

# Regional Origin and Destination Study 2023

PREPARED BY ETC INSTITUTE & HAMPTON ROADS TRANSIT  
MARCH 2024



# FINAL REPORT

## *2023 Hampton Roads Transit Systemwide Origin Destination Survey*

### **Table of Contents**

Acronyms and Abbreviations .....	6
Executive Summary .....	7
Background .....	7
Survey Design and Administration .....	7
Survey Results .....	7
1. Introduction .....	9
Purpose and Objectives .....	9
2. Survey Administration.....	9
2.1 Sampling Plans .....	9
OD Survey Sample Size Weekday .....	10
OD Survey Sample Size Saturday .....	10
2.2 On-to-Off Sampling Plans .....	10
2.2 Survey Design.....	11
2.3 Survey Recruitment and Training .....	11
2.4 Survey Field Administration .....	12
Data Collection Dashboard .....	14
Status Reporting.....	14
2.5 On-to-Off Count Administration.....	15
On-to-Off Collection Method.....	15
On-to-Off Collection Administration.....	16
Rail On-to-Off .....	17
On-to-Off Processing.....	17
Park and Ride Counts .....	17
2.6 Pilot Test .....	17
2.6 OD Data Review Process .....	17
3. Survey Weighting and Expansion .....	20
3.1 Decomposition Analysis.....	31
4. Survey Findings.....	33
4.1 Trip Level Analysis .....	34
4.2 Rider Analysis .....	51

4.3 Household Analysis .....	63
4.4 Attitudinal Analysis .....	70
Appendix A Survey Sampling plans .....	80
Appendix B Survey Questionnaire.....	86

## List of Tables and Figures

Table 1: Overall Survey Goals	9
Table 2: Project Time Periods	9
Table 3: On-to-Off Sampling Rates	10
Table 4 - General Issues	19
Table 5: Decomposition Analysis by Route	32
Table 6: Trip Origin	34
Table 7: Trip Destination	36
Table 8: Access Mode	38
Table 9: Egress Mode	40
Table 10: Number of Routes Used	42
Table 11: Fare Method Used	43
Table 12: Fare Discount	45
Table 13: Fare Purchase Location	46
Table 14: Fare Payment Type	47
Table 15: Transit Use Frequency	48
Table 16: Transit Use Frequency Pre COVID-Pandemic	50
Table 17: Disability Status	51
Table 18: Use of Mobility Device or Service Animal (if Disabled)	52
Table 19: Bank Account or Credit /Debit Card Status	53
Table 20: Working Smart Phone with Data Plan	54
Table 21: Visitor Status	54
Table 22: Employment Status	55
Table 23: Student Status	56
Table 24: Driver's License Status	57
Table 25: Age	58
Table 26: Race / Ethnicity	59
Table 27: Gender	60
Table 28: Speak Other Language	61
Table 29: English Proficiency	62

Table 30: Working Household Vehicles	63
Table 31: Could Have Used Household Vehicle	64
Table 32: Household Size	65
Table 33: Household Employment	67
Table 34: Household Income	69
Table 35: Reliable Transit Service	70
Table 36: Operator Helpfulness and Professionalism	70
Table 37: Clean Transit Stops	71
Table 38: Clean Transit Vehicles	71
Table 39: Passed by at Stop	72
Table 40: Feel Secure at Stop	73
Table 41: Feel Secure on Vehicle	73
Table 42: Change Boarding Location Due to Accessing Stop	74
Table 43: Change Boarding Location Due to Capacity	74
Table 44: Change Boarding Location Due to Lack of Amenities	75
Table 45: Contacted Customer Service	76
Table 46: Satisfied with Customer Service Answer	76
Table 47: Get Information About HRT	77
Table 48: Get Information from Cable Television, Radio, or Newspaper/Magazine	78
Table 49: Get Information from Social Media	78
Table 50: Get Information from Television, Music, or Podcast Streaming	79
Figure 1 - OD Survey Random Number Generator	12
Figure 2 – Data Collection Dashboard	14
Figure 3 – On-to-Off Recording Device	15
Figure 4 – On-to-Off Device Positioning on Vehicle	15
Figure 5 - Online Visual Review Tool (Editable Version)	18
Figure 6 – Segmentation with Stop Level Ridership Example	21
Figure 7 – Segmentation with Stop Level Ridership Example	22
Figure 8 – Bus Data Expansion Results of On-to-Off Counts	23
Figure 9 – Bus Data Expansion Segment Results of On-to-Off Counts	24
Figure 10 – Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments	24
Figure 11 – Stop-Level Ridership / APC Data	24
Figure 12 – Iterative Balance Process	25
Figure 13 – Final Estimate of Ridership Flows between Stations	26

Figure 14 – Number of Completed Surveys (Bus)	26
Figure 15 – Weighting Factors (Bus)	26
Figure 16 – Bus Data Expansion Table Results of On-to-Off Counts	28
Figure 17 – Bus Data Expansion Table Distribution of On-to-Off Counts	28
Figure 18 – Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments	28
Figure 19 – Stop-Level Ridership / APC Data	29
Figure 20 – Iterative Balance Process	29
Figure 21 – Final Estimate of Ridership Flows between Stops	30
Figure 22 – Number of Completed Surveys (Bus)	30
Figure 23 – Weighting Factors (Bus)	30

**ACRONYMS AND ABBREVIATIONS**

---

HRT	Hampton Roads Transit
FTA	Federal Transit Administration
OD	Origin and Destination Survey
O2O	On-to-Off Count
QA/QC	Quality Assurance/Quality Control
TRT	Transit Review Team
STOPS	Simplified Trips on Project Software
GPS	Global Positioning System
DNTC	Downtown Norfolk Transit Center
HTC	Hampton Transit Center
NNTC	Newport News Transit Center
GIS	Geographic Information System

## **EXECUTIVE SUMMARY**

### **Background**

In the late summer and fall of 2023 Hampton Roads Transit (HRT), with consultant support from ETC Institute, conducted a system-wide on-board Origin Destination (OD) survey of all HRT fixed bus routes, ferry, and light rail services. The study was conducted in the HRT service area which includes the cities of Norfolk, Virginia Beach, Chesapeake, Portsmouth, Hampton, Newport News, Williamsburg, and the town of Smithfield. HRT conducts these studies to gather updated travel behavior data from transit users to gain a better understanding of today's transit riders. In addition, the data collected will be used to improve transit ridership forecasts for future ridership forecasts utilizing FTA's Simplified Trips-on-Project Software (STOPS) model in support of HRT high capacity transit studies. Finally, this survey will support the analyses that HRT typically conducts for compliance with Title VI of the Civil Rights Act of 1969 since HRT is a recipient of federal funding.

Survey tasks included developing a sampling plan, designing the survey instrument (questionnaire), conducting a pilot test, full-scale collection, processing, expansion, analyzing, and reporting the results. The pilot test was conducted from August 14, 2023, through August 20, 2023, with the full data collection performed from August 21, 2023, through November 3, 2023.

### **Survey Design and Administration**

The survey design process consisted of HRT and ETC Institute collaborating to design the survey questionnaire and develop a sampling plan that would ensure adequate data collection to perform analysis. Upon approval of the questionnaire, a pilot survey was conducted in mid-August, to evaluate the functionality of the OD survey instrument. The pilot was intended to be a test-run of the full-scale data collection and the results were then used to develop and finalize the data quality assurance and control (QA/QC) plan.

The goal was to obtain at least 4,000 weekday OD surveys and 600 Saturday surveys totaling 4,600 collected OD surveys during the full data collection. A total of 4,793 surveys were collected, of which 4,062 were weekday surveys and 731 were Saturday surveys. Weekday sample sizes (16%) were based off collecting a large enough amount of weekday ridership in order to be representative of the population for modeling purposes. Saturday sample percentages were based on a 2% sample rate due to the remaining budget and weekends are not included in modeling.

### **Survey Results**

ETC Institute created sets of statistics at the regional level. These statistics focused on passengers' transit traveler demographics, transit travel patterns, and trip purposes. These profiles are based on weekday travel only.

#### **Trip Profiles**

- Home is the main origin (40%) and destination (41%) place type for HRT riders. Twenty-seven percent of HRT riders' origin place type is work, and 21% of riders' destination is work.
- The majority (89%) of HRT passengers walk to access their first bus from their origin and walk to egress (92%) to their final destination from their last bus. Only 6% of passengers

- access transit by automobile (personal, drop off, or Uber / Lyft) and only 4% egress transit by automobile (personal, picked up, or Uber / Lyft).
- Forty percent of HRT riders must use more than one route to make their transit trip. Ten percent of riders must take three or more routes during their trip.
  - Nearly half (47%) of HRT riders use a 1-Day Go Pass for fare. Twenty-four percent of HRT riders use a discounted fare and over half (54%) purchase their fare from the farebox.

**Passenger Profiles**

- Three quarters (75%) of HRT riders are employed either full or part time and 11% of HRT riders are students (K-12, College, or Vocational / Trade school).
- Fifty-eight percent of HRT riders are Male and 36% are 55 years of age or more.
- Sixty-eight percent of HRT riders are Black / African American, 23% White / Caucasian, 6% Hispanic / Latino, 3% Asian, 2% American Indian / Alaskan Native, and 1% Native Hawaiian / Pacific Islander.
- Forty-seven percent of HRT riders have a valid driver's license and 37% have one or more household vehicles. Out of those with household vehicles, only 36% could have used one of those vehicles to make their transit trip.
- Sixty-two percent of HRT riders live in households with two people or less and 52% of HRT riders have combined annual household incomes of less than 25,000 per year..
- The majority (95%) of HRT riders own a smart phone and 90% have a bank account, debit card, or credit card.



## 1. INTRODUCTION

The 2023 Hampton Roads Transit (HRT) Origin and Destination (OD) onboard passenger survey included interviewing bus riders on all routes and an On-to-Off (O2O) counts to capture riders boarding and alighting location pairs for select HRT routes in the region. Overall, the goal was to collect at least 4,600 OD surveys (4,000 Weekday and 600 Saturday) in total and 2,437 O2O pairs. Ultimately, 4,793 OD surveys were completed and 6,593 O2O pairs were captured. Weekday sample sizes (16%) were based off collecting a large enough amount of weekday ridership in order to be representative of the population for modeling purposes. Saturday sample percentages were based on a 2% sample rate due to the remaining budget and weekends are not included in modeling.

**Table 1: Overall Survey Goals**

<b>Survey Type</b>	<b>Goal</b>	<b>Completed</b>
On-to-Off Count Pairs	2,437	6,593
Weekday OD Surveys	4,000	4,062
Saturday OD Surveys	600	731
<b>Total OD Surveys</b>	<b>4,600</b>	<b>4,793</b>

### Purpose and Objectives

The purpose of the study was to gather updated travel behavior data from fixed route bus users within the HRT service area. The data collected will be used to:

- Improve transit forecasts for use in the FTA STOPS model for HRT high-capacity transit corridor studies.
- Compile statistically accurate information about transit customers and how they use the transit system for HRT planning purposes.
- Support HRT with Title VI analyses and updating their Title VI plan that is submitted to the Federal Transit Administration (FTA) every three years.

This report summarizes the survey methods and findings. Chapter 2 provides a description of the sampling approach, survey instrument and procedures, and survey administration. Chapter 3 provides survey weighting and expansion procedures, expansion types, and decomposition analysis. Chapter 4 provides detailed information for the variables collected during the OD survey and summarizes the data. Included in the appendices are the Survey Sampling Plans (Appendix A) and the Survey Questionnaire (Appendix B).

## 2. SURVEY ADMINISTRATION

### 2.1 Sampling Plans

To ensure the distribution of completed surveys mirrors the distribution of HRT passengers, ETC Institute (ETC) and HRT established proportional sampling goals for the OD survey.

**Table 2: Project Time Periods**

Time Period	Time Range
AM Peak	6:00 a.m. to 9:00am
Midday	9:00 a.m. to 3:00 p.m.
PM Peak	3:00 to 6:00 p.m.
Evening	After 6:00 p.m.

### Sources of Ridership Data

The source of the ridership used to plan for the survey was based on January through March 2023 average weekday and Saturday ridership for all non-summer routes (all except VB Wave). For VB Wave, the ridership from June through August 2022 was employed. These data sources were summarized and presented for each route at the cell level (route/direction/time-of-day).

### OD Survey Sample Size Weekday

ETC developed a sampling plan that would ensure the completion of the OD survey by at least 4,000 surveys. The sampling plan for the OD survey was designed to obtain completed surveys from a minimum of 16% of the ridership on each fixed bus route and 20% for HRT's light rail and ferry service. Overall, 4,062 weekday surveys were collected.

Sampling goals were created to guide the collection by route, time, and direction. Appendix A contains the sample plans which show the OD survey sampling goals and total number of weekday trips surveyed and collected by time-of-day and direction.

### OD Survey Sample Size Saturday

Saturday sampling goals were based on collecting 600 surveys. Saturday routes were sampled at a 2% rate. Ultimately, 731 Saturday surveys were collected. Appendix A contains the sample plans which show the OD survey sampling goals and number of total Saturday surveyed trips collected by time-of-day and direction.

## 2.2 On-to-Off Sampling Plans

The sampling plan for the O2O counts were designed to obtain completed passenger boarding and alighting pairs from a varied sample rate depending on the route. The O2O sample plan was created to collect a minimum of 20% of the daily ridership on each route that had ridership of 500 daily boardings or greater. Additionally, the ETC team collected O2O counts for key routes that had an Average Weekday Ridership of less than 500. The goal for these routes was set at a 10% sample rate.

Table 3: On-to-Off Sampling Rates

Route	Sample %		Route	Sample %
1	20%		33	10%
2	10%		36	10%
3	20%		45	20%
8	10%		47	10%
12	10%		101	10%
15	20%		106	10%
20	20%		107	10%
21	20%		112	20%
25	10%		114	20%
26	10%		118	20%
30	20%		Rail (Tide)	20%

In total, 6,593 boarding and alighting pairs were collected. Appendix A contains the sample plans which show the O2O number of total boarding and alighting pairs collected by time-of-day and direction.

## **2.2 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, ETC designed a tablet-based intercept interview survey as the primary survey medium. The survey is included as Appendix A. The survey was created to ensure Title VI requirements were met and to provide additional information on riders.

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 would then 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, gender.

## **2.3 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. ETC utilized in-house survey staff for most of the data collection but also collaborated with the staffing firm ANIK to provide interviewers for the OD Survey.

ETC Institute conducted one training session throughout the process. The training session focused on the study purpose and objectives, the survey instruments, scripts on how to respond to passengers' 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 HRT employees, they were representing HRT while on transit vehicles or property and they needed to act in a manner that reflected positively.

Maximizing participation and legitimizing the survey among passengers depended on the public response to the survey staff. To support a good public image, ETC Institute imposed strict dress code standards that required survey staff to wear clean appropriate clothing to present a casual, yet neat, appearance that ensured professionalism and comfort. Survey staff were provided with survey badges and vests, identifying interviewers to HRT staff and passengers. The badge and dress code standards promoted a professional appearance and reinforced survey legitimacy, which increased passengers' trust in the interviewers and the process.

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

### **OD Surveyor Training**

The ETC field manager created the necessary training materials for conducting the OD survey training including a PowerPoint presentation to explain the purpose and objectives of the OD

survey, procedures and requirements, survey logistics, how to maximize response rates, 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.

For the OD survey training, ETC ensured that the training addressed the following details:

- Tips on intercepting/interacting with non-English speakers and passengers with limited English proficiency.
- Cultural sensitivity.
- Importance of understanding the intent of the questions.
- Instructions on conveying the purpose of the survey to passengers.
- 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 passenger for internal purposes.
- Importance of data confidentiality and instruction on how to address passenger 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 passenger comments and complaints.
- Safety training.

Following classroom training, applicants got a chance to conduct interviews under the supervision of an experienced ETC surveyor. An ETC Supervisor oversaw interviewers and provided feedback on performance throughout the day.

## 2.4 Survey Field Administration

Survey staff would report to their assigned locations such as the Downtown Norfolk Transit Center (DNTC), Hampton Transit Center (HTC), Newport News Transit Center (NNTC), and multiple individual bus stops for their shifts. Survey staff surveyed throughout the service day Monday through Thursday and on Saturdays.

### 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 passenger.

#### *Selection of OD Participants*

For the OD interview the tablet generated a random number (shown in Figure 1) to determine which passengers 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

**Figure 1 - OD Survey Random Number Generator**

**RANDOM**

**RANDOM\_NUMBER**

Please choose a number between 1 and 6:

1 2 3 4 5 6

limited to the first six people who boarded a bus or train at any given stop to ensure the interviewer could keep track of the passengers 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 passenger, then the passenger who boarded before the passenger selected 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 phone numbers to conduct the survey at another time. Those who provided their phone numbers for callbacks were then contacted by ETC's call center to complete the survey. Interviewers that spoke a different language from the passenger translated the English tablet version during the interview and indicated in which language the interview was conducted. Additionally, interviewers carried paper surveys in Spanish that could be distributed for self-administration.

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

- Approached the passenger identified and asked him/her/them to participate in the survey.
- If the passenger refused, the interviewers ended the survey, excused themselves and completed three observational questions (age, race, and gender).
- If the passenger agreed to participate, the interviewer asked the passenger if he/she/they had at least 5 minutes to complete the survey.
- If the person did not have at least 5 minutes on the bus, the interviewer asked the person to provide his/her/their name and mobile phone number or e-mail to send a link to a self-administered online version. This methodology ensured that people who completed short trips on public transit were well represented. Most records were able to be completed onboard.
- If the person had at least 5 minutes on the bus, the interviewer completed the survey on the vehicle.

Incentives were offered to increase survey participation. The incentive was a free ride ticket if the respondent completed the survey.

