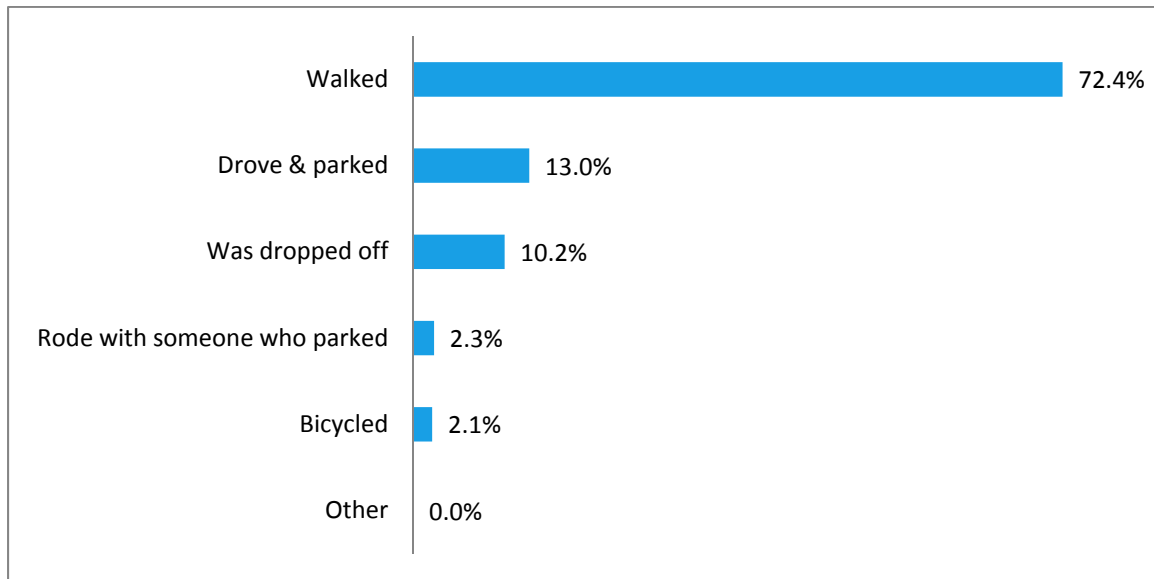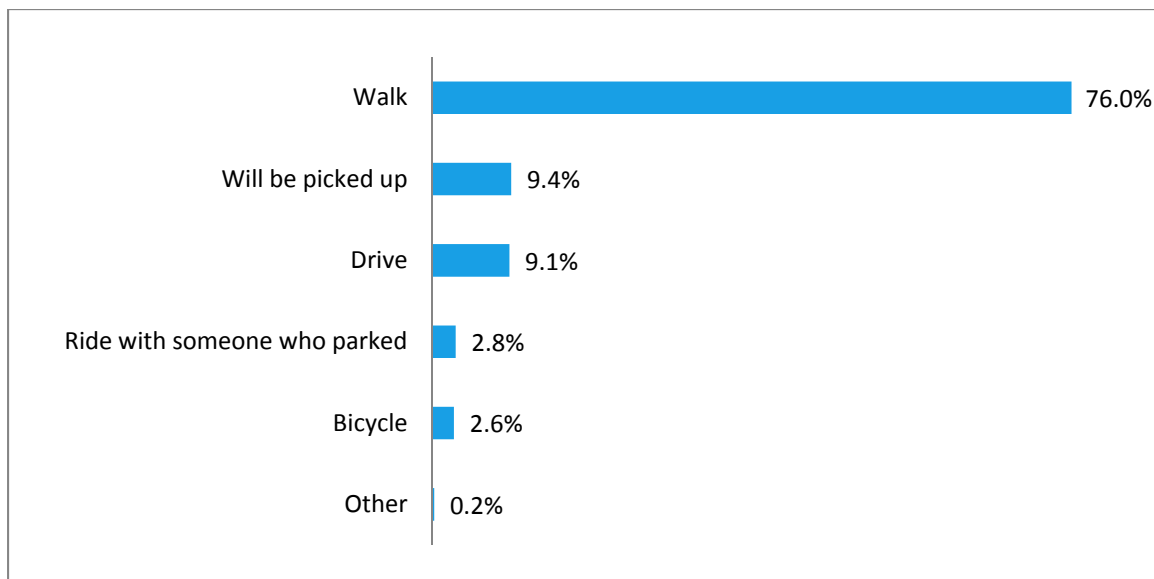*Figure 5-3 Bus Stop Access Mode*

Figure 5-4 Bus Stop Egress Mode

Question 8 asked bus riders about how they would complete their trip if the trolley service were not available. As shown in Figure 5-5, the most common response provided is to drive, followed by walking. Approximately 34 percent of survey respondents indicated that they would drive to

complete their trip if they could not complete it by bus. This result indicates that there are more choice users on the trolley service than what is typically experienced on PSTA bus services. Additionally, only 16 percent of respondents stated that they would not make the trip without the available trolley service.

Figure 5-5 Trip Completion Options if not by Bus
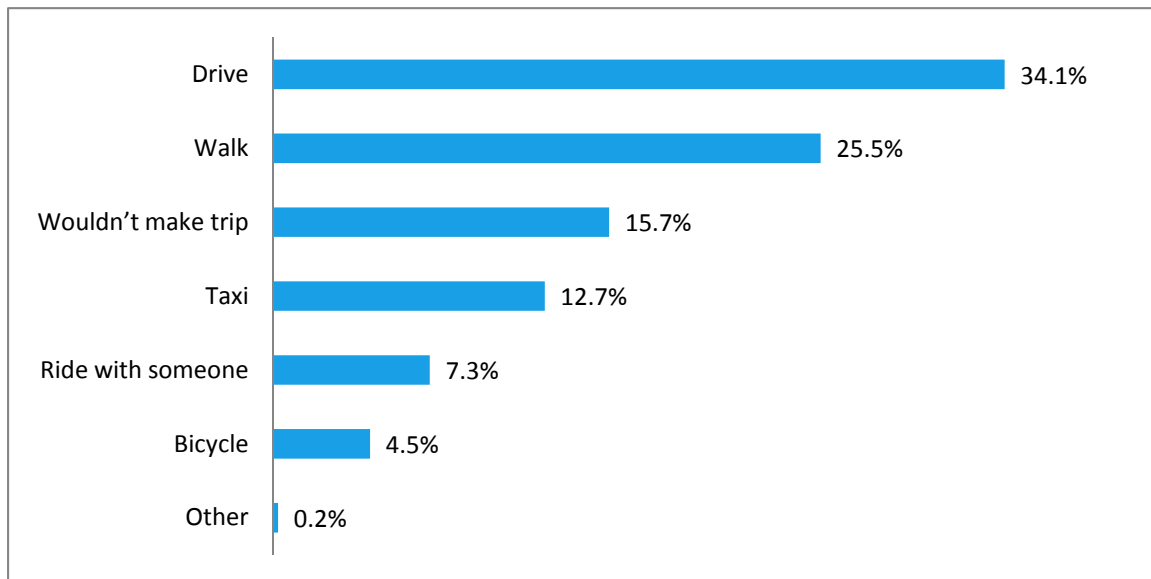
Rider Demographics

The next section of the survey includes a variety of demographic questions that queried respondents about their household income levels, age, gender, and ethnicity, among other things. The demographic questions also asked what fare type respondents used to ride the trolley.

Question 9 asked respondents what type of fare they paid when they got on the trolley. As shown in Figure 5-6, most respondents (60%) indicated that they pay the full cash fare which is typical for services frequented by non-residents. The next largest response type for this question was the Daily Unlimited pass, with 23 percent of respondents indicating it as a fare type. Fare types receiving the lowest levels of responses include the 31-Day/Monthly Unlimited or the 7-Day/Weekly pass. Free rides are offered on the St. Petersburg Downtown Looper between The Pier and the Baywalk Shopping Center.

