

Comprehensive Operational Analysis

On-Board Survey Report

August 2024

N NELSON
NYGAARD



Table of Contents

1	Introduction: On-board Survey	1
	Survey Purpose.....	1
	Key Findings & Results summary	1
2	Survey Design & ADMINISTRATION	3
	Survey Design and implementation	3
	Sample Rate by Route	3
	Survey administration	5
3	Survey expansion methodology	13
	APC Count data for expansion	13
	Survey Expansion	15
4	Expanded Survey Results	16
	Rider Characteristics	16
	Why and How are Riders Use the System.....	26
	Where Riders Use the System.....	34
	Appendix A	39
	Appendix B	41
	Appendix C	47
	Appendix D	55

List of Figures

Figure 1. Data Collection Dashboard	9
Figure 2. Online Visual Review Tool	10
Figure 3. Heatmap of BCT's Ridership Activity	14
Figure 4. Gender Breakdown of BCT On-Board Survey Respondents	16
Figure 5. Age Distribution of BCT On-Board Survey Respondents	17
Figure 6. Number of Children Under 16 Accompanying the Respondent	18
Figure 7. Race and Ethnicity of BCT On-Board Survey Respondents	19
Figure 8. Household Income	20
Figure 9. Vehicles in Household	21
Figure 10. Vehicle Available for Customer Trip	21
Figure 11. Customers with Valid Driver's License	22
Figure 12. Trip Count Based On The Respondent's Employment Status	23
Figure 13. Trip Counts Based on Respondent's Student Status	23
Figure 14. Trip Counts Based on Respondent's Use of English at Home	24
Figure 15. Trip Counts Based on Respondent's English Proficiency for Non-English Speakers	25
Figure 16. Respondent's Smartphone Usage	25
Figure 17. Respondent's Trip Purpose	26
Figure 18. Respondent's Access Modes (PA format)	27
Figure 19. Respondent's Egress Modes (PA format)	28
Figure 20. Respondent's Alternative Transport Mode in Absence of Bus Service	30
Figure 21. Production Locations	35
Figure 22. Production Locations (Zoomed image)	36
Figure 23. Attraction Locations	37
Figure 24. Attraction Zones (Zoomed)	38

List of Tables

Table 1. Sample Rate by Route	4
Table 2. General Issues.....	12
Table 3. Respondent's Access & Egress Modes (P/A format)	27
Table 4. Access Distance in Miles (P/A format).....	28
Table 5. Egress Distance in Miles (P/A format)	29
Table 6. Fare Type and Fare Discount	29
Table 7. Number of Transfers to Complete the Trip.....	31
Table 8. Transfer to and from Other Systems.....	31
Table 9. Route Level Transfers (BCT Fixed Routes Only)	32
Table 10. Route-to-Route Transfer (BCT Fixed Routes Only)	33
Table 11: - Data Sources for Expansion	47
Table 12. Vehicle Counts at Park and Ride Lots	50
Table 13. Secondary Expansion Factor by Park-and-Ride Lots.....	51
Table 14. Decomposition Analysis	54

1 INTRODUCTION: ON-BOARD SURVEY

Broward County Transit (BCT) provides public transportation in Broward County via 36 fixed-bus routes, two limited-stop Breeze routes, five express routes, over 50 community shuttles serving 19 of Broward's municipalities, and a paratransit service (TOPS) within its 410 square mile service area. BCT is currently performing a Comprehensive Operations Analysis (COA). As part of the study, BCT conducted an on-board Origin and Destination (OD) survey in Fall 2023. The survey consisted of 29 questions, covering trip origins and destinations, transfers along the trip, fare payment, rider details aimed at capturing the demographics, and trip-making behavior of BCT transit riders. The on-board survey results provided valuable insights into the travel patterns of the current riders, serving as a critical tool for understanding BCT's travel markets. The survey questionnaire is provided in **Appendix B** for reference.

Trained surveyors were strategically stationed on buses to interview the on-board riders. To ensure inclusivity, surveys were conducted in multiple languages, including English, Haitian Creole, and Spanish.

SURVEY PURPOSE

The on-board survey's main objective was to garner a multifaceted understanding of the transit system's ridership and rider travel patterns. Analysis of survey data explores who is riding the system, and how riders are using the system. This information can help in optimizing routes and schedules, tailor services to diverse customer groups, and thereby enhance the efficiency and customer experience for BCT riders. The survey will support the ongoing COA and current and future corridor studies. In the wake of the Covid-19 pandemic as the transit industry navigates through changing travel behaviors, the survey also plays a crucial role in supporting the development of an updated STOPS (Simplified Trips-on-Project Software) ridership forecasting model for the Broward County transit market.

KEY FINDINGS & RESULTS SUMMARY

The survey suggests that a typical BCT rider:

- Is transit dependent,
- Is more likely to be male than female,
- Is more likely to be Black/African American, and
- Is between ages 25 to 49 years.

The key results from the on-board survey are summarized in the list below:

- The systemwide on-board survey is expanded to 88,600 average weekday boardings (unlinked trips). The expansion adjusts the collected surveys to represent the entire ridership population.

Using the transfers reported in the survey, this results in an estimate of approximately 72,400 average weekday linked trips on the BCT system.

- While most of the trips (85%) occur within Broward County, 13% of the trips have at least the origin-end or destination-end in Miami-Dade County.
- Only six percent of the trips are destined for Downtown Fort Lauderdale. This illustrates that even though most BCT routes serve the Downtown Terminal, downtown is not a destination for the majority of riders. Other key destinations are Lauderdale Lakes, places near the intersection of Oakland Park Boulevard and US 441, Sawgrass Mills Mall, and Downtown Miami (via express bus service).
- Approximately 24% of the trips made on BCT system require a transfer to complete the trip.
- Routes 19, 18, 2, 72 and 1 are the top five routes that riders transfer to and from other BCT routes.
- The data suggests a high level of transfer activity with Miami-Dade Transit (MDT) routes both at Golden Glades Multimodal Transit Facility and Aventura Mall.
- Approximately 1,200 daily trips on BCT involve a transfer to and from South Florida Regional Transportation Authority (Tri-Rail). Many transfers (approximately 250) occur at Pompano Beach Tri-Rail Station via Route 34.
- Most of the trips (94%) are home-based trips. Approximately 52% of the trips are home-based work trips, 28% of the trips are home-based shopping or social activities. The remaining are home-based other or non-home-based trips.
- Riders mostly access and egress the bus by walking (85%). Approximately 5% of the trips use a bike to access the system. The remaining trips use park-and-ride or kiss-and-ride (drop off) as access mode.
- Most riders are transit dependent, with 82% of riders from zero-car households, do not have a car available to make the trip, or are without a valid driver's license.
- Three quarters of the riders who responded to the income questionnaire said they are from lower income households (annual household income less than \$40,000).

2 SURVEY DESIGN & ADMINISTRATION

This section provides technical details regarding survey design, sampling plan, sampling process, and survey expansion methodology.

SURVEY DESIGN AND IMPLEMENTATION

The on-board survey took place on weekdays between September 11 and November 2, 2023, encompassing all fixed routes and community shuttles. The survey was administered via tablet-based interviews. To encourage participation, an incentive was offered—a chance to enter a random drawing for a \$100 gift card.

The sampling plan was designed to ensure adequate data collection to perform analysis. The goal was to collect at least 7,000 Origin and Destination surveys. The survey yielded approximately 7,340 completed and validated responses, which is approximately 8% of the total average weekday boardings on the BCT system.

SAMPLE RATE BY ROUTE

The 2023 BCT on-board customer OD survey interviewed riders for all BCT fixed routes and community shuttle routes. **Table 1** lists all BCT fixed routes and Fall 2023 average weekday boardings estimated from farebox data and APC data. On average, Automatic Passenger Counter (APC) boardings are 13% higher than the boardings estimated by farebox. **Table 1** also shows the number of surveys collected from the OD survey and the corresponding sample rate. The overall survey sample rate is 8% to 9%, depending on ridership estimates from APCs or farebox data. Of the 7,340 surveys, 6,752 were collected on the fixed routes and 588 were collected on the community shuttle routes.

Table 1. Sample Rate by Route

Route	Service Type	Farebox Boardings	APC Boardings	Difference	% Difference	No. of OD Survey Records	Farebox Sample Rate	APC Sample Rate
1	Local	3,474	3,880	406	12.00%	343	9.90%	8.80%
2	Local	3,613	4,120	507	14.00%	372	10.30%	9.00%
4	Local	645	789	144	22.00%	73	11.30%	9.20%
5	Local	819	866	47	6.00%	67	8.20%	7.70%
6	Local	1,012	1,246	234	23.00%	108	10.70%	8.70%
7	Local	1,972	2,185	213	11.00%	177	9.00%	8.10%
8	Local	368	299	-69	-19.00%	35	9.50%	11.70%
9	Local	1,171	1,159	-12	-1.00%	90	7.70%	7.80%
10	Local	2,182	2,674	492	23.00%	181	8.30%	6.80%
11	Local	1,444	1,611	167	12.00%	153	10.60%	9.50%
12	Local	1,018	1,024	6	1.00%	84	8.30%	8.20%
14	Local	2,634	2,950	316	12.00%	220	8.40%	7.50%
15	Local	108	124	16	15.00%	12	11.10%	9.70%
16	Local	748	841	93	12.00%	81	10.80%	9.60%
18	Local	4,110	4,532	422	10.00%	376	9.10%	8.30%
19	Local	5,695	6,480	785	14.00%	438	7.70%	6.80%
20	Local	641	687	46	7.00%	59	9.20%	8.60%
22	Local	2,538	2,734	196	8.00%	235	9.30%	8.60%
23	Local	163	210	47	29.00%	18	11.00%	8.60%
28	Local	2,816	3,152	336	12.00%	264	9.40%	8.40%
30	Local	1,236	1,386	150	12.00%	114	9.20%	8.20%
31	Local	2,275	2,383	108	5.00%	196	8.60%	8.20%
34	Local	2,439	2,495	56	2.00%	193	7.90%	7.70%
36	Local	3,288	3,945	657	20.00%	295	9.00%	7.50%
40	Local	2,234	2,571	337	15.00%	218	9.80%	8.50%
42	Local	1,061	1,254	193	18.00%	98	9.20%	7.80%
48	Local	473	543	70	15.00%	46	9.70%	8.50%
50	Local	2,581	2,867	286	11.00%	232	9.00%	8.10%
55	Local	1,806	1,961	155	9.00%	157	8.70%	8.00%
56	Local	285	231	-54	-19.00%	23	8.10%	9.90%
60	Local	2,554	2,879	325	13.00%	213	8.30%	7.40%
62	Local	2,267	2,311	44	2.00%	183	8.10%	7.90%
72	Local	5,402	6,598	1,196	22.00%	464	8.60%	7.00%
81	Local	2,895	3,293	398	14.00%	236	8.20%	7.20%
83	Local	764	848	84	11.00%	72	9.40%	8.50%
88	Local	602	665	63	10.00%	54	9.00%	8.10%
101	Breeze	1,233	1,560	327	27.00%	134	10.90%	8.60%
106	Express	300	315	15	5.00%	34	11.30%	10.80%
108	Express	351	340	-11	-3.00%	23	6.60%	6.80%
109	Express	286	267	-19	-7.00%	47	16.40%	17.60%
110	Express	234	245	11	5.00%	23	9.80%	9.40%
114	Express	369	401	32	9.00%	27	7.30%	6.70%
441	Breeze	2,718	3,346	628	23.00%	284	10.40%	8.50%
TOTALS								
Fixed		74,824	84,266	9,442	13%	6,752	9.00%	8.00%
Community Shuttle	COM	4,620				588	12.70%	

SURVEY ADMINISTRATION

Sampling Plans

Proportional sampling goals for the OD survey were established to ensure the distribution of completed surveys mirrors the distribution of BCT riders.

Survey Sample Size

The sampling plan was designed to ensure that completion of the OD survey by at least 7,000 customers, will capture the overall system ridership and demographics. The sampling plan for the OD survey was designed to obtain completed surveys from a minimum of 8.5% of the ridership on each of the BCT services based on farebox data. Overall, 7,340 OD surveys were collected. Sampling goals were created to guide the collection by route, time period, and direction. **Appendix A** contains the sample plan showing the OD survey sampling goals and number of total surveyed trips collected by route, time-of-day, and direction.

Sources of Ridership Data

The ridership utilized to create this sample plan was the average weekday ridership of September and October of 2022, and February of 2023. Goals by route, direction, and time-of-day were created by normalizing the daily ridership totals since APC data was not available at the time when survey fieldwork began.

Survey Design

The survey was designed to obtain information in three major categories: OD travel patterns, usage information, and rider demographics. Once the survey questionnaire was finalized, a tablet-based intercept interview survey was designed as the primary survey medium. The survey was created to ensure Title VI requirements were met and to provide additional information on riders. The OD survey questionnaire is included as **Appendix B**.

The tablet survey methodology utilized the tablet's on-screen mapping features allowing for real-time geocoding of addresses and locations using exact address, intersections, and/or place names. The riders were asked to confirm the geocoded location on the screen map via an indicator icon. The interviewers used the mapping feature to collect the global positioning system (GPS) coordinates of all survey locations (home address, origin address, destination address, boarding location(s), and alighting location(s)). This allowed the interviewer to answer any questions as well as ensure the accuracy of the data collected. The respondent was allowed to select the answers to some demographic questions directly on the tablet to allow for more privacy, e.g., household income.

Survey Recruitment and Training

Assembling a team of high-quality survey staff was one of the most important steps in the OD survey administration process. One major training session was conducted. The training session focused on the study purpose and objectives, the survey instruments, scripts on how to respond to riders' questions, how to use data collection tools, instructions on how to conduct themselves when working with the public, and safety training. The survey staff were instructed to understand that while they were not BCT employees, they were representing BCT while on transit vehicles or property and they needed to act in a manner that reflected positively and professionally.

Maximizing participation and legitimizing the survey among customers depended on the public response to the survey staff. Strict dress code standards were imposed to support a good public image. Survey staff were required to wear clean and appropriate clothing to present a casual yet neat appearance that ensured professionalism and comfort. Survey staff were provided with surveyor badges and vests, identifying interviewers to BCT staff and riders to give further credibility to their appearance. The badge and dress code standards promoted a professional appearance and reinforced survey legitimacy, which increased customers' trust in the interviewers and the process.

As survey staff are the key ingredient to the success of a project, in-depth project specific training was conducted to ensure successful data collection. The interviewer training reviewed project specifics and field procedures and provided training on how to actively engage customers. Key highlights in our training focused on courtesy, professionalism, and person-to-person interactions.

OD Surveyor Training

First, necessary training materials for conducting the OD training were created. The classroom training session included a PowerPoint presentation to explain the purpose and objectives of the survey, procedures and requirements, survey logistics, how to maximize response rates (including difficult-to-survey riders), and the data collection process in a step-by-step format. Other goals of the training included building interview staff confidence, helping interview staff feel that they are an important part of the survey's success and helping them understand the importance of the survey and the long-term benefits to their community.

The training addressed the following details:

- Tips on intercepting/interacting with non-English speakers and riders with limited English proficiency.
- Cultural sensitivity.
- Importance of understanding the intent of the questions.
- Instructions on conveying the purpose of the survey to riders.
- Importance of adhering to our random sampling protocol at the outset of every survey.
- Procedure for properly recording all refusals and completing a short observational assessment of the refusing customer for internal purposes.

- Importance of data confidentiality and instruction on how to address rider concerns regarding the same.
- Overview of the transit system covering all topics covered in the tablet questionnaire with route-specific instruction as needed.
- How to manage customer comments and complaints.
- Safety training.

Following classroom training, interviewers practiced conducting interviews under the supervision of an experienced supervisor. Supervisors oversaw interviewers and provided feedback on performance throughout the day.

Survey Field Administration

Survey staff reported to either the Copans or Ravenswood Maintenance Facilities daily. There were two survey shifts between 5 am and 10 pm. Surveys were conducted Monday through Thursday.

OD Survey Procedures

For the OD survey, interviewers boarded their assigned bus and selected riders at random to participate in the survey. While conducting the interview, interviewers asked the respondent each question from the survey tablet and recorded each response provided to them by the customer.

Selection of OD Survey Participants

For the OD survey interview the tablet generated a random number to determine which riders were asked to participate in the survey after boarding the vehicle. If four people boarded a bus, the tablet randomly generated a number from 1 to 4. If the tablet responded 2, the second person who boarded the bus was asked to participate in the survey. If the tablet responded 1, the first person was asked to participate in the survey, and so forth. The selection was limited to the first six people who boarded a bus at any given stop to ensure the interviewer could keep track of the riders as they boarded.

For example, if 20 people boarded a vehicle, the tablet program would randomly pick one of the first six people for the survey. If the interview was refused by the randomly selected customer, then the previously boarding customer would be attempted.

Respondents who did not have time to complete the survey during their bus trip, or who spoke a language different from the interviewer, were given the option of providing their contact information to conduct the survey at another time. Those who provided their phone numbers were either texted a link to a self-administered online question or for a callback option to complete the survey. Interviewers who spoke the foreign language of the customer translated the English tablet version during the interview and indicated in which language the interview was conducted. Additionally, interviewers carried paper surveys in Spanish and Haitian Creole to be distributed for self-administration.

Interviewers selected customers in accordance with the sampling procedures previously described. The interviewer then:

- Approached the customer identified and asked him/her/them to participate in the survey.
- If the customer refused, the interviewers ended the survey, excused themselves and completed three observational questions (age, race, and gender).
- If the customer agreed to participate, the interviewer asked the customer if he/she/they had at least five minutes to complete the survey.
- If the person did not have at least five minutes on the bus, the interviewer asked the person to provide his/her name and contact information in order to send a link to a self-administered online version or callback option. This methodology ensured that people who completed short trips on public transit were well represented. The vast majority of records were able to be completed on the vehicle.
- If the person had at least five minutes on the bus, the interviewer completed the survey on the vehicle.