### *OD In-Field Quality Assurance/Quality Control*

ETC's field supervisor reviewed each interviewer's data reviewing the following elements to ensure they were administering the interview properly. To accomplish this the field supervisor continually monitored various elements of the data collection daily. Some of the areas where this monitoring occurred was:

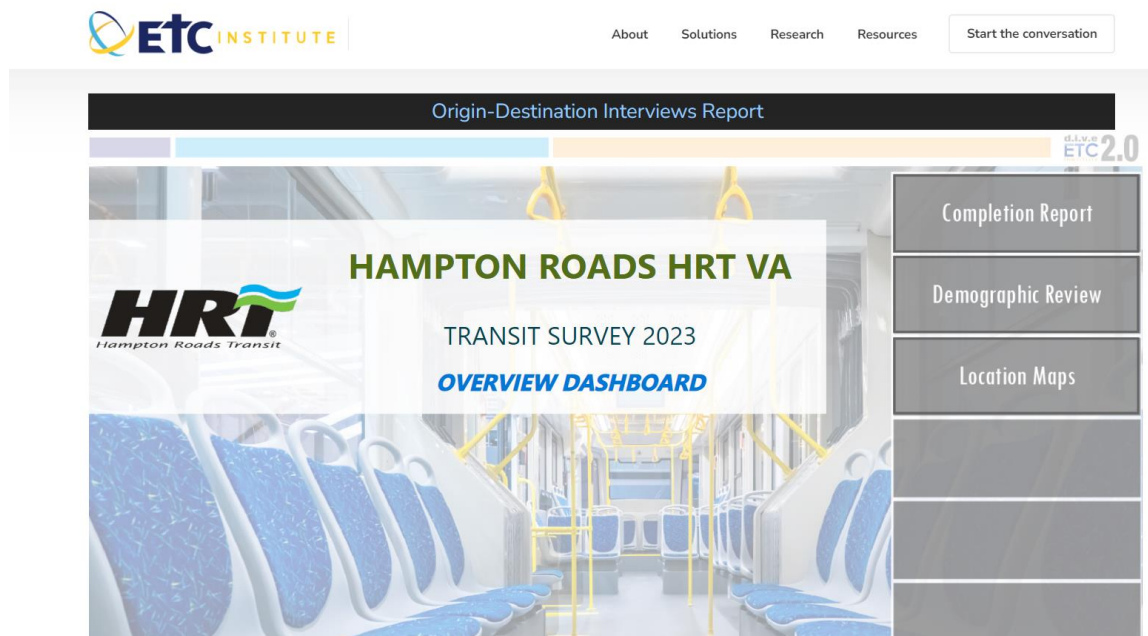
- Distribution of surveys by demographics - There were a number of demographics monitored including race, gender, and age to ensure that riders were randomly selected. If percentages of an individual interviewer greatly differed from other interviewers, especially on the same route, this was used to 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 staff average survey time was much longer than others, feedback was provided to staff to help them improve their 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 when riders indicated they were willing to participate and whether they had at least 5 minutes or not. If a passenger did not have at least five minutes, they were able to provide a phone number or email for a self-administered version. In cases where these distributions were slightly off due to passengers not completing a survey due to short trips, the expansion process accounted for any differences.
- Percentage of capturing non-English speakers. Staff responses were reviewed to ensure the attempt to capture non-English speakers occurred.

### Data Collection Dashboard

ETC created a data collection dashboard for HRT to view the collection productivity, 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. ETC supervisors monitored data collection with a similar dashboard designed for supervisors to monitor collection goals and quality check interviewer's demographics and other items.

Figure 2 – Data Collection Dashboard



### Status Reporting

ETC provided HRT status updates weekly and in addition, the whole team was able to view from access to the data collection dashboard. The sample collected for each day type was monitored at the overall route level direction and time of day.



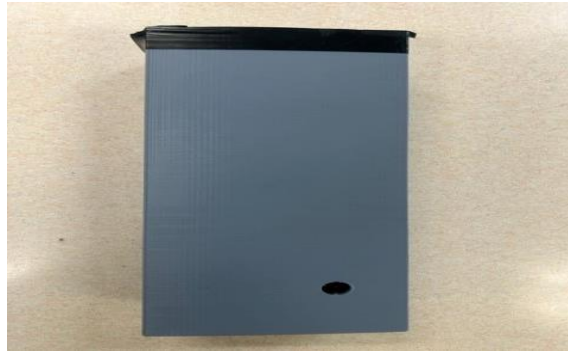
## **2.5 On-to-Off Count Administration**

### **On-to-Off Collection Method**

ETC implemented a new method of capturing passenger boarding and alighting pairs (On-to-Off pairs) using video recording devices that capture pictures of passengers from the knee down. By capturing from the knee down the passenger's identity remained unknown. Utilizing the devices eliminated using survey staff on board vehicles thus lowering labor costs and human error and allowed for nearly a 100 percent pair count.

The devices provided a stable and accurate GPS record with a refresh rate of 1 second with a recording time of up to 16 hours. The recording devices were placed in 3D printed shells and placed at each bus door positioned to capture passengers' images when they boarded and alighted. Figure 3 below shows the device used and Figure 4 shows the positioning of the device on-board the vehicles in different locations (doors).

**Figure 3 – On-to-Off Recording Device**



**Figure 4 – On-to-Off Device Positioning on Vehicle**





### **On-to-Off Collection Administration**

Blocks were pre-selected by ETC for all routes selected for the O2O counts. O2O collection staff reported to the north and south bus garages the hours of 12am to 4am. The collection staff would then:

- Check in with dispatch and provide block numbers.
- Receive individual bus numbers for each block by dispatch.
- In order of bus pull-out time (earliest to latest), install the devices onboard the vehicles.
- Devices were installed for each door on the bus.
- Leave an HRT letter in the operator's seat to notify them that their vehicle was selected for the study and has devices installed at each door.
- Monitor video capture throughout the day to ensure no devices have turned off or been removed.
- Return to the depot when buses return to uninstall the devices.
- Upload the device data to ETC's secure system.
- Delete data from the devices and charge for the following day.



### **Rail On-to-Off**

The rail O2O was collected using a two-question interview asking the rider at which station the rider boarded and would alight. The rail O2O program included all stops by the Tide. Interviewers would board the Tide, approach passengers, and ask them at what stations they boarded and at what station they were alighting.

### **On-to-Off Processing**

Video recordings were uploaded by field staff which went into ETC's secure filing system. The videos were reviewed for completeness and then sent to ETC's O2O video review team (VRT). The VRT would screenshot each boarding and alighting (bottom half of passenger) that included the tagged GPS location and GPS time. These screenshots were then paired by the VRT for individual passengers boarding and alighting locations, times, route, and direction. Once paired, a secondary review was conducted to ensure accuracy.

### **Park and Ride Counts**

Car counts were conducted at the four light rail park and rides between the hours of 10a – 1p for weekdays (counted three different days) and Saturday (counted two different days). These counts occurred at Newtown Road Station, Military Highway Station, Ballentine/Broad Creek Station, and Harbor Park Station.

## **2.6 Pilot Test**

ETC Institute conducted a pilot test on HRT buses from August 14 - 20, 2023. The purpose of the pilot test for the 2023 HRT study was to assess aspects of the survey including survey design, sampling methodology, survey program, and data processing tasks. The pilot's goal was to collect 50 OD intercept surveys. The actual number of intercept surveys completed was 148 (109 Weekday and 39 Saturday). Interviews were conducted between the hours of 5:30am – 10:00pm Monday through Thursday and Saturdays.

## **2.6 OD Data Review Process**

Many of the monitoring processes described previously in the report were essential elements of the overall quality assurance/quality control (QA/QC) process that was implemented throughout the survey. 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 Maps searches, ETC Institute Visual Review program, and Caliper® Maptitude geographic information system (GIS) software, allowed for the geocoding accuracy that was achieved.

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. ETC Institute classified required trip data as containing complete answers to the following:

- Route/Direction
- Time of trip
- Transfers made
- Origin place type
- Destination place type
- Access mode

- Home address
- Origin address
- Destination address
- Egress mode
- Boarding location
- Alighting location

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

### Online Visual Review Tool

ETC Institute online visual review tool allowed for the review of all completed records. The tool displayed all elements of the 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 5 shows an example of the online visual review tool.

Figure 5 - Online Visual Review Tool (Editable Version)

The screenshot displays the 'Online Visual Review Tool (Editable Version)' interface. On the left, there is a sidebar with various input fields and buttons. The 'ROUTE CODE' section shows '31 - Aquarium & Campground Trolley'. The 'ROUTE DETAILS' section includes a date of '2023-08-21 12:21:11' and a 'JTC' button. Below this is a 'SELECT POINT' section with buttons for 'H', 'O', 'B', 'A', and 'D'. The 'ORIGIN LOCATION' section has a 'Location Search' field and a 'PLACE TYPE' dropdown set to 'Recreation / Sightseeing'. The 'PLACE NAME' field contains 'Virginia Aquarium & Marine Science Center'. The main area features a map of Virginia Beach with a red line indicating the route. The route starts at the 'Virginia Aquarium & Marine Science Center' (marked with a red 'A') and ends at 'Neptune's Park' (marked with a red 'D'). The route passes through 'Atlantic Park' and 'Vibe Creative District'. On the right, a 'ROUTE LIST' panel shows a list of routes with checkboxes for 'RAIL (INBOUND)', 'RAIL (OUTBOUND)', and various other locations. At the bottom, there is a 'Remark' field and a note: '(\* Data will be saved when you select the status)'.

### Pre-Distance Checks

The series of distance and ratio checks were contained in the online visual review tool for ETC Institute's Transit Review Team (TRT) to systematically approach the reviewing of completed records. The TRT process for editing surveys is described later in this section. *Note: The distance and ratio checks described are meant to alert the reviewer that closer evaluation may be needed. However, this does not indicate the record was inaccurate or unusable.*

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 location 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

The TRT reviewed all completed records, paying special attention to records that were flagged by the previously described checks. Typically, around 10 percent of all records receive an automatic

flag. The issues listed in Table 4 result in actions that allow about 50 percent of those records that are flagged to be retained.

**Table 4 - 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 involves the application of QA/QC non-trip checks. Once all records complete the pre-processing and post-processing QA/QC checks, those deemed complete and usable are appended to the completion report to ensure that goals are met. After the final review is completed, a data dictionary was created to describe the data in the database.

### 3. SURVEY WEIGHTING AND EXPANSION

When survey goals are created, they are typically based off a percentage of the average weekday ridership for the routes in the system. That is further broken down by time periods and directions. The time periods that are created (9:00am to 3:00pm for example) are based off the specific needs of the client. Once a sample percentage is agreed upon, the goals for the survey collection are based off the ridership for each route by time period and direction, and then multiplied by the sampling percentage. For “Circular” or “Loop” routes, the ridership is typically only broken down into time period as there are many riders that will board going in one direction but alight going the other direction due to the functionality of the route. This typically is also the case if there are directional routes where many riders travel through the terminus and alight going the opposite direction of initial boarding.

The purpose of developing survey goals is to collect an appropriate number of survey records that will be “**expanded**” to represent the total average weekday ridership of each route by time period and direction. To further increase the specificity of the expansion process, segments were created for each route. Stops were grouped into segments along that route so that boarding segments could be paired with alighting segments when creating the expansion factor. Segmentation occurs on bus routes because it is unrealistic to expand bus survey data at the stop level. Stop, or station, level expansion is generally reserved for rail lines.

#### *Route Segmentation with Automated Passenger Counter Data*

ETC Institute primarily creates segments for bus/rail routes based on “boarding/alighting (total ridership)” percentages along the route. The preferred method is to segment routes using Stop-Level Ridership data. Routes with Stop-Level Ridership data are divided into segments based on the “boarding/alighting (total ridership)” patterns. A new segment begins after approximately a specific percentage of the route’s “boarding/alighting (total ridership)” has occurred, and another segment initiates after reaching a similar threshold. The final segment is established after a designated portion of the “boarding/alighting (total ridership)” has taken place. **Error! Reference source not found.** illustrates this segmentation process using stop-level ridership data.

After the default segmentation process is completed, the default segments were forwarded HRT for review and adjustments. These adjustments are made based on specific characteristics of various sections of the route. These new agency segments will be used for the expansion.

(Note: Iterative Proportional Fitting (IPF) is employed in various expansion methods discussed later in this document. To ensure IPF accuracy, “boarding/alighting (total ridership)” figures must match alighting totals. Therefore, adjustments are made to Ridership alighting data using a multiplying factor to align it with “boarding/alighting (total ridership)” figures. Typically, these adjustments are nominal. However, if significant disparities exist between “boarding/alighting (total ridership)” figures in different directions of a route, additional review of the route’s functionality may be required to ensure that surveys are both collected and expanded appropriately.)

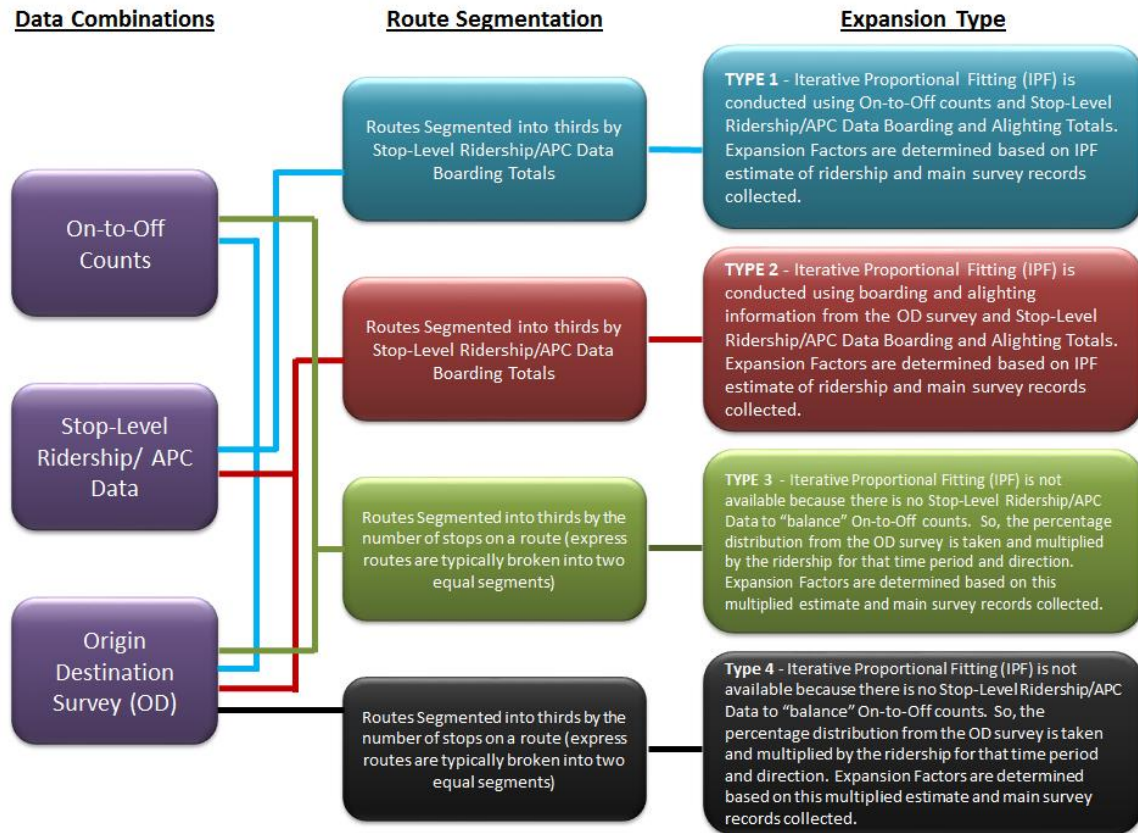
Figure 6 – Segmentation with Stop Level Ridership Example

Segmentation with Stop Ridership Example						
Direction: Eastbound Route: 1	APC DATA		Segmentation			
Stops	Boardings	Alightings	Running Total Ridership [Board+Alight]	Running Percentage of Total Ridership [Board+Alight]	Default Segment	Agency Segments
STOP-1	35	0	35	11.51%	1	1
STOP-2	20	10	65	21.38%	1	1
STOP-3	20	5	90	29.61%	1	1
STOP-4	15	10	115	37.83%	2	1
STOP-5	5	12	132	43.42%	2	2
STOP-6	4	4	140	46.05%	2	2
STOP-7	19	4	163	53.62%	2	2
STOP-8	12	3	178	58.55%	2	2
STOP-9	15	5	198	65.13%	2	2
STOP-10	3	10	211	69.41%	3	2
STOP-11	2	15	228	75.00%	3	2
STOP-12	2	11	241	79.28%	3	3
STOP-13	0	10	251	82.57%	3	3
STOP-14	0	15	266	87.50%	3	3
STOP-15	0	38	304	100.00%	3	3
	152	152				

### Types of Data Expansion

The type of bus data expansion conducted depended on the data available for the specific bus route. The three types of data that created the combinations that guided the type of expansion used were: APC data (from HRT), O2O counts (collected by ETC Institute), and OD survey data (collected by ETC Institute). Figure 7 shows the data combinations, the corresponding route segmentation, and type of expansion used.