Figure 5-6 Fare Type

Regular cash fare — 60.3%

Daily Unlimited — 23.1%

Free — 7.1%

31-Day/Monthly Unlimited — 5.8%

7-Day/Weekly — 3.8%

Other — 0.0%
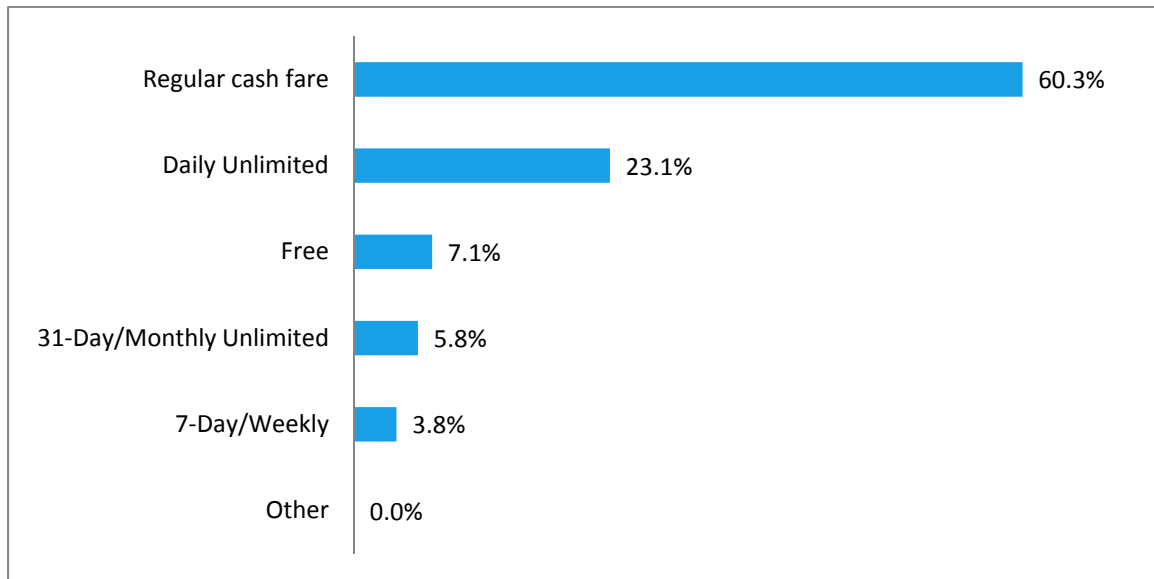
Question 10 asked respondents their residency status. Trolley services are specifically targeted to meet visitor needs. As a result, it was expected that the majority of users would be visitors or seasonal residents. As shown in Figure 5-7, 50 percent of respondents indicated that they live in Pinellas County for 6 months or less.

Figure 5-7 Residency Status

■ Less than one month   ■ 1 to 6 months   ■ 6 to 12 months

41.1%

50.3%

8.5%
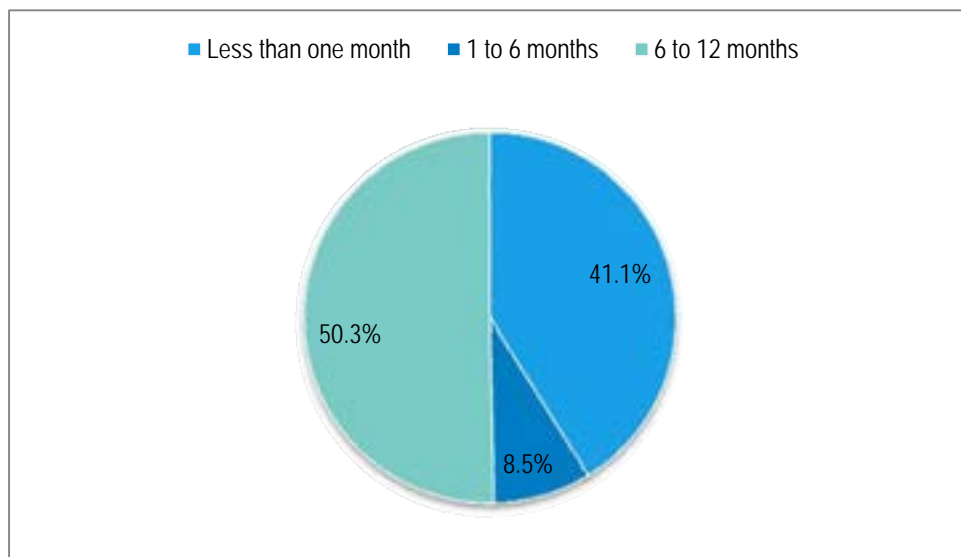
Question 11 asked respondents their employment status. As shown in Figure 5-8, 56 percent of respondents indicated that they were employed full time (more than 35 hours a week). The next largest response category was for those respondents who indicated "retired." This answer provides some indication that a large number of respondents may be visitors or seasonal residents. A cross-tabulation of Question 10 and Question 11 is shown in Figure 5-9.
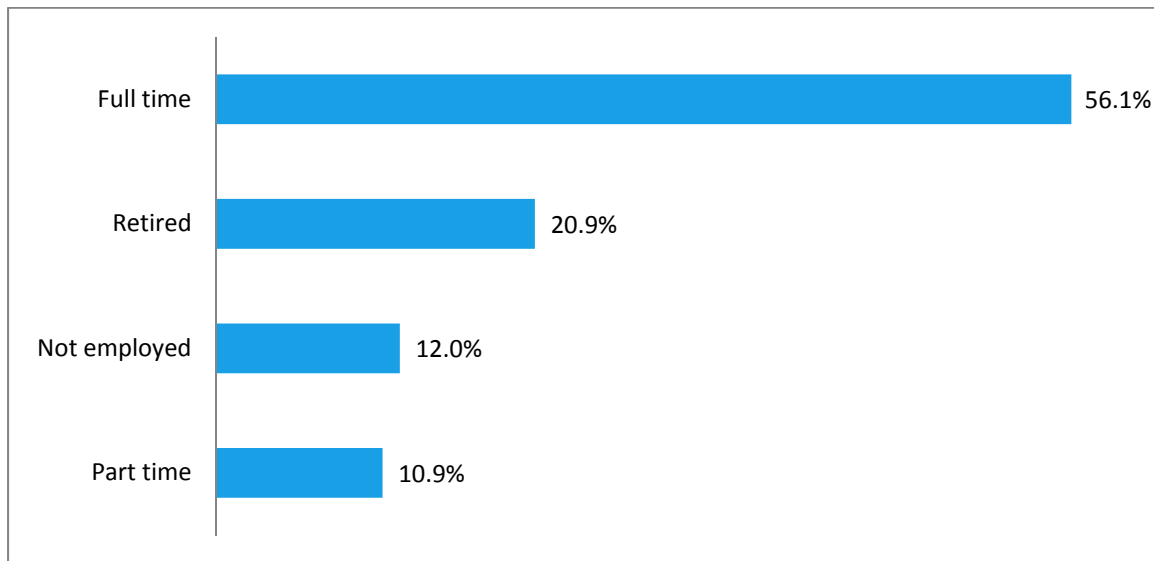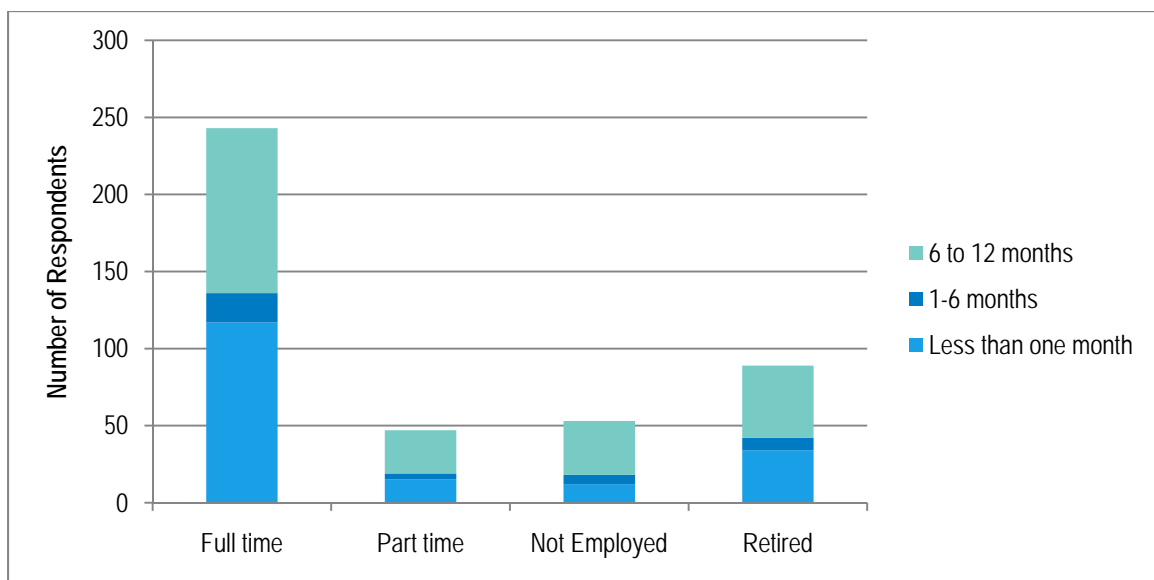
Figure 5-8 Employment Status