OD Survey In-Field Quality Assurance/Quality Control

Field supervisors reviewed each interviewer's data reviewing the elements noted below to ensure they were administering the interview properly. To accomplish this the field supervisors continually monitored various elements of the data collection on a daily basis. Some of the areas where this monitoring occurred was:

- Distribution of surveys by demographics - There were several demographics monitored including race, gender, and age to ensure that riders were randomly selected. If percentages of an individual interviewer differed from other interviewers, especially on the same route, this was used to provide feedback to staff.
- Distribution of surveys by trip characteristics - Transfer rates were monitored to ensure data quality. If interviewers showed fewer transfers than average, their trip path was more heavily scrutinized to ensure transfers were being captured accurately. The linked trip decomposition, described later in the report, shows that the transfer rates captured were in line with what was expected.
- Length of each survey in minutes - If the staff survey time was much longer than average, feedback was provided to staff to help them improve efficiency. If average times were much shorter data was reviewed to ensure the trip paths and transfers were accurately captured.
- Percentage of refusals - For staff who had received significantly more refusals, additional time was spent training the staff on the survey introduction. If staff showed very few refusals feedback was provided to ensure that they are capturing refusals properly.
- Percentage of short trips - There were two options in the survey where riders indicated they were willing to participate and whether they had at least five minutes or not. If staff did not indicate riders with "less than five minutes," feedback was provided to make sure an attempt

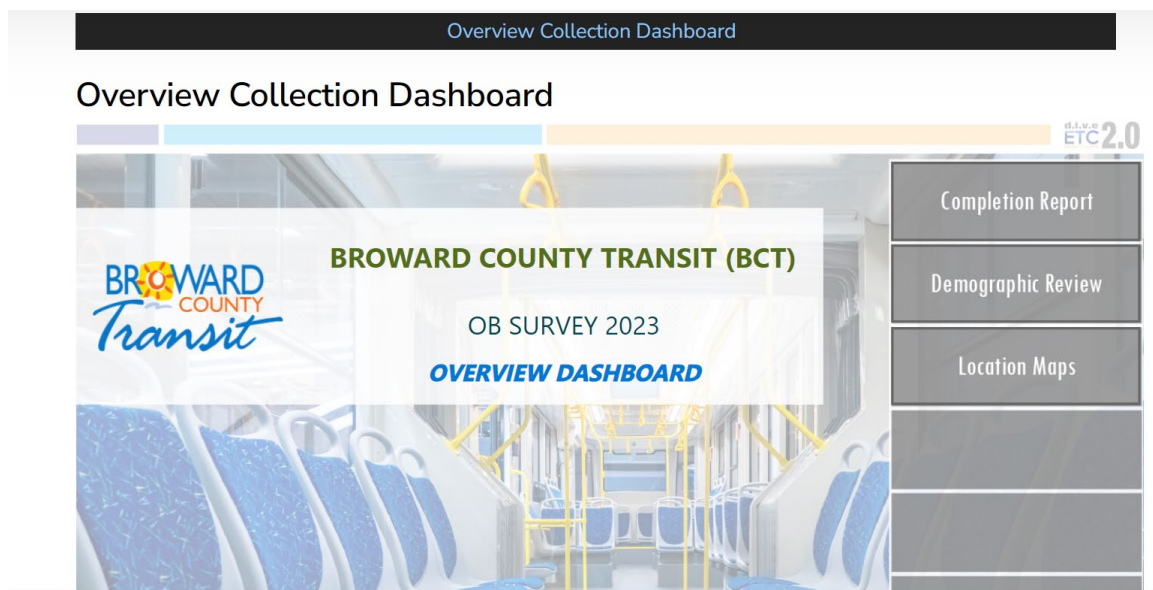
was made to capture these individuals as well. In cases where these distributions were slightly off, the expansion process accounted for any differences.

- Percentage of non-English speakers captured - Staff responses were reviewed to ensure the attempt to capture non-English speakers occurred.

Data Collection Dashboard

A data collection dashboard was generated for BCT to view the survey success rate, the demographics collected, and to visually show locational data on a plot map. The dashboard gave the ability to review the data collected in an interactive fashion rather than relying on traditional static reports. A similar dashboard was designed for survey supervisors to monitor collection goals and to quality check interviewer demographics and other items. The sample collected for each day type was monitored at both the overall route level as well as direction and time of day levels. **Figure 1** shows the dashboard.

Figure 1. Data Collection Dashboard



Data Review Process

Many of the monitoring processes described previously in this report are essential elements of the overall quality assurance/quality control (QA/QC) process. The establishment of specific sampling goals and procedures for managing the goals ensured that a representative sample was obtained. The geocoding tools embedded in Google map searches, the ETC Institute Visual Review program, and Caliper® Maptitude geographic information system (GIS) software, allowed for geocoding accuracy.

The following subsections describe the QA/QC processes that were implemented after the data were collected.

Process For Identifying Complete Records

To classify a survey as being completed, the record must contain all elements of the one-way trip, containing complete answers to the following:

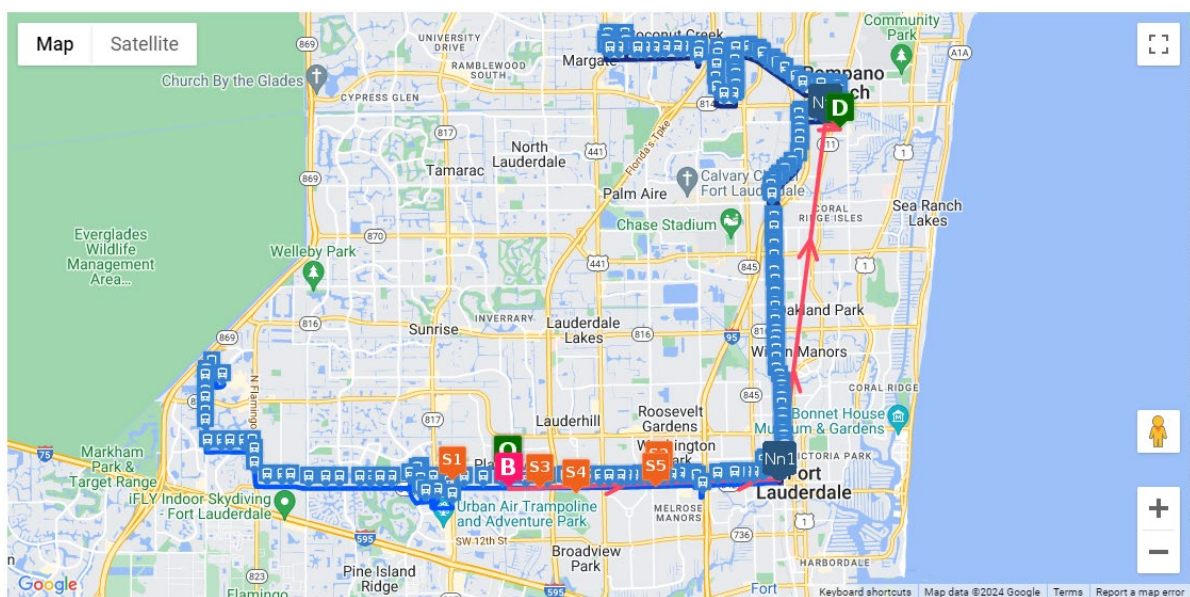
- Route/Direction
- Time of trip
- Transfers made
- Home address
- Origin address
- Destination address
- Origin place type
- Destination place type
- Access mode
- Egress mode
- Boarding location
- Alighting location

In addition to the required trip data questions, an interview must be deemed complete through the online survey program. This occurs when the interviewer navigates through all questions from the survey, including demographics.

Online Visual Review Tool

An online visual review tool allowed for the review of all completed records. The tool displayed all elements of a one-way trip, as well as a series of distance ratio checks. After directions were finalized, each record went through speed/distance/time checks. **Figure 2** shows an example of the online visual review tool.

Figure 2. Online Visual Review Tool



Pre-Distance Checks

The series of distance ratio checks were contained in the online visual review tool for systematic review of completed records. The Transit Review Team process for editing surveys is described later in this section.

The distances for the checks are created using the great-circle distance formula that is based on a straight line from point A to point B that considers the curvature of the earth. After all transfer reviews were conducted, three QA/QC ratio checks were conducted. First, the distance between the boarding and alighting location was divided by the distance between origin and destination. Second, the distance between origin and boarding was divided by the distance between origin and destination. Third, the distance between the alighting location and destination was divided by the distance between origin and destination.

Transit Review Team (TRT)

The TRT reviewed all completed records, paying special attention to records that were flagged by the previously described checks. Typically, around 10% of all records receive an automatic flag. The issues listed in **Table 2** result in actions that allow about 50% of those records that are flagged to be retained.

Table 2. General Issues

Issue	Description of Issue	Action
Origin/Destination Condition 1	Origin/Destination appears incorrect because the wrong location of a multiple-location organization was selected	If, for example, an Origin/Destination appears illogical based on the college campus that was selected, but an appropriate campus of the same college does appear logical given the other points and answer choices of the trip, then the appropriate campus will be selected.
Origin/Destination Condition 2	Origin/Destination appears to have been geocoded to the incorrect city/state	If for example, an Origin/Destination appears illogical based on the city/state that was geocoded, but the address/intersection is logical within the trip if the city/state are changed. This occurs occasionally because the interviewer selects the wrong choice from the list of address choices that appear in the online survey instrument, then the appropriate address information will be inserted.
Access/Egress Mode	Access/Egress Mode seems illogical based on trip	If the access/egress mode involves the use of a vehicle and the distance from either origin to boarding or alighting to destination is less than 0.2 miles, then the access/egress mode is recoded to walk/walked and that change will be reflected in the database.
Directionality of Record	Boarding and alighting locations indicate that the trip is going in the opposite direction of what was selected by the interviewer	Change direction of route selected and, if necessary, update boarding and alighting locations based on appropriate direction.

Post-Processing Additional Checks

After records were reviewed by the TRT, the next step involved the application of QA/QC non-trip checks. Non-trip related checks included:

- Ensuring the respondents who indicated they were employed reported that at least one member of the household was employed.
- Ensuring the time of day a survey was completed was reasonable given the published operating schedule for the route.
- Ensuring that the appropriate fare type was used given the age of respondent.
- Removing personal information to protect the anonymity of the respondents.

Once all records completed the pre-processing and post-processing QA/QC checks, those deemed complete and usable were appended to the completion report to ensure that goals were met. After the final review was completed, a data dictionary was created to describe the data in the database.

3 SURVEY EXPANSION METHODOLOGY

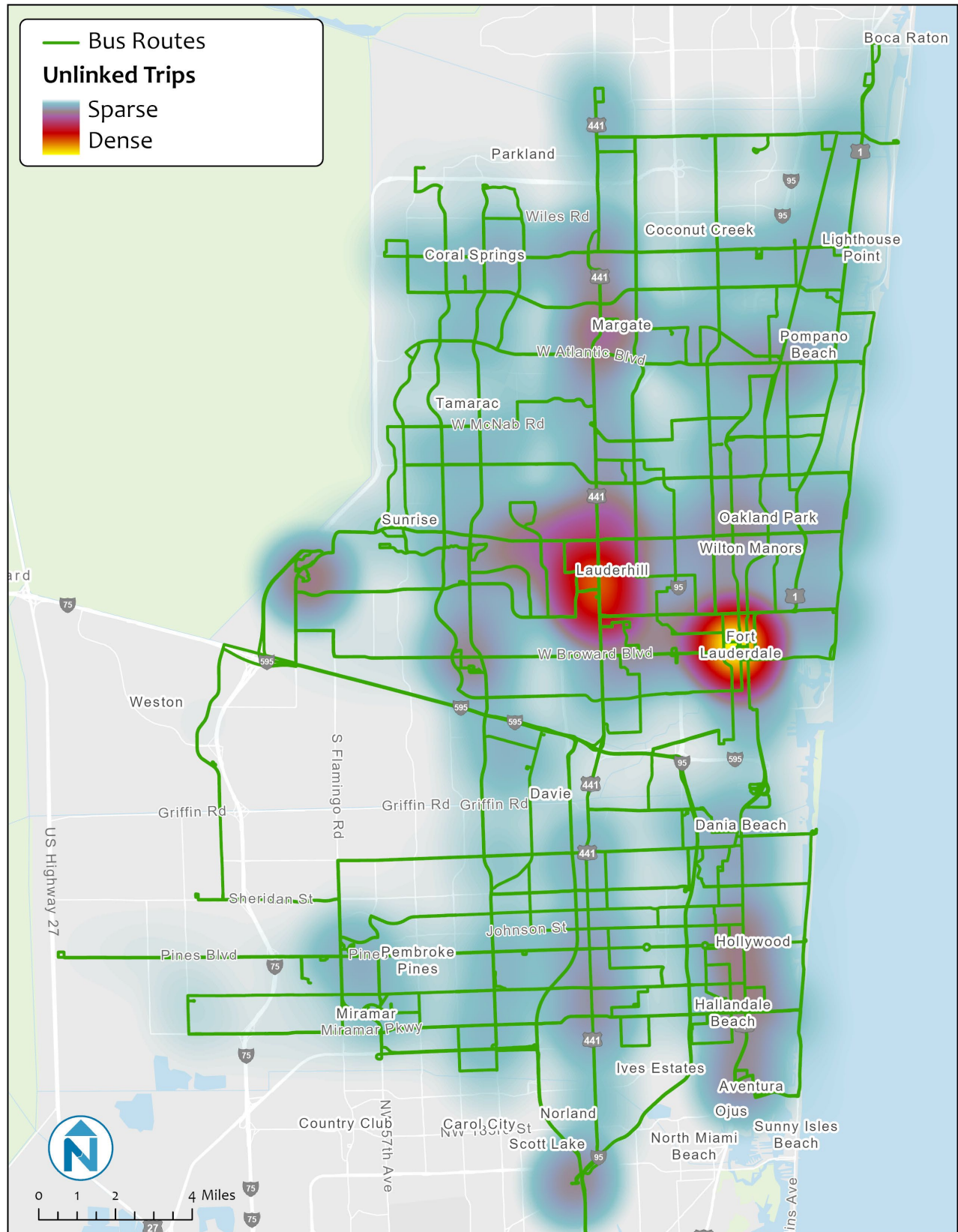
This section documents the data and methods used to expand the on-board survey.

APC COUNT DATA FOR EXPANSION

Figure 3 shows a heat map that serves as an analytical tool providing a visual representation of ridership activities across the transit system that aggregates data from nearby stations. Additionally, it reveals the probable origins of riders within specific areas, offering a clear picture of where customers are most likely to board the system. The dark red color represents areas with high ridership activity and bluish colors represent lower ridership activity.

The visualization highlights areas of high density, or hot spots, where ridership activities are most concentrated. Notable among these are key nodes of transit interaction such as the Central Terminal, Lauderhill Transit Center (US 441 north of Sunrise Boulevard), Lauderdale Lakes (US 441 and Oakland Park Blvd), along the northern part of US 441 (Route 19 corridor), and Sawgrass Mills Mall, alongside a few other localized areas.

Figure 3. Heatmap of BCT's Ridership Activity



SURVEY EXPANSION

The survey is expanded to ensure that responses are weighted appropriately to match BCT ridership. The expansion process establishes unlinked and linked expansion weight factors for each survey record. This primary expansion process was made based on the route ridership from APC data from August 2023 through January 2024 for most routes and ride checks for three contracted routes (Routes 15, 23, and 56). Additional adjustments were made for major stops and Park & Ride locations. A full detailed explanation of survey expansion is found in **Appendix C**.

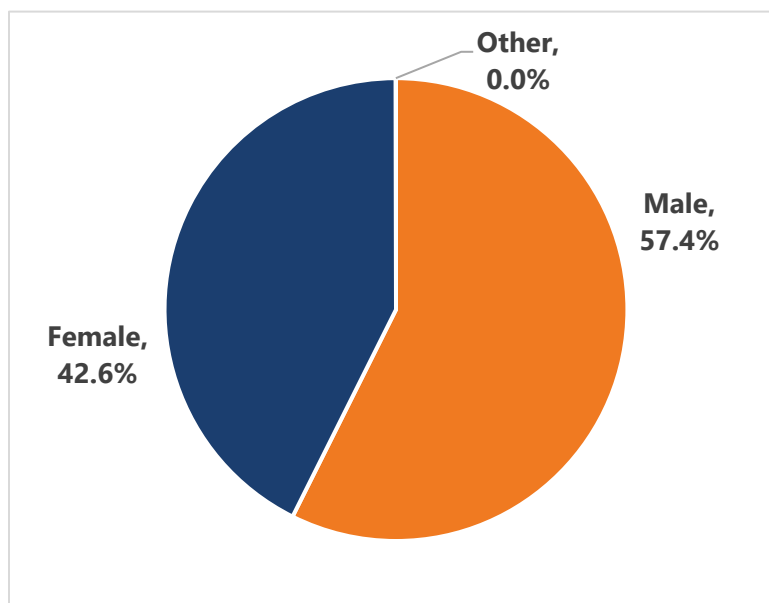
4 EXPANDED SURVEY RESULTS

RIDER CHARACTERISTICS

Gender

The data in **Figure 4** indicates a higher proportion of male respondents (57%) compared to female respondents (42%) for all routes combined.