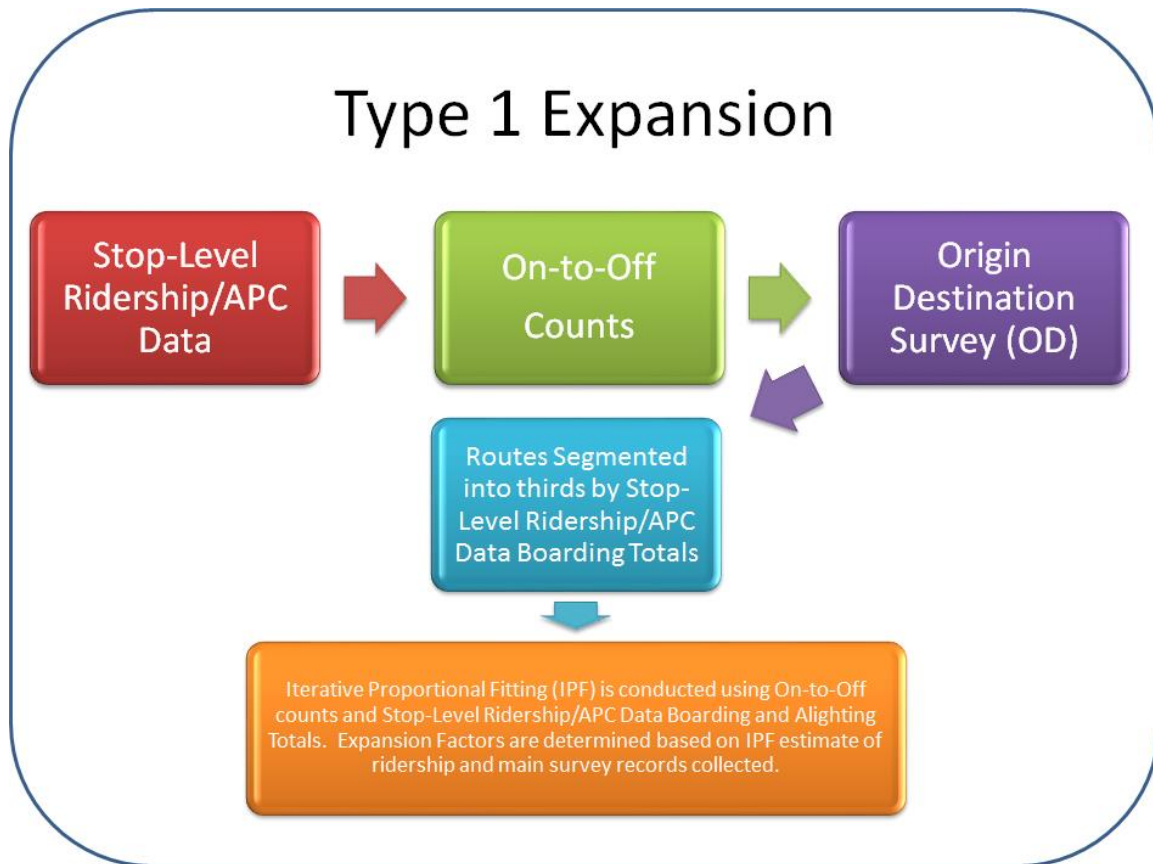
Figure 7 – Segmentation with Stop Level Ridership Example



#### Type 1 Expansion: Bus Routes with Stop-Level Ridership / APC Data, On-to-Off Counts, and OD Survey Data

Of the four types of bus sample expansion discussed, Type 1 expansion was the preferred method as it incorporated all three types of data that were available. This type of expansion was conducted on the more heavily traveled routes in the system and occurred after route stops were divided into 3 segments based on total boarding distribution by direction, as previously described. The segments were then appended to both the O2O counts and OD data based on the boarding and alighting locations. The methodology for Type 1 expansion is as follows:





### Type 1: Expansion Methodology for Bus Routes with Stop-Level Ridership / APC Data, On-to-Off Counts and OD Survey Data

Once the segments were appended to the O2O counts and OD survey databases, the records were ready for expansion. The process for how the data was expanded in Type 1 expansion is explained below. Figure 9 shows the segmented results for the O2O counts that were administered for a certain route, direction, and time period. Each row in the table identifies the segment where passengers boarded the bus. The columns in the table identify the segments where people alighted the bus. For example, 20 of the O2O counts had riders board in segment 2 and alight in segment 3.

Figure 8 – Bus Data Expansion Results of On-to-Off Counts

Route: Example Eastbound (6am-9am)		ACTUAL RIDERSHIP COUNTS FROM THE ON/OFF SURVEY			
Segment		Total	1	2	3
1	60	5	15	40	
2	45			25	20
3	10				10
Total	115	5	40	70	

Figure 9 shows the distribution of the data in 9 expressed as a percentage of all boardings for the specific time period and direction. Figure 9 was created by dividing each O2O cell in Figure 8 by the sum of all O2O counts in Figure 8, which is 115. For example, 20/115 (17.4%) of all trips boarded in segment 2 and alighted in segment 3, as shown in Figure 9.

**Figure 9 – Bus Data Expansion Segment Results of On-to-Off Counts**

Segment	Total	1	2	3
1	52.2%	4.3%	13.0%	34.8%
2	39.1%	0.0%	21.7%	17.4%
3	8.7%	0.0%	0.0%	8.7%
<b>Total</b>	<b>100.0%</b>	<b>4.3%</b>	<b>34.8%</b>	<b>60.9%</b>

The total APC ridership for the route, time period, and direction was applied to the O2O distribution percentages shown in Figure 9. This produced an estimate of the ridership flow for the boarding segment to the alighting segment as shown in Figure 10. Applying the actual ridership of 320 created an initial estimate of 56 trips (17.4% x 320) boarding in segment 2 and alighting in segment 3.

**Figure 10 – Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments**

(percentages in table 2 were applied to the total boardings for this time period in this direction)				
Route: Example Eastbound (6am-9am)		PROJECTED RIDERSHIP BASED ON THE ON-TO-OFF SURVEY		
Segment	Total	1	2	3
1	167	14	42	111
2	125	0	70	56
3	28	0	0	28
<b>Total</b>	<b>320</b>	<b>14</b>	<b>111</b>	<b>195</b>

In order to develop a more accurate estimate of the ridership flows between segments on each route, ETC Institute developed an Iterative Proportional Fitting (IPF) algorithm to balance the differences between the ridership projected from the O2O counts (shown in Figure 10) and the APC ridership for each segment (shown in Figure 11). The IPF process is described below:

**Figure 11 – Stop-Level Ridership / APC Data**

Route: Example Eastbound (6am-9am)				
Average Weekday Ridership	Total	1	2	3
<b>BOARDINGS</b>	320	100	100	120
<b>ALIGHTINGS</b>	320	20	100	200
DIFFERENCE FROM PROJECTED				
<b>BOARDINGS</b>	0	-67	-25	92
<b>ALIGHTINGS</b>	0	6	-11	5

**Step 1: Correction for the Boardings.** The estimated ridership from the O2O counts for each route (as shown in Figure 11) was multiplied by the ratio of the actual boardings from stop-level ridership / APC data for each segment by the estimated boardings for each segment. For example,



if the actual boardings for Segment 1 were 120 and the estimated boardings were 100, each cell associated with Segment 1 would have been multiplied by 1.2 ( $120 / 100$ ) to adjust the estimated boardings to match actual boardings.

**Step 2: Correction for the Alightings.** Once the correction in Step 1 was applied, the estimated boardings would be equal to the actual boardings. However, the adjustment to the boardings total may have changed the alighting estimates. To correct the alighting estimates, the new values calculated in Step 1 were adjusted by multiplying the ratio of the actual alightings from the stop-level ridership / APC data for each stop by the estimated alightings for each segment from Step 1. For example, if the actual alightings for segment 2 were 220 and the estimated alightings from Step 1 were 200, each cell associated with segment 2 would have been multiplied by 1.1 ( $220 / 200$ ) to adjust the estimated alightings from Step 1 to actual alightings.

The processes described in Steps 1 and 2 were repeated sequentially until the difference between the actual and estimated boardings and alightings converged to zero. Figure 12 shows that after seven balancing iterations in this algorithm, there were no differences between the projected distribution and the actual boardings and alightings.

**Figure 12 – Iterative Balance Process**

7th STEP of ITERATIVE BALANCING TO CORRECT DISTRIBUTION OF RIDERSHIP BY ALIGHTING Location					
Segment	Total	DIFFERENCE FROM ACTUAL BOARDINGS	1	2	3
1	100	0	20	32	49
2	100	0	0	68	32
3	120	0	0	0	120
Total	320	0	20	100	200
DIFFERENCE FROM ACTUAL ALIGHTINGS	0		0	0	0
7th STEP of ITERATIVE BALANCING TO CORRECT DISTRIBUTION OF RIDERSHIP BY BOARDING Location					
Segment	Total	DIFFERENCE FROM ACTUAL BOARDINGS	1	2	3
1	100	0	20	32	48
2	100	0	0	68	32
3	120	0	0	0	120
Total	320	0	20	100	200
DIFFERENCE FROM ACTUAL ALIGHTINGS	0		0	0	0

The final estimate for ridership flows is shown in Figure 13.

**Figure 13 – Final Estimate of Ridership Flows between Stations**

<b>Route: Example Eastbound (6am-9am)</b>				
Segment	Total	1	2	3
1	100	20	32	48
2	100	0	68	32
3	120	0	0	120
<b>Total</b>	<b>320</b>	<b>20</b>	<b>100</b>	<b>200</b>
<b>DIFFERENCE FROM ACTUAL ALIGHTINGS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

The actual number of OD records completed for each boarding to alighting segment pair is shown in Figure 14. To calculate the expansion factors, the final estimate of ridership between segments shown in Figure 13 was divided by the actual number of OD records collected, as shown in Figure 14. This calculation produced the expansion factors shown in Figure 15. For example, the 32 estimated riders projected to board in segment 2 and alight in segment 3 were divided by the 10 OD records to produce an expansion factor of 3.15 to be applied to records that boarded in segment 2 and alighted in segment 3, as shown in Figure 15.

**Figure 14 – Number of Completed Surveys (Bus)**

<b>Route: Example Eastbound (6am-9am)</b>				
Segment	Total	1	2	3
1	32	3	9	20
2	17		7	10
3	8			8
<b>Total</b>	<b>57</b>	<b>3</b>	<b>16</b>	<b>38</b>

**Figure 15 – Weighting Factors (Bus)**

<b>Route: Example Eastbound (6am-9am)</b>				
Segment	Total	1	2	3
1	3.13	6.67	3.50	2.42
2	5.88	0.00	9.78	3.15
3	15.00	0.00	0.00	15.00
<b>Total</b>	<b>5.61</b>	<b>6.67</b>	<b>6.25</b>	<b>5.26</b>

**Type 2 Expansion: Bus Routes with Stop-Level Ridership / APC Data, OD Survey Data, but no On-to-Off Counts**

O2O counts are not collected for lower ridership routes. However, sometimes these routes will have stop-level ridership / APC data available. In this case, Type 2 expansion is appropriate. This type of expansion also divided stops into three segments based on total boarding distribution by direction. These segments were then appended to the OD records based on the boarding and alighting locations. The expansion method is similar to Type 1 expansion, with the only difference being that the distribution of OD records was substituted for the O2O counts. The methodology for Type 2 expansion is as follows:

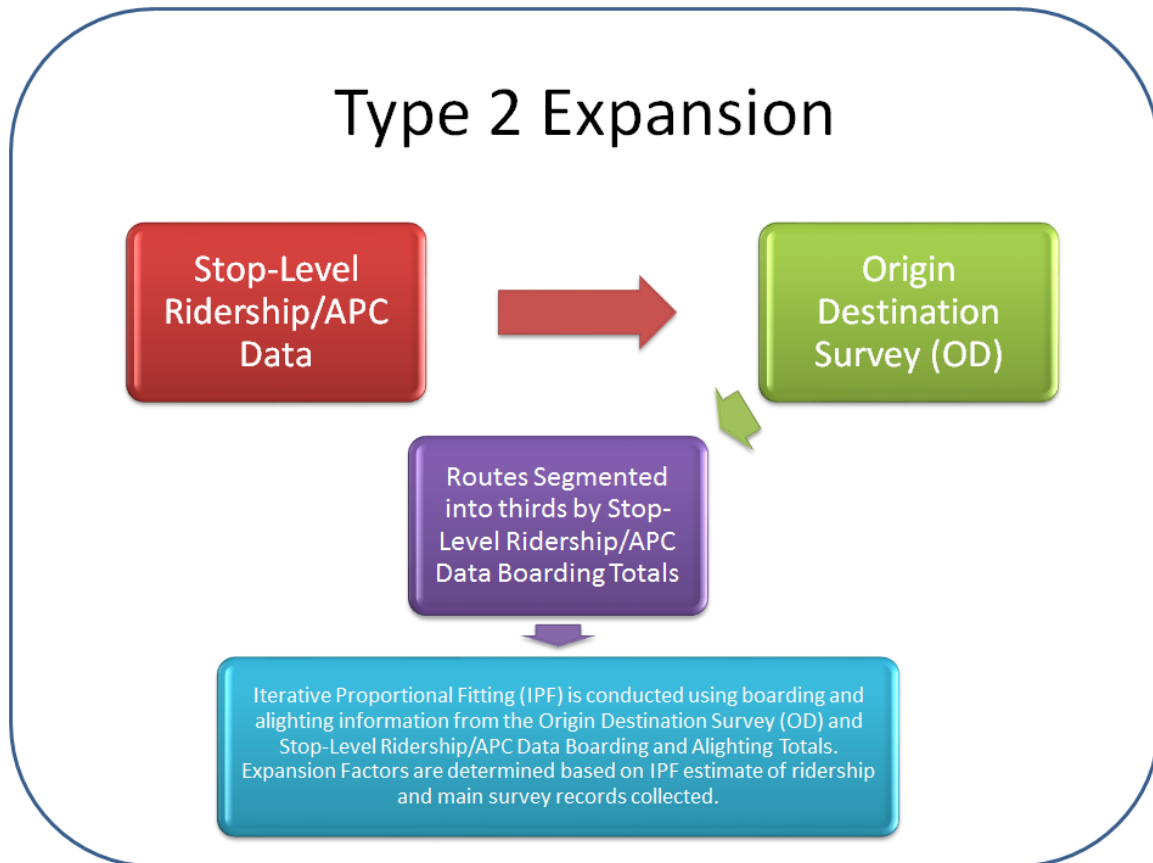
**Type 2: Expansion Methodology for Bus Routes with Stop-Level Ridership / APC Data, OD Survey Data, but no On-to-Off Counts**

Figure 16 shows the segmented results from the OD survey that replaced the O2O counts. Each row in the table identifies the segment where passengers boarded the bus. The columns in the table identify the segments where people alighted. For example, 10 OD surveys had riders board in segment 2 and alight in segment 3.

Figure 16 – Bus Data Expansion Table Results of On-to-Off Counts

Route: Example Eastbound (6am-9am)		Replacing On-to-Off Results		
Segment	Total	1	2	3
1	32	3	9	20
2	17		7	10
3	8			8
Total	57	3	16	38

Figure 17 shows the distribution of the data in Figure 16, expressed as a percentage of all boardings for the time period and direction. Figure 17 was created by dividing each cell in Figure 16 by the sum of all records in Figure 16, which is 57. For example, 10/57 (17.5%) of all trips boarded in segment 2 and alighted in segment 3 as shown in Figure 17

Figure 17 – Bus Data Expansion Table Distribution of On-to-Off Counts

Route: Example Eastbound (6am-9am)		PERCENTAGE DISTRIBUTION OF RIDERSHIP COUNTS FROM THE ON/OFF SURVEY		
Segment	Total	1	2	3
1	56.1%	5.3%	15.8%	35.1%
2	29.8%	0.0%	12.3%	17.5%
3	14.0%	0.0%	0.0%	14.0%
Total	100.0%	5.3%	28.1%	66.7%

The ridership for the route by time period and direction was applied to the boarding-to-alighting information from the OD survey distribution shown in Figure 17. This produced an estimate of the ridership flow on the route based on the boarding segment to the alighting segment as shown in Figure 18. Applying the actual ridership of 320 to the distribution created an initial estimate that 56 trips (17.5% x 320) boarded in segment 2 and alighted in segment 3.

Figure 18 – Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments

Route: Example Eastbound (6am-9am)		PROJECTED RIDERSHIP BASED ON THE ON-TO-OFF SURVEY		
Segment	Total	1	2	3
1	180	17	51	112
2	95	0	39	56
3	45	0	0	45
Total	320	17	90	213

In order to develop a more accurate estimate of ridership flows between segments for each route, ETC Institute developed an IPF algorithm to balance the differences between the initial estimated ridership (shown in Figure 18) and the ridership observed by stop-level ridership / APC data at each segment (shown in Figure 19).

Figure 19 – Stop-Level Ridership / APC Data

Route: Example Eastbound (6am-9am)				
Average Weekday Ridership	Total	1	2	3
BOARDINGS	320	100	100	120
ALIGHTINGS	320	20	100	200
DIFFERENCE FROM PROJECTED				
BOARDINGS	0	-80	5	75
ALIGHTINGS	0	3	10	-13

The key steps of the IPF process are described below:

**Step 1: Correction for the Boardings.** The estimated ridership from the “O2O” data (boarding-to-alighting information from the OD survey) for each route was multiplied by the ratio of the actual boardings from the stop-level ridership / APC data for each segment by the estimated boardings for each segment. For example, if the actual boardings for Segment 1 were 120 and the estimated boardings were 100, each cell associated with Segment 1 would have been multiplied by 1.2 (120 / 100) to adjust the estimated boardings to actual boardings.

**Step 2: Correction for the Alightings.** Once the correction in Step 1 was applied, the estimated boardings would equal the actual boardings. However, the adjustment to the boardings total may change the alighting estimates. To correct the alighting estimate, the new values calculated in Step 1 were adjusted by multiplying the ratio of the actual alightings from the stop-level ridership / APC data for each segment by the estimated alightings for each segment from Step 1. For example, if the actual alightings for Segment 2 were 220 and the estimated alightings from Step 1 were 200, each cell associated with Segment 2 would have been multiplied by 1.1 (220 / 200) to adjust the estimated alightings from Step 1 to actual alightings.

The processes described in Step 1 and Step 2 were repeated sequentially until the difference between the actual and estimated boardings and alightings converged to zero. Figure 20 shows that after six balancing iterations in this algorithm, there were no differences between the projected distribution and the actual boardings and alightings.