Figure 5-9 Residency and Employment Status

Question 12 asked respondents to indicate whether or not they are currently a student, and if so, at what grade level. Figure 5-10 shows that the vast majority of respondents (almost 90 percent), are not students.
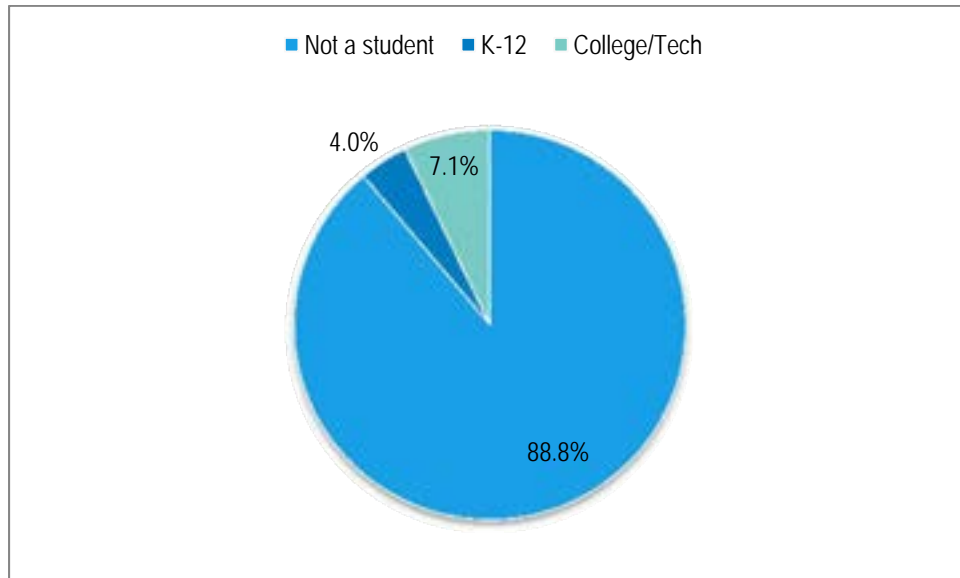
Figure 5-10 Residency and Employment Status

Figure 5-11 displays specific demographic data as provided by respondents. These data include age, gender, race, and income distributions. It is interesting to note that the respondents for this survey differed in their income and racial makeup compared to a typical PSTA transit user. Most respondents were white (81.1%) and also had a much higher income than usual for a transit rider (47% indicated a total household income of $50,000 a year or more).
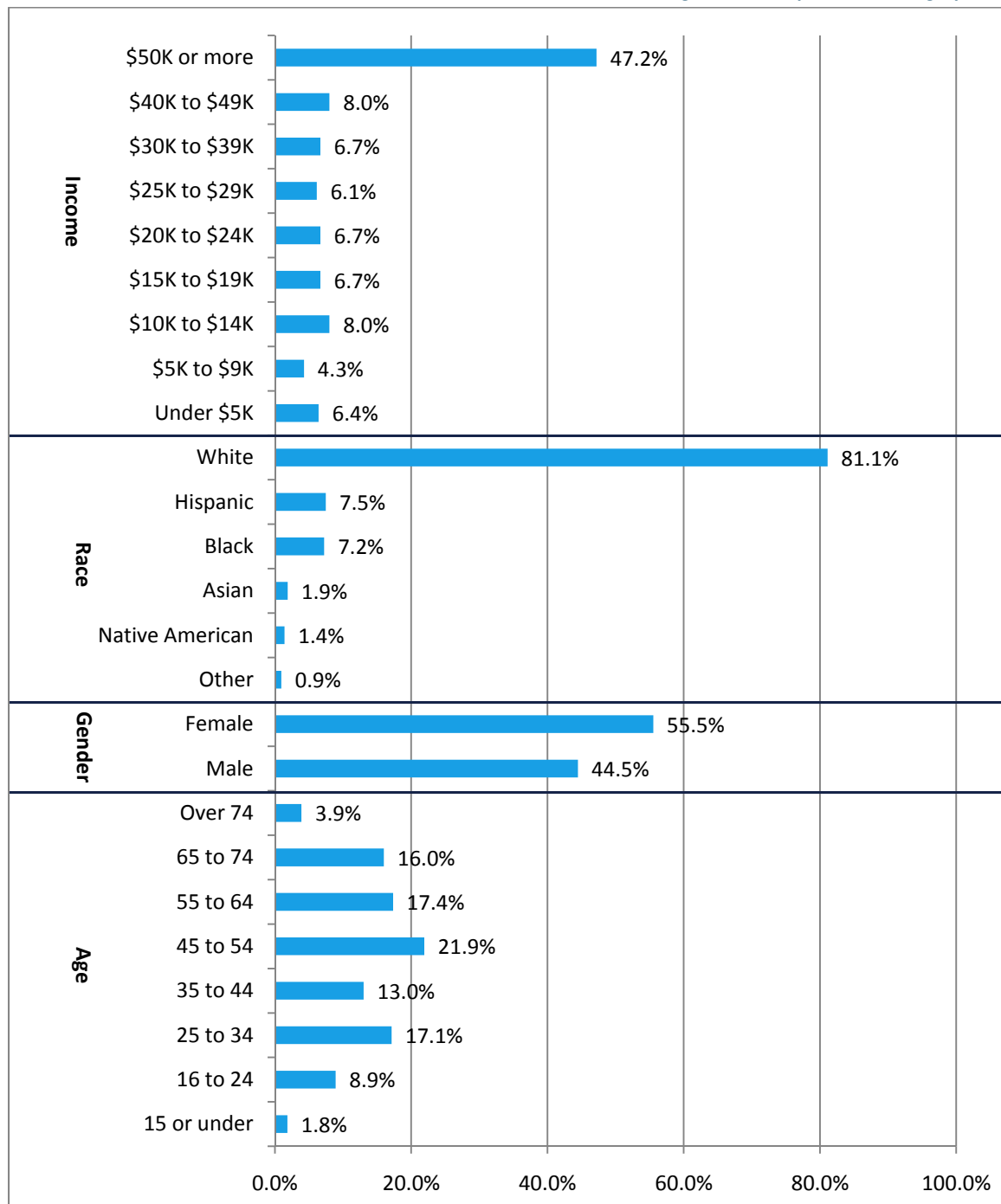
Figure 5-11 Respondent Demographics