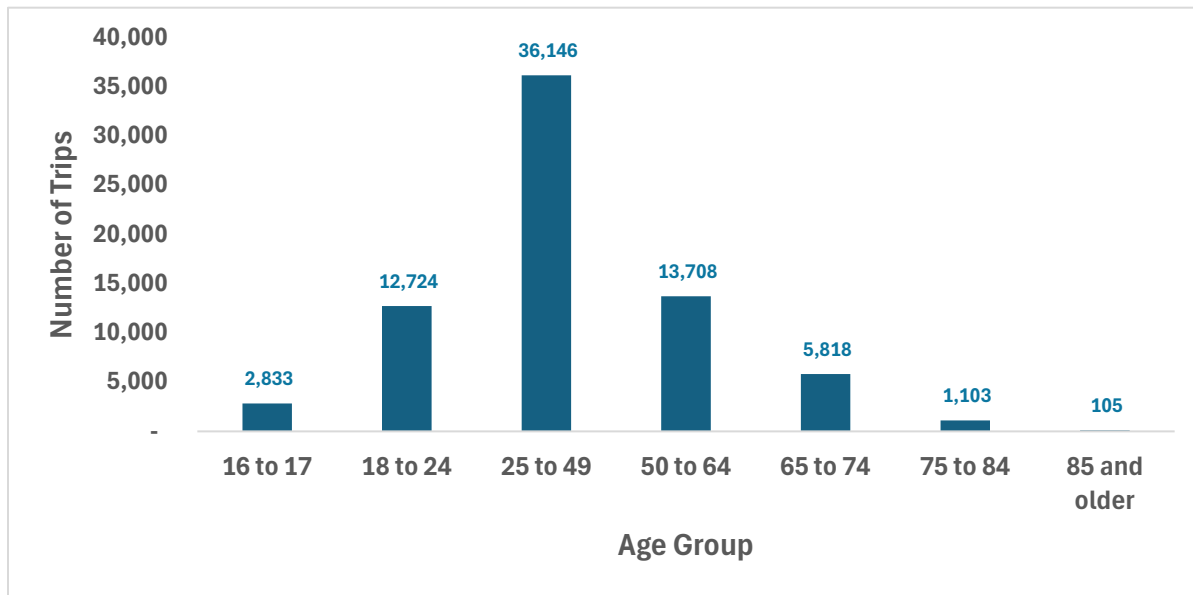
Figure 4. Gender Breakdown of BCT On-Board Survey Respondents



Age

As shown in **Figure 5**, the age group 25 to 49 years represents the largest segment. Moreover, approximately 10% of the riders are over 65 years old.

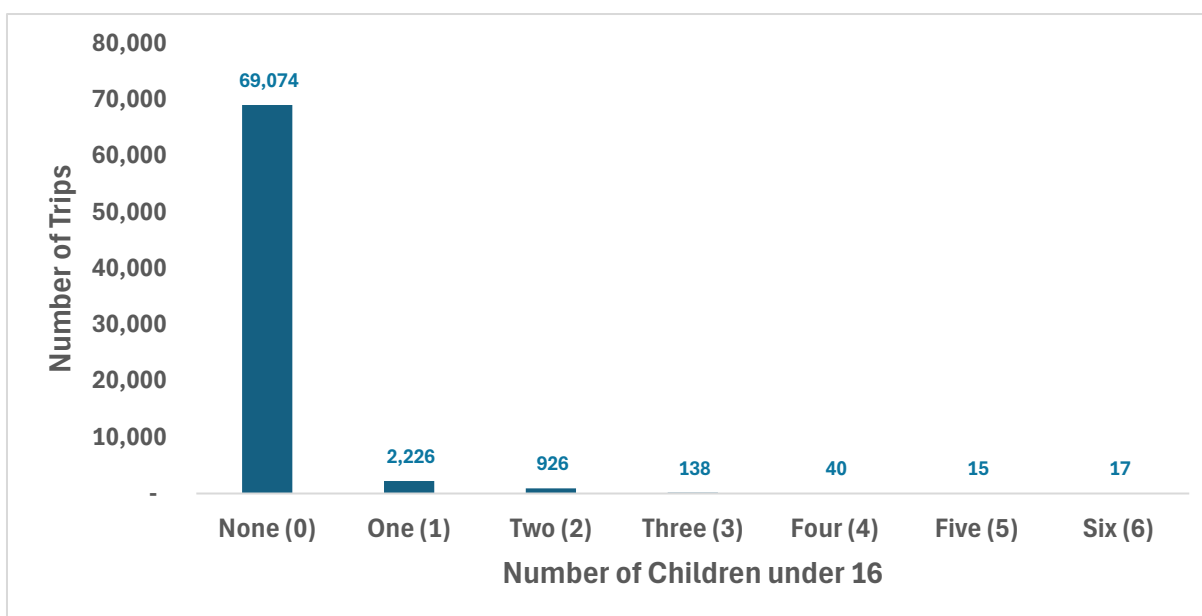
Figure 5. Age Distribution of BCT On-Board Survey Respondents



Children Under 16

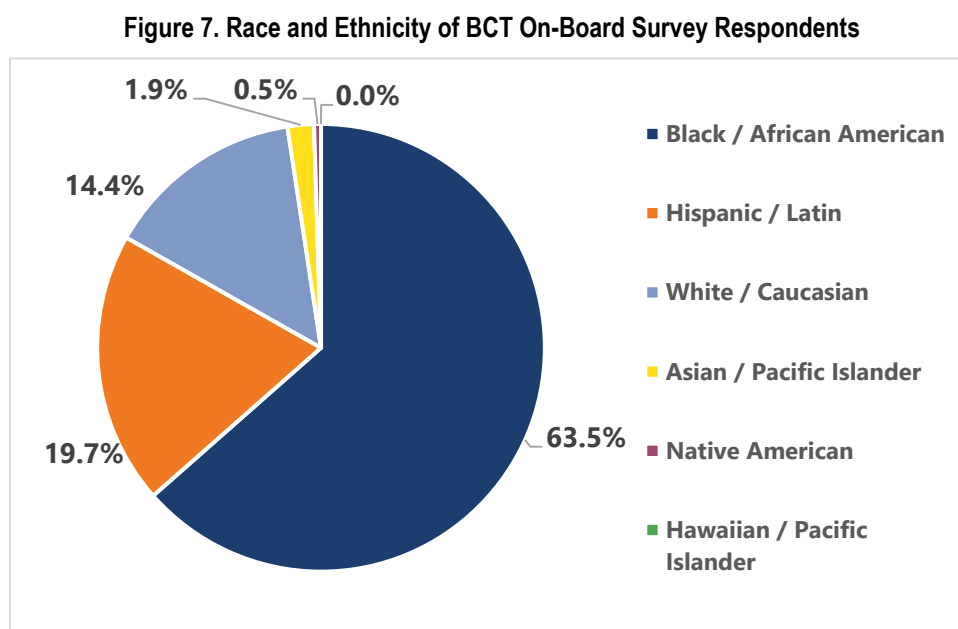
Figure 6 reveals that 4,900 riders are under the age of 16 (approximately 7% of all BCT riders), while the vast majority of adults are not travelling with children (93% of the total). While rare, there are some customers that travel with three or more children under 16 while riding BCT service.

Figure 6. Number of Children Under 16 Accompanying the Respondent



Race and Ethnicity

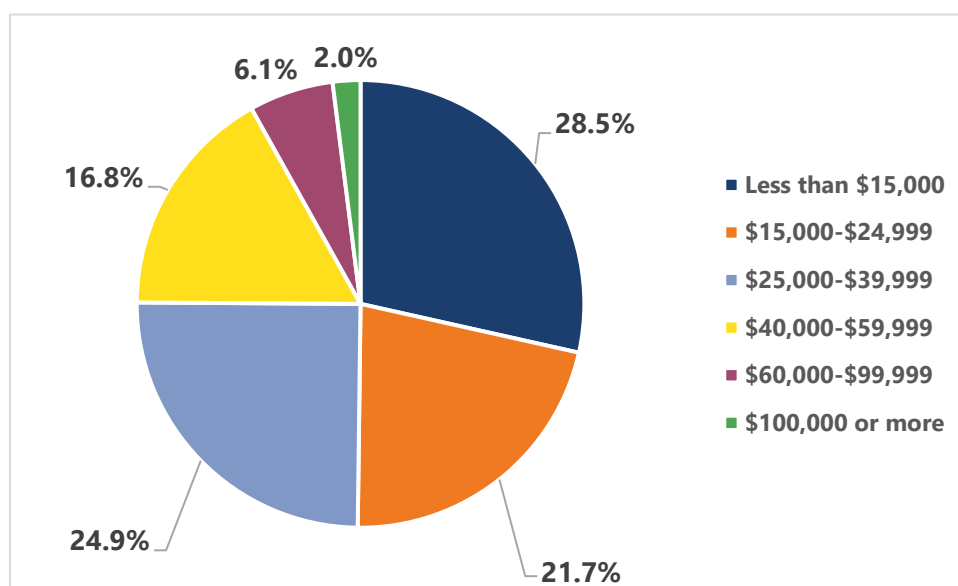
Figure 7 shows that Black/African American was the most frequently reported race, representing 63% of all respondents. Hispanic/Latino is the second most prevalent, constituting slightly less than 20% of all respondents.



Household Income

Figure 8 shows that, for riders who responded to the income question, about half reported incomes of less than \$25,000 and three quarters reported having household income of less than \$40,000 per year. A sizable proportion (28.5%) of respondents have household income less than \$15,000. The income breakdown is accurate for the riders who answered the question – this question had a refusal rate of 15%.

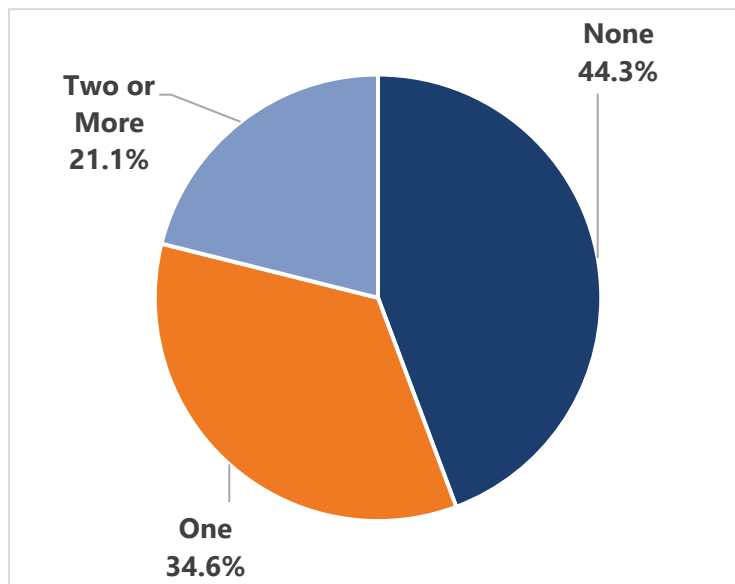
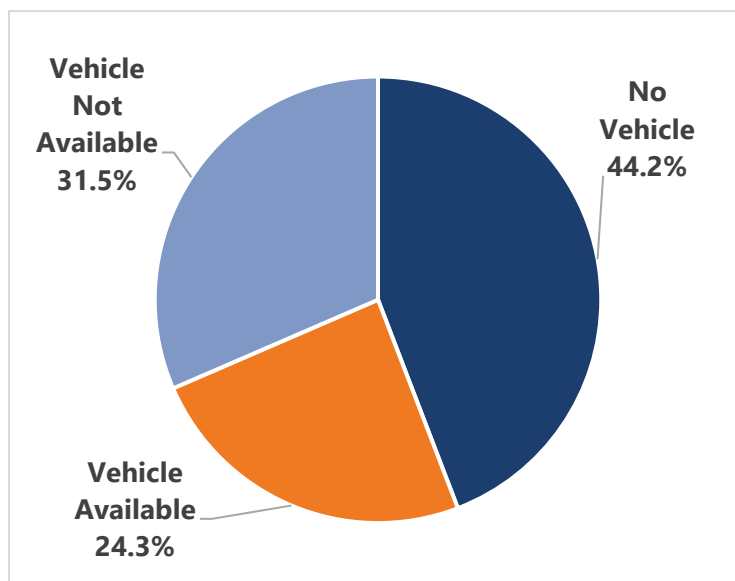
Figure 8. Household Income



Transit Dependency

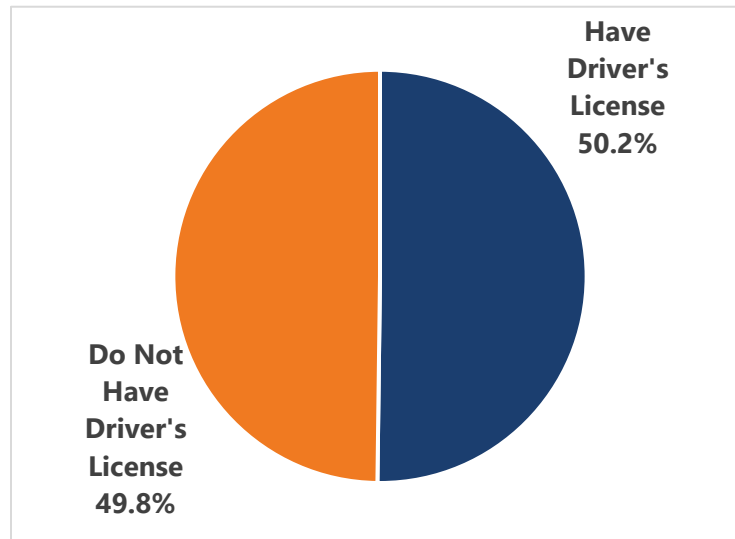
Transit dependency is determined by the availability of personal vehicles in the household and whether those vehicles could have been used to substitute for a transit trip. Dependency does not mean a customer has no other option but transit, but only that a personal vehicle is not available for the customer to drive. Indeed, as shown later in **Figure 20**, most transit trips would be made in the absence of transit by a variety of means.

Figure 9 shows the number of vehicles BCT customers have available in their household. The largest number of customers (plurality) have no vehicle available; however, a majority of customers (greater than 50 percent) do have either one or more vehicles. Even if a vehicle is available in a household, it may be unavailable for a trip – another household member could be using it, it may not run, or the customer may not have a license to drive. **Figure 10** breaks out those customers in households with vehicles by evaluating whether the vehicle could have been used for the trip. Based on the combination of these questions 76% of customers have no car or cannot use a car for their trip, thus being transit dependent.

Figure 9. Vehicles in Household**Figure 10. Vehicle Available for Customer Trip**

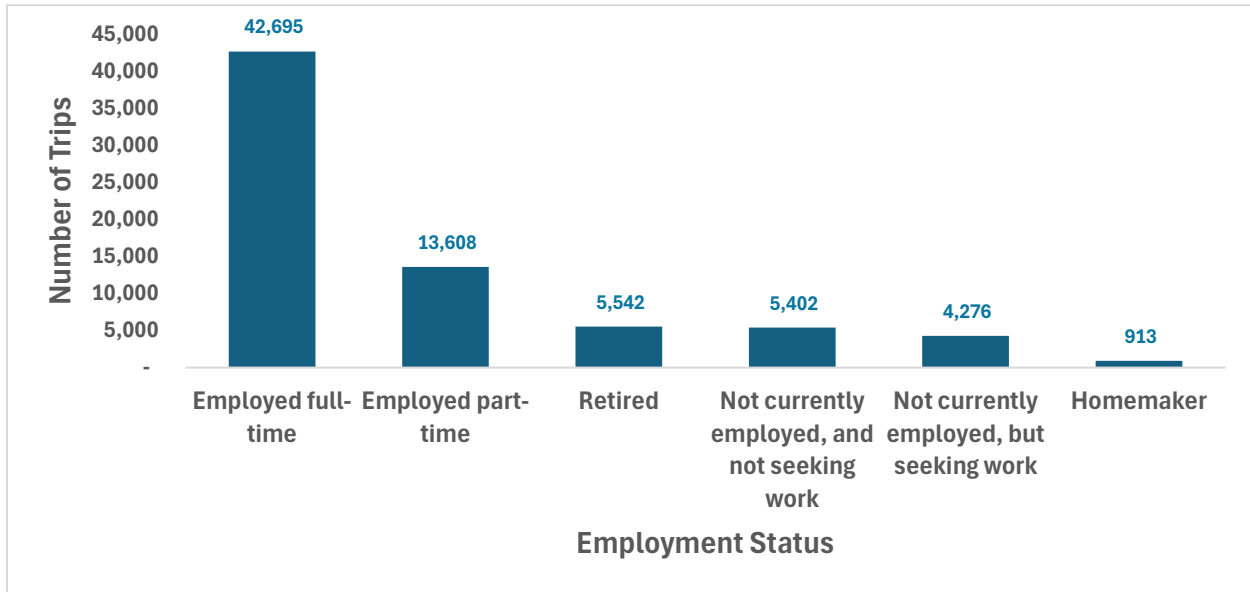
Part of the ability to use a car is whether a customer has a valid driver's license. **Figure 11** shows that about half of BCT riders have a license.

Figure 11. Customers with Valid Driver's License



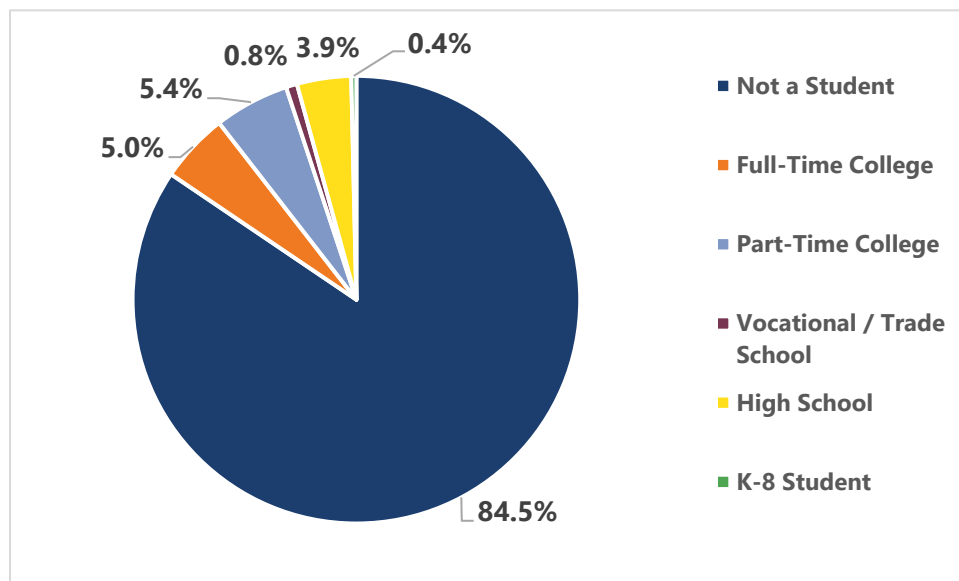
Employment Status

Figure 12 reflects the trip counts and survey records associated with different employment statuses. Most trips are made by individuals who are employed full-time. Equal proportions are retired, unemployed and seeking work, and unemployed or not seeking work.