Figure 20 – Iterative Balance Process

6th STEP of ITERATIVE BALANCING TO CORRECT DISTRIBUTION OF RIDERSHIP BY ALIGHTING Location					
Segment	Total	DIFFERENCE FROM ACTUAL BOARDINGS	1	2	3
1	100	0	20	40	41
2	100	0	0	60	40
3	120	0	0	0	120
Total	320	0	20	100	200
DIFFERENCE FROM ACTUAL ALIGHTINGS	0		0	0	0
6th STEP of ITERATIVE BALANCING TO CORRECT DISTRIBUTION OF RIDERSHIP BY BOARDING Location					
Segment	Total	DIFFERENCE FROM ACTUAL BOARDINGS	1	2	3
1	100	0	20	40	40
2	100	0	0	60	40
3	120	0	0	0	120
Total	320	0	20	100	200
DIFFERENCE FROM ACTUAL ALIGHTINGS	0		0	0	0

The final estimate for ridership flows is shown in Figure 21 below.

**Figure 21 – Final Estimate of Ridership Flows between Stops**

<b>Route: Example Eastbound (6am-9am)</b>				
Segment	Total	1	2	3
1	100	20	40	40
2	100	0	60	40
3	120	0	0	120
<b>Total</b>	<b>320</b>	<b>20</b>	<b>100</b>	<b>200</b>
<b>DIFFERENCE FROM ACTUAL ALIGHTINGS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

The actual number of OD records that were completed for each boarding-to-alighting segment is shown in Figure 22. To calculate the expansion factors, the final estimate of ridership between segments shown in Figure 21 was divided by the actual number of OD records that were completed as shown in Figure 22. This calculation produced the expansion expansions shown in Figure 23. Therefore, the 40 estimated riders were divided by the 10 completed surveys to produce an expansion factor of 3.96 to be applied to riders who board in segment 2 and alighting in segment 3, as shown Figure 23.

**Figure 22 – Number of Completed Surveys (Bus)**

<b>Route: Example Eastbound (6am-9am)</b>				
Segment	Total	1	2	3
1	32	3	9	20
2	17		7	10
3	8			8
<b>Total</b>	<b>57</b>	<b>3</b>	<b>16</b>	<b>38</b>

**Figure 23 – Weighting Factors (Bus)**

<b>Route: Example Eastbound (6am-9am)</b>				
Segment	Total	1	2	3
1	3.13	6.67	4.40	2.02
2	5.88	0.00	8.63	3.96
3	15.00	0.00	0.00	15.00
<b>Total</b>	<b>5.61</b>	<b>6.67</b>	<b>6.25</b>	<b>5.26</b>

Types 3 and 4 expansion were not used for this project since APC data was available for all routes.

### Rail Expansion

Rail expansion is typically conducted in a similar manner to Type 1 bus expansion with one major exception. Rail expansion is typically conducted by boarding station to alighting station rather than boarding segment to alighting segment, although segment to segment expansion for rail lines do

occur. Rail lines are generally of great interest to transit authorities as they usually transport a significantly higher number of riders than most bus routes. Additionally, rail lines typically have considerably fewer stops than bus routes, thus allowing boarding station to alighting station expansion to be possible.

The only other notable difference for rail line expansion is the use of dummy/mock records. Since rail expansion is conducted at such a precise level it makes capturing all possible boarding station to alighting station IPF estimates for every time period and direction extremely difficult. For this reason, boarding station to alighting station pairs that are projected in the IPF rider estimates for each time period and direction that do not have a corresponding OD survey is filled with a dummy record. A dummy record is a record in the database that has: an ID, the name of the rail line in the route code, a direction of travel, a time period, a boarding station, an alighting station, and a factor representing the missing ridership value. The use of dummy records are kept to a minimum by the use of detailed sampling plans created using the IPF process involving APC data and O2O counts prior to the OD survey. The use of dummy records is usually greater in the more extreme time periods/off-peak time periods where the logistics of data collection are more complex. In addition, more extreme/off-peak time periods usually have more variability in ridership patterns increasing the difficulty in creating accurate sampling plans.

### **Ferry Expansion**

Ferry expansion is conducted at the direction and time of day level.

## **3.1 Decomposition Analysis**

Decomposition analysis measures the overall representativeness of the survey records relative to linked and unlinked trips on an individual route basis. Self-enumeration surveys have historically suffered from substantial errors in route level boarding levels when linked trips were determined by simply dividing the boarding factor by one plus the number of transfers.

The advent of the personal interview, coupled with tablet technology, and more effective management of interviewers has reduced this issue. The decomposition analysis examines each record and the recorded sequence of routes and tabulates boardings for each route using this information. After all records have been examined, total boardings by route are summarized and compared with the observed level of boardings. The result of this analysis will help to determine the relationship between observed and estimated boardings by route.

The decomposition analysis below and on the following pages shows the summed link factors for the routes on which the survey was conducted. The findings from the decomposition analysis show that the overall results for the on-board survey do an excellent job of representing the system. In fact, at the overall level, there is 0.00% difference between the total boardings calculated from the summed linked weight factors and the observed ridership. The routes that deviate the farthest from the summed linked factors compared to the observed counts are typically the routes that are expected to deviate the most as they are low volume ridership routes and therefore have a higher inherit error probability. The following table shows the difference between derived and observed boardings by route.

Table 5: Decomposition Analysis by Route

Route	Route Surveyed	Transfer Route	Total Summed Linked	Observed Boardings	Total Difference	% Difference
1	846.19	292.73	1138.92	1157.33	18.41	1.6%
101	240.76	61.80	302.56	348.02	45.46	13.1%
102	116.95	28.89	145.83	134.73	-11.10	-8.2%
103	322.43	100.81	423.23	543.80	120.57	22.2%
104	291.45	60.31	351.76	399.04	47.28	11.8%
105	315.07	54.59	369.66	366.42	-3.24	-0.9%
106	471.37	113.79	585.15	585.42	0.26	0.0%
107	360.88	74.09	434.97	466.34	31.37	6.7%
108	322.58	78.83	401.42	386.54	-14.88	-3.9%
109	95.88	28.55	124.43	138.28	13.85	10.0%
11	67.01	19.10	86.11	88.97	2.85	3.2%
110	174.08	34.24	208.32	227.91	19.60	8.6%
111	221.85	69.35	291.20	276.26	-14.94	-5.4%
112	1707.49	344.12	2051.60	2081.01	29.41	1.4%
114	755.04	284.59	1039.63	963.22	-76.41	-7.9%
115	102.08	66.99	169.07	163.17	-5.90	-3.6%
117	43.36	19.22	62.57	98.22	35.64	36.3%
118	291.51	69.41	360.91	382.62	21.70	5.7%
12	204.80	53.11	257.91	285.97	28.06	9.8%
120	83.81	57.57	141.38	115.10	-26.28	-22.8%
13	382.32	157.08	539.40	511.16	-28.24	-5.5%
14	110.71	31.63	142.34	125.80	-16.54	-13.1%
15	674.60	298.43	973.03	1000.25	27.22	2.7%
18	65.01	46.62	111.63	108.92	-2.71	-2.5%
2	291.31	100.81	392.12	351.41	-40.71	-11.6%
20	1606.93	508.51	2115.43	1891.64	-223.79	-11.8%
21	524.68	158.00	682.68	734.65	51.98	7.1%
22	167.21	82.69	249.90	252.32	2.43	1.0%
23	395.26	53.92	449.18	511.10	61.92	12.1%
24	163.84	56.37	220.21	199.02	-21.18	-10.6%
25	172.22	100.81	273.04	257.03	-16.00	-6.2%
26	92.71	43.76	136.47	117.51	-18.96	-16.1%
27	179.92	98.71	278.63	274.50	-4.13	-1.5%
29	168.96	75.16	244.12	256.13	12.01	4.7%
3	810.01	268.10	1078.11	978.62	-99.49	-10.2%
30	1348.22	7.21	1355.42	1425.60	70.18	4.9%
31	54.08	53.35	107.42	56.85	-50.57	-89.0%
33	202.25	52.91	255.16	298.87	43.70	14.6%
35	160.51	1.04	161.56	228.09	66.53	29.2%
36	127.74	75.52	203.25	209.48	6.23	3.0%
4	241.44	69.00	310.45	293.23	-17.22	-5.9%
403	18.56	0.00	18.56	18.56	0.00	0.0%
41	206.45	42.65	249.10	258.93	9.84	3.8%
414	50.69	3.43	54.12	51.22	-2.89	-5.6%
415	11.55	0.00	11.55	11.55	0.00	0.0%
43	96.22	9.15	105.38	147.51	42.13	28.6%
430	24.32	0.00	24.32	24.32	0.00	0.0%
44	295.71	87.06	382.76	422.80	40.04	9.5%
45	598.58	285.02	883.61	734.68	-148.93	-20.3%
47	265.49	55.61	321.09	319.31	-1.78	-0.6%
5	134.21	40.44	174.65	160.85	-13.80	-8.6%
50	96.70	18.29	114.99	131.47	16.48	12.5%
57	160.80	61.11	221.92	243.21	21.29	8.8%
58	147.82	39.86	187.68	161.58	-26.10	-16.2%
6	276.40	42.51	318.91	376.69	57.78	15.3%
8	469.98	134.25	604.23	641.53	37.30	5.8%
800	2269.09	379.57	2648.67	2757.52	108.85	3.9%
9	274.64	74.16	348.80	383.40	34.60	9.0%
90	715.50	6.14	721.64	786.89	65.25	8.3%
921	23.46	90.52	113.98	25.40	-88.58	-348.7%
960	69.58	93.52	163.10	121.63	-41.46	-34.1%
961	181.92	278.20	460.12	301.60	-158.52	-52.6%
964	33.22	3.93	37.14	34.92	-2.23	-6.4%
966	29.62	0.00	29.62	29.62	0.00	0.0%
967	83.74	0.00	83.74	85.38	1.64	1.9%
972	10.81	0.00	10.81	10.81	0.00	0.0%
980	23.37	28.47	51.84	36.58	-15.26	-41.7%
Total	21542.90	6025.61	27568.51	27568.51	0.00	0.0%



#### **4. SURVEY FINDINGS**

The fully weighted and expanded HRT data were used to create the following analyses which include trip analyses and demographic analysis. The survey results are listed in the order of the survey questions which include weekday and Saturday results. The results are based off the survey instruments which are provided in Appendix B. Results are displayed by service type which includes the system level total. All tables were created using linked expansion factors other than system transfers which used unlinked expansion factors.

## 4.1 Trip Level Analysis

Forty percent of weekday riders' origin place type is home which is the top origin place type. The second most common origin place type for weekday riders is their typical workplace (27%) and shopping (7%) is the third most common origin place type. Saturday riders top three origin locations include home (46%), shopping (12%), and recreation / sightseeing (10%).

**Table 6: Trip Origin**

### Weekday Results

Origin Place Type	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Your usual WORKPLACE	27.6%	40.5%	26.6%	4.7%	43.4%	<b>26.6%</b>
Other business related (e.g., meeting, delivery)	2.4%	1.2%	0.6%	0.3%	0.0%	<b>2.0%</b>
Your HOME	42.4%	49.2%	42.6%	6.1%	47.3%	<b>40.1%</b>
Your Hotel	0.7%	0.0%	1.2%	48.6%	0.0%	<b>4.2%</b>
College / University (students only)	1.9%	0.6%	5.1%	0.0%	0.9%	<b>2.0%</b>
School (K-12) (students only)	0.4%	0.0%	0.7%	0.0%	0.0%	<b>0.4%</b>
Eating / Dining Out	2.1%	0.0%	2.1%	17.5%	3.1%	<b>3.2%</b>
Shopping	8.4%	0.0%	3.5%	5.9%	0.0%	<b>7.2%</b>
Medical appointment / doctor's visit	2.5%	2.0%	4.3%	0.0%	0.0%	<b>2.4%</b>
Personal Business (e.g., bank, post office)	5.0%	1.1%	3.6%	0.0%	0.0%	<b>4.2%</b>
Social visits (friends/relatives)	3.9%	2.9%	2.9%	0.3%	0.9%	<b>3.4%</b>
Pick up/drop off someone (daycare, school)	0.6%	0.0%	0.9%	0.0%	0.0%	<b>0.6%</b>
Recreation / Sightseeing	2.0%	2.4%	3.4%	16.6%	4.3%	<b>3.3%</b>
Sporting Event	0.0%	0.0%	2.5%	0.0%	0.0%	<b>0.3%</b>
Airport (as a passenger)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>

**Saturday Results**

<b>Origin Place Type</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Your usual WORKPLACE	11.7%	0.0%	7.3%	2.2%	8.2%	<b>9.2%</b>
Other business related (e.g., meeting, delivery)	1.4%	23.5%	0.0%	0.1%	2.8%	<b>1.7%</b>
Your HOME	51.0%	51.4%	39.0%	12.3%	59.1%	<b>45.5%</b>
Your Hotel	0.4%	0.0%	0.8%	44.4%	0.0%	<b>5.7%</b>
College / University (students only)	0.0%	0.0%	2.6%	0.0%	0.0%	<b>0.4%</b>
School (K-12) (students only)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Eating / Dining Out	1.0%	0.0%	0.3%	15.9%	9.5%	<b>3.7%</b>
Shopping	13.0%	12.2%	20.9%	1.4%	2.6%	<b>11.6%</b>
Medical appointment / doctor's visit	0.8%	4.0%	0.3%	0.0%	0.0%	<b>0.6%</b>
Personal Business (e.g., bank, post office)	6.1%	0.0%	6.9%	0.0%	0.0%	<b>4.6%</b>
Social visits (friends/relatives)	9.6%	8.9%	9.5%	0.0%	0.0%	<b>7.2%</b>
Pick up/drop off someone (daycare, school)	0.2%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Recreation / Sightseeing	4.6%	0.0%	11.9%	23.8%	17.8%	<b>9.6%</b>
Sporting Event	0.2%	0.0%	0.4%	0.0%	0.0%	<b>0.2%</b>
Airport (as a passenger)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>

Forty-one percent of weekday riders' destination place type is home which is the top destination place type. The second most common destination place type for weekday riders is their typical workplace (21%) and shopping (8%) is the third most common origin place type. Saturday riders top three destination locations include home (41%), work (21%), and shopping (8%).

**Table 7: Trip Destination**

**Weekday Results**

<b>Destination Place Type</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Your usual WORKPLACE	23.1%	40.9%	19.4%	4.1%	11.1%	<b>21.3%</b>
Other business related (e.g., meeting, delivery)	3.0%	1.4%	2.1%	2.0%	3.9%	<b>2.8%</b>
Your HOME	44.1%	46.4%	41.0%	6.7%	49.3%	<b>41.3%</b>
Your Hotel	0.2%	0.0%	0.2%	27.0%	0.0%	<b>2.2%</b>
College / University (students only)	1.5%	0.1%	3.9%	0.0%	0.6%	<b>1.6%</b>
School (K-12) (students only)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Eating / Dining Out	2.3%	1.5%	1.6%	11.8%	15.5%	<b>3.3%</b>
Shopping	9.2%	1.0%	7.4%	4.4%	0.0%	<b>8.2%</b>
Medical appointment / doctor's visit	2.6%	1.4%	2.8%	0.0%	0.0%	<b>2.3%</b>
Personal Business (e.g., bank, post office)	6.0%	1.7%	6.7%	0.0%	0.0%	<b>5.3%</b>
Social visits (friends/relatives)	5.3%	3.8%	6.0%	2.0%	3.4%	<b>5.1%</b>
Pick up/drop off someone (daycare, school)	0.3%	0.5%	0.0%	0.0%	0.0%	<b>0.2%</b>
Recreation / Sightseeing	2.0%	1.1%	3.8%	41.9%	16.2%	<b>5.5%</b>
Sporting Event	0.2%	0.0%	5.1%	0.2%	0.0%	<b>0.7%</b>
Airport (as a passenger)	0.2%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>

**Saturday Results**

<b>Destination Place Type</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Your usual WORKPLACE	17.4%	43.6%	8.3%	4.1%	0.7%	<b>12.8%</b>
Other business related (e.g., meeting, delivery)	0.3%	1.3%	0.2%	0.0%	0.0%	<b>0.2%</b>
Your HOME	32.2%	20.1%	37.8%	6.8%	31.2%	<b>29.7%</b>
Your Hotel	0.6%	0.0%	0.3%	29.3%	0.0%	<b>3.9%</b>
College / University (students only)	0.0%	0.0%	1.1%	0.0%	0.0%	<b>0.2%</b>
School (K-12) (students only)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Eating / Dining Out	2.6%	0.0%	0.7%	6.0%	17.5%	<b>4.5%</b>
Shopping	18.9%	3.8%	12.4%	0.4%	1.3%	<b>13.2%</b>
Medical appointment / doctor's visit	0.4%	0.0%	0.5%	0.0%	0.0%	<b>0.3%</b>
Personal Business (e.g., bank, post office)	9.4%	0.0%	3.6%	0.7%	5.8%	<b>6.8%</b>
Social visits (friends/relatives)	13.3%	31.2%	6.0%	6.9%	2.8%	<b>10.4%</b>
Pick up/drop off someone (daycare, school)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Recreation / Sightseeing	4.7%	0.0%	22.9%	45.1%	40.7%	<b>16.9%</b>
Sporting Event	0.0%	0.0%	6.3%	0.6%	0.0%	<b>1.1%</b>
Airport (as a passenger)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>

Eighty-eight percent of weekday riders walk to get from their origin place to their very first transit vehicle. Six percent of weekday riders access their first transit vehicle by personal automobile (drive alone, drive with others, get dropped off). Saturday results are similar to weekdays as 88% of Saturday riders walk and 8% of Saturday riders access their first transit vehicle by personal automobile (drive alone, drive with others, get dropped off).