Income
- $50K or more: 47.2%
- $40K to $49K: 8.0%
- $30K to $39K: 6.7%
- $25K to $29K: 6.1%
- $20K to $24K: 6.7%
- $15K to $19K: 6.7%
- $10K to $14K: 8.0%
- $5K to $9K: 4.3%
- Under $5K: 6.4%

Race
- White: 81.1%
- Hispanic: 7.5%
- Black: 7.2%
- Asian: 1.9%
- Native American: 1.4%
- Other: 0.9%

Gender
- Female: 55.5%
- Male: 44.5%

Age
- Over 74: 3.9%
- 65 to 74: 16.0%
- 55 to 64: 17.4%
- 45 to 54: 21.9%
- 35 to 44: 13.0%
- 25 to 34: 17.1%
- 16 to 24: 8.9%
- 15 or under: 1.8%

Figure 5-12 shows a cross-tabulation of residency status and type of fare used. It shows that the vast majority of riders surveyed paid the full cash fare. In addition, most respondents who identified themselves as seasonal residents or visitors paid the full cash fare. Respondents who resided in Pinellas County for 6 to 12 months purchase all fare types, although a majority selected the full cash fare.

Figure 5-12 Residency and Fare Type
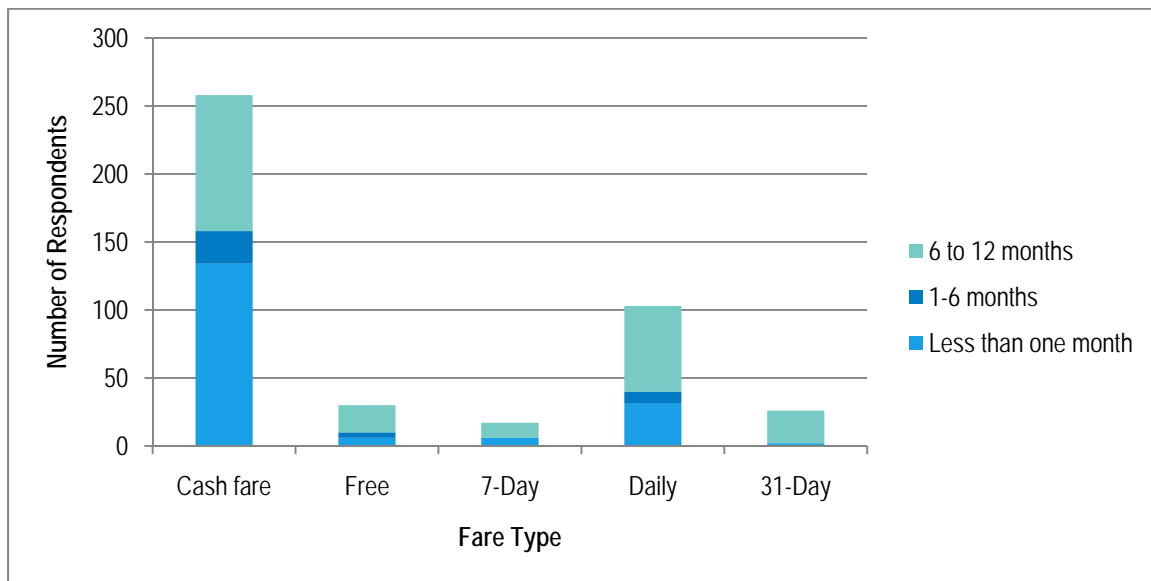
Rider Satisfaction & Opinions

Question 13 asked respondents their top three preferred service improvements from a list of service improvements. Figure 5-13 shows the distribution of responses. The top three service improvements identified by respondents were "More Frequent Service," "Later Service," and "More Weekend Service."

Respondents selecting "Add a new route" indicated a desire to have a route from the beaches to Downtown Clearwater and St. Petersburg. Currently, direct service is available from the beaches to both downtown areas, utilizing the Jolley Trolley Beach Route and the Central Avenue Trolley. Consequently, respondents may be looking for more direct service or may not be aware of existing services. There may be an opportunity to provide additional marketing or advertising to educate riders about the existing connection. Additional requests also include a north beach/south beach connection. This also already exists via the Sun Coast Beach Trolley.

Figure 5-13 Service Improvement Preferences
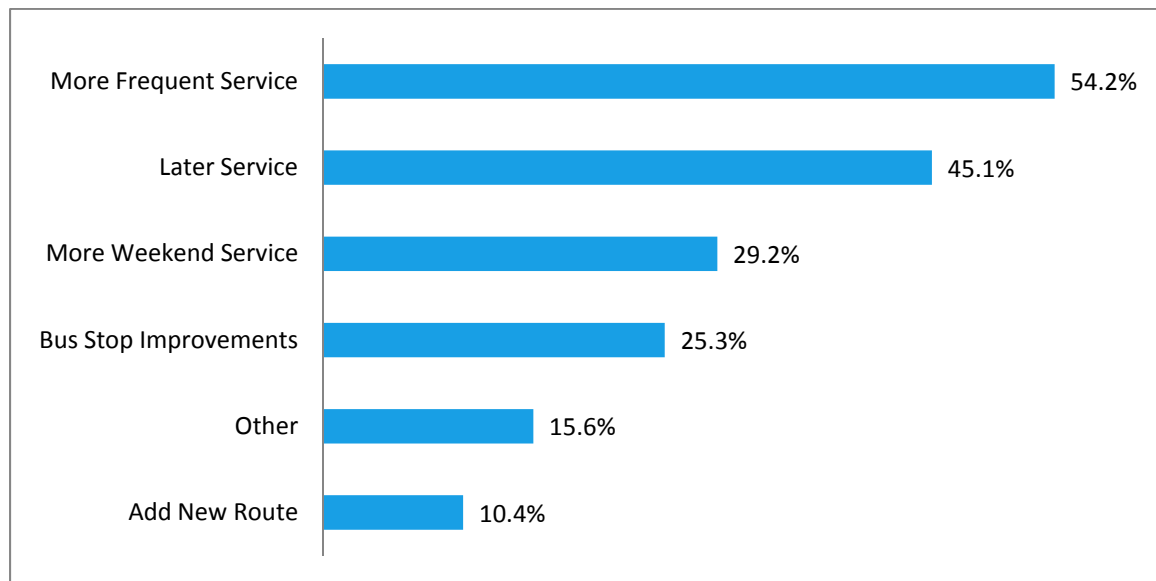
On-Board Trolley Survey General Conclusions

The following salient conclusions are drawn from the analysis of the trolley on-board survey data.

- A significant portion of trips were Recreation and Personal/Social related. Recreation-to-Recreation, Home-Recreation, and Home-Social/Personal were the most common trip pairs. This is consistent with the service type provided by the trolley systems, which are geared toward tourists and visitors.

- Most survey respondents walked to and from the bus stop from their trip origins and destinations.

- Thirty-four percent of survey respondents indicated that if the trolley services were unavailable, they would drive to make their trip. This is consistent with the targeted choice ridership market that utilizes the trolley system.

- There may be an opportunity to provide additional marketing or advertising to educate riders about the connection between the beaches, Downtown Clearwater and Downtown St. Petersburg, and the presence of the Sun Coast Beach Trolley.

- There may be an opportunity to implement a visitor pass to capture the seasonal ridership base.