Figure 12. Trip Count Based On The Respondent's Employment Status

Respondent's Student Status

Figure 13 reflects the trip counts by student status. Approximately 15.5% of respondents are in school at some level, representing over 11,000 trips. Of these students, the largest share - 10.4% - are either full-time or part-time college students.

Figure 13. Trip Counts Based on Respondent's Student Status

Language Spoken at Home

Figure 14 shows that a third of trips are made by riders who speak a language other than English at home, representing 25,415 trips.

Figure 14. Trip Counts Based on Respondent's Use of English at Home

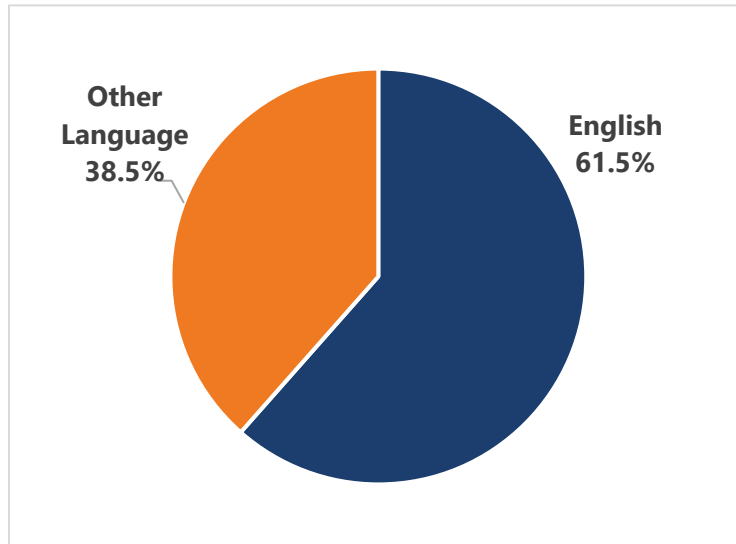
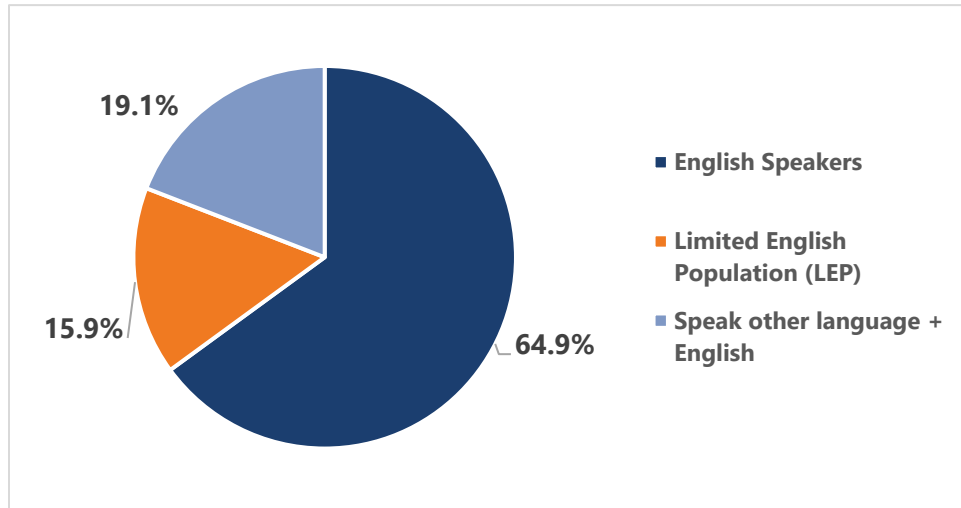
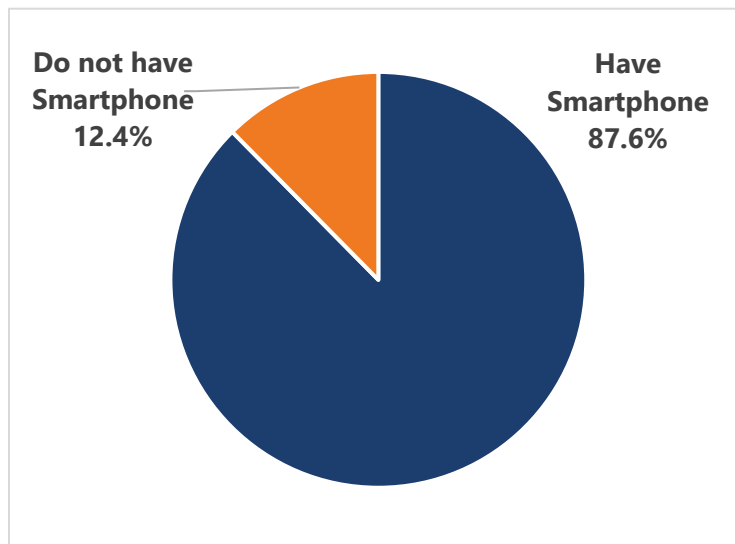


Figure 15 shows the English proficiency of customers who do not speak English at home. The majority of customer who speak a language other than English are able to speak English very well. However, there are 15.9% of the total rider population who are considered Limited English Proficiency (LEP) population. For this group of customers, communication in different languages is essential. Among the population who speak languages other than English at home, the two most frequently spoken languages – Spanish and Haitian/Creole – together combine for 87% of non-English speakers.

Figure 15. Trip Counts Based on Respondent's English Proficiency for Non-English Speakers

Respondent's Smartphone Usage

Figure 16 shows that while the majority of the riders have a smartphone, it also suggests there are almost 9,000 daily riders who lack a smart-phone, and hence the capacity to use an app to pay.

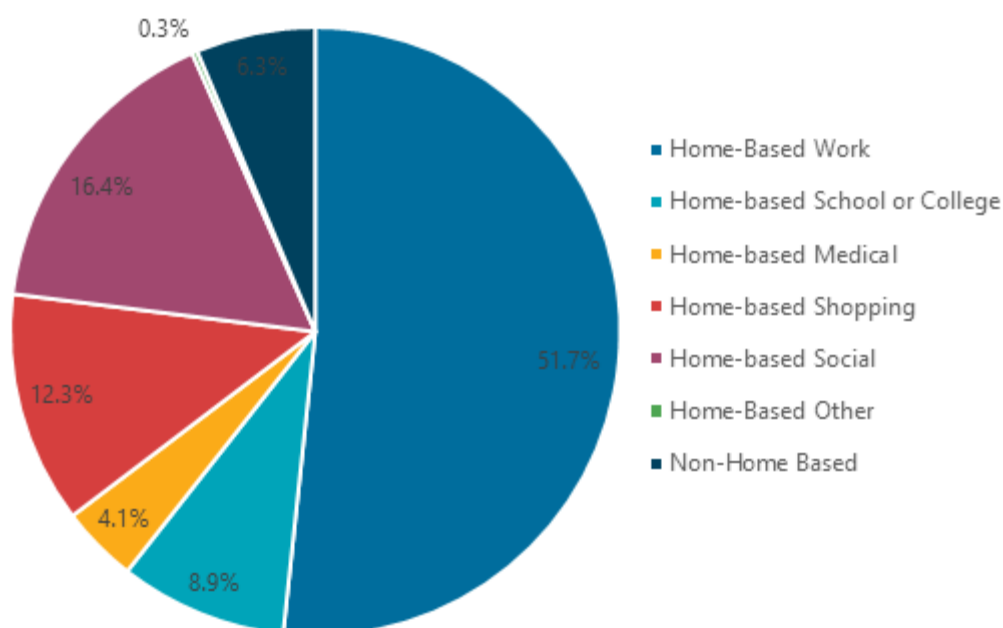
Figure 16. Respondent's Smartphone Usage

WHY AND HOW ARE RIDERS USE THE SYSTEM

Respondent's Trip Purpose

Figure 17 presents the survey respondent's trip purpose categorized as either Home-based Work, Home-based Other, and Non-home Based. Over half the respondents (51.7%) responded they were making a Home-based Work trip. Home-based social activities and home-based shopping formed the next two major trip purpose categories (16.4% and 12.3% respectively). Approximately 4.1% of the trips are home-based medical trips. Only 6.3% of the trips are non-home-based trips, i.e., trips with neither originating from nor going to a home location.

Figure 17. Respondent's Trip Purpose



Respondent's Access & Egress Modes (P/A format)

Table 3 presents respondent's access and egress modes, including as walking, park-and-ride, kiss-and-ride, and biking. Rows give access modes and columns provide egress modes. Approximately 85% of the trips access and egress the bus by walking, with over 3,500 trips using bike (including e-bike and e-scooter) as an access mode—more than those who access by kiss-and-ride.

Table 3. Respondent's Access & Egress Modes (P/A format)

Access\Egress	Walk	Park-And-Ride	Kiss-And-Ride	Bike	Total
Walk	61,451	136	1,650	445	63,682
Park-And-Ride	1,116	15	27	-	1,159
Kiss-And-Ride	3,472	-	546	5	4,023
Bike	984	-	3	2,519	3,506
Total	67,023	151	2,226	2,969	72,370

Figure 18 presents respondent's detailed breakdown of the access mode in Production-Attraction (PA) format. **Figure 19** presents respondent's detailed breakdown of the egress mode in PA format.

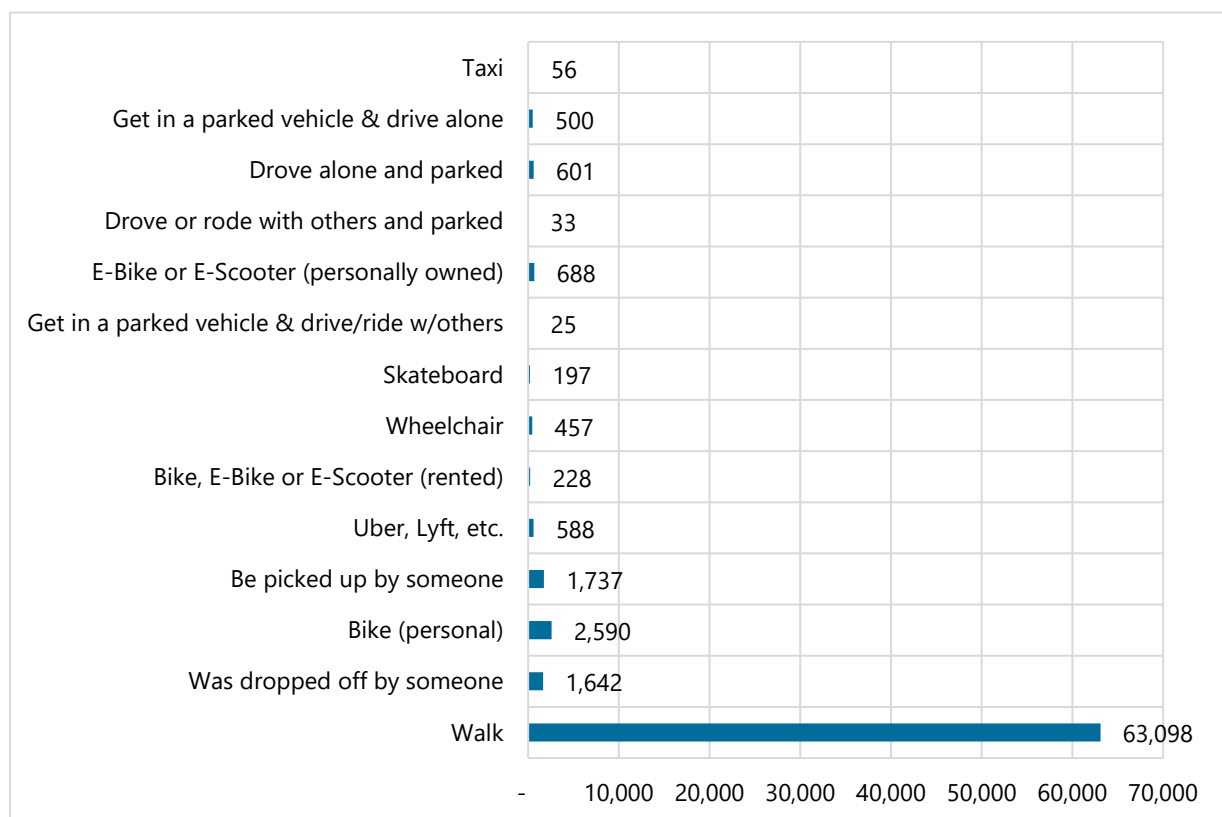
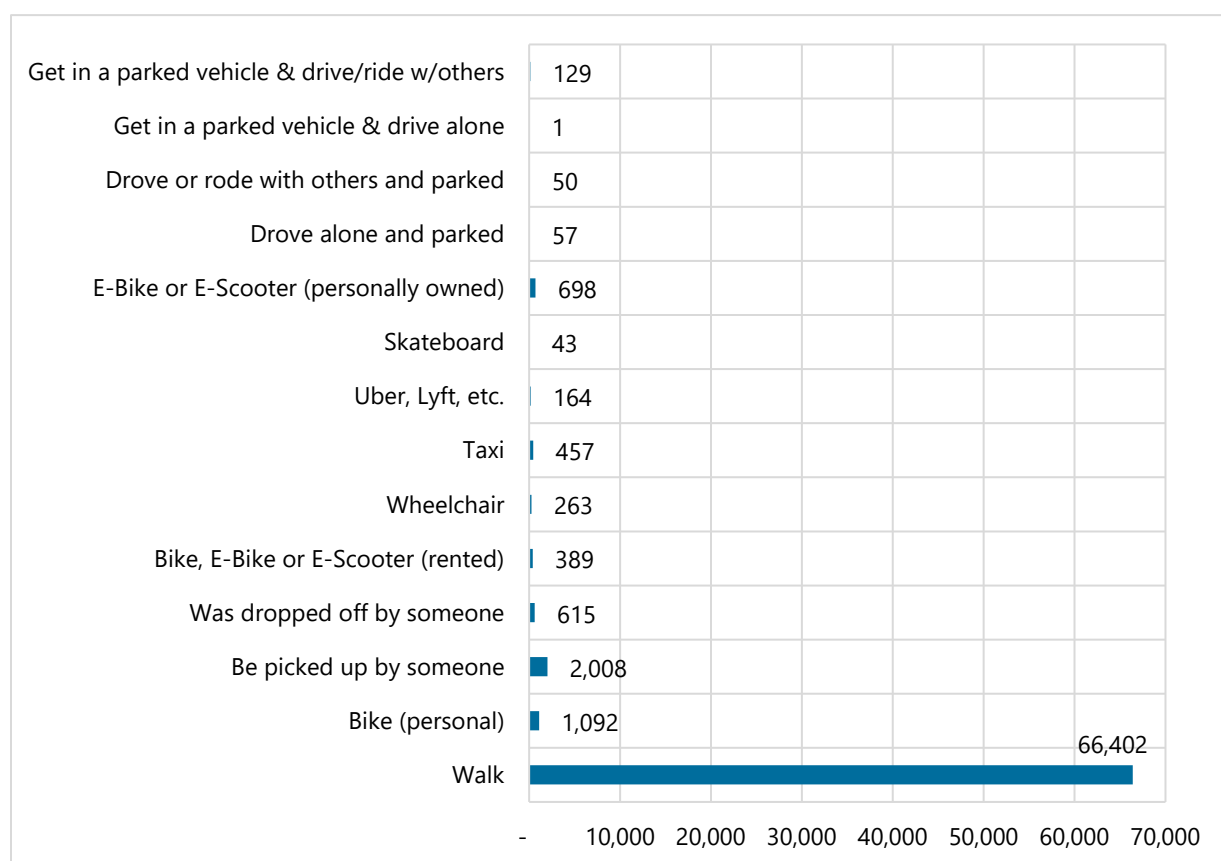
Figure 18. Respondent's Access Modes (PA format)

Figure 19. Respondent's Egress Modes (PA format)

Access and Egress Distances

Access and egress distances are shown in **Table 4** and **Table 5**. The tables include survey records where the respondents said they did not transfer or will not transfer to/from another bus route. Average walk access is a third of a mile, and distance for 80% of walk trips is under a half mile, with a tiny fraction (<5%) walking longer than a mile and a quarter. In contrast, the average distance for bike access is a mile and a third, with the distance for 80% of trips just under two miles, with about 5% traveling further than five miles. Average distance for kiss-and-ride and park-and-ride is similar, about four and half miles, and about seven miles for 80% of trips. Unexpectedly, kiss-and-ride access trips tend to be slightly longer than park-and-ride trips.

Table 4. Access Distance in Miles (P/A format)

Access Mode	Number of Survey Records	Min	Max	Average	Median	80	95	99
						Percentile	Percentile	Percentile
Walk	3,998	-	1.97	0.31	0.16	0.49	1.13	1.55
Park-And-Ride	75	0.29	17	4.38	3.68	6.34	11.92	14.54
Kiss-And-Ride	229	0.27	46.04	4.54	2.11	7.26	13.63	29.42

Bike	286	0.01	15.8	1.34	0.59	1.98	5.06	10.01
------	-----	------	------	------	------	------	------	-------

For egress trips after taking a bus, walk distances are similar, bike trips are slightly shorter, and PNR and KNR are both shorter than for access trips.