**Table 8: Access Mode**

**Weekday Results**

<b>Access Mode</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Walk	90.9%	71.7%	80.1%	98.4%	57.8%	<b>88.8%</b>
Wheelchair or scooter	1.1%	0.8%	1.1%	0.0%	0.0%	<b>0.9%</b>
Drove alone and parked	0.4%	19.4%	3.9%	0.7%	5.8%	<b>1.4%</b>
Drove or rode with others and parked	0.0%	0.0%	2.9%	0.1%	8.8%	<b>0.6%</b>
Was dropped off by someone	4.2%	4.6%	3.5%	0.0%	7.1%	<b>3.9%</b>
Personal Bike	2.7%	1.7%	6.1%	0.8%	16.4%	<b>3.3%</b>
E-Bike	0.0%	0.0%	1.0%	0.0%	1.2%	<b>0.2%</b>
E-Scooter (personal)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
E-Scooter (rented)	0.3%	0.0%	0.2%	0.0%	1.8%	<b>0.3%</b>
Uber, Lyft, etc.	0.2%	1.7%	1.0%	0.0%	0.9%	<b>0.3%</b>
Taxi	0.0%	0.0%	0.1%	0.0%	0.0%	<b>0.0%</b>
Other	0.2%	0.0%	0.2%	0.0%	0.0%	<b>0.2%</b>

**Saturday Results**

<b>Access Mode</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Walk	95.3%	34.3%	84.3%	93.8%	62.2%	<b>87.9%</b>
Wheelchair or scooter	1.6%	0.0%	0.0%	0.0%	0.0%	<b>0.9%</b>
Drove alone and parked	0.1%	0.0%	3.8%	0.0%	10.7%	<b>2.0%</b>
Drove or rode with others and parked	0.0%	0.0%	5.1%	6.2%	20.3%	<b>4.1%</b>
Was dropped off by someone	1.6%	35.6%	3.8%	0.0%	0.0%	<b>2.3%</b>
Personal Bike	1.0%	4.5%	0.8%	0.0%	6.7%	<b>1.6%</b>
E-Bike	0.0%	0.0%	1.0%	0.0%	0.0%	<b>0.2%</b>
E-Scooter (personal)	0.0%	2.5%	0.0%	0.0%	0.0%	<b>0.1%</b>
E-Scooter (rented)	0.2%	0.0%	0.3%	0.0%	0.0%	<b>0.1%</b>
Uber, Lyft, etc.	0.2%	18.6%	1.0%	0.0%	0.0%	<b>0.7%</b>
Taxi	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Other	0.0%	4.5%	0.0%	0.0%	0.0%	<b>0.1%</b>

Ninety-two percent of weekday riders walk to get to their destination from their very last transit vehicle. Three percent of weekday riders egress their final transit vehicle by personal automobile (drive alone, drive with others, get picked up). Saturday results are similar to weekdays as 92% of Saturday riders walk and 3% of Saturday riders egress their last transit vehicle by personal automobile (drive alone, drive with others, get dropped off).

**Table 9: Egress Mode**

**Weekday Results**

<b>Egress Mode</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Walk	95.0%	72.9%	81.1%	99.1%	62.0%	<b>92.3%</b>
Wheelchair or scooter	1.1%	0.8%	1.1%	0.0%	0.0%	<b>0.9%</b>
Get in a parked vehicle & drive alone	0.1%	23.1%	7.3%	0.0%	7.7%	<b>1.6%</b>
Get in a parked vehicle & drive/ride w/others	0.0%	0.0%	0.7%	0.0%	0.9%	<b>0.1%</b>
Be picked up by someone	1.4%	1.5%	1.2%	0.1%	7.9%	<b>1.5%</b>
Personal Bike	1.8%	1.7%	5.5%	0.8%	15.4%	<b>2.5%</b>
E-Bike	0.0%	0.0%	1.0%	0.0%	1.2%	<b>0.2%</b>
E-Scooter (personal)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
E-Scooter (rented)	0.0%	0.0%	0.8%	0.0%	4.8%	<b>0.3%</b>
Uber, Lyft, etc.	0.3%	0.0%	1.0%	0.0%	0.0%	<b>0.3%</b>
Taxi	0.0%	0.0%	0.1%	0.0%	0.0%	<b>0.0%</b>
Other	0.2%	0.0%	0.2%	0.0%	0.0%	<b>0.2%</b>



**Saturday Results**

<b>Egress Mode</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Walk	95.6%	88.5%	80.6%	98.5%	86.4%	<b>92.2%</b>
Wheelchair or scooter	1.4%	0.0%	0.0%	0.0%	0.0%	<b>0.8%</b>
Get in a parked vehicle & drive alone	0.0%	0.0%	1.0%	0.0%	0.0%	<b>0.2%</b>
Get in a parked vehicle & drive/ride w/others	0.0%	0.0%	2.0%	1.5%	2.8%	<b>0.9%</b>
Be picked up by someone	1.5%	0.0%	6.6%	0.0%	0.0%	<b>1.9%</b>
Personal Bike	1.3%	4.5%	4.6%	0.0%	10.8%	<b>2.9%</b>
E-Bike	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
E-Scooter (personal)	0.0%	2.5%	0.0%	0.0%	0.0%	<b>0.1%</b>
E-Scooter (rented)	0.2%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Uber, Lyft, etc.	0.1%	0.0%	5.1%	0.0%	0.0%	<b>0.8%</b>
Taxi	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Other	0.0%	4.5%	0.0%	0.0%	0.0%	<b>0.1%</b>

Over half (60%) of weekday riders take only one transit vehicle for their one-way trip without having to make a transfer. Saturday riders even have to transfer less as 67% of Saturday riders only take one transit vehicle for their trip. The total number of routes passengers used to make their one-way-trip is based off unlinked expansion factors.

**Table 10: Number of Routes Used**

#### Weekday Results

<b>System Transfers</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
None (0)	56.3%	48.7%	68.4%	84.2%	82.9%	<b>59.8%</b>
One (1)	34.0%	29.2%	21.0%	12.2%	14.1%	<b>30.6%</b>
Two (2)	7.8%	20.3%	8.8%	1.6%	3.1%	<b>7.7%</b>
Three (3)	1.9%	1.7%	1.8%	1.9%	0.0%	<b>1.8%</b>
Four (4)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>

#### Saturday Results

<b>System Transfers</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
None (0)	56.2%	61.4%	86.1%	71.2%	97.4%	<b>66.6%</b>
One (1)	35.8%	19.9%	12.6%	25.8%	1.3%	<b>27.4%</b>
Two (2)	7.0%	18.7%	0.4%	2.8%	1.3%	<b>5.3%</b>
Three (3)	0.8%	0.0%	0.8%	0.0%	0.0%	<b>0.6%</b>
Four (4)	0.1%	0.0%	0.0%	0.2%	0.0%	<b>0.1%</b>

Nearly half (47%) of weekday riders use a 1-Day Go Pass for their fare method. The second most common fare method used is Adult Single Trip (cash) (20%), and the third most common fare method is 30-Day Go Pass. Saturday riders top three fare methods include 1-Day Go Pass (50%), Adult Single Trip (cash) (23%), and 30-Day Go Pass (7%).

**Table 11: Fare Method Used**

**Weekday Results**

<b>Fare Method</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Adult Single Trip (cash)	21.7%	9.7%	0.1%	35.5%	20.5%	<b>20.2%</b>
1-Day Go Pass	50.4%	29.2%	60.4%	10.3%	9.2%	<b>46.7%</b>
7-Day Go Pass	6.0%	5.6%	6.9%	1.8%	3.4%	<b>5.7%</b>
30-Day Go Pass	11.8%	6.7%	5.9%	0.5%	2.2%	<b>9.9%</b>
Go Pass 365	6.4%	48.8%	18.1%	0.2%	25.4%	<b>8.7%</b>
Go Semester Pass	2.1%	0.0%	5.2%	0.0%	0.0%	<b>2.2%</b>
Student Freedom Pass	1.6%	0.0%	2.1%	3.2%	0.9%	<b>1.7%</b>
Try Transit 1 Day	0.0%	0.0%	0.2%	0.0%	0.0%	<b>0.0%</b>
Try Transit 30 Day	0.0%	0.0%	0.2%	0.0%	0.2%	<b>0.0%</b>
VB Wave Go Pass 1 Day	0.0%	0.0%	0.0%	19.1%	0.0%	<b>1.4%</b>
VB Wave Go Pass 3 Day	0.0%	0.0%	0.0%	29.3%	0.0%	<b>2.1%</b>
Ferry Roundtrip	0.0%	0.0%	0.0%	0.0%	38.1%	<b>1.3%</b>
e-Tide Ticket (Ticketleap)	0.0%	0.0%	0.9%	0.0%	0.0%	<b>0.1%</b>

**Saturday Results**

<b>Fare Method</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Adult Single Trip (cash)	21.7%	0.0%	0.0%	42.1%	40.6%	<b>22.6%</b>
1-Day Go Pass	56.3%	55.7%	86.9%	0.9%	21.2%	<b>50.1%</b>
7-Day Go Pass	5.7%	36.8%	0.0%	4.6%	0.0%	<b>4.6%</b>
30-Day Go Pass	10.4%	5.3%	5.0%	1.6%	2.8%	<b>7.4%</b>
GoPass 365	3.4%	2.2%	4.7%	1.0%	0.0%	<b>2.9%</b>
GoSemester	0.7%	0.0%	1.5%	0.0%	0.0%	<b>0.6%</b>
Student Freedom Pass	1.8%	0.0%	0.6%	0.0%	0.0%	<b>1.1%</b>
Try Transit 1 Day	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Try Transit 30 Day	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
VB Wave Go Pass 1 Day	0.0%	0.0%	0.0%	27.5%	0.0%	<b>3.3%</b>
VB Wave Go Pass 3 Day	0.0%	0.0%	0.0%	22.3%	0.0%	<b>2.7%</b>
Ferry Roundtrip	0.0%	0.0%	0.0%	0.0%	35.4%	<b>4.4%</b>
e-Tide Ticket (Ticketleap)	0.0%	0.0%	1.3%	0.0%	0.0%	<b>0.2%</b>

Over three quarters (76%) of weekday riders pay regular fare, 14% pay reduced senior fare, and 9% of pay reduced disabled fare. Over three quarters (78%) of Saturday riders pay regular fare, followed by reduced senior (14%), and reduced disabled (7%).

**Table 12: Fare Discount**

**Weekday Results**

<b>Fare Discount</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
None	74.5%	88.5%	86.3%	78.7%	87.3%	<b>76.4%</b>
Senior	14.4%	3.3%	8.2%	19.5%	10.0%	<b>14.0%</b>
Youth	0.1%	0.0%	0.0%	1.5%	0.0%	<b>0.2%</b>
Disabled	10.2%	6.4%	4.1%	0.0%	2.7%	<b>8.5%</b>
HRT Employees/Spouse/Retirees	0.9%	1.8%	1.4%	0.3%	0.0%	<b>0.9%</b>

**Saturday Results**

<b>Fare Discount</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
None	71.0%	97.9%	89.9%	80.3%	87.9%	<b>78.0%</b>
Senior	16.7%	2.1%	2.6%	19.7%	12.1%	<b>14.0%</b>
Youth	0.4%	0.0%	0.5%	0.0%	0.0%	<b>0.3%</b>
Disabled	11.0%	0.0%	6.3%	0.0%	0.0%	<b>7.2%</b>
HRT Employees/Spouse/Retirees	0.9%	0.0%	0.6%	0.0%	0.0%	<b>0.6%</b>

Over half (54%) of weekday riders purchase their fare from the farebox, 18% purchase fare at a ticket vending machine, and 16% purchase fare at a retail location. Forty-five percent of Saturday riders purchase fare from the farebox, 24% purchase fare at a ticket vending machine, and 12% purchase fare at another (Other) location.

**Table 13: Fare Purchase Location**

**Weekday Results**

<b>Fare Purchase Location</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Farebox	60.6%	50.4%	16.7%	37.4%	60.0%	<b>53.9%</b>
Ticket Vending Machine (TVM)	12.4%	18.1%	59.0%	0.5%	35.3%	<b>17.6%</b>
Retail Location	17.2%	11.0%	6.4%	32.4%	0.0%	<b>16.4%</b>
Customer Service Center	7.2%	11.6%	1.5%	0.1%	0.0%	<b>5.9%</b>
Mobile App	0.0%	0.0%	0.0%	24.8%	0.0%	<b>1.6%</b>
Other	2.6%	8.8%	16.3%	4.9%	4.7%	<b>4.4%</b>

**Saturday Results**

<b>Fare Purchase Location</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Farebox	55.9%	49.9%	12.9%	40.8%	44.2%	<b>44.5%</b>
Ticket Vending Machine (TVM)	16.3%	40.1%	39.7%	4.5%	51.1%	<b>24.2%</b>
Retail Location	14.3%	0.0%	3.1%	33.6%	0.0%	<b>12.0%</b>
Customer Service Center	8.4%	5.4%	2.9%	0.5%	0.0%	<b>5.6%</b>
Mobile App	0.0%	0.0%	0.0%	16.8%	0.0%	<b>1.6%</b>
Other	5.1%	4.6%	41.4%	3.9%	4.8%	<b>12.2%</b>

Over three-quarters (77%) of weekday riders pay their fare with cash while 75% of Saturday riders pay cash fare.

### Weekday Results

Table 14: Fare Payment Type

Fare Payment Type	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Cash	80.6%	67.5%	70.8%	64.1%	49.3%	<b>77.4%</b>
Credit / Debit	19.4%	32.5%	29.2%	35.9%	50.7%	<b>22.6%</b>

### Saturday Results

Fare Payment Type	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Cash	82.0%	82.6%	77.7%	57.2%	46.4%	<b>75.2%</b>
Credit / Debit	18.0%	17.4%	22.3%	42.8%	53.6%	<b>24.8%</b>



Fifty-eight percent of riders surveyed on a weekday use transit five days a week or more. Seven percent were taking their first HRT transit trip (mainly Wave riders) while 10% ride one to two days weekly. Fifty-two percent of riders surveyed on Saturday use transit five days a week or more, while 18% were taking their first trip, and 6% only ride a few times per year.

**Table 15: Transit Use Frequency**

**Weekday Results**

<b>Transit Use Frequency</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
First time	1.9%	2.4%	4.0%	68.4%	12.5%	<b>7.3%</b>
Once per week	3.2%	1.4%	5.5%	0.0%	10.9%	<b>3.5%</b>
2 days per week	6.2%	3.2%	9.9%	9.3%	4.0%	<b>6.7%</b>
3 days per week	10.5%	7.8%	11.7%	2.8%	16.2%	<b>10.2%</b>
4 days per week	11.2%	7.6%	13.0%	5.0%	2.2%	<b>10.6%</b>
5 days per week	33.1%	56.9%	30.1%	1.9%	30.1%	<b>30.9%</b>
6 days per week	14.3%	7.3%	7.0%	1.4%	1.7%	<b>12.0%</b>
7 days per week	16.9%	13.1%	12.5%	3.9%	7.1%	<b>15.1%</b>
At least once per month	1.9%	0.0%	2.9%	0.3%	2.8%	<b>1.9%</b>
A few times per year	0.7%	0.3%	3.3%	7.0%	12.6%	<b>1.9%</b>

**Saturday Results**

<b>Transit Use Frequency</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
First time	2.2%	0.0%	14.1%	83.9%	33.8%	<b>17.8%</b>
Once per week	4.2%	0.0%	17.7%	0.0%	5.4%	<b>5.9%</b>
2 days per week	6.8%	0.0%	11.6%	6.2%	1.3%	<b>6.7%</b>
3 days per week	10.8%	29.5%	8.8%	0.0%	0.7%	<b>8.3%</b>
4 days per week	15.1%	4.5%	4.8%	0.0%	5.6%	<b>10.2%</b>
5 days per week	23.0%	17.9%	7.1%	2.4%	4.6%	<b>15.6%</b>
6 days per week	12.9%	33.0%	4.8%	0.7%	0.0%	<b>9.0%</b>
7 days per week	21.3%	3.0%	19.2%	3.4%	10.7%	<b>17.1%</b>
At least once per month	2.7%	2.5%	2.7%	0.0%	15.0%	<b>3.9%</b>
A few times per year	1.1%	9.7%	9.1%	3.4%	23.0%	<b>5.6%</b>

HRT riders were asked how often they used transit before the COVID 19 Pandemic. Forty-four percent of weekday riders used transit five days a week or more and 31% did not use transit before the pandemic. Thirty-eight percent of Saturday riders used transit five days a week or more and 31% did not use transit before the pandemic.

**Table 16: Transit Use Frequency Pre COVID-Pandemic**

**Weekday Results**

<b>Transit Use Frequency Pre-COVID</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Once per week	2.2%	2.4%	3.6%	2.8%	3.5%	<b>2.4%</b>
2 days per week	4.4%	3.3%	3.1%	2.8%	7.9%	<b>4.3%</b>
3 days per week	8.1%	1.3%	3.0%	4.2%	8.4%	<b>7.3%</b>
4 days per week	6.1%	4.9%	3.3%	6.0%	3.6%	<b>5.7%</b>
5 days per week	20.9%	38.2%	19.7%	5.8%	25.1%	<b>20.9%</b>
6 days per week	10.7%	3.4%	6.4%	1.5%	1.6%	<b>9.5%</b>
7 days per week	14.6%	10.5%	13.3%	2.7%	5.6%	<b>13.8%</b>
At least once per month	1.5%	0.0%	2.1%	2.8%	1.1%	<b>1.5%</b>
A few times per year	2.2%	0.0%	3.2%	25.6%	10.8%	<b>3.1%</b>
Did not use transit	29.3%	36.0%	42.4%	45.8%	32.4%	<b>31.4%</b>

**Saturday Results**

<b>Transit Use Frequency Pre-COVID</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Once per week	8.5%	4.5%	1.9%	0.0%	2.0%	<b>6.4%</b>
2 days per week	3.6%	0.0%	2.4%	0.0%	0.0%	<b>2.9%</b>
3 days per week	8.8%	9.4%	2.0%	9.9%	0.0%	<b>6.9%</b>
4 days per week	7.8%	0.0%	5.9%	0.0%	0.0%	<b>6.3%</b>
5 days per week	16.5%	5.9%	10.6%	8.1%	0.7%	<b>13.5%</b>
6 days per week	8.2%	29.1%	2.7%	14.8%	0.0%	<b>7.2%</b>
7 days per week	17.1%	6.5%	21.0%	6.2%	12.4%	<b>16.8%</b>
At least once per month	2.4%	2.5%	3.8%	0.0%	6.2%	<b>3.0%</b>
A few times per year	2.0%	4.5%	5.3%	28.1%	32.7%	<b>6.3%</b>
Did not use transit	24.9%	37.7%	44.5%	32.9%	46.1%	<b>30.8%</b>

**4.2 Rider Analysis**

Ten percent of weekday riders have a disability with 6% being HRT verified. Ninety-three percent of weekday surveyed disabled respondents do not use a mobility device or service animal. Eight percent of Saturday riders have a disability with 5% being HRT verified.