- Almost half (49.6%) of the survey respondents indicated that they lived in Pinellas County less than 6 months of the year.

- Responses to the household income question show that almost half (47.2%) of the respondents make more than $50,000 a year. The demographic questions also showed that the respondents were predominantly white (81.1%) and more than half were over 45 years or older (59.2%).

- The three most commonly-requested service improvements were more frequent service (54.2%), later service (45.1%), and more weekend service (29.2%).

Appendix A – Survey Instruments

PSTA Bus Rider Survey

PSTA needs your help to provide improved bus service in Pinellas County. Please help us serve you better by completing this survey and returning it to the surveyor or any PSTA driver. If you don't have time to complete the survey during this bus trip, please return it on your next trip. Thank you.

1. What time is it **NOW**? _____(Hour): _____(Minute) (**AM PM**) (Please circle one)

This survey is about the ONE-WAY transit trip you are making now!

Example of ONE-WAY Bus Trip

HOME [START] → FIRST BUS → SECOND BUS → WORK [END]

2. What **TYPE OF PLACE** are you **COMING FROM NOW?** (Please ✓ the starting place of this **ONE-WAY TRIP**) (Please ✓ only one)

1__ Work   4__ School (K-12)   7__ Shopping/Errands
2__ Medical   5__ College/Tech   8__ Home
3__ Social/Personal/Church 6__ Recreation 9__ Other (specify)_____

3. What is the **ADDRESS, NAME, OR NEAREST INTERSECTION** of the **PLACE, BUSINESS, OR BUILDING** you are **COMING FROM NOW**?

Address or Intersection (e.g., 1000 East Bay Drive, US 19 & Gulf to Bay Boulevard)

Name of Place, Business, or Building (e.g., Tyrone Mall)

City   State   Zip

4. How did you get to the first bus stop for this **ONE-WAY TRIP**? (Please ✓ only **ONE**)

1__ Walked ➡ # blocks? ____   4__ Was dropped off
2__ Bicycled ➡ # blocks? ____   5__ Rode with someone who parked
3__ Drove & parked ➡ # miles?____   6__ Other (specify) _____

5. What is the **LOCATION OF THE BUS STOP** where you **GOT ON THE FIRST BUS** used on this one-way trip?

Cross Streets_____&_____
Transit Center or Park-and-Ride Lot_____
(e.g., Williams Park, Ulmerton Park-and Ride, Gateway Mall)

6. **LIST ALL** of the **BUS ROUTES** in the **EXACT ORDER** you will use to make **THIS ONE-WAY TRIP**:

FIRST Bus Route	SECOND Bus Route	THIRD Bus Route	FOURTH Bus Route

7. What **TYPE OF PLACE** are you **GOING TO NOW** on this **ONE-WAY TRIP**? (Please ✓ the ending place of this **ONE-WAY TRIP**) (Please ✓ only ONE)

1__ Work   4__ School (K-12)   7__ Shopping/Errands
2__ Medical   5__ College/Tech   8__ Home
3__ Social/Personal/Church 6__ Recreation 9__ Other (specify)_____

8. What is the **ADDRESS, NAME, OR NEAREST INTERSECTION** of the **PLACE, BUSINESS, OR BUILDING** you are **GOING TO NOW**?

Address or Intersection (e.g., 1000 East Bay Drive, US 19 & Gulf to Bay Boulevard)

Name of Place, Business, or Building (e.g., Tyrone Mall)

City   State   Zip

9. After you get off the last bus you will use to complete this **ONE-WAY TRIP**, how will you get to your **FINAL DESTINATION** ? (Please ✓ only ONE)

1__ Walk ➡ # blocks? ____   4__ Will be picked up
2__ Bicycle ➡ # blocks? ____   5__ Ride with someone who parked
3__ Drive ➡ # miles?____   6__ Other (specify) _____

10. What is the **LOCATION OF THE BUS STOP** where you **WILL GET OFF THE LAST BUS** on this one-way trip?

Cross Streets_____&_____
Transit Center or Park-and-Ride Lot_____
(e.g., Williams Park, Ulmerton Park-and Ride, Gateway Mall)

11. How many working vehicles (cars, motorcycles, trucks, vans) are at your home? (✓only **ONE**)

1__ 1   2__ 2   3__ 3 or more   4__ None

12. How would you make this one-way trip if not by bus? (Please ✓ only ONE)

1__ Drive   4__ Wouldn't make trip   7__ Other (specify) _____
2__ Taxi   5__ Bicycle
3__ Walk   6__ Ride with someone

13. What type of fare did you pay when you **GOT ON THIS BUS**? (Please ✓ only ONE)

1__ Regular Cash Fare   6__ 20-Ride Premium GO Card
2__ 7-Day Unlimited GO Card   7__ Passport
3__ Daily Unlimited GO Card   8__ Platinum Pass
4__ 31-Day Unlimited GO Card   9__ Other (specify) _____
5__ Route 100x and 300x

14. On average, how many days a week do you ride the bus?

1__ 1   2__ 2   3__ 3   4__ 4   5__ 5   6__ 6   7__ 7
8__ Once a month or less   9__ First time riding

15. Including yourself, how many people live in your home? (✓only **ONE**)

1__ 1   2__ 2   3__ 3   4__ 4 or more

16. Do you have a valid driver's license?

1__ Yes   2__ No

17. How many months out of the year do you reside in Pinellas County?

1__ Less than one month   2__ 1 to 6 months   3__ 6 to 12 months

18. Are you…...

1__ Employed full-time (35 hours or more per week)
2__ Employed part-time (less than 35 hours per week)
3__ Not currently employed
4__ Retired

19. Are you a student?

1__ Not a student
2__ Yes: Kindergarten through 12th Grade
3__ Yes: College/Technical

20. Which three of the following <u>service improvements</u> would make PSTA better for you to use? (Please ✓ THREE)

1___ More frequent service on existing routes
2___ Bus stop improvements (shelters, benches, better sidewalk access)
3___ Fewer/easier transfers
4___ Later service on existing routes
5___ More weekend service on existing routes
6___ Express/faster service. Where? _____
7___ Add new route from _____ to _____
8___ Other (specify) _____

21. How do you prefer to receive information about PSTA services and programs? (✓all that apply)

1__ PSTA website   4__ Call PSTA   7__ Other _____
2__ Printed schedules   5__ PSTA Transfer Centers
3__ Bus signs/shelters   6__ Through Work or School

22. Your age is?

1__ 15 or Under   3__ 25 to 34   5__ 45 to 54   7__ 65 to 74
2__ 16 to 24   4__ 35 to 44   6__ 55 to 64   8__ Over 74

23. What is your gender?   1__ Male   2__ Female

24. What is your race or ethnic heritage? (Please ✓ only **ONE**)

1__ White   2__ Black/African American   3__ Hispanic   4__ Asian
5__ Native American   6__ Other (specify) _____

25. What was the range of your total household income for 2011?

1__ Under $5,000   6__ $25,000 to $29,999
2__ $5,000 to 9,999   7__ $30,000 to $39,999
3__ $10,000 to $14,999   8__ $40,000 to $49,999
4__ $15,000 to $19,999   9__ $50,000 or more
5__ $20,000 to $24,999

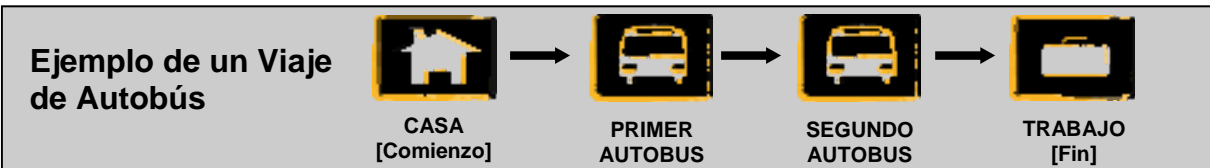**THANK YOU FOR COMPLETING THE SURVEY!**

PSTA Encuesta de Usuarios

PSTA necesita tu ayuda para mejorar el servicio de transporte publico en Pinellas County. Porfavor ayudenos servirle mejor y complete esta encuesta y devuelvela a el encuestador o al chofer de su autobús. Si no tiene suficiente tiempo para completar la encuesta durante este viaje, porfavor devolver el formulario en su proximo viaje. Gracias.