Table 5. Egress Distance in Miles (P/A format)

Egress Mode	No. of Survey Records	Min	Max	Average	Median	80	95	99
						Percentile	Percentile	Percentile
Walk	4,039	-	1.8	0.31	0.17	0.49	1.15	1.56
Park-And-Ride	48	0.3	19.16	3.87	2.52	5.65	11.65	15.75
Kiss-And-Ride	216	0.27	41.33	4.03	2.02	5.84	16.49	24.68
Bike	282	0.01	29.64	1.26	0.32	1.84	5.26	8.46

Fare Type and Fare Discount

Table 6 shows survey responses about the method the respondents used to pay their fare. One-way cash fare remains a prevalent mode of payment with over 44%, with the All Day Pass representing another 20%. Approximately 7% riders responded that they did not pay a fare to ride the service.

By Fare Type, Regular Adult fare type was overwhelmingly the most common (82.7%). Of the remainder, BCT serves approximately 4,500 seniors and approximately 1,100 veterans or persons with a disability on an average weekday.

Table 6. Fare Type and Fare Discount

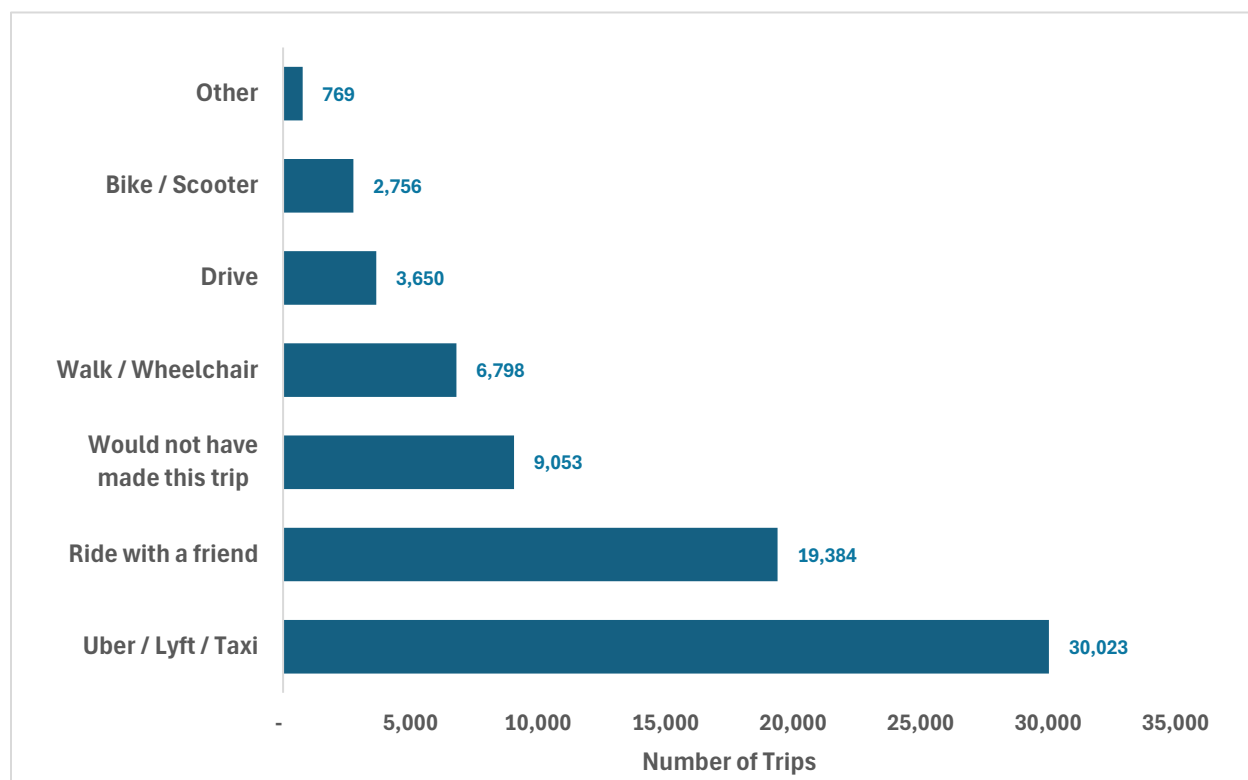
Which Fare	Regular Adult	Senior	Medicare/ Disability	College	Youth (18 & Under}	Other	Reduced -Veteran	Grand Total	% Grand Total
One-Way Cash Fare	26,640	2,080	165	850	1,845	37	53	31,668	43.7%
All Day Pass	1,616	911	203	469	265	6	97	1,4568	20.1%
31 Ride Pass	7,934	641	301	872	473	21	25	1,0267	14.2%
7 Day Pass	5,217	29	24	134	165		40	5,609	7.7%
Free	2,891	744	109	64	37	1,158		5,003	7.0%
3 Day Pass	1,919	22	18	208	84		18	2,269	3.1%
10 Day Pass	1,750	15		49	42	34		1,890	2.6%
Other System Transfer	98	19						117	0.2%

Premium Express	677	7	17	3			16	721	1.0%
Refused/No Answer	141	68	20	51	47		3	328	0.5%
Grand Total	59,885	4,534	857	2,700	2,957	1,256	251	72,440	100.0%
% Grand Total	82.7%	6.3%	1.2%	3.7%	4.1%	1.7%	0.3%	100.0%	

Alternative to Taking the Bus

The survey also asked riders what mode they would use if the bus service was not available. **Figure 20** shows the alternatives selected and includes both survey records along with the expanded trips counts for each selection. The most selected alternative to the bus is "Uber/Lyft/Taxi," representing 41% of total trips and "Ride with a friend" was the next most popular option with around 19,000 trips (27%). The survey also indicates that over 9,000 people would not have been able to make the trip at all if not for the bus service.

Figure 20. Respondent's Alternative Transport Mode in Absence of Bus Service



Respondents' Transfer Activities

Table 7 shows the number of transfers made for each linked trip on the BCT system. Just under a quarter of all trips (24%) made on BCT involve a transfer, but only 3% involve two transfers.

Table 7. Number of Transfers to Complete the Trip

Number of Transfers	Linked Trips	Percent
0	54,707	76%
1	14,999	21%
2	2,495	3%
3	239	0%
Total	72,440	

Table 8 shows transfers to and from other systems. Roughly 2,500 trips transfer to and from MDT routes, 1,200 transfers to and from Tri-Rail routes, and 350 transfers to and from Palm Tran routes.

Table 8. Transfer to and from Other Systems

From\To	BCT	Brightline	Community Shuttle	MDT	Palm Tran	Tri-Rail	Grand Total
BCT	15,854	42	151	1,409	122	697	18,275
Brightline	84			6	7		97
Community Shuttle	179		18	7		11	216
MDT	1,009	48				67	1,124
Palm Tran	209	14				57	280
Tri-Rail	484		5	169	55		713
Grand Total	17,819	104	175	1,592	184	832	20,705

Table 9 shows total transfers to and from for each BCT fixed route to other BCT fixed routes. The five routes that showed the greatest number of transfers are highlighted (Routes 1, 2, 18, 19 and 72).

Table 9. Route Level Transfers (BCT Fixed Routes Only)

Route	Transfers	Route	Transfers
01	972	20	176
02	1,023	22	735
04	150	23	37
05	124	28	519
06	280	30	300
07	436	31	464
08	60	34	728
09	260	36	698
10	611	40	488
101	353	42	273
106	11	441	819
108	4	48	214
109	5	50	493
11	319	55	411
110	12	56	2
114	28	60	568
12	148	62	589
14	723	72	1,020
15	13	81	669
16	208	83	247
18	1,245	88	137
19	1,474	TOTAL	18,047

Table 10 shows transfers within BCT fixed routes. Top ten transfer movements are highlighted. Out of the top ten transfer movements, six are to and from Route 19, with the highest transfer activity between Route 19 and Route 36.

Table 10. Route-to-Route Transfer (BCT Fixed Routes Only)

Routes	1	2	4	5	6	7	8	9	10	11	12	14	15	16	18	19	20	22	23	28	30	31	34	36	40	42	441	48	50	55	60	62	72	81	83	88	101	108	114	Total
1			23	35		59	21	55	34	15	6	63					11	90		57	14	49			96				45	52			67				4			796
2				15		74	9				9			45				157		76	36		39	59		20				45		55	164	61	21			12		884
4	13				3	23	6	7					2	14						24																	12		105	
5	31	13				13							4	10					25							5													100	
6	2		24	2		18		18	26	7	4	34		19			10	13		9	9	7				21			35		17			20					296	
7	55	75	3		37									12	151					5							69										20		428	
8		22	7					15							21																						4		69	
9	28		9		2	12			11	29	7	11		8			9	6			15	19				10		3		9		7			8			203		
10	35				9			13		10		9						29			18		77	12	12	13			48		12		65	63	13	48		22		507
11	34				7			7				8					5	6	11		9			31	9	4				12	13		63	13	11		18		260	
12	10	46			20					2					19			20									16							4					138	
14	14				2			26	9	5								35			10		41	39	16	45		18		43	28	72	140	11	14		32		600	
15			3											5	4													7											19	
16	23	26	7	2	11	6					7				24				9									28									22		165	
18				17		76	7	27				41		2	27		139		88		163	24				137	29		6		6			51			9		848	
19									1	14						120							167	270	80	58	24	83		96	96	107	194	120	86				1516	
20	7																	2				5	30	7	5	9			8	11	32	6	11	10			11		155	
22	75	64			17				23	35	7	61			68		8		9		26	25				21		44		50		47		6	31		3	22		644
23						5								5				11							2								7					1	31	
28	49	51	16	37	25								3			120											43											14		358
30	19	47			5				31	14		9			39			12				36				36		23		15		13				8			307	
31	40				19			21	55	7							5	29			11		34	32	23	6		17	4	28	23	42	31	15	13		12		468	
34		50							60			151					191	25				60					35		43			50					11		674	
36		70							21	21		86			133	157	6	4	7			9				29		10	19		16		11	26		13			637	
40	60		4					9	10	22		40			12	100	24	34			12	21	6	17			9		24		20		4	25				15		467
42									27	24		13					79										25		33		16	21							239	
441	3			7		88	2	41				1			27	11	20		42		86	17		31	4	6	20				10	14	67	103	6	24				629
48									28			50				54						27							9											168
50	38				19			38	4	5		4						41			25	4	44	20	3	36		32		33	52	20	45	12	28				502	
55		50							16	38		48					60	22				22					52		17		31		53			11			419	
60	66				9							7					26	12	24			17	34		37	30	29			29	29		35	7	20			34		445
62		75							32			15					87	21				33	39				36	70		15	5	44		5			16		493	
72		153							56	85	2	77					177	12	23	18		56					34		68	29	85			60		46			12	995
81	46	35			63				20	7	8	26			49	130	9	4				29			55	39		9	16		26		71				33		677	
83		33						15	15		17					59	7					21	5				18		12			7				29			239	
88		4																			18			18			11			40		21	19		7			138		
101			23	16				11	13	11	7	3		5			7				13	3	24				17			18		4			29				204	
106															3																								3	
109																																								
114								11										1															17						29	
Total	650	814	120	129	248	375	44	298	493	365	99	729	7	161	794	1283	194	673	42	458	293	452	516	740	482	287	530	199	471	400	635	567	1014	603	252	137	276	9	13	15854

WHERE RIDERS USE THE SYSTEM

Trip Production Locations

Figure 21 shows the production location (home-end in PA format) of riders who use the BCT system. There are several riders who start their trip from Miami Dade County. The survey suggests 85% of the riders travel to and from places within Broward County, but the remaining 15% riders have at least one end of their trip either in Palm Beach or Miami-Dade counties. The map shows a handful of BCT trips originating from and going to Miami-Dade County. **Figure 22** shows a zoomed in subset of the area.

Trip Attraction Locations

Figure 23 plot shows the attraction location (work-end in PA format) of riders who use the BCT system. While the production location map showed scattered locations, the attractions are more concentrated near BCT routes and stops. **Figure 24** shows a zoomed in version of attraction locations.

Figure 21. Production Locations

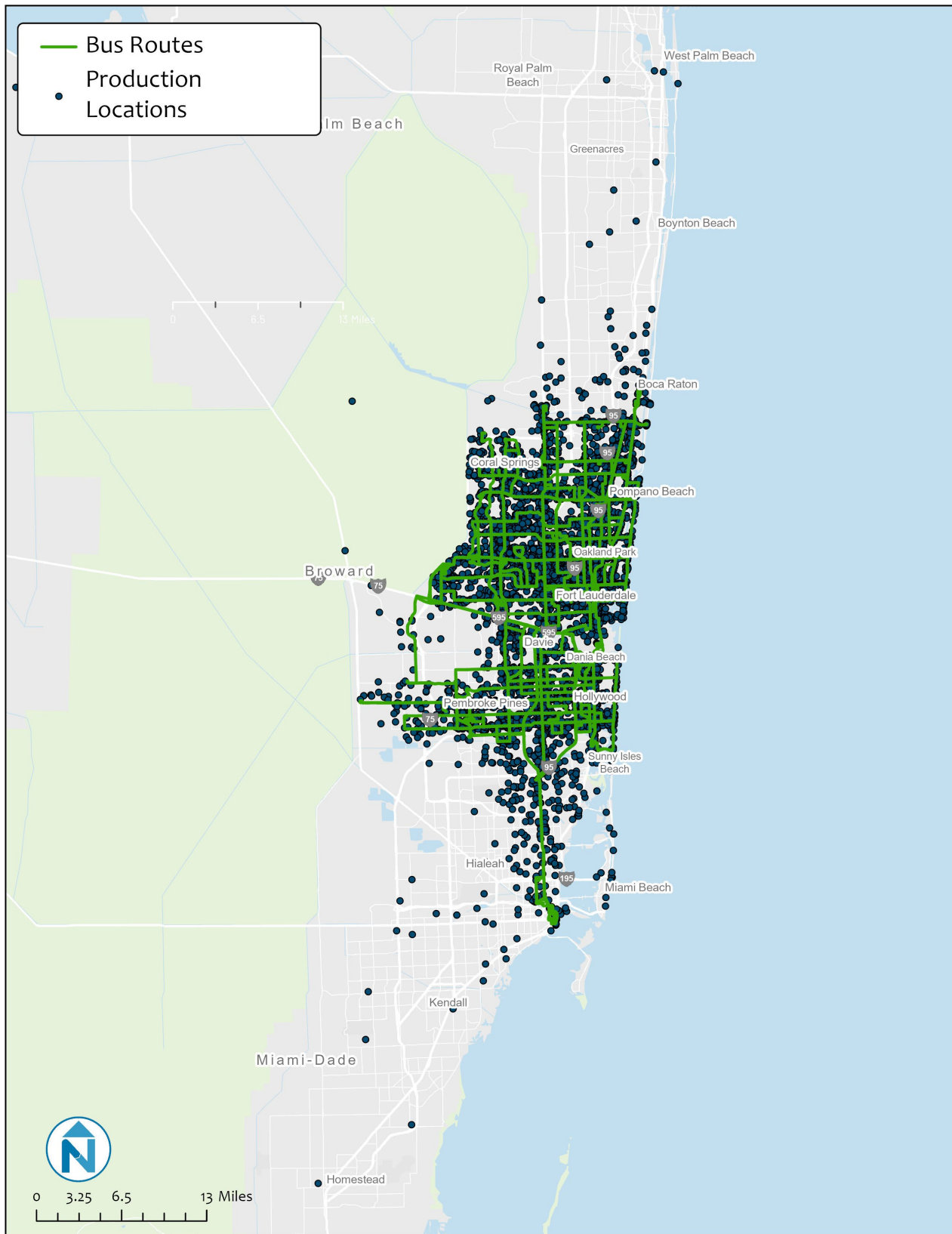


Figure 22. Production Locations (Zoomed image)