**Table 17: Disability Status****Weekday Results**

<b>Disability Status</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Yes - HRT Verified disability	7.5%	1.8%	2.3%	1.8%	0.5%	<b>6.2%</b>
Yes - Other verified	4.7%	4.3%	1.3%	0.2%	6.2%	<b>4.0%</b>
No	87.8%	93.9%	96.4%	98.0%	93.3%	<b>89.8%</b>

**Saturday Results**

<b>Disability Status</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Yes - HRT Verified disability	8.1%	2.2%	4.5%	0.0%	0.0%	<b>5.4%</b>
Yes - Other verified	3.5%	2.8%	0.9%	1.3%	0.7%	<b>2.5%</b>
No	88.4%	95.1%	94.6%	98.7%	99.3%	<b>92.1%</b>

Out of those riders that answered yes to having a disability, a follow up question was asked if the rider uses a mobility device or service animal. Responses were captured as multiple choice. The following results are based off of all respondents.

**Table 18: Use of Mobility Device or Service Animal (if Disabled)**

**Weekday Results**

<b>Use of Mobility Device or Service Animal</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
None	7.7%	4.8%	2.8%	2.0%	4.2%	<b>6.6%</b>
Service Animal	0.2%	0.6%	0.0%	0.0%	1.5%	<b>0.2%</b>
Wheelchair	1.0%	0.0%	0.6%	0.0%	0.9%	<b>0.9%</b>
Scooter	0.5%	0.4%	0.0%	0.0%	0.0%	<b>0.4%</b>
Walker	1.1%	0.0%	0.0%	0.0%	0.9%	<b>0.9%</b>
Prosthesis	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Cane	2.3%	0.1%	0.2%	0.0%	0.9%	<b>1.8%</b>
White Cane	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Crutches	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>

**Saturday Results**

Use of Mobility Device or Service Animal	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
None	6.3%	2.2%	4.6%	0.7%	0.7%	<b>4.6%</b>
Service Animal	0.6%	0.0%	0.0%	0.0%	0.0%	<b>0.3%</b>
Wheelchair	1.9%	0.0%	0.0%	0.0%	0.0%	<b>1.1%</b>
Scooter	0.2%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Walker	0.6%	0.0%	0.0%	0.0%	0.0%	<b>0.4%</b>
Prosthesis	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Cane	1.9%	1.3%	0.8%	0.0%	0.0%	<b>1.3%</b>
White Cane	0.5%	0.0%	0.0%	0.6%	0.0%	<b>0.4%</b>
Crutches	0.0%	1.5%	0.0%	0.0%	0.0%	<b>0.0%</b>

Ninety percent of weekday riders and 89% of Saturday riders have either a bank account, credit card, or debit card

**Table 19: Bank Account or Credit /Debit Card Status**

**Weekday Results**

Have Bank Account, Credit, or Debit Card	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	88.7%	92.2%	96.1%	88.9%	94.3%	<b>89.8%</b>
No	11.3%	7.8%	3.9%	11.1%	5.7%	<b>10.2%</b>

**Saturday Results**

Have Bank Account, Credit, or Debit Card	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	85.8%	66.5%	95.3%	98.7%	89.3%	<b>88.9%</b>
No	14.2%	33.5%	4.7%	1.3%	10.7%	<b>11.1%</b>

Ninety-five percent of weekday riders and 94% of Saturday riders have a smartphone with a data plan.

**Table 20: Working Smart Phone with Data Plan**

**Weekday Results**

Have Smartphone with Data Plan	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	94.6%	94.5%	97.7%	99.4%	95.2%	<b>95.3%</b>
No	5.4%	5.5%	2.3%	0.6%	4.8%	<b>4.7%</b>

**Saturday Results**

Have Smartphone with Data Plan	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	91.3%	95.5%	100.0%	99.3%	94.6%	<b>94.1%</b>
No	8.7%	4.5%	0.0%	0.7%	5.4%	<b>5.9%</b>

Ninety-one percent of weekday riders and 81% of Saturday riders are residents within the region. VB Wave riders have the highest number of visitors while Local Bus has the lowest number of visitors.

**Table 21: Visitor Status**

**Weekday Results**

Visitor Status	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes (Visitor)	1.8%	2.4%	2.1%	86.9%	12.8%	<b>8.4%</b>
No (Resident)	98.2%	97.6%	97.9%	13.1%	87.2%	<b>91.6%</b>



**Saturday Results**

Visitor Status	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes (Visitor)	2.9%	23.5%	7.8%	89.0%	39.2%	19.0%
No (Resident)	97.1%	76.5%	92.2%	11.0%	60.8%	81.0%

Three-quarters (75%) of weekday riders are employed either full or part time and 70% of Saturday riders are employed full or part time. This question was excluded from visitors.

Table 22: Employment Status

**Weekday Results**

Employment Status	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Employed full-time	55.7%	87.6%	58.8%	77.9%	70.5%	57.5%
Employed part-time	17.8%	4.5%	16.0%	9.9%	16.5%	17.2%
Not currently employed, but seeking work	4.3%	1.2%	2.8%	2.1%	0.6%	3.9%
Not currently employed, and not seeking work	13.4%	5.0%	15.1%	0.7%	5.0%	13.0%
Retired	8.1%	1.8%	7.4%	9.3%	7.4%	7.9%
Homemaker	0.6%	0.0%	0.0%	0.0%	0.0%	0.5%

**Saturday Results**

<b>Employment Status</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Employed full-time	45.3%	76.6%	55.8%	90.6%	66.9%	<b>50.6%</b>
Employed part-time	20.5%	10.3%	22.4%	2.7%	7.9%	<b>19.2%</b>
Not currently employed, but seeking work	2.6%	0.0%	2.7%	0.0%	0.0%	<b>2.3%</b>
Not currently employed, and not seeking work	15.3%	8.1%	16.0%	6.8%	4.6%	<b>14.2%</b>
Retired	16.2%	4.9%	3.2%	0.0%	17.7%	<b>13.5%</b>
Homemaker	0.0%	0.0%	0.0%	0.0%	2.9%	<b>0.3%</b>

Eleven percent of weekday riders are students with 9% being full or part time college students and 1% K-12. Saturday riders almost mimic weekday riders with 11% being students and 9% full or part time college students. This question was excluded from visitors.

**Table 23: Student Status****Weekday Results**

<b>Student Status</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Not a student	91.0%	90.3%	78.0%	89.1%	85.6%	<b>89.3%</b>
Yes - Full-time College / University	4.8%	4.1%	15.8%	10.9%	10.5%	<b>6.2%</b>
Yes - Part-time College / University	2.1%	1.4%	3.9%	0.0%	2.5%	<b>2.3%</b>
Yes - Vocational / Technical / Trade School	0.9%	3.4%	0.0%	0.0%	1.4%	<b>0.9%</b>
Yes - 9th-12th grade	0.9%	0.0%	2.3%	0.0%	0.0%	<b>1.0%</b>
Yes - K-8th grade	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Yes - Other	0.2%	0.8%	0.0%	0.0%	0.0%	<b>0.2%</b>

**Saturday Results**

<b>Student Status</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Not a student	90.8%	100.0%	80.8%	93.2%	84.2%	<b>88.6%</b>
Yes - Full-time College / University	3.0%	0.0%	15.8%	6.8%	9.0%	<b>5.9%</b>
Yes - Part-time College / University	3.0%	0.0%	1.8%	0.0%	6.8%	<b>3.0%</b>
Yes - Vocational / Technical / Trade School	0.6%	0.0%	0.2%	0.0%	0.0%	<b>0.5%</b>
Yes - 9th-12th grade	1.9%	0.0%	1.4%	0.0%	0.0%	<b>1.5%</b>
Yes - K-8th grade	0.6%	0.0%	0.0%	0.0%	0.0%	<b>0.4%</b>
Yes - Other	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>

Less than half (47%) of weekday riders have a valid driver's license. Over half (53%) of Saturday riders have a valid driver's license. This question was excluded from visitors.

Table 24: Driver's License Status

**Weekday Results**

<b>Driver's License Status</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Yes	38.8%	77.5%	61.5%	82.8%	90.0%	<b>46.9%</b>
No	61.2%	22.5%	38.5%	17.2%	10.0%	<b>53.1%</b>

**Saturday Results**

<b>Driver's License Status</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Yes	40.7%	55.0%	36.3%	92.6%	93.0%	<b>53.1%</b>
No	59.3%	45.0%	63.7%	7.4%	7.0%	<b>46.9%</b>

Seventy percent of weekday riders are over the age of 35. The most common weekday age category is 55 to 64 with 19% of riders. Seventy-three percent of Saturday riders are over 35.

Table 25: Age

**Weekday Results**

Age	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
15 and under	0.1%	0.0%	0.2%	3.3%	0.0%	<b>0.4%</b>
16 - 17	0.7%	0.0%	0.9%	1.3%	0.0%	<b>0.7%</b>
18 - 24	10.8%	6.8%	22.9%	3.0%	8.4%	<b>11.4%</b>
25 - 34	18.2%	18.2%	17.4%	3.9%	17.5%	<b>17.0%</b>
35 - 44	17.0%	22.8%	15.4%	15.8%	9.0%	<b>16.6%</b>
45 - 54	17.6%	27.1%	16.4%	26.4%	22.5%	<b>18.5%</b>
55 - 64	19.6%	17.0%	13.1%	23.6%	25.5%	<b>19.4%</b>
65 - 84	15.9%	8.1%	13.5%	22.6%	17.1%	<b>16.0%</b>
85 and over	0.1%	0.0%	0.3%	0.0%	0.0%	<b>0.1%</b>

**Saturday Results**

Age	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
15 and under	0.8%	0.0%	0.5%	0.0%	0.0%	<b>0.6%</b>
16 - 17	1.0%	0.0%	0.7%	0.0%	0.0%	<b>0.7%</b>
18 - 24	7.9%	0.0%	26.6%	3.7%	9.8%	<b>10.5%</b>
25 - 34	16.6%	34.7%	11.0%	11.0%	16.9%	<b>15.4%</b>
35 - 44	19.4%	18.6%	19.9%	10.1%	15.1%	<b>17.8%</b>
45 - 54	17.4%	15.4%	16.0%	21.2%	19.0%	<b>17.8%</b>
55 - 64	16.0%	28.1%	21.3%	29.3%	16.3%	<b>18.7%</b>
65 - 84	20.5%	3.3%	4.0%	23.8%	23.0%	<b>18.2%</b>
85 and over	0.3%	0.0%	0.0%	0.8%	0.0%	<b>0.3%</b>

Sixty-eight percent of weekday riders are Black / African American, 23% White, and 6% Hispanic Latino. Seventy-four percent of Saturday riders are Black / African American, 20% White, and 4% Hispanic Latino. This question was asked as a multiple choice question.

**Table 26: Race / Ethnicity****Weekday Results**

Race / Ethnicity	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
American Indian / Alaska Native	2.7%	0.4%	0.5%	0.0%	0.9%	<b>2.1%</b>
Asian	2.3%	3.9%	4.3%	12.6%	5.6%	<b>3.4%</b>
Black / African / African American	74.7%	58.1%	66.2%	17.7%	45.7%	<b>68.3%</b>
Hispanic / Latino	6.2%	7.5%	3.6%	12.2%	0.6%	<b>6.2%</b>
Native Hawaiian / Pacific Islander	0.6%	0.0%	0.9%	0.0%	0.0%	<b>0.6%</b>
White	18.8%	26.7%	27.8%	52.4%	48.6%	<b>23.3%</b>

**Saturday Results**

<b>Race / Ethnicity</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
American Indian / Alaska Native	2.0%	0.0%	0.0%	1.1%	1.3%	<b>1.4%</b>
Asian	1.4%	0.9%	0.9%	2.2%	5.4%	<b>1.9%</b>
Black / African / African American	77.0%	85.7%	79.7%	57.5%	65.8%	<b>73.9%</b>
Hispanic / Latino	6.0%	0.0%	2.5%	5.0%	0.0%	<b>4.4%</b>
Native Hawaiian / Pacific Islander	0.3%	0.0%	1.3%	0.0%	0.0%	<b>0.4%</b>
White	17.5%	17.9%	16.6%	34.1%	27.5%	<b>20.6%</b>

Males make up over half (58%) of weekday riders. Saturday shares the same Male to Female ratio as weekday (58% Male and 42% Female).

Table 27: Gender

**Weekday Results**

<b>Gender</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Male	57.2%	74.1%	63.1%	49.3%	54.9%	57.5%
Female	42.4%	25.9%	36.9%	50.7%	45.1%	42.2%
Other	0.4%	0.0%	0.0%	0.0%	0.0%	0.3%

**Saturday Results**

<b>Gender</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Male	57.0%	76.8%	71.5%	49.1%	48.3%	<b>57.7%</b>
Female	43.0%	23.2%	28.4%	50.3%	51.7%	<b>42.2%</b>
Other	0.0%	0.0%	0.1%	0.7%	0.0%	<b>0.1%</b>

Twelve percent of weekday riders speak another language at home other than English. The most common other languages spoken at home out of weekday respondents that answered yes are Spanish (50%), French (9%), and Tagalog (6%). Eleven percent of Saturday riders speak another language at home.

**Table 28: Speak Other Language**

**Weekday Results**

Other Language Spoken at Home	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	10.2%	15.0%	13.4%	32.4%	6.7%	12.1%
No	89.8%	85.0%	86.6%	67.6%	93.3%	87.9%

**Saturday Results**

Other Language Spoken at Home	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	8.8%	1.5%	10.3%	18.3%	18.8%	11.3%
No	91.2%	98.5%	89.7%	81.7%	81.2%	88.7%



Riders that answered yes to speaking another language at home were asked how well they speak English. Seven percent of those weekday passengers speak less than well and 3% of Saturday riders. Overall, including all respondents, one percent of HRT riders speak English less than well.

**Table 29: English Proficiency**

**Weekday Results**

<b>English Ability</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Very well	81.6%	83.7%	93.8%	77.5%	100.0%	<b>82.6%</b>
Well	9.8%	0.0%	6.2%	18.3%	0.0%	<b>10.6%</b>
Less than well	7.7%	12.7%	0.0%	0.8%	0.0%	<b>5.5%</b>
Not at all	0.9%	3.6%	0.0%	3.3%	0.0%	<b>1.3%</b>

**Saturday Results**

<b>English Ability</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
Very well	85.4%	100.0%	94.8%	100.0%	100.0%	<b>92.7%</b>
Well	7.2%	0.0%	5.2%	0.0%	0.0%	<b>4.0%</b>
Less than well	0.9%	0.0%	0.0%	0.0%	0.0%	<b>0.4%</b>
Not at all	6.5%	0.0%	0.0%	0.0%	0.0%	<b>2.9%</b>

### 4.3 Household Analysis

Sixty-three percent of weekday riders and 59% of Saturday riders do not have a working vehicle available to their household. Eight percent of weekday riders and 3% of Saturday riders live in households with three or more vehicles. This question was excluded from visitors.

**Table 30: Working Household Vehicles**

#### Weekday Results

Number of Working Household Vehicles	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
None (0)	67.3%	30.0%	48.3%	64.4%	23.4%	<b>62.9%</b>
One (1)	22.3%	26.9%	25.3%	20.1%	47.1%	<b>23.5%</b>
Two (2)	7.7%	26.8%	16.7%	8.7%	22.2%	<b>9.7%</b>
Three (3)	2.2%	14.6%	7.4%	0.0%	7.3%	<b>3.2%</b>
Four (4)	0.3%	1.7%	1.3%	6.8%	0.0%	<b>0.5%</b>
Five (5)	0.1%	0.0%	1.0%	0.0%	0.0%	<b>0.2%</b>
Six (6)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Seven (7)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Eight or more (8+)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>

**Saturday Results**

Number of Working Household Vehicles	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
None (0)	69.3%	80.7%	43.6%	42.3%	12.8%	<b>59.1%</b>
One (1)	22.9%	19.3%	24.1%	21.7%	26.6%	<b>23.3%</b>
Two (2)	5.6%	0.0%	24.5%	36.0%	58.4%	<b>14.4%</b>
Three (3)	2.0%	0.0%	3.1%	0.0%	2.2%	<b>2.1%</b>
Four (4)	0.1%	0.0%	3.1%	0.0%	0.0%	<b>0.6%</b>
Five (5)	0.1%	0.0%	1.5%	0.0%	0.0%	<b>0.3%</b>
Six (6)	0.0%	0.0%	0.1%	0.0%	0.0%	<b>0.0%</b>
Seven (7)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Eight or more (8+)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>

Out of the respondents that answered yes to having a household vehicle, only 36% could have used a household vehicle to make their weekday transit trip. Half (50%) of Saturday riders could have used a household vehicle to make their weekend trip. This question was excluded from visitors.