1. ¿Que hora es **AHORA**? _____(Hora): _____(Minuto) (**AM PM**) (Marque solo uno)

Esta encuesta se trata del viaje que estas haciendo ahora.

Ejemplo de un Viaje de Autobús

CASA [Comienzo] → PRIMER AUTOBUS → SEGUNDO AUTOBUS → TRABAJO [Fin]

2. ¿Donde **COMENZO** este viaje? Marque con (✓) una sola respuesta

- 1_ Trabajo
- 2_ Medico
- 3_ Social/Personal
- 4_ Escuela (K-12)
- 5_ College/Universidad
- 6_ Recreo
- 7_ Compras
- 8_ Casa
- 9_ Otro _____

3. ¿Cual es la **DIRECCIÓN, NOMBRE, O INTERSECCIÓN MAS CERCANA** del **LUGAR, NEGOCIO, O EDIFICIO** donde comenzó su viaje?

Dirección o intersección (p.ej., 1000 East Bay Drive, US 19 & Gulf to Bay Boulevard)

Nombre del Lugar, Negocio, o Edificio (p.ej., Tyrone Mall)

Cuidad   Estado   Codigo Postal

4. ¿Como hizo para llegar al primer paradero para comenzar este viaje? Marque con (✓) una sola respuesta

- 1_ Camino ➡ # cuadras? ____
- 2_ Bicicleta ➡ # cuadras? ____
- 3_ Manejo y estaciono ➡ # millas?____
- 4_ Alguien me trajo en vehículo
- 5_ Alguien me trajo y estaciono su carro
- 6_ Otro _____

5. ¿Cual es el **LUGAR DE EL PARADERO** donde usted se **SUBIO EN EL PRIMER AUTOBUS** en este viaje?

Intersección_____&_____

Centro Transito or Park-and-Ride Lot_____

(p.ej., Williams Park, Ulmerton Park-and Ride, Gateway Mall)

6. **ANOTE TODAS** las **RUTAS** en el **ORDEN EXACTO** que usted usará para completar **ESTE VIAJE**.

PRIMERA Ruta	SEGUNDA Ruta	TERCERA Ruta	CUARTA Ruta

7. ¿Cual es su **DESTINO FINAL** para este viaje? (Marque solo una respuesta)

- 1_ Trabajo
- 2_ Medico
- 3_ Social/Personal
- 4_ Escuela (K-12)
- 5_ College/Universidad
- 6_ Recreo
- 7_ Compras
- 8_ Casa
- 9_ Otro _____

8. ¿Cual es la **DIRECCIÓN, NOMBRE, O INTERSECCIÓN MAS CERCANA** del **LUGAR, NEGOCIO, O EDIFICIO** donde **TERMINARAS** este viaje?

Dirección o intersección (p.ej., 1000 East Bay Drive, US 19 & Gulf to Bay Boulevard)

Nombre del Lugar, Negocio, o Edificio (p.ej., Tyrone Mall)

Cuidad   Estado   Codigo Postal

9. ¿Cómo piensa llegar a su **DESTINO FINAL** después de bajarse de el ultimo autobús en este viaje? (Marque solo una respuesta)

- 1_ Caminare ➡ # cuadras? ____
- 2_ Bicicleta ➡ # cuadras? ____
- 3_ Manejar ➡ # millas?____
- 4_ Alguien me recogerá
- 5_ Viaje con alguien que estaciono su carro
- 6_ Otro _____

10. ¿Cual es el **LUGAR DE EL PARADERO** donde usted piensa **BAJARSE DE EL ULTIMO AUTOBUS** en este viaje?

Intersección_____&_____

Centro Transito or Park-and-Ride Lot_____

(p.ej., Williams Park, Ulmerton Park-and Ride, Gateway Mall)

POR FAVOR CONTINÚE LA ENCUESTA EN LA SIGUIENTE PAGINA ➡

11. ¿Cuántos carros, camionetas, y/o camiones se encuentran disponibles en su casa?

1__ 1   2__ 2   3__ 3 o mas   4__ Ninguno

12. ¿Cómo harías este viaje si no por autobús? (Marque solo uno)

1__Manejando   4__No haría el viaje   7__ Otro _____
2__ Taxi   5__ Bicicleta
3__ Caminando   6__ Viajar con alguien

13. ¿Qué tipo de tarifa pagaste para usar este autobús? (Marque solo uno)

1__ Tarifa Regular   6__ Pase 20-Viajes GO Card
2__ Pase de 7 Dias GO Card 7__ Passport
3__ Pase Diario GO Card   8__ Pase Platinum
4__ Pase Mensual GO Card   9__ Otro _____
5__ Ruta 100x and 300x

14. ¿Cuantos días a la semana usas el autobús? Marque con (✓) una sola respuesta

1__ 1   2__ 2   3__ 3   4__ 4   5__ 5   6__ 6   7__ 7
8__ Una vez a el mes   9__ Esta es la primera vez

15. Incluyendose a usted mismo, cuantas personas viven en su casa? (Marque solo uno)

1__ 1   2__ 2   3__ 3   4__ 4 o mas

16. ¿Tienes un permiso de conducir válido?

1__ Si   2__ No

17. ¿Cuantos meses al año vives en Pinellas County?

1__ Menos de un mes   3__ 1-6 meses   3__ Entre 6 y 12 meses

18. Usted esta…...

1__ Empleado tiempo completo (35 horas o mas cada semana)
2__ Empleado tiempo parcial (menos de 35 horas cada semana)
3__ No estoy empleado
4__ Retirado

19. ¿Eres un estudiante?

1__ No soy estudiante
2__ Si: Escuela (K-12)
3__ Si: College/Universidad

20. ¿Cuales **TRES** de los siguientes arreglos piensas tu que son los mas importantes? Marque con (✓) **TRES** respuestas

1___ Servicio mas frecuente en las rutas existentes
2___ Mejoras en los paraderos (refugios, asientos, y aceras)
3___ Menos y mas faciles cambios
4___ Servicio más tarde en las rutas existentes
5___ Mas servicio los fines de semana en las rutas existentes
6___ Servicio express/mas rápido ¿Donde? _____
7___ Nuevas rutas. De _____ a _____
8___ Otro _____

21. ¿Cómo prefieres recibir información sobre los servicios y programas de PSTA? (Marque todos los aplicables)

1__ Página de web de PSTA   4__ Llamar a PSTA   7__ Otro _____
2__ Horarios de autobús   5__ **En la plaza de cambios**
3__ En la parada de autobús   6__ En el trabajo o escuela

22. Tu edad es….

1__ 15 o menos   3__ 25 a 34   5__ 45 a 54   7__ 65 a 74
2__ 16 a 24   4__ 35 a 44   6__ 55 a 64   8__ Mas de 74

23. ¿Cual es su género?   1__ Masculino   2__ Femenino

24. ¿Cual es su raza o herencia étnica? (Marque solo una respuesta)

1__ Anglo   2__ Negro   3__ Hispano   4__ Asiático
5__ Americano Nativo   5__ Otro_____

25. ¿Cual fue el ingreso total de su casa en el año 2011?