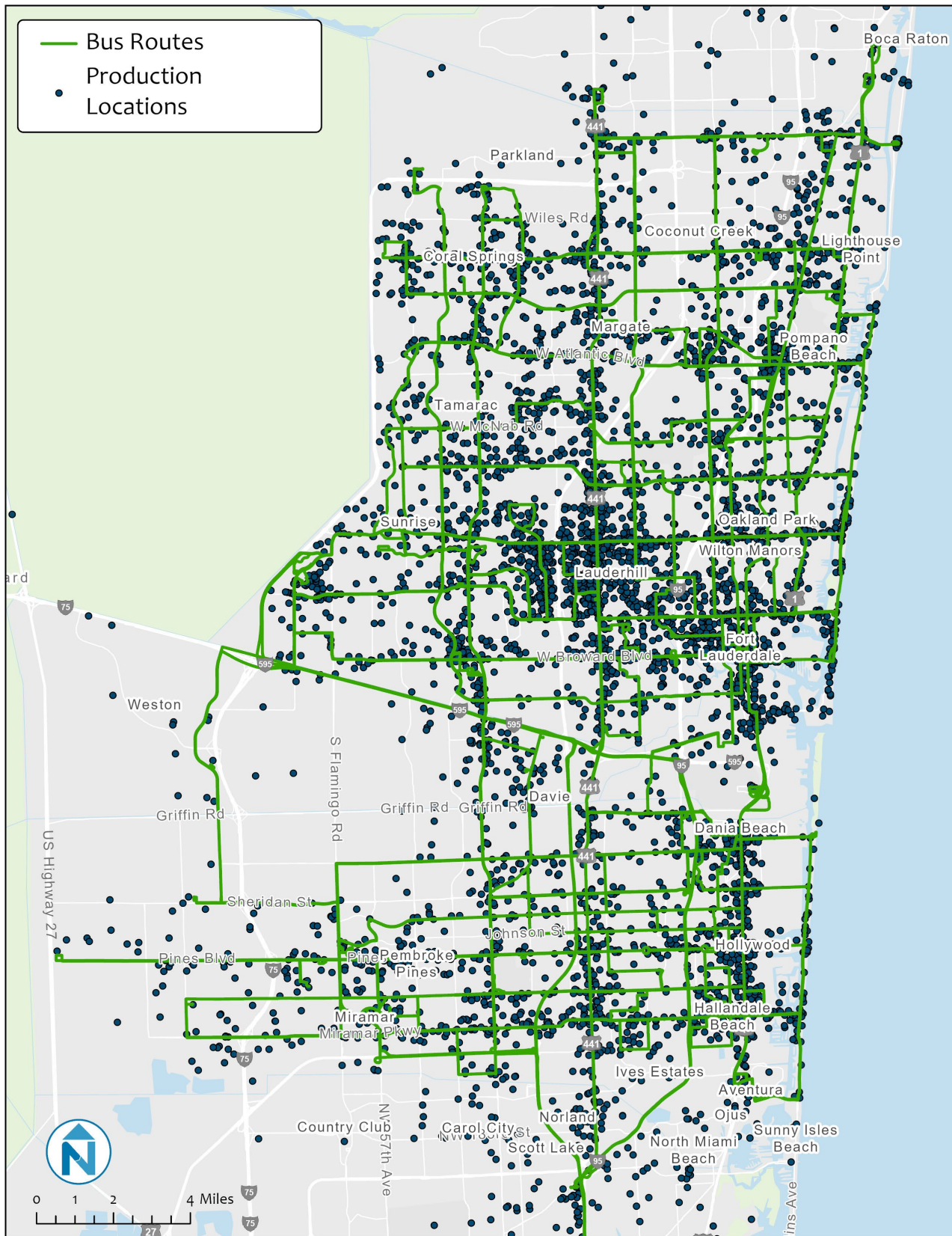


Figure 23. Attraction Locations

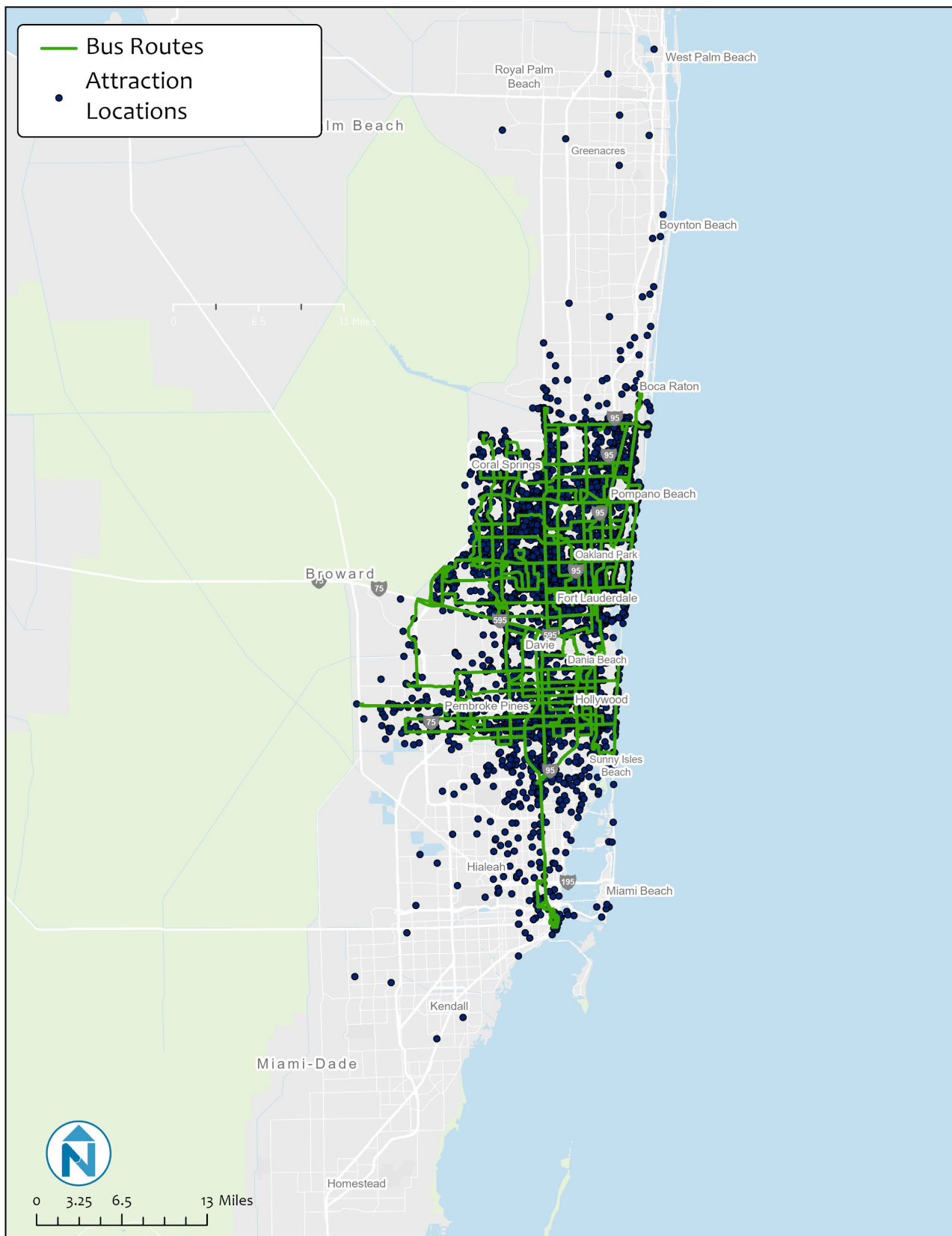
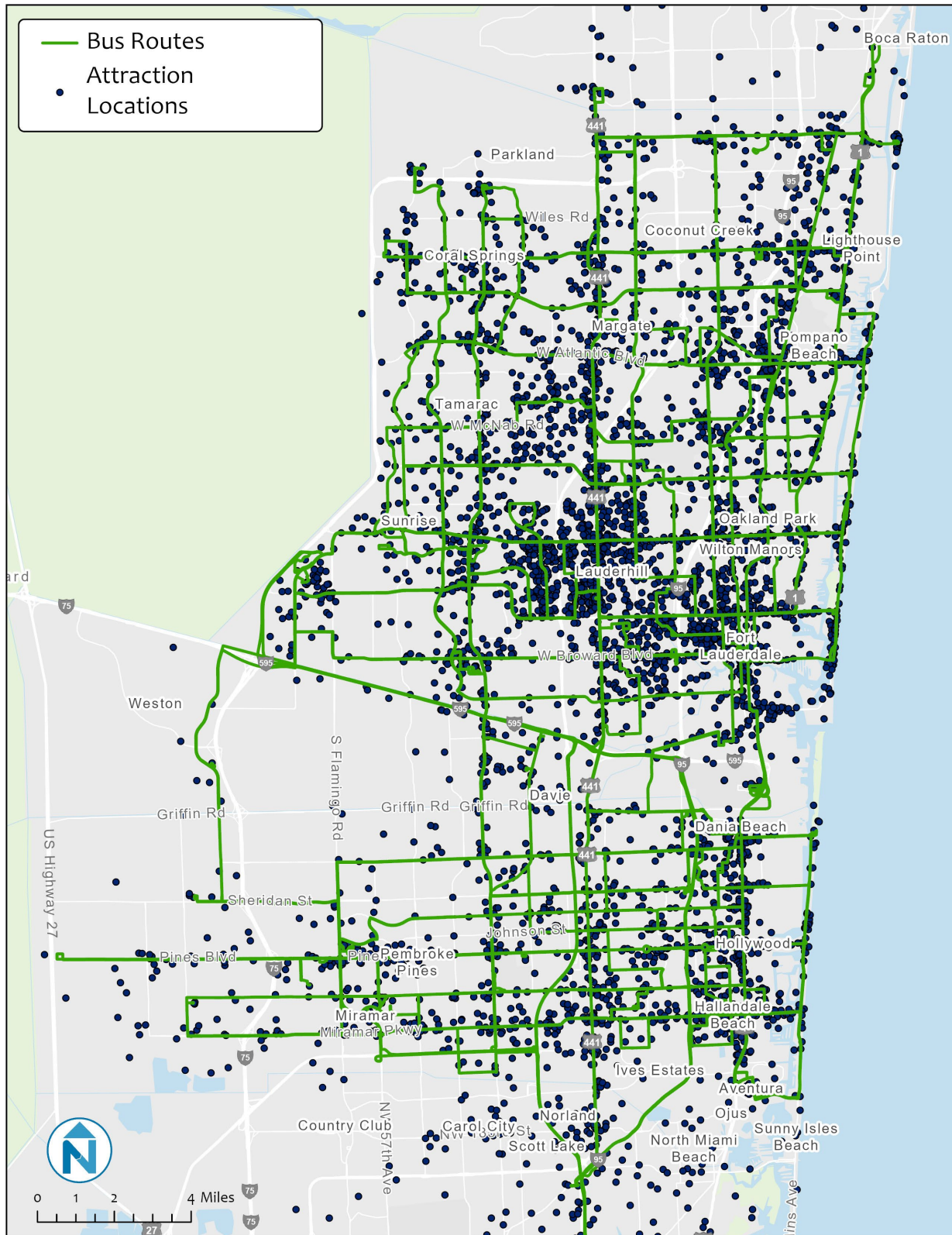


Figure 24. Attraction Zones (Zoomed)



APPENDIX A

Survey Sampling Plans

			AVERAGE DAILY RIDERSHIP						SAMPLING GOALS						
Route	Description	DIR	AM Peak (6:00-9:30am)	Midday (9:31am-3:30pm)	PM Peak (3:31-6:30pm)	Evening (6:31pm-9:00pm)	Total	Total Ridership	AM Peak (6:00-9:30am)	Midday (9:31am-3:30pm)	PM Peak (3:31-6:30pm)	Evening (6:31pm-9:00pm)	Total	Total Surveys	
1	Aventura Mall to Broward Central Terminal via Federal Highway/US 1	NORTHBOUND	503	503	503	168	1,678	3,356	25	25	25	8	84	285	
		SOUTHBOUND	503	503	503	168	1,678		25	25	25	8	84		
2	N.W. 207 Street to Westview Drive via University Drive	NORTHBOUND	530	530	530	177	1,767	3,534	27	27	27	9	88	300	
		SOUTHBOUND	530	530	530	177	1,767		27	27	27	9	88		
4	Hallandale Beach Blvd. to Fort Lauderdale/ Hollywood Airport Tri-Rail Station via A1A	NORTHBOUND	119	119	119	40	396	792	6	6	6	2	20	67	
		SOUTHBOUND	119	119	119	40	396		6	6	6	2	20		
5	Pembroke Lakes Mall to Hallandale Beach City Hall via Pembroke Road	EASTBOUND	113	113	113	38	377	753	6	6	6	2	19	64	
		WESTBOUND	113	113	113	38	377		6	6	6	2	19		
6	County Line Road and Dixie Highway to Broward Central Terminal	NORTHBOUND	150	150	150	50	500	999	7	7	7	2	25	85	
		SOUTHBOUND	150	150	150	50	500		7	7	7	2	25		
7	NW 210 Ave and Pines Blvd to Young Circle via Pines/Hollywood Boulevard	EASTBOUND	265	265	265	88	885	1,769	13	13	13	4	44	150	
		WESTBOUND	265	265	265	88	885		13	13	13	4	44		
8	Pembroke Lakes Mall to Young Circle via Taft Street	EASTBOUND	59	59	59	20	198	396	3	3	3	1	10	34	
		WESTBOUND	59	59	59	20	198		3	3	3	1	10		
9	Young Circle to Broward Central Terminal	NORTHBOUND	153	153	153	51	511	1,021	8	8	8	3	26	87	
		SOUTHBOUND	153	153	153	51	511		8	8	8	3	26		
10	Broward Central Terminal to Camino Real and Dixie Highway via Federal Highway/U.S. 1	NORTHBOUND	309	309	309	103	1,031	2,062	15	15	15	5	52	175	
		SOUTHBOUND	309	309	309	103	1,031		15	15	15	5	52		
11	Broward Central Terminal to Copans Rd. and U.S. 1 via Las Olas Blvd. and Galt Mile WESTBOUND: Broward Central Terminal to Commercial Blvd. and US 441/S.R. 7	EASTBOUND	218	218	218	73	725	1,450	11	11	11	4	36	123	
		WESTBOUND	218	218	218	73	725		11	11	11	4	36		
12	BC Central Campus and Broward Mall to Dania Beach Fishing Pier via Sheridan Street	EASTBOUND	142	142	142	47	473	946	7	7	7	2	24	80	
		WESTBOUND	142	142	142	47	473		7	7	7	2	24		
14	Broward Central Terminal to Hillsboro Blvd. via Powerline Road	NORTHBOUND	362	362	362	121	1,208	2,415	18	18	18	6	60	205	
		SOUTHBOUND	362	362	362	121	1,208		18	18	18	6	60		
15	Griffin Road to County Line Road, stopping at Fort Lauderdale/Hollywood Airport Tri-Rail Station	NORTHBOUND	14	14	14	5	48	95	1	1	1	0	2	8	
		SOUTHBOUND	14	14	14	5	48		1	1	1	0	2		
16	Pembroke Lakes Mall to Dania Beach City Hall via Stirling Road	EASTBOUND	109	109	109	36	362	724	5	5	5	2	18	62	
		WESTBOUND	109	109	109	36	362		5	5	5	2	18		
18	Golden Glades Park and Ride to Lauderhill Transit Center via Highway 441	NORTHBOUND	569	569	569	190	1,896	3,792	28	28	28	9	95	322	
		SOUTHBOUND	569	569	569	190	1,896		28	28	28	9	95		
19	Turtle Creek/Boca Raton Sandalfoot to Lauderhill Transit Center via Highway 441	NORTHBOUND	710	710	710	237	2,368	4,736	36	36	36	12	118	403	
		SOUTHBOUND	710	710	710	237	2,368		36	36	36	12	118		
20	Broward Central Terminal to Broward Health North	NORTHBOUND	87	87	87	29	290	580	4	4	4	1	15	49	
		SOUTHBOUND	87	87	87	29	290		4	4	4	1	15		
22	Sawgrass Mills Mall to Broward Central Terminal via Broward Boulevard	EASTBOUND	357	357	357	119	1,190	2,380	18	18	18	6	60	202	
		WESTBOUND	357	357	357	119	1,190		18	18	18	6	60		
23	Pembroke Lakes Mall to Sawgrass Mills Mall	NORTHBOUND	28	28	28	9	94	188	1	1	1	0	5	16	
		SOUTHBOUND	28	28	28	9	94		1	1	1	0	5		
28	Memorial Hospital Miramar to Aventura Mall via Miramar Pkwy/Hallandale Beach Blvd	EASTBOUND	413	413	413	138	1,375	2,750	21	21	21	7	69	234	
		WESTBOUND	413	413	413	138	1,375		21	21	21	7	69		

30	West Regional Terminal to Broward Central Terminal via Peters Road/Davie Boulevard	EASTBOUND	178	178	178	59	593	1,186	9	9	9	3	30	101
		WESTBOUND	178	178	178	59	593		9	9	9	3	30	
31	Broward Central Terminal to Hillsboro Blvd. and Lyons Road via N.W. 31 Avenue/Lyons Road	NORTHBOUND	284	284	284	95	948	1,896	14	14	14	5	47	161
		SOUTHBOUND	284	284	284	95	948		14	14	14	5	47	
34	Coral Ridge Drive to Federal Highway via Sample Road	EASTBOUND	315	315	315	105	1,051	2,102	16	16	16	5	53	179
		WESTBOUND	315	315	315	105	1,051		16	16	16	5	53	
36	Sawgrass Mills Mall to A1A via Sunrise Boulevard	EASTBOUND	491	491	491	164	1,638	3,275	25	25	25	8	82	278
		WESTBOUND	491	491	491	164	1,638		25	25	25	8	82	
40	Lauderhill Transit Center to The Galleria at Fort Lauderdale	EASTBOUND	325	325	325	108	1,083	2,166	16	16	16	5	54	184
		WESTBOUND	325	325	325	108	1,083		16	16	16	5	54	
42	Atlantic Boulevard and Coral Ridge Drive to Atlantic Boulevard and A1A	EASTBOUND	149	149	149	50	496	992	7	7	7	2	25	84
		WESTBOUND	149	149	149	50	496		7	7	7	2	25	
48	US 441 to Deerfield Beach via Hillsboro Boulevard	EASTBOUND	72	72	72	24	240	479	4	4	4	1	12	41
		WESTBOUND	72	72	72	24	240		4	4	4	1	12	
50	Broward Central Terminal to Hillsboro Blvd. via Dixie Highway	NORTHBOUND	375	375	375	125	1,251	2,501	19	19	19	6	63	213
		SOUTHBOUND	375	375	375	125	1,251		19	19	19	6	63	
55	Hiatus Road to Galt Mile via Commercial Boulevard	EASTBOUND	268	268	268	89	893	1,786	13	13	13	4	45	152
		WESTBOUND	268	268	268	89	893		13	13	13	4	45	
56	Welleby Plaza to Jacaranda Plaza via Sunrise Lakes Boulevard	EASTBOUND	38	38	38	13	126	252	2	2	2	1	6	21
		WESTBOUND	38	38	38	13	126		2	2	2	1	6	
60	Broward Central Terminal to Highway 441 and N.W. 15 Street via Andrews Avenue and Dr. Martin Luther King Jr. Blvd/ Coconut Creek Pkwy	NORTHBOUND	344	344	344	115	1,147	2,294	17	17	17	6	57	195
		SOUTHBOUND	344	344	344	115	1,147		17	17	17	6	57	
62	Westview Drive & University Drive to McNab Road and US1	EASTBOUND	297	297	297	99	991	1,981	15	15	15	5	50	168
		WESTBOUND	297	297	297	99	991		15	15	15	5	50	
72	Sawgrass Mills Mall to Galt Mile via Oakland Park Boulevard	EASTBOUND	738	738	738	246	2,459	4,918	37	37	37	12	123	418
		WESTBOUND	738	738	738	246	2,459		37	37	37	12	123	
81	Broward Central Terminal to West Regional Terminal	EASTBOUND	364	364	364	121	1,213	2,426	18	18	18	6	61	206
		WESTBOUND	364	364	364	121	1,213		18	18	18	6	61	
83	Coral Ridge Drive and Sample Road to Pompano Citi Centre	EASTBOUND	113	113	113	38	378	756	6	6	6	2	19	64
		WESTBOUND	113	113	113	38	378		6	6	6	2	19	
88	Westfield Broward Mall to Holmberg Road and Coral Ridge Drive	NORTHBOUND	83	83	83	28	275	550	4	4	4	1	14	47
		SOUTHBOUND	83	83	83	28	275		4	4	4	1	14	
101 BREEZE	US 1 BREEZE	NORTHBOUND	181	181	181	60	603	1,206	9	9	9	3	30	103
		SOUTHBOUND	181	181	181	60	603		9	9	9	3	30	
106 EXPRESS	95 EXPRESS	NORTHBOUND	48	48	48	16	162	323	2	2	2	1	8	27
		SOUTHBOUND	48	48	48	16	162		2	2	2	1	8	
108 EXPRESS	95 EXPRESS	NORTHBOUND	52	52	52	17	173	346	3	3	3	1	9	29
		SOUTHBOUND	52	52	52	17	173		3	3	3	1	9	
109 EXPRESS	95 EXPRESS	NORTHBOUND	44	44	44	15	147	293	2	2	2	1	7	25
		SOUTHBOUND	44	44	44	15	147		2	2	2	1	7	
110 EXPRESS	595 EXPRESS	NORTHBOUND	32	32	32	11	107	214	2	2	2	1	5	18
		SOUTHBOUND	32	32	32	11	107		2	2	2	1	5	
114 EXPRESS	595 EXPRESS	NORTHBOUND	53	53	53	18	175	350	3	3	3	1	9	30
		SOUTHBOUND	53	53	53	18	175		3	3	3	1	9	
441 BREEZE	BREEZE	NORTHBOUND	425	425	425	142	1,416	2,831	21	21	21	7	71	241
		SOUTHBOUND	425	425	425	142	1,416		21	21	21	7	71	
TOTAL			20,958	20,958	20,958	6,986	69,861	69,861	1,048	1,048	1,048	349	3,493	5,938