**Table 31: Could Have Used Household Vehicle**

**Weekday Results**

Could Have Used Household Vehicles	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	25.4%	67.0%	55.9%	12.1%	90.3%	<b>36.1%</b>
No	74.6%	33.0%	44.1%	87.9%	9.7%	<b>63.9%</b>

**Saturday Results**

Could Have Used Household Vehicles	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	32.3%	5.7%	52.5%	62.4%	94.7%	<b>50.3%</b>
No	67.7%	94.3%	47.5%	37.6%	5.3%	<b>49.7%</b>

Sixty-two percent of weekday riders live in either one- or two-person households while 11% live in households with five or more members. Saturday results are similar with 61% of riders living in either one- or two-person households and 11% living in households with five or more members. This question was excluded from visitors.

**Table 32: Household Size****Weekday Results**

Household Size	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
One (1)	35.4%	25.5%	27.7%	43.5%	28.1%	<b>34.2%</b>
Two (2)	25.7%	33.9%	31.1%	36.5%	46.1%	<b>27.3%</b>
Three (3)	16.4%	15.8%	18.5%	5.8%	13.1%	<b>16.4%</b>
Four (4)	11.6%	14.7%	11.9%	11.6%	8.1%	<b>11.6%</b>
Five (5)	6.1%	5.2%	6.3%	2.1%	3.9%	<b>6.0%</b>
Six (6)	2.6%	2.6%	3.0%	0.5%	0.0%	<b>2.6%</b>
Seven (7)	1.1%	1.9%	0.1%	0.0%	0.0%	<b>1.0%</b>
Eight (8)	0.4%	0.5%	1.0%	0.0%	0.0%	<b>0.5%</b>
Nine (9)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Ten or More (10+)	0.5%	0.0%	0.4%	0.0%	0.7%	<b>0.4%</b>

**Saturday Results**

<b>Household Size</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
One (1)	36.6%	49.2%	32.8%	16.4%	22.3%	<b>34.5%</b>
Two (2)	26.9%	12.8%	24.7%	59.7%	26.6%	<b>26.7%</b>
Three (3)	13.5%	12.0%	18.6%	2.7%	21.8%	<b>15.0%</b>
Four (4)	12.0%	18.0%	17.0%	14.5%	13.6%	<b>13.3%</b>
Five (5)	3.7%	1.7%	3.4%	6.8%	13.5%	<b>4.6%</b>
Six (6)	2.7%	0.0%	0.2%	0.0%	0.0%	<b>1.9%</b>
Seven (7)	2.5%	0.0%	2.0%	0.0%	0.0%	<b>2.1%</b>
Eight (8)	1.0%	3.0%	0.6%	0.0%	0.0%	<b>0.8%</b>
Nine (9)	0.6%	0.0%	0.7%	0.0%	0.0%	<b>0.5%</b>
Ten or More (10+)	0.5%	3.3%	0.1%	0.0%	2.2%	<b>0.6%</b>

Thirty-nine percent of weekday riders have one household employee and 7% live in households with four or more employed household members. Saturday riders are similar with 37% having one household employee and 8% live in households with four or more employed household members. This question was excluded from visitors.

**Table 33: Household Employment**

**Weekday Results**

<b>Household Employment</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
None (0)	17.6%	6.1%	13.8%	11.4%	8.1%	<b>16.5%</b>
One (1)	39.3%	36.6%	35.1%	41.9%	53.0%	<b>39.2%</b>
Two (2)	26.2%	46.3%	33.3%	30.0%	34.7%	<b>27.8%</b>
Three (3)	9.9%	9.4%	11.4%	6.1%	2.4%	<b>9.8%</b>
Four (4)	5.6%	0.9%	5.0%	10.6%	0.0%	<b>5.3%</b>
Five (5)	0.8%	0.7%	0.7%	0.0%	1.1%	<b>0.8%</b>
Six (6)	0.2%	0.0%	0.4%	0.0%	0.7%	<b>0.2%</b>
Seven (7)	0.3%	0.0%	0.2%	0.0%	0.0%	<b>0.2%</b>
Eight (8)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Nine (9)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Ten or More (10+)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>

**Saturday Results**

<b>Household Employment</b>	<b>Local Bus</b>	<b>757 Express</b>	<b>Light Rail</b>	<b>Wave</b>	<b>Ferry</b>	<b>Grand Total</b>
None (0)	22.3%	9.7%	11.6%	6.8%	8.8%	<b>18.6%</b>
One (1)	37.2%	70.3%	37.3%	12.3%	33.4%	<b>37.1%</b>
Two (2)	27.4%	17.0%	29.6%	59.7%	33.1%	<b>28.7%</b>
Three (3)	6.9%	0.0%	11.1%	0.0%	13.6%	<b>8.0%</b>
Four (4)	4.7%	3.0%	9.5%	14.5%	8.8%	<b>6.1%</b>
Five (5)	1.1%	0.0%	0.3%	6.8%	2.2%	<b>1.1%</b>
Six (6)	0.1%	0.0%	0.0%	0.0%	0.0%	<b>0.1%</b>
Seven (7)	0.0%	0.0%	0.6%	0.0%	0.0%	<b>0.1%</b>
Eight (8)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>
Nine (9)	0.3%	0.0%	0.0%	0.0%	0.0%	<b>0.2%</b>
Ten or More (10+)	0.0%	0.0%	0.0%	0.0%	0.0%	<b>0.0%</b>



Over half (53%) of weekday riders live in households that make less than \$24,999 annually and 11% live in households that have an annual income of \$75,000 or more. Half of Saturday riders live in households that make less than \$24,999 annually and 20% live in households that have an annual income of \$75,000 or more.

**Table 34: Household Income**

**Weekday Results**

Household Income	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Less than \$10,000	22.3%	11.2%	26.0%	0.1%	3.0%	<b>20.4%</b>
\$10,000 - \$14,999	16.6%	3.4%	11.2%	4.2%	1.2%	<b>14.3%</b>
\$15,000 - \$24,999	20.0%	3.8%	21.4%	1.4%	2.5%	<b>18.0%</b>
\$25,000 - \$34,999	15.1%	10.9%	7.9%	2.7%	9.9%	<b>13.2%</b>
\$35,000 - \$49,999	15.8%	13.0%	8.5%	8.5%	25.8%	<b>14.8%</b>
\$50,000 - \$74,999	5.7%	21.9%	13.4%	23.9%	8.1%	<b>8.2%</b>
\$75,000 or more	4.5%	35.9%	11.6%	59.2%	49.5%	<b>11.1%</b>

**Saturday Results**

Household Income	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Less than \$10,000	26.4%	16.1%	47.4%	2.6%	0.0%	<b>23.8%</b>
\$10,000 - \$14,999	14.9%	11.8%	12.2%	0.1%	0.0%	<b>10.6%</b>
\$15,000 - \$24,999	18.6%	48.7%	20.2%	0.0%	0.0%	<b>15.1%</b>
\$25,000 - \$34,999	14.8%	13.8%	6.1%	3.1%	6.5%	<b>10.7%</b>
\$35,000 - \$49,999	18.1%	7.1%	6.1%	2.8%	6.7%	<b>12.2%</b>
\$50,000 - \$74,999	3.6%	2.5%	2.9%	4.8%	37.0%	<b>7.9%</b>
\$75,000 or more	3.6%	0.0%	5.0%	86.6%	49.9%	<b>19.7%</b>

#### 4.4 Attitudinal Analysis

The following tables are attitudinal questions that interviewers asked after the OD survey was completed. Sixty-five percent of survey respondents answered at least more than one of the attitudinal questions.

Eighty-six percent of weekday riders and 90% of Saturday riders state that service on their route is reliable.

**Table 35: Reliable Transit Service**

##### Weekday Results

Is service on your route reliable?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	85.1%	85.0%	92.4%	84.9%	95.2%	<b>85.8%</b>
No	11.8%	10.7%	2.1%	2.2%	0.2%	<b>10.2%</b>
Don't know	3.1%	4.3%	5.5%	13.0%	4.6%	<b>4.0%</b>

##### Saturday Results

Is service on your route reliable?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	89.6%	90.3%	85.5%	73.8%	98.7%	<b>90.1%</b>
No	8.1%	8.4%	8.0%	11.0%	1.3%	<b>7.0%</b>
Don't know	2.3%	1.3%	6.5%	15.2%	0.0%	<b>3.0%</b>

Eighty-nine percent of weekday riders and 92% of Saturday riders state that transit operators are professional and helpful.

**Table 36: Operator Helpfulness and Professionalism**

##### Weekday Results

Are the bus operators professional and helpful?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	88.2%	86.7%	87.9%	92.9%	96.5%	<b>88.9%</b>
No	8.0%	8.6%	0.9%	1.7%	0.2%	<b>7.0%</b>
Don't know	3.8%	4.8%	11.1%	5.4%	3.3%	<b>4.2%</b>

**Saturday Results**

Are the bus operators professional and helpful?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	89.2%	98.7%	78.1%	98.1%	100.0%	<b>92.1%</b>
No	8.3%	1.3%	14.9%	0.1%	0.0%	<b>5.9%</b>
Don't know	2.5%	0.0%	7.0%	1.7%	0.0%	<b>2.0%</b>

Eighty-two percent of weekday riders and 87% of Saturday riders state that bus stops and stations are generally clean.

Table 37: Clean Transit Stops

**Weekday Results**

Are your bus stops generally clean?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	80.2%	84.5%	71.5%	91.9%	94.4%	<b>81.6%</b>
No	17.9%	12.7%	23.1%	2.1%	2.4%	<b>16.0%</b>
Don't know	1.9%	2.7%	5.3%	6.0%	3.3%	<b>2.4%</b>

**Saturday Results**

Are your bus stops generally clean?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	82.1%	97.5%	42.3%	98.1%	100.0%	<b>86.5%</b>
No	16.4%	2.5%	50.7%	1.9%	0.0%	<b>12.3%</b>
Don't know	1.5%	0.0%	7.0%	0.0%	0.0%	<b>1.2%</b>

Ninety-one percent of weekday riders and 89% of Saturday riders state that transit vehicles they ride are generally clean.

Table 38: Clean Transit Vehicles

**Weekday Results**

Is the bus you ride generally clean?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	90.5%	84.2%	90.2%	91.4%	96.5%	<b>90.7%</b>
No	7.7%	13.8%	7.5%	1.7%	0.2%	<b>7.1%</b>
Don't know	1.7%	2.0%	2.3%	6.9%	3.3%	<b>2.2%</b>

**Saturday Results**

Is the bus you ride generally clean?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	86.4%	98.5%	60.9%	90.1%	100.0%	<b>89.2%</b>
No	11.8%	1.5%	39.1%	9.9%	0.0%	<b>9.6%</b>
Don't know	1.8%	0.0%	0.0%	0.0%	0.0%	<b>1.2%</b>

One quarter (25%) of riders (both weekday and Saturday) state that they have been passed by while standing at a designated bus stop within the last year.

Table 39: Passed by at Stop

**Weekday Results**

Have you been passed by while standing at a designated bus stop within the last year?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	28.5%	27.6%	5.4%	9.2%	3.6%	<b>25.0%</b>
No	70.6%	71.9%	91.2%	82.6%	95.5%	<b>73.5%</b>
Don't know	0.9%	0.5%	3.4%	8.2%	0.9%	<b>1.6%</b>

**Saturday Results**

Have you been passed by while standing at a designated bus stop within the last year?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	34.3%	13.1%	34.5%	5.4%	0.0%	<b>24.5%</b>
No	64.9%	86.9%	58.5%	94.6%	100.0%	<b>74.8%</b>
Don't know	0.8%	0.0%	7.0%	0.0%	0.0%	<b>0.7%</b>

Eighty-six percent of weekday riders and 92% of Saturday riders state that they feel secure while waiting at their stop or station.

**Table 40: Feel Secure at Stop**

#### Weekday Results

Do you feel secure while waiting at a bus stop?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	86.6%	84.3%	81.7%	82.9%	91.5%	<b>86.3%</b>
No	11.4%	8.8%	10.7%	5.2%	2.4%	<b>10.4%</b>
Don't know	2.0%	6.8%	7.5%	11.9%	6.1%	<b>3.3%</b>

#### Saturday Results

Do you feel secure while waiting at a bus stop?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	89.0%	97.4%	100.0%	99.9%	94.6%	<b>91.5%</b>
No	9.2%	2.6%	0.0%	0.1%	5.4%	<b>7.2%</b>
Don't know	1.9%	0.0%	0.0%	0.0%	0.0%	<b>1.2%</b>

Ninety-two percent of weekday riders and 95% of Saturday riders state that they feel secure while riding on their transit vehicle.

**Table 41: Feel Secure on Vehicle**

#### Weekday Results

Do you feel secure while riding on the bus?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	92.7%	90.8%	87.2%	84.4%	93.4%	<b>91.9%</b>
No	6.1%	5.2%	8.3%	3.6%	1.4%	<b>5.7%</b>
Don't know	1.2%	4.0%	4.5%	11.9%	5.2%	<b>2.4%</b>

#### Saturday Results

Do you feel secure while riding on the bus?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	93.0%	100.0%	100.0%	100.0%	100.0%	<b>95.4%</b>
No	5.9%	0.0%	0.0%	0.0%	0.0%	<b>3.9%</b>
Don't know	1.1%	0.0%	0.0%	0.0%	0.0%	<b>0.7%</b>

Seven percent of riders (both weekday and Saturday) state that they have been unable to ride or have changed boarding locations due to difficulty accessing their stop.

**Table 42: Change Boarding Location Due to Accessing Stop**

#### Weekday Results

Have you ever been unable to ride or have changed your boarding location due to Difficulty accessing the stop?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	8.4%	4.1%	4.3%	0.0%	0.7%	<b>6.8%</b>
No	90.4%	95.8%	94.6%	82.3%	98.0%	<b>90.4%</b>
Don't know	1.2%	0.1%	1.1%	17.7%	1.2%	<b>2.8%</b>

#### Saturday Results

Have you ever been unable to ride or have changed your boarding location due to Difficulty accessing the stop?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	11.6%	0.0%	0.0%	1.7%	0.0%	<b>7.3%</b>
No	88.4%	100.0%	0.0%	86.8%	100.0%	<b>91.5%</b>
Don't know	0.0%	0.0%	0.0%	11.5%	0.0%	<b>1.2%</b>

Six percent of weekday riders and 5% of Saturday riders state that they have been unable to ride or have changed boarding locations due to available capacity on the vehicle.

**Table 43: Change Boarding Location Due to Capacity**

#### Weekday Results

Have you ever been unable to ride or have changed your boarding location due to Too many people boarding/ bus at capacity at your location?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	6.7%	5.8%	3.0%	0.0%	2.4%	<b>5.5%</b>
No	92.0%	94.2%	93.8%	82.2%	96.4%	<b>91.4%</b>
Don't know	1.3%	0.0%	3.2%	17.8%	1.2%	<b>3.0%</b>

**Saturday Results**

Have you ever been unable to ride or have changed your boarding location due to Too many people boarding/ bus at capacity at your location?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	7.9%	11.2%	0.0%	0.0%	0.0%	<b>5.3%</b>
No	92.1%	88.8%	0.0%	88.5%	100.0%	<b>93.6%</b>
Don't know	0.0%	0.0%	0.0%	11.5%	0.0%	<b>1.2%</b>

Twelve percent of weekday riders and 9% of Saturday riders state that they have been unable to ride or have changed boarding locations due to lack of amenities.

Table 44: Change Boarding Location Due to Lack of Amenities

**Weekday Results**

Have you ever been unable to ride or have changed your boarding location due to Lack of amenities (e.g. bench, shelter, etc.)	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	13.6%	14.7%	4.8%	13.4%	0.7%	<b>12.4%</b>
No	85.1%	85.3%	94.1%	70.7%	98.0%	<b>84.9%</b>
Don't know	1.3%	0.0%	1.1%	15.9%	1.2%	<b>2.8%</b>

**Saturday Results**

Have you ever been unable to ride or have changed your boarding location due to Lack of amenities (e.g. bench, shelter, etc.)	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	12.3%	5.6%	0.0%	10.9%	0.0%	<b>8.9%</b>
No	87.7%	94.4%	0.0%	78.3%	100.0%	<b>90.0%</b>
Don't know	0.0%	0.0%	0.0%	10.8%	0.0%	<b>1.1%</b>

One quarter (25%) of weekday riders and 26% of Saturday riders have contacted customer service in the last year.

**Table 45: Contacted Customer Service**

#### Weekday Results

Have you contacted Customer Service in the last year?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	26.8%	39.4%	35.3%	5.1%	8.7%	<b>24.6%</b>
No	72.5%	57.7%	64.7%	84.4%	91.3%	<b>73.9%</b>
Don't know	0.7%	3.0%	0.0%	10.6%	0.0%	<b>1.5%</b>

#### Saturday Results

Have you contacted Customer Service in the last year?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	35.1%	15.8%	22.8%	3.7%	8.2%	<b>26.1%</b>
No	64.6%	84.2%	77.2%	96.3%	91.8%	<b>73.7%</b>
Don't know	0.3%	0.0%	0.0%	0.0%	0.0%	<b>0.2%</b>

Out of those riders that contacted customer service in the last year, 70% of weekday riders and 73% Saturday riders state that they were satisfied with the answer they received.

**Table 46: Satisfied with Customer Service Answer**

#### Weekday Results

Were you satisfied with answer received when you contacted Customer Service?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	69.9%	55.9%	93.5%	77.1%	25.0%	<b>69.8%</b>
No	27.2%	42.2%	0.0%	20.3%	75.0%	<b>27.3%</b>
Don't know	2.9%	2.0%	6.5%	2.7%	0.0%	<b>3.0%</b>

#### Saturday Results

Were you satisfied with answer received when you contacted Customer Service?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	71.3%	49.2%	100.0%	66.3%	100.0%	<b>72.9%</b>
No	27.1%	50.8%	0.0%	33.7%	0.0%	<b>25.7%</b>
Don't know	1.5%	0.0%	0.0%	0.0%	0.0%	<b>1.4%</b>



The top three information sources that weekday riders use are Website (28%), Customer Service Call (17%), and Notice on bus or stop (11%). The top three information sources that Saturday riders use are Website (29%), Customer Service Call (18%), and messages to phone (text, voice, e-mail) (9%).