1__ Menos de $5,000   6__ $25,000 a $29,999
2__ $5,000 a 9,999   7__ $30,000 a $39,999
3__ $10,000 a $14,999   8__ $40,000 a $49,999
4__ $15,000 a $19,999   9__ $50,000 o mas
5__ $20,000 to $24,999

GRACIAS POR COMPLETAR ESTA ENCUESTA!

Bus Rider Survey

PSTA needs your help to provide improved bus service in Pinellas County. Please help us serve you better by completing this survey and returning it to the surveyor. Thank you.

1. What time is it **NOW**? _____(Hour): _____(Minute) (**AM PM**) (Please circle one)

---

2. What **TYPE OF PLACE** are you **COMING FROM NOW?** Please ✓the starting place of this **ONE-WAY TRIP** (Please ✓ only one)

 1__ Work   4__ School (K-12)   7__ Shopping/Errands
 2__ Medical   5__ College/Tech   8__ Home
 3__ Social/Personal/Church 6__ Recreation   9__ Other (specify)_____

3. What is the **NAME** of the **PLACE, BUSINESS, OR BUILDING** you are **COMING FROM NOW**?

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Name of Place, Business, or Building (e.g., Dali Museum)

---

4. How did you get to the bus stop for this **ONE-WAY TRIP**? (Please ✓ only **ONE**)

 1__ Walked ➡ # blocks? ____   4__ Was dropped off
 2__ Bicycled ➡# blocks? ____   5__ Rode with someone who parked
 3__ Drove & parked ➡ # miles?____ 6__ Other (specify) _____

---

5. What **TYPE OF PLACE** are you **GOING TO NOW** on this **ONE-WAY TRIP**? (Please ✓ the ending place of this **ONE-WAY TRIP**) (Please ✓ only ONE)

 1__ Work   4__ School (K-12)   7__ Shopping/Errands
 2__ Medical   5__ College/Tech   8__ Home
 3__ Social/Personal/Church 6__ Recreation   9__ Other (specify)_____

6. What is the **NAME** of the **PLACE, BUSINESS, OR BUILDING** you are **GOING TO NOW**?

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Name of Place, Business, or Building (e.g., Pier)

---

7. After you get off the bus, how will you get to your **FINAL DESTINATION** ? (Please ✓ only ONE)

 1__ Walk ➡ # blocks? ____   4__ Will be picked up
 2__ Bicycle ➡ # blocks? ____   5__ Ride with someone who parked
 3__ Drive ➡ # miles?____   6__ Other (specify) _____

8. How would you make this one-way trip if not by bus? (Please ✓ only ONE)

 1__ Drive   4__ Wouldn't make trip   7__ Other (specify) _____
 2__ Taxi   5__ Bicycle
 3__ Walk   6__ Ride with someone

9. What type of fare did you pay when you **GOT ON THIS BUS**? (Please ✓ only ONE)

 1__ Regular Cash Fare   2 __ 7-Day/Weekly
 3__ Daily Unlimited   4 __ 31-Day/Monthly Unlimited
 9__ Other (specify) _____ 10__ Free

10. How many months out of the year do you reside in Pinellas County?

    1__ Less than one month   2__ 1 to 6 months   3__ 6 to 12 months

11. Are you…...

    1__ Employed full-time (35 hours or more per week)
    2__ Employed part-time (less than 35 hours per week)
    3__ Not currently employed
    4__ Retired

12. Are you a student?

    1__ Not a student
    2__ Yes: Kindergarten through 12th Grade
    3__ Yes: College/Technical

13. Which three of the following <u>service improvements</u> would make Looper/Jolley Trolley better for you to use? (Please ✓ THREE)

    1___ More frequent service
    2___ Bus stop improvements (shelters, benches, better sidewalk access)
    4___ Later service
    5___ More weekend service
    7___ Add new route from _____ to _____
    8___ Other (specify) _____

14. Your age is?

    1__ 15 or Under   3__ 25 to 34   5__ 45 to 54   7__ 65 to 74
    2__ 16 to 24   4__ 35 to 44   6__ 55 to 64   8__ Over 74

15. What is your gender?   1__ Male   2__ Female

16. What is your race or ethnic heritage? (Please ✓ only **ONE**)

    1__ White   2__ Black/African American   3__ Hispanic   4__ Asian
    5__ Native American   6__ Other (specify) _____

17. What was the range of your total household income for 2011?

    1__ Under $5,000   6__ $25,000 to $29,999
    2__ $5,000 to 9,999   7__ $30,000 to $39,999
    3__ $10,000 to $14,999   8__ $40,000 to $49,999
    4__ $15,000 to $19,999   9__ $50,000 or more
    5__ $20,000 to $24,999

THANK YOU FOR COMPLETING THE SURVEY!

Appendix B – Survey Staff Orientation Notes

ORIENTATION NOTES FOR SURVEYORS

General Orientation Notes

1. **Be sure of your arrival time**. It is recommended that you arrive at PSTA at your assigned report time so that you do not miss your work detail. At the PSTA dispatch area, find the Tindale-Oliver staff person and your bus driver. Stick with the driver to ensure that you do not miss your assigned work detail.

2. You will be provided with your survey package materials when you report to PSTA.

3. Most temp staff will start and end their trips at the PSTA garage. Transportation arrangements are being organized for those who do not start and/or end at the PSTA garage. Everyone should remain with their assigned bus drivers until service has ended and the drivers return back to the depot.

4. Make sure that you have ample supplies (pencils) before you leave to complete your piece of work.

5. Your surveyor badges will identify you as working for "Tindale-Oliver & Associates." This has been done so that you will not have a lot of questions directed to you about the system or its service, schedules, drivers, etc. Please be sure to remind passengers that you are <u>not</u> an employee of PSTA if they ask you difficult questions about the system that you cannot answer. Nevertheless, still be courteous and help out any way that you are able.

6. Keep all of the blank and completed survey materials together in their original packet. Do not mix surveys from different packets. Surveys have control numbers on them that designate on which route they are being distributed. *For example, never take blank surveys from one packet and hand them out on another bus on another day*. If a rider wants to turn in a completed survey they received on another bus, take the survey from them but keep it separate from the ones you are handing out on your bus. You can turn in these surveys at the same time you turn in the survey packet from your piece of work.

7. Dress casually, but professionally. A collared shirt is preferred if you have one. No holes, stains, etc. PSTA staff and the news media has expressed an interest in covering the survey effort. If you do not abide by the dress code, you will be sent home.

8. Always wear your surveyor badge when surveying so that riders and bus drivers can identify you.

9. You may bring a small cooler with snacks and drinks on the bus. You may NOT eat and drink on the bus. PSTA staff has asked that survey staff eat during scheduled layovers or lunch breaks.

10. If you need something (for example, bathroom break), ask the driver when he/she will have a layover so that you can take care of your personal business at that time. It is wise to take advantage of any of the layover or break opportunities that come up during the course of your shift.

11. Return the survey packets to TOA staff. If TOA happens to not be available, leave your materials with a dispatcher at the end of the day.

Specific Surveyor Training Notes

12. Come up with a pleasant line or two when approaching riders. For example:

> *Hello, Please complete a survey to help improve your bus service. It will take just
> a few minutes. You can give the survey back to me when you are finished.*

13. Please make every effort to approach every rider on the bus and ask them to complete a survey. The more completed surveys, the better the results.

14. Bonuses such as gift cards and/or additional hours of work will be awarded to staff that manages to get a large proportion of their surveys completed.

15. Station yourself in the seat directly behind the driver. This place seems to work the best for keeping an eye on who needs a survey and who has just completed one.

16. Some people will refuse the survey. If someone refuses a survey, be polite, and move on to the next rider.

17. It may be beneficial to tell riders that the survey does not ask for any personal information. This may help in convincing them to complete a survey.