APPENDIX B

Survey Questionnaire

Please take a few minutes to be counted as we plan the future of your transit system.

All personal information will only be disclosed as required by law. BCT will not sell this data.

What is your HOME ADDRESS (please be specific, ex: 123 W. Main St):

(If you are visiting Broward County, please list the hotel or address where staying, if you are unhoused select bubble O

Street Address: _____

City: _____

State: _____

Zip Code: _____

COMING FROM?

1. What type of place are you coming from now? (the starting place for your one-way trip)

- Work or Work related
- College / University (students only)
- School K-12 (students only)
- Medical services (doctor, clinic, hospital), non-work
- Social, Religious, or Personal Business
- Shopping (Grocery)
- Shopping (Dining, Clothes, other)
- Your home/place I am staying. Go to Question #4
- Non-destination Trip. Go to Question #12
- Other: _____

2. What is the name of the place you are coming from now?

3. What is the exact address of this place? (OR Intersection if you do not know the exact address)

City: _____

State: _____

Zip Code: _____

4. How did you get from your origin (the place in Question #1) to the very first bus/train you used for this one-way trip?

- Walk
- Bike (personal)
- Wheelchair
- Skateboard
- Uber, Lyft, etc.
- Taxi
- E-Bike or E-Scooter (personally owned)
- Bike, E-Bike or E-Scooter (rented)
- Was dropped off by someone (answer 4a)
- Drove alone and parked (answer 4a)
- Drove or rode with others and parked (answer 4a)
- Other Specify_____

4A. Where did you board the first bus / train you used for this one-way trip (Nearest intersection / Park-n-Ride lot): _____

5. Where did you get ON this bus? Please provide the nearest intersection / station name / Park-n-Ride lot:

GOING TO?

6. What type of place are you going to now? (the ending place for your one-way trip)

- Work or Work related
- College / University (students only)
- School K-12 (students only)
- Medical services (doctor, clinic, hospital), non-work
- Social, Religious, or Personal Business
- Shopping (Grocery)
- Shopping (Dining, Clothes, other)
- Your HOME/place I am staying. Go to Question #9
- Other: _____

7. What is the name of the place you are going to now?

8. What is the exact address of this place? (OR Intersection if you do not know the exact address)

City: _____

State: _____

Zip Code: _____

9. How did you get to your destination (listed in question #6) after you get off the last bus/train you will use for this one-way trip?

- Walk
- Bike (personal)
- Wheelchair
- Skateboard
- Uber, Lyft, etc.
- Taxi
- E-Bike or E-Scooter (personally owned)
- Bike, E-Bike or E-Scooter (rented)
- Was dropped off by someone (answer 9a)
- Drove alone and parked (answer 9a)
- Drove or rode with others and parked (answer 9a)
- Other _____

9A. Where will you get off the last bus/train you are using for this one-way trip (Nearest intersection / Park-n-Ride lot): _____

10. Where will you get off this bus? Please provide the nearest intersection/station name/Park-n-Ride lot.

11. A. Did you transfer from another bus/train before getting on this bus? Yes/No

B. Will you transfer to another bus/train AFTER getting off this bus? Yes/No

C. Please list the bus/rail routes (system) in the exact order for this one-way trip:

- a. First routes
- b. Second route
- c. Third route
- d. Fourth route

12. What time did you board this bus? _____ : _____ AM/PM (circle one)

13. Will you (or did you) make this same trip using the same transit routes in exactly the opposite direction today? No/Yes. If Yes - At what time did/will you leave for this trip in the opposite direction? _____ : _____ am/pm (circle one)

14. How did you pay to ride the Bus?

- One-way Cash Fare
- All Day Pass

- 3 Day Pass
- 7 Day Pass
- 10 Day Pass
- 31 Ride Pass
- Premium Express
- Other system transfer
- Other, specify _____

15. Do you have a smartphone? Yes/No

15A. Did you use the BCT Transit App to pay for your trip? Yes/No

16. How many children (under age 16) are traveling with you today on this trip? None / How many? _____

17. How would you make this trip if the bus were not available?

- Walk / Wheelchair
- Biked/Scooter
- Drive
- Uber/Lyft/Taxi
- Ride with a friend
- Other _____

18. Including yourself, how many people live in your household? _____ people

19. Including yourself, how many adults (18 and over) live in your household? _____ people

20. Including yourself, how many of the people in your household are employed full-time or part-time?
_____ people

21. How many vehicles (cars, trucks, or motorcycles) are available to your household? _____ vehicles

21b. [If #21 is 1 or more] Could you have made this trip by car today? ☐ Yes ☐ No

22. Do you have a valid driver's license? ☐ Yes ☐ No

23. What is your employment status? (check the one response that BEST describes you)

- Employed full-time
- Not currently employed, but seeking work
- Retired
- Employed part-time
- Not currently employed, and not seeking work
- Homemaker

24. What is your student status? (check the one response that BEST describes you)

- Not a student
- Yes – Full-time college/university

- Yes – Part-time college/university
- Yes – K - 8th grade
- Yes – 9th-12th grade
- Yes – Vocational/technical/trade school
- Yes - Other

25. What is your AGE?

- 16 to 17
- 18 to 24
- 25 to 49
- 50 to 64
- 65 to 74
- 75 to 84
- 85 and older

26. Do you speak a language other than English at home? ☐ No ☐ Yes - Which language? _____

26a. [If #26 is Yes] How well do you speak English? ☐ Very Well ☐ Well ☐ Less than well ☐ Not at all

27. What is your ethnic origin? (check all that apply)

- American Indian/Alaska Native
- Black/African American
- Hispanic/Latino/Spanish
- Asian/Pacific Islander
- White/Caucasian
- Prefer not to answer
- Other race: _____

28. You are? ☐ Male ☐ Female ☐ Other

29. Which of the following BEST describes your TOTAL ANNUAL HOUSEHOLD in 2022?

- Less than \$10,000
- 10,000 - \$14,999
- 15,000 - \$19,999
- \$20,000 - \$24,999
- \$25,000 - \$29,999
- \$30,000 - \$39,999
- \$40,000 - \$49,999
- \$50,000 - \$59,999
- \$60,000 - \$99,999

- \$100,000 or more

REGISTER TO WIN A \$100 GIFT CARD

People who submit an accurately completed survey will be entered in a random drawing for a \$100 gift card. You must provide your home address at the beginning of the survey and answer all questions to be eligible.

Your Name: _____

Phone Number: (____) _____

Thank you for your help!

APPENDIX C

Survey Expansion

This section documents the on-board survey expansion procedure, data used in expansion process and checks for the accurate representation of the ridership by route, time period, and direction within the BCT system. The expansion process establishes unlinked and linked expansion weight factors for each survey record. Each transit trip made by a rider (linked transit trip) is a combination of multiple trip legs that may involve one or more transfers. For example, if a rider first boards Route A and transfers on to Route B to reach his/her destination, then this trip has two trip legs (also called two boardings or two unlinked trips) and one transfer. The unlinked weight factor is the weightage factor for each survey record to represent the total boardings or unlinked trips on the system. The linked weight factor is the ratio of the unlinked weight factor to the number of trip legs (number of transfers plus one).

The expansion of the on-board survey data is processed in three steps. First, the primary expansion, where each survey record is assigned a weight to represent the number of transit ridership making similar trips (at route, direction, and time period level). Second, the boardings at the major activity centers and transfers are checked for reasonableness and adjusted. Third, the secondary expansion, where the estimated weights are adjusted further to correctly represent the travel patterns in an additional dimension that was not considered in the primary expansion

Note on linked trip expansion weights (especially relevant for travel demand modeling purposes): The unlinked and linked expansion weights represent rider movement on the BCT system only. In instances where a rider transfers from a BCT route to another system (such as an MDT route or Tri-Rail), both unlinked and linked expansion weights are the same because the trip involved only one boarding on the BCT system.

using an auxiliary dataset. For the secondary expansion, adjustment of the ridership of Park-and-Ride (P&R) routes to accurately represent how P&R trips are made.

Table 11 presents the summary of data used for the expansion of the BCT survey data.

Table 11: - Data Sources for Expansion

Expansion	Data	Remarks
Primary expansion	APC Count data	APC on Routes 1, 2, 4, 5, 8, 16, 18, 20, 22, 30, 34, 36, 42, 48, 50, 60, 62, 72, 83, 88, 101, 106, 108 and 115 are based on average weekdays samples collected during the period August 15, 2023 - through January 7, 2024.
		APC on Routes 6, 7, 9, 10, 11, 12, 14, 19, 28, 31, 40, 55, 81, 109, 110, 114 and 441 are based on average weekdays samples collected during the period October 15, 2023 - through January 7, 2024.
		APC on Routes 15, 23 and 56 are based on RideCheck data collection from November 2023.

Expansion	Data	Remarks
Adjustments at activity centers and transfer stations	Stop shapefile	Same APC data as above.
	Stop level APC counts	Same APC data as above.
Secondary expansion	P&R Count data	The data is collected by FDOT D4 for the Annual P&R Inventory Report in Spring 2023.

Step 1 – Primary Expansion

The primary expansion of the on-board survey is the process of estimating the weights of each survey record to represent the population. For example, a survey expansion weight of two represents two transit riders taking a similar trip. The survey was expanded by route by time of day and by direction. The BCT route ridership is low, which did not allow for segmentation of routes into stop groups. The expansion weights are estimated by simply dividing the total APC counts by the total number of survey records. The expression below is used to estimate the primary unlinked expansion weights.

$$PE_ULE_{rtd} = \frac{APC\ Counts_{rtd}}{N_Survey_Records_{rtd}}$$

Where, " PE_ULE_{rtd} ", " $APC\ Counts_{rtd}$ ", and " $N_Survey_Records_{rtd}$ " are primary unlinked expansion weight, APC count and number of survey records for the route " r ", time period " t ", and direction " d ". Five time periods are utilized – Early AM, AM Peak, Mid-Day, PM Peak, and Evening/Night.

The community shuttles run in loops and do not have directional information. Route-level counts of the community shuttles are estimated from the monthly ridership report published on BCT website. These shuttles are expanded to route level counts using the following expression.

$$PE_ULE_r = \frac{APC\ Counts_r}{N_Survey_Records_r}$$

Where, " PE_ULE_r ", " $APC\ Counts_r$ ", and " $N_Survey_Records_r$ " are primary unlinked expansion weight, route-level count and number of survey records for the community shuttle route " r ".

It should be noted that for some routes, there are not enough survey records in the Early AM period. In such cases, the Early AM is time period merged with the AM time period. Similarly, evening time period survey records are merged to PM period for some routes.

The estimated primary unlinked weight factors are mapped to the on-board survey. The ridership from the expanded on-board survey is compared against the APC counts (**Appendix D**).

Step 2 – Adjustment at Major Activity Centers and Transfer Stops

The boardings at the major activity centers and transfer stops were checked with the stop-level APC counts after the primary expansion. A multi-page table presenting the summary of the boardings at the major activity center and transfer stops, as well as the stops at which the boardings were further adjusted to ensure a properly proportional number of boardings and transfers, is presented in Appendix B.

The boarding at the recognized stops is adjusted using the following procedure. For each stop and route combination, the boardings at the stop for the route were adjusted to match the APC boardings by adjusting the unlinked weight factors. The following expression is used to update the unlinked weight factor.

$$Adjusted_ULW_{rs} = \frac{APC_Boardings_{rs}}{\sum PE_ULW_{rs}} * PE_ULW_{rs}$$

Where $Adjusted_ULW_{rs}$ is the adjusted unlinked weight factor, $APC_Boardings_{rs}$ is the APC boardings, PE_ULW_{rs} is the unlinked weight factor from primary expansion of route r and station s .

In order to match the route-level boardings from APCs at the major stops and transfer centers, the boardings on the other stops of those routes are adjusted again. Hence, the unlinked weight factors of the boardings at other stations are the routes are adjusted by using the following expression:

$$Adjusted_ULW_{ro} = \frac{APC_Boardings_r - \sum Adjusted_ULW_{rs}}{\sum PE_ULW_r - \sum PE_ULW_{rs}} * PE_ULW_{ro}$$

Where $Adjusted_ULW_{ro}$ is the adjusted unlinked weight factor, $APC_Boardings_r$ is the APC boardings, PE_ULW_{ro} is the unlinked weight factor from primary expansion of route r and non transfer station s .

Step 3 – Secondary Expansion

Secondary expansion is the process of re-expanding the sample across additional dimensions such as mode of access/egress, Park-and-Ride (P&R) trips, Kiss-and-Ride (K&R) trips, students, and discounted fare trips. This correction helps the survey dataset to represent known travel patterns more closely. The secondary expansion corrects for differences in response rates across markets that are not easily addressed in other ways. P&R data is available for the BCT system, which is used for the secondary expansion. There are six P&R lots serving the BCT routes. **Table 12** presents the vehicle counts conducted in Spring 2023.

Table 12. Vehicle Counts at Park and Ride Lots

Park and Ride Lot	Spring 2023 Vehicle Counts
FLA Live Arena / BB&T Center	100
C.B. Smith Park & Ride	27
Davie Park & Ride	126
FLL Airport Tri-Rail	65
Miramar Regional Park-Park & Ride	71
Miramar Park & Ride	239

The on-board survey expansion is adjusted by AM and PM time periods, since the P&R trips are mostly commuter trips occurring towards the activity centers in the AM period and reverse direction in the PM period. The adjustment in the AM period is done using the following procedure.

1. Total boardings at the P&R, by time period are estimated using the APC count data.
2. If there are no survey records representing P&R boardings in the AM period, the P&R boarding adjustment is not implemented.
3. If there are one or more survey records representing the P&R boardings in the AM period, and only one route using the P&R,
 - a. The total APC boardings are split into P&R and non-P&R boardings, based on share of P&R and non-P&R boardings from the primary expansion.
 - b. If the estimated P&R boardings are less than the total person trips and the total APC boardings, the estimated P&R boards are used as the adjusted P&R boardings. Otherwise, the adjustments are not implemented.
4. If there are one or more survey records representing the P&R boardings in the AM period, and multiple routes using the P&R,
 - a. The total APC boardings at a P&R lot are split among different routes based on the share of the boardings at each route.
 - b. The route level APC boardings at a P&R lot are then split into P&R and non-P&R based on the share of route level P&R and non-P&R boardings from the primary expansion.
 - c. If the estimated P&R boardings are less than the total person trips and the total APC boardings, the estimated P&R boardings are used as the adjusted P&R boardings. Otherwise, the adjustments are not implemented.
5. The adjusted non-P&R boardings are estimated using the formula below.

$$\text{non PNR boardings}_{lr} = \text{CountAPC}_{lr} - \text{PNR boardings}_{lr}$$

Where, $Count_{APC}$ is the observed APC counts, $PNR\ boardings$ is the estimated P&R boardings, l is P&R lot and r is route.