**Table 47: Get Information About HRT**

### Weekday Results

How do you choose to get information about HRT service, changes, events, etc.?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Customer Service Call	20.4%	17.6%	8.0%	4.3%	7.9%	<b>17.4%</b>
Notice on bus, stop	11.4%	12.3%	0.7%	25.1%	2.4%	<b>11.0%</b>
Website	30.5%	37.6%	15.1%	13.7%	42.6%	<b>28.2%</b>
Email	3.9%	8.4%	1.1%	0.3%	18.2%	<b>3.9%</b>
Social Media (Facebook, Twitter (X), Instagram, Threads?)	2.9%	5.3%	0.2%	0.3%	12.5%	<b>2.8%</b>
Community meeting	0.5%	0.8%	1.5%	0.2%	0.0%	<b>0.6%</b>
Text/voice/email messages to your phone	6.5%	12.1%	1.2%	0.5%	17.0%	<b>6.0%</b>
Other	8.1%	7.9%	0.0%	22.7%	21.1%	<b>8.7%</b>
Don't know	1.5%	4.5%	0.9%	8.5%	7.2%	<b>2.2%</b>

### Saturday Results

How do you choose to get information about HRT service, changes, events, etc.?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Customer Service Call	29.2%	15.4%	0.0%	0.0%	5.4%	<b>17.8%</b>
Notice on bus, stop	8.2%	7.7%	0.6%	15.9%	5.4%	<b>7.5%</b>
Website	33.9%	60.9%	3.1%	13.1%	49.8%	<b>29.1%</b>
Email	3.1%	8.9%	0.0%	0.0%	39.2%	<b>6.9%</b>
Social Media (Facebook, Twitter (X), Instagram, Threads?)	3.7%	0.0%	0.0%	0.0%	31.3%	<b>6.1%</b>
Community meeting	0.7%	4.5%	0.0%	0.0%	0.0%	<b>0.5%</b>
Text/voice/email messages to your phone	8.5%	0.9%	0.0%	0.0%	33.8%	<b>9.2%</b>
Other	8.2%	2.5%	0.3%	27.1%	8.0%	<b>9.0%</b>
Don't know	1.5%	0.0%	0.6%	0.0%	0.0%	<b>1.0%</b>

Fifty-five percent of weekday riders and 66% of Saturday riders get “general information” from cable television, radio, and newspapers / magazines.

Table 48: Get Information from Cable Television, Radio, or Newspaper/Magazine

#### Weekday Results

When seeking out general information, do you get it from Cable Television, Radio, or Newspaper/Magazines?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	57.7%	54.9%	56.9%	25.9%	64.6%	55.0%
No	39.7%	38.1%	43.1%	49.0%	35.4%	40.4%
Don't know	2.5%	7.0%	0.0%	25.1%	0.0%	4.5%

#### Saturday Results

When seeking out general information, do you get it from Cable Television, Radio, or Newspaper/Magazines?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	65.9%	48.1%	100.0%	14.4%	86.5%	65.7%
No	33.7%	50.3%	0.0%	58.1%	13.5%	31.6%
Don't know	0.4%	1.6%	0.0%	27.4%	0.0%	2.7%

Sixty-two percent of weekday riders and 63% of Saturday riders get “general information” from social media.

Table 49: Get Information from Social Media

#### Weekday Results

When seeking out general information, do you get it from Social Media?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	62.5%	67.8%	52.8%	44.2%	80.2%	61.6%
No	35.2%	26.3%	47.2%	31.8%	19.8%	34.1%
Don't know	2.4%	6.0%	0.0%	24.0%	0.0%	4.3%

**Saturday Results**

When seeking out general information, do you get it from Social Media?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	58.6%	27.7%	100.0%	61.1%	78.6%	<b>62.5%</b>
No	41.1%	70.7%	0.0%	11.5%	21.4%	<b>34.9%</b>
Don't know	0.4%	1.5%	0.0%	27.4%	0.0%	<b>2.6%</b>

Fifty-one percent of weekday riders and 55% of Saturday riders get “general information” from television, music, and/or podcast streaming.

Table 50: Get Information from Television, Music, or Podcast Streaming

**Weekday Results**

When seeking out general information, do you get it from Television, Music, or Podcast Streaming?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	52.9%	61.4%	43.9%	16.3%	82.0%	<b>51.0%</b>
No	44.3%	31.5%	56.1%	58.7%	18.0%	<b>44.2%</b>
Don't know	2.8%	7.1%	0.0%	25.1%	0.0%	<b>4.8%</b>

**Saturday Results**

When seeking out general information, do you get it from Television, Music, or Podcast Streaming?	Local Bus	757 Express	Light Rail	Wave	Ferry	Grand Total
Yes	53.0%	48.8%	100.0%	17.1%	74.3%	<b>54.8%</b>
No	46.1%	49.6%	0.0%	55.5%	25.7%	<b>42.1%</b>
Don't know	1.0%	1.6%	0.0%	27.4%	0.0%	<b>3.1%</b>

## APPENDIX A SURVEY SAMPLING PLANS

### Weekday OD Survey Sample Plan

Route Type	ROUTE_SURVEYED	Sample Goals					Route Total	Collected Surveys					Route Total
		AM Peak (Before 9am)	Mid Day (9am-3pm)	PM Peak (3-6pm)	Evening (After 6pm)	Direction Total		AM Peak (Before 9am)	Mid Day (9am-3pm)	PM Peak (3-6pm)	Evening (After 6pm)	Direction Total	
Local Bus	1 - Downtown Norfolk/Ocean View/Pembroke East (INBOUND)	10	16	9	5	40	172	11	37	21	7	76	182
Local Bus	1 - Downtown Norfolk/Ocean View/Pembroke East (OUTBOUND)	9	18	10	8	46		26	55	17	8	106	
Local Bus	2 - Naval Station Norfolk/Downtown Norfolk (INBOUND)	3	4	3	2	12	45	5	16	3	10	34	72
Local Bus	2 - Naval Station Norfolk/Downtown Norfolk (OUTBOUND)	3	4	2	2	11		6	22	3	7	38	
Local Bus	3 - Downtown Norfolk/Naval Station Norfolk (INBOUND)	11	14	7	4	36	140	11	31	16	11	69	155
Local Bus	3 - Downtown Norfolk/Naval Station Norfolk (OUTBOUND)	6	13	9	6	34		17	31	26	12	86	
Local Bus	4 - ODU/Downtown Norfolk (INBOUND)	1	3	2	1	8	32	1	12	4	3	20	37
Local Bus	4 - ODU/Downtown Norfolk (OUTBOUND)	2	3	2	1	9		3	10	3	1	17	
Local Bus	5 - Willoughby/Evelyn T Butts (INBOUND)	2	2	1	0	5	17	1	5	6	0	12	21
Local Bus	5 - Willoughby/Evelyn T Butts (OUTBOUND)	0	2	2	0	4		1	3	5	0	9	
Local Bus	6 - Downtown Norfolk/South Norfolk/Robert Hall Boulevard (INBOUND)	3	4	3	1	11	40	3	7	6	6	22	46
Local Bus	6 - Downtown Norfolk/South Norfolk/Robert Hall Boulevard (OUTBOUND)	2	3	2	1	9		5	9	8	2	24	
Local Bus	8 - Downtown Norfolk/Evelyn Butts (INBOUND)	4	8	5	3	19	78	7	13	16	15	51	117
Local Bus	8 - Downtown Norfolk/Evelyn Butts (OUTBOUND)	3	8	5	4	20		7	27	18	14	66	
Local Bus	9 - Downtown Norfolk/Sewells Point (INBOUND)	3	4	2	2	11	49	3	8	7	3	21	52
Local Bus	9 - Downtown Norfolk/Sewells Point (OUTBOUND)	3	4	3	2	13		4	12	9	6	31	
Local Bus	11 - Downtown Norfolk/Colonial Place (INBOUND)	1	1	1	0	3	11	2	3	0	1	6	13
Local Bus	11 - Downtown Norfolk/Colonial Place (OUTBOUND)	0	1	1	0	2		1	4	2	0	7	
Local Bus	12 - South Norfolk/TCC Virginia Beach (INBOUND)	1	3	2	1	8	32	2	6	4	7	19	36
Local Bus	12 - South Norfolk/TCC Virginia Beach (OUTBOUND)	3	3	1	1	8		3	10	2	2	17	
Local Bus	13 - Downtown Norfolk/Robert Hall Boulevard/Chesapeake Crossing (INBOUND)	3	6	4	1	14	70	5	20	6	3	34	72
Local Bus	13 - Downtown Norfolk/Robert Hall Boulevard/Chesapeake Crossing (OUTBOUND)	5	8	5	3	21		6	20	6	6	38	
Local Bus	14 - Robert Hall/Chesapeake Municipal Center (INBOUND)	1	2	1	0	4	16	1	2	10	1	14	21
Local Bus	14 - Robert Hall/Chesapeake Municipal Center (OUTBOUND)	1	2	1	0	4		2	3	2	0	7	
Local Bus	15 - Evelyn Butts/Robert Hall Boulevard (INBOUND)	7	16	11	7	40	162	11	49	17	19	96	166
Local Bus	15 - Evelyn Butts/Robert Hall Boulevard (OUTBOUND)	10	18	9	4	41		11	31	18	10	70	
Local Bus	18 - Downtown Norfolk/Ballentine Boulevard (INBOUND)	1	1	1	0	2	9	0	2	2	0	4	12
Local Bus	18 - Downtown Norfolk/Ballentine Boulevard (OUTBOUND)	0	1	1	0	2		1	4	1	2	8	
Local Bus	20 - Downtown Norfolk/Virginia Beach Oceanfront (INBOUND)	11	29	18	13	72	299	11	66	58	27	162	310
Local Bus	20 - Downtown Norfolk/Virginia Beach Oceanfront (OUTBOUND)	18	31	17	12	78		23	70	33	22	148	

Route Type	ROUTE_SURVEYED	Sample Goals					Route Total	Collected Surveys					Route Total
		AM Peak (Before 9am)	Mid Day (9am-3pm)	PM Peak (3-6pm)	Evening (After 6pm)	Direction Total		AM Peak (Before 9am)	Mid Day (9am-3pm)	PM Peak (3-6pm)	Evening (After 6pm)	Direction Total	
Local Bus	21 - Naval Station Norfolk/Joint Expeditionary Base Little Creek (INBOUND)	5	8	4	3	20	90	4	34	8	6	52	95
Local Bus	21 - Naval Station Norfolk/Joint Expeditionary Base Little Creek (OUTBOUND)	5	10	6	4	25		8	18	9	8	43	
Local Bus	22 - Haygood (INBOUND)	1	2	1	0	5	24	1	3	3	2	9	26
Local Bus	22 - Haygood (OUTBOUND)	1	3	2	1	7		5	6	5	1	17	
Local Bus	23 - Norfolk General Hospital/Military Circle/JANAF (INBOUND)	3	7	4	3	18	68	3	17	15	8	43	73
Local Bus	23 - Norfolk General Hospital/Military Circle/JANAF (OUTBOUND)	4	6	4	2	16		5	13	6	6	30	
Local Bus	24 - Robert Hall Boulevard/Greenbrier Mall/Summit Pointe/Pembroke (INBOUND)	1	2	1	1	5	20	3	8	1	2	14	26
Local Bus	24 - Robert Hall Boulevard/Greenbrier Mall/Summit Pointe/Pembroke (OUTBOUND)	1	2	1	1	5		2	7	2	1	12	
Local Bus	25 - Newtown Road Station/Princess Anne/Virginia Beach Municipal Center (INBOUND)	1	2	2	1	6	28	1	8	6	1	16	31
Local Bus	25 - Newtown Road Station/Princess Anne/Virginia Beach Municipal Center (OUTBOUND)	2	3	2	1	8		3	7	4	1	15	
Local Bus	26 - Lynnhaven Parkway/TCC Virginia Beach (INBOUND)	1	1	1	0	3	11	1	2	2	0	5	13
Local Bus	26 - Lynnhaven Parkway/TCC Virginia Beach (OUTBOUND)	1	1	1	0	3		2	5	1	0	8	
Local Bus	27 - Pleasure House Rd./Newtown Rd Station (INBOUND)	3	3	2	1	9	34	2	7	9	2	20	35
Local Bus	27 - Pleasure House Rd./Newtown Rd Station (OUTBOUND)	2	2	2	2	8		2	6	5	2	15	
Local Bus	29 - Great Neck/Pleasure House Rd/TCC Virginia Beach (INBOUND)	2	3	1	1	7	27	4	7	0	3	14	34
Local Bus	29 - Great Neck/Pleasure House Rd/TCC Virginia Beach (OUTBOUND)	1	2	2	1	7		1	3	13	3	20	
Wave	30 - Atlantic Avenue Trolley (INBOUND)	0	12	9	14	35	127	1	35	15	20	71	126
Wave	30 - Atlantic Avenue Trolley (OUTBOUND)	0	9	7	12	29		3	28	12	12	55	
Wave	31 - Aquarium & Campground Trolley (INBOUND)	0	6	3	2	11	51	0	9	7	4	20	53
Wave	31 - Aquarium & Campground Trolley (OUTBOUND)	0	6	3	5	14		0	20	8	5	33	
Local Bus	33 - North Seashore/Virginia Beach Municipal Center (INBOUND)	1	3	2	1	8	29	3	7	4	1	15	32
Local Bus	33 - North Seashore/Virginia Beach Municipal Center (OUTBOUND)	2	3	1	1	7		6	6	2	3	17	
Wave	35 - Bayfront Trolley (INBOUND)	1	2	2	1	6	25	1	6	3	3	13	28
Wave	35 - Bayfront Trolley (OUTBOUND)	1	2	2	2	6		1	5	4	5	15	
Local Bus	36 - Pembroke East/TCC Virginia Beach (INBOUND)	1	3	2	1	8	30	1	11	3	1	16	31
Local Bus	36 - Pembroke East/TCC Virginia Beach (OUTBOUND)	1	3	2	1	7		1	11	2	1	15	
Local Bus	41 - Downtown Portsmouth/Victory Crossing (INBOUND)	3	3	1	0	7	28	4	10	3	0	17	31
Local Bus	41 - Downtown Portsmouth/Victory Crossing (OUTBOUND)	1	3	2	0	6		3	8	3	0	14	
Local Bus	43 - Downtown County Street/Bart Street (INBOUND)	1	2	1	0	4	14	1	6	1	0	8	15
Local Bus	43 - Downtown County Street/Bart Street (OUTBOUND)	0	2	1	0	3		1	5	1	0	7	
Local Bus	44 - Norfolk General Hospital/Midtown Portsmouth (INBOUND)	2	4	3	1	11	42	4	10	4	4	22	45
Local Bus	44 - Norfolk General Hospital/Midtown Portsmouth (OUTBOUND)	1	5	3	1	10		1	16	5	1	23	
Local Bus	45 - Downtown Norfolk/Downtown Portsmouth/Victory Crossing (INBOUND)	7	10	6	3	26	107	8	15	16	11	50	109
Local Bus	45 - Downtown Norfolk/Downtown Portsmouth/Victory Crossing (OUTBOUND)	5	10	7	5	28		13	24	17	5	59	
Local Bus	47 - Downtown Portsmouth/Churchland (INBOUND)	2	5	2	1	10	46	3	6	7	4	20	49
Local Bus	47 - Downtown Portsmouth/Churchland (OUTBOUND)	3	6	3	2	13		4	10	13	2	29	
Local Bus	50 - Academy Park/Victory Crossing (INBOUND)	1	2	1	0	4	14	2	5	1	0	8	17
Local Bus	50 - Academy Park/Victory Crossing (OUTBOUND)	0	2	1	0	3		0	7	2	0	9	
Local Bus	57 - Robert Hall Boulevard/Cavalier (INBOUND)	2	3	2	0	6	26	6	8	2	0	16	30
Local Bus	57 - Robert Hall Boulevard/Cavalier (OUTBOUND)	1	3	2	1	7		2	8	3	1	14	
Local Bus	58 - South Norfolk/Bainbridge Boulevard/Chesapeake Municipal Center/TCC Chesapeake (INBOUND)	1	1	1	0	3	14	0	3	6	0	9	16
Local Bus	58 - South Norfolk/Bainbridge Boulevard/Chesapeake Municipal Center/TCC Chesapeake (OUTBOUND)	1	2	1	0	4		2	4	1	0	7	
Ferry	90 - Elizabeth River Ferry	4	8	8	6	26	65	14	34	22	9	79	79
Local Bus	101 - Downtown Newport News/Downtown Hampton (INBOUND)	3	5	2	3	14	52	4	12	6	4	26	62
Local Bus	101 - Downtown Newport News/Downtown Hampton (OUTBOUND)	2	5	3	2	13		9	20	6	1	36	
Local Bus	102 - Peninsula Town Center/Downtown Hampton (INBOUND)	1	2	1	0	4	15	0	6	2	0	8	23
Local Bus	102 - Peninsula Town Center/Downtown Hampton (OUTBOUND)	1	2	1	0	4		2	13	0	0	15	
Local Bus	103 - Downtown Newport News/Downtown Hampton (INBOUND)	3	7	4	3	16	51	8	8	5	2	23	63
Local Bus	103 - Downtown Newport News/Downtown Hampton (OUTBOUND)	3	4	2	1	9		9	19	6	6	40	
Local Bus	104 - Marshall Avenue/Downtown Newport News/Newmarket (INBOUND)	1	2	1	1	5	22	4	8	1	1	14	27
Local Bus	104 - Marshall