18. If a rider indicates that they have already completed a survey, ask them to complete only the front of the survey form on this trip. Trip origin and destination information is required for EVERY trip passengers make on public transportation.

19. Though it is not preferred, if they choose, riders may take a survey with them to complete. Please tell them to return the completed survey sometime that same day to a surveyor on any bus or to a bus driver. Remember, it is preferred that you try to get riders to complete their surveys while riding your bus.

20. Assist riders that have some type of physical limitation that precludes them from completing a survey on their own. You may find that illiteracy is a problem in some instances. Always be helpful and courteous to riders.

21. You will be provided with enough surveys to complete the piece of work you are assigned. You should not run out.

22. Make a periodic scan of the bus seats and floor to make sure that no surveys have been left. Gather all surveys and pencils and put them into their respective packets. **Make sure that you are stingy with the pencils.** You need to be sure to get them back from riders so that you will not run out. Riders are pretty good about returning pencils.

23. In case of an emergency, please contact Ryan Suarez at 727-410-7492 or Bryan Weinstein at 813-486-0061.

    THANKS, and good luck!!

Appendix C – Data Dictionary

Data Dictionary

Field Name	Description	Response Categories
Survey Number	unique ID number	
Day		Weekday Saturday Sunday
September	day/date	
Language	Language	Spanish English
Run Paddle		
Route	Bus Route	Any PSTA Route
Time	Time of survey	
2	Trip origin type	Work Medical Social/Personal/Church School (K-12) College/Tech Recreation Shopping/Errands Home Other (Specfic)
2_Other	Trip origin deswcription	Open ended
3_XCor	Latitude of the Geocoded Address.	
3_YCor	Longitude of the Geocoded Address.	
4	Access mode	Walked Bicycled Drove & parked Was dropped off Rode with someone who parked Other (specify)
4_Other	description of access mode	
4_# of Blocks		
4_# of Miles		
5_XCor	Latitude of the Geocoded Place Address.	
5_YCor	Longitude the Geocoded Place Address.	
6_First	First bus route	Route number
6_Second	Second bus route	Route number
6_Third	Third bus route	Route number
6_Fourth	Fourth bus route	Route number
7	Trip destination type	Work Medical Social/Personal/Church School (K-12) College/Tech Recreation Shopping/Errands Home Other (Specfic)
7_Other	place description	Open ended
8_Xcor	Latitude of destination place	
8_Ycor	Longitude of destination place	
9	Egress mode	Walked Bicycled Drove & parked Was dropped off Rode with someone who parked Other (specify)
9_Other	Egress mode description	
9_# of Blocks		
9_# of Miles		
10_Xcor	Latitude of last bus alighting	
10_Ycor	Longitude of last bus alighting.	
11_# of Vehicles	number of working vehicles	1 2 3 or more none
12	how the rider would make trip without bus	Drive Taxi Walk Wouldn't make trip Bicycle Ride with someone Other (specify)
12_Other	description of alternative mode	
13	fare payement type	Regular Cash Fare 7-Day Unlimited Go Card Daily Unlimited Go Card 31-Day Unlimited Go Card Route 100x and 300x 20-Ride Premium Go Card Passport Platinum Pass Other (specify)
13_Other	fare payment type description	Open ended

14_How many Days	days a week of bus use	1 2 3 4 5 6 7 Once a month or less First time riding
15_Live in House	people living at home	1 2 3 4 or more
16_Driver License	valid driver's license	Yes No
17_Residency	residency status	Less than one month 1 to 6 months 6 to 12 months
18_Employment	employment status	Employed full-time (35 hours or more per week) Employed part-time (less than 35 hours per week) Not currently employed Retired
19_Student Status	student	Not a student Kindergarten through 12th Grade College/Technical
20(1)	Service improvement: more frequent service	Yes No
20(2)	Service improvement: bus stop improvements	Yes No
20(3)	Service improvement: fewer/easier transfers	Yes No
20(4)	Service improvement: later service on existing routes	Yes No
20(5)	Service improvement: more weekend service on existing routes	Yes No
20(6)	Service improvement: express/faster service	Yes No
20(6)_Where 1	Service improvement: where to have new express service	Open ended
20(6)_Where 2	Service improvement: where to have new express service	Open ended
20(6)_Where 3	Service improvement: where to have new express service	Open ended
20(7)	Service improvement: new route	Yes No
20(7)_Where Start	service improvement: new route beginning	Open ended
20(7)_Where End	service improvement: new route ending	Open ended
20(8)_Other	service improvement: other	Open ended
20(8)_Other Name	service improvement: other	Open ended
21(1)	receive information from PSTA website	Yes No
21(2)	information on a printed schedule	Yes No
21(3)	information on bus signs/shelters	Yes No
21(4)	call PSTA for information	Yes No
21(5)	information at PSTA transfer centers	Yes No
21(6)	information through work or school	Yes No
21_Other	other way to receive information	Open ended
22	age	15 or Under 16 to 24 25 to 34 35 to 44 45 to 54 55 to 64 65 to 74 Over 74
23	gender	Male Female
24	race/ethnicity	White Black/African American Hispanic Asian Native American Other
24_Other	race/ethnicity description	Open ended
25	household income	Under $5,000 $5,000 to $9,999 $10,000 to $14,999 $15,000 to $19,999 $20,000 to $24,999 $25,000 to $29,999 $30,000 to $39,999 $40,000 to $49,999 $50,000 or more

Appendix D – Data Cleaning and Editing Specifications

2012 PSTA System-Wide On-Board Survey
Data Cleaning and Editing Specifications

Data Structure
- Prepare Data Dictionary
- Add additional variables
    - Latitude/Longitude coordinates (x,y) for location questions
    - Expansion Factor (by question)

Range Checks
- Utilize data dictionary to ensure all responses are within range.
- Reassign values as appropriate (i.e., 22 = 2, 33 = 3, etc.)

"Other" Responses and Open-Ended Questions
- Recode responses that correspond to an existing response category in the data dictionary
    - Question 4 and 9: sample response "Roommate dropped me off" recode to "Was dropped off"
    - Question 12: sample response "I would get picked up," recode to "Ride with someone"
    - Question 2 and 7: sample response "SPC," recode to College/Tech
- Correct misspellings (Questions 3, 5, 8, 10, and 20)

Specific Checks
- Question 1
    - Populate blank or incorrect times based on bus operator run paddles and survey sequencing.
- Question 3
    - Correct misspellings
    - Cross check blank records with ridecheck information and populate cross street information as appropriate.
- Confirm consistency in Place type, Question 2, and Place Name, Question 3.
    - Use place name, if possible, to determine an address or location for geocoding.
- Question 5
    - Correct misspellings
- Question 6
    - For null responses, populate data with the route the survey was distributed on.
    - Remove round trips (A, B, A, B,) (A, B, B, A,) (A, A, A, A,)
    - Check for valid responses to the route question, removed values that did not fall within the PSTA or surrounding bus systems.
    - QCd responses, and updated as necessary (77 to 777, etc)

- - Flagged routes as "HART" or "PCPT" where appropriate based on transfer information, for example, a start address in Tampa, starting on a HART route, and then transferring to the 100X to go to St. Petersburg.
  - Spot checked to determine if transfers were possible for multi-transfer responses.
- Question 8
  - Correct misspellings
  - Cross check blank records with ridecheck information and populate cross street information as appropriate.
- Confirm consistency in Place type, Question 7, and Place Name, Question 8.
  - Use place name, if possible, to determine an address or location for geocoding.
- Question 10
  - Correct misspellings
- Question 20 - Correct misspellings of sub-responses 6, 7, 8.
  - Recategorized "Other" responses where appropriate. Sample response: "Make an express route along the beach" to "Express/faster service"