6. The unlinked weight adjustment factors for P&R and non-P&R are estimated using the formula below.

$$PNR\ AdjustmentFactor_{lr} = \frac{PNR\ boardings_{lr}}{Old\ PNR\ boardings_{lr}}$$

$$non\ PNR\ AdjustmentFactor_{lr} = \frac{non\ PNR\ boardings_{lr}}{Old\ non\ PNR\ boardings_{lr}}$$

Where, $PNR\ boardings$ is the estimated P&R boardings, $Old\ PNR\ boardings$ is the P&R boardings from the primary expansion, $non\ PNR\ boardings$ is the estimated non-P&R boardings, $old\ non\ PNR\ boardings$ is the estimated non-P&R boardings from primary expansion, l is P&R lot and r is route

7. The adjustment factors are then multiplied with respective unlinked weight factors to estimate the new unlinked weight factors representing the secondary expansion.

An identical approach is implemented for the PM period survey records alighting at the P&R lot. The same procedure is implemented on the P&R lots serving multiple routes, after estimating the route level APC boardings at the P&R lot. **Table 13** details the secondary expansion and associated adjustment factors.

Table 13. Secondary Expansion Factor by Park-and-Ride Lots

Route	Direction	Stop_id	Time Period	PNR name	Adjustment Factor
110	SB	6011	AM	FLA Live Arena / BB&T Center	0.619967897
114	SB	6011	AM	FLA Live Arena / BB&T Center	0.619967897
109	SB	4995	AM	C.B. Smith Park & Ride	1
114	SB	6047	AM	Davie Park & Ride	0.877237506
114	SB	6091	AM	Davie Park & Ride	0.877237506
110	SB	5391	AM	FLL Airport Tri-Rail	1
106	SB	5640	AM	Miramar Regional Park, Park & Ride	0.965564816
108	SB	6257	AM	Miramar Park & Ride	1
109	SB	6257	AM	Miramar Park & Ride	1
110	NB	6011	PM	FLA Live Arena / BB&T Center	0.721239626
114	NB	6011	PM	FLA Live Arena / BB&T Center	0.721239626
109	NB	4995	PM	C.B. Smith Park & Ride	1
114	NB	6047	PM	Davie Park & Ride	1
114	NB	6091	PM	Davie Park & Ride	1
110	NB	5391	PM	FLL Airport Tri-Rail	1
106	NB	5640	PM	Miramar Regional Park, Park & Ride	0.538732879
108	NB	6257	PM	Miramar Park & Ride	1

Route	Direction	Stop_id	Time Period	PNR name	Adjustment Factor
109	NB	6257	PM	Miramar Park & Ride	1

These adjustment factors are multiplied by the unlinked weight factors after the activity center adjustments. The P&R adjustment is conducted on the P&R route, time period and P&R boarding/alighting station. The survey records representing the P&R routes and non-P&R stops needed to be adjusted to maintain the consistency of the route, direction, and time period level boardings. This is implemented by using the following:

1. Total boardings (at P&R's and other stations) before and after adjusting for P&R trips are estimated at route, direction, and time period level.
2. If the boardings at the P&R, after the adjustment, is less than the total boardings on the route, direction, and time period,
 - a. The unlinked weight factors on the other station are adjusted, in such a way that the total boardings by route, direction and time period matches the APC boardings. This is achieved using the formula below.

$$Final\ Unlinked\ wt\ fac_{rdtn} = \frac{After\ adjustment\ Boardings_{rdtn}}{Before\ adjustment\ Boardings_{rdtn}} \times Unlinked\ wt\ fac_{rdtn}$$

Where, "After adjustment Boardings" are the boardings after the padjustment, "Before adjustment Boardings" are the boardings before the park & ride adjustment, "Unlinked wt fac" is the unlinked weight factor from the primary expansion, "r" is route, "d" is direction, "t" is time period and "n" is non P&R.

3. If the boardings at the P&R, after the adjustment, are greater than the total boardings on the route, the adjustment is not considered and the unlinked weight factors from the primary expansion are retained. This is observed in few instances because of (a) multiple P&R's on a route, (b) the assumption of P&R trips boardings at AM period and alighting at PM period is not valid, (c) The assumption of proportioning of P&R trips to different routes based on the route level boardings at the P&R is not valid (d) or combination of the factors listed above.

These steps are implemented using R-script, which is reflected in the updated on-board survey data presented in the electronic enclosures.

Decomposition Analysis

A decomposition analysis was performed to assess the reasonableness of unlinked and linked expansion weights using the route sequence reported by the riders. Decomposition analysis breaks down the total boardings into different components, such as boardings by route, direction, and time of day, in order to ensure that the expansion weights are reasonable. This analysis helps evaluate the accuracy of the reported transfer activities to identify any sampling bias that might understate transfers on some routes while overstating the other routes. It serves as a procedural quality control check on the secondary expansion computations and procedures.

In an ideal case, an expanded on-board survey should provide similar ridership with decomposition as with the APCs. However, due to the sampling bias it is almost impossible to match the ridership after decomposition with the APCs. A systemwide ridership difference of less than 2% is preferred and less than 5% is acceptable in decomposition analysis. At route level, less than 5% is preferred and less than 10% is acceptable for high volume routes.

In the survey expansion, unlinked weights for each record are estimated to represent the system-wide boardings. The survey captures all the legs of the trip that a rider takes before and after the route on which the survey was recorded. The route on which the survey is conducted is called the surveyed route and the route(s) from which the rider transferred on to the surveyed route is called the transfer route. The total boardings (sum of surveyed route boardings and transferred route boardings) are compared to the observed APC boardings.

Table 14 presents the decomposition analysis of the on-board survey after secondary expansion. The route-level boardings after expansion are close to the observed APC boardings, which confirms that the secondary expansion did not distort the integrity of the system wide boardings.

Table 14. Decomposition Analysis

Route	Linked Boardings on Surveyed Route	Linked Boardings on Transfer Routes	Total Linked Boardings	Observed Boardings	Delta	% Delta
1	3,242	739	3,981	3,933	48	1%
2	3,436	969	4,405	4,133	272	7%
4	661	114	776	780	(4)	-1%
5	755	148	904	863	41	5%
6	983	333	1,316	1,211	105	9%
7	1,846	520	2,366	2,152	214	10%
8	261	81	341	296	45	15%
9	989	322	1,311	1,159	152	13%
10	2,170	492	2,662	2,689	(27)	-1%
101	1,330	221	1,551	1,575	(24)	-2%
106	313	6	319	313	6	2%
108	335	9	343	335	9	3%
109	272	-	272	272	-	0%
11	1,351	363	1,713	1,616	98	6%
110	244	-	244	244	-	0%
114	360	-	360	413	(53)	-13%
12	867	143	1,010	1,007	3	0%
14	2,234	597	2,830	2,955	(124)	-4%
15	76	17	93	86	7	9%
16	669	160	829	839	(11)	-1%
18	3,691	672	4,362	4,525	(162)	-4%
19	5,043	1,084	6,127	6,493	(365)	-6%
20	497	146	643	689	(46)	-7%
22	2,208	793	3,000	2,725	276	10%
23	97	69	166	113	54	48%
28	2,812	525	3,336	3,181	156	5%
30	1,057	248	1,305	1,386	(81)	-6%
31	1,837	442	2,279	2,334	(55)	-2%
34	2,028	726	2,754	2,501	253	10%
36	3,259	531	3,791	3,957	(166)	-4%
40	2,042	432	2,474	2,572	(98)	-4%
42	1,023	332	1,355	1,255	100	8%
441	2,649	359	3,008	3,343	(335)	-10%
48	377	294	671	487	184	38%
50	2,324	424	2,748	2,871	(123)	-4%
55	1,498	374	1,872	1,966	(93)	-5%
56	178	-	178	182	(4)	-2%
60	2,261	503	2,764	2,881	(118)	-4%
62	1,805	565	2,370	2,314	56	2%
72	5,533	1,002	6,535	6,593	(58)	-1%
81	2,667	685	3,352	3,308	44	1%
83	620	269	889	850	39	5%
88	586	181	767	669	97	15%
Community	4,261	50	4,311	4,620	(309)	-7%
Total	72,746	15,940	88,687	88,687	-	0%

APPENDIX D

Expansion at Major Ridership Activity Centers

Stop Id	Stop name	Route	APC Boardings	Primary Expansion Boardings	Delta	% Delta	Needs Further Adjustment?
AVENTURA MALL			1119	1369	250	22%	
2347	AVENTURA MALL	1	435	693	259	59%	Yes
4082	NE 29 P/AVENTURA B	1	57	42	-14	-25%	
4087	NE 29 P/AVENTURA B	1	2	0	-2	-100%	
3259	COUNTRY CLUB D/NE 192 S	28	3	0	-3	-100%	
5658	NE 199 S/NE 29 A (MALL ENTR)	28	0	0	0	-	
2347	AVENTURA MALL	28	293	219	-74	-25%	
3255	COUNTRY CLUB D/SOUTHVIEW	28	18	0	-18	-100%	
5654	SUNSET STRIP/NW 15 S	81	5	0	-5	-100%	
2347	AVENTURA MALL	101	308	415	107	35%	Yes
CENTRAL TERMINAL			5214	5102	-113	-2%	
20031	CENTRAL TERMINAL BAY C1 - RT1	1	576	545	-31	-5%	
20026	CENTRAL TERMINAL BAY B6 - RT6	6	221	158	-62	-28%	
20012	CENTRAL TERMINAL - (BAY A2 - RT9)	9	173	105	-68	-40%	
20021	CENTRAL TERMINAL BAY B1 - RT10	10	325	331	6	2%	
20023	CENTRAL TERMINAL - (BAY B3 - RT11 EAST)	11	65	100	35	53%	
20036	CENTRAL TERMINAL BAY C6 - RT11 WEST	11	158	41	-116	-74%	
20025	CENTRAL TERMINAL - (BAY B5 - RT14)	14	377	523	146	39%	
20013	CENTRAL TERMINAL - (BAY A3 - RT20)	20	96	190	94	98%	
20034	CENTRAL TERMINAL - (BAY C4 - RT22)	22	671	636	-34	-5%	
20022	CENTRAL TERMINAL - (BAY B2 - RT30)	30	277	253	-24	-9%	
20015	CENTRAL TERMINAL - (BAY A5 - RT31)	31	343	449	106	31%	
20011	CENTRAL TERMINAL BAY A1 - RT40 EAST	40	131	57	-74	-57%	Yes
20024	CENTRAL TERMINAL - (BAY B4 - RT40 WEST)	40	328	98	-230	-70%	Yes
20016	CENTRAL TERMINAL BAY A6 - RT50	50	343	467	124	36%	
20033	CENTRAL TERMINAL - (BAY C3 - RT60)	60	385	372	-13	-3%	
20035	CENTRAL TERMINAL - (BAY C5 - RT81)	81	397	445	48	12%	
20032	CENTRAL TERMINAL - (BAY C2 - US1 BREEZE)	101	348	331	-17	-5%	

Stop Id	Stop name	Route	APC Boardings	Primary Expansion Boardings	Delta	% Delta	Needs Further Adjustment?
LAUDERHILL TRANSIT CENTER			4177	3774	-404	-10%	
58003	LAUDERHILL TRANSIT CENTER - (BAY 3-RT18)	18	805	757	-48	-6%	
580010	LAUDERHILL TRANSIT CENTER - (BAY 10-RT19)	19	1014	1197	183	18%	
2898	US 441/NW 16 S	19	35	137	103	297%	
1393	US 441/NW 16 S	19	110	104	-6	-6%	
2897	US 441/NW 16 S	19	4	0	-4	-100%	
1798	NW 16 S/NW 40 A - (SHOPPING CTR)	36	5	33	29	635%	
2897	US 441/NW 16 S	36	1	35	34	3370%	
58006	LAUDERHILL TRANSIT CENTER - (BAY 6-RT36 EAST)	36	551	160	-391	-71%	Yes
58009	LAUDERHILL TRANSIT CENTER - (BAY 9-RT36 WEST)	36	454	172	-282	-62%	Yes
1283	NW 16 S/US 441	36	66	60	-7	-10%	
58002	LAUDERHILL TRANSIT CENTER - (BAY 2-RT40)	40	377	445	67	18%	
2898	US 441/NW 16 S	40	9	41	32	353%	
2686	NW 16 S/US 441 (E)	40	25	66	41	160%	
5461	NW 16 S/US 441	40	1	0	-1	-100%	
2897	US 441/NW 16 S	40	0	0	0	-100%	
1798	NW 16 S/NW 40 A - (SHOPPING CTR)	81	4	24	20	469%	
2897	US 441/NW 16 S	81	2	41	40	2381%	
58007	LAUDERHILL TRANSIT CENTER - (BAY 7-RT81 EAST)	81	253	182	-72	-28%	
58008	LAUDERHILL TRANSIT CENTER - (BAY 8-RT81 WEST)	81	279	160	-120	-43%	
1283	NW 16 S/US 441	81	37	31	-5	-15%	
5529	US 441/NW 12 S	441	39	26	-13	-34%	
1285	US 441/NW 12 S (N)	441	105	104	-2	-2%	
SAWGRASS MILLS MALL			701	1326	624	89%	
3269	SAWGRASS MILLS	22	106	237	132	124%	
3269	SAWGRASS MILLS	23	46	4	-41	-90%	
3269	SAWGRASS MILLS	36	159	279	120	76%	
3269	SAWGRASS MILLS	72	390	804	414	106%	Yes

Stop Id	Stop name	Route	APC Boardings	Primary Expansion Boardings	Delta	% Delta	Needs Further Adjustment?
Oakland Park and US 441 Intersection			2504	1406	-1098	-44%	
1397	US 441/NW 29 S	19	90	203	113	126%	Yes
1398	US 441/OAKLAND PARK B	19	298	221	-77	-26%	Yes
3885	US 441/NW 34 S	19	73	20	-52	-72%	Yes
3617	US 441/OAKLAND PARK B (N)	19	94	13	-80	-86%	Yes
1277	US 441/OAKLAND PARK B (S)	19	272	53	-219	-81%	Yes
1278	US 441/NW 29 S	19	83	22	-61	-73%	Yes
3911	OAKLAND PARK B/NW 43 A	72	129	75	-54	-42%	Yes
3085	OAKLAND PARK B/US 441	72	380	230	-150	-39%	Yes
2114	OAKLAND PARK B/NW 36 T (W)	72	74	34	-40	-54%	Yes
2144	OAKLAND PARK B/NW 36 T	72	26	57	30	114%	Yes
2145	OAKLAND PARK B/US 441 (E)	72	76	120	43	56%	Yes
3916	OAKLAND PARK B/US 441 (W)	72	467	124	-343	-73%	Yes
2529	OAKLAND PARK B/NW 43 A	72	55	18	-38	-68%	Yes
1398	US 441/OAKLAND PARK B	441	126	66	-61	-48%	Yes
1277	US 441/OAKLAND PARK B (S)	441	260	150	-109	-42%	Yes
Sandalfoot Area			238	548	310	130%	
4301	SW 18 S MARINA B/US 441	19	2	0	-2	-100%	
4302	EDGEWOOD PKWY/LEEWARD L	19	0	0	0	-100%	
4303	SANDALFOOT B/EDGEWOOD PKW	19	3	0	-3	-100%	
4304	US 441 & SANDALFOOT BLVD	19	215	437	222	103%	Yes
4305	US 441/MARINA B	19	18	111	93	516%	Yes
	Camino Real/US1						
4975	CAMINO REAL/US1	10	188	205	17	9%	
Golden Glades/MD County			1630	2519	890	55%	
1345	GOLDEN GLADES PARK & RIDE	18	405	966	562	139%	Yes
1354	US 441/NW 177 S	18	49	78	29	60%	
1355	US 441/NW 179 S	18	25	34	9	36%	
1356	US 441/NW 183 S - (MIAMI GDN	18	148	30	-117	-80%	
1357	US 441/NW 191 S	18	25	62	37	145%	
1358	US 441/NW 195 S	18	23	17	-6	-27%	
1359	US 441/NW 202 T	18	18	0	-18	-100%	

Stop Id	Stop name	Route	APC Boardings	Primary Expansion Boardings	Delta	% Delta	Needs Further Adjustment?
1360	US 441/NW 204 S	18	21	0	-21	-100%	
1361	US 441/NW 207 S	18	18	28	10	55%	
1315	US 441/NW 209 C	18	3	0	-3	-100%	
1316	US 441/NW 207 S	18	17	18	0	3%	
1317	US 441/NW 199 S	18	15	18	3	20%	
1318	US 441/NW 195 S	18	18	7	-11	-60%	
1319	US 441/NW 191 S	18	8	50	41	488%	
1320	US 441/NW 188 S	18	11	0	-11	-100%	
1344	US 441/NW 179 S	18	5	39	34	748%	
1345	GOLDEN GLADES PARK & RIDE	441	299	646	346	116%	Yes
1356	US 441/NW 183 S - (MIAMI GDN	441	97	118	21	22%	
1317	US 441/NW 199 S	441	9	40	31	348%	
4474	US 441/NW 187 S	18	29	9	-20	-70%	
3881	US 441/NW 189 T	18	10	42	33	342%	
2434	US 441/NW 193 S	18	6	14	8	148%	
3882	US 441/NW 199 S	18	85	53	-32	-38%	
2435	US 441/NW 209 S	18	4	0	-4	-100%	
2819	US 441/NW 215 S - (COUNTY LI	18	50	26	-24	-49%	
5643	US 441/NW 215 S - (COUNTY LI	18	44	43	0	-1%	
5448	US 441/NW 212 S	18	0	7	7	4248%	
2817	US 441/NW 204 T	18	9	21	13	146%	
2818	US 441/NW 202 T	18	28	0	-28	-100%	
6073	US 441/NW 199 S	18	13	0	-13	-100%	
2432	US 441/NW 183 S - (MIAMI GDN	18	8	0	-8	-100%	
3882	US 441/NW 199 S	441	66	58	-9	-13%	
2819	US 441/NW 215 S - (COUNTY LI	441	41	47	6	15%	
5643	US 441/NW 215 S - (COUNTY LI	441	18	49	30	168%	
2432	US 441/NW 183 S - (MIAMI GDN	441	6	0	-6	-100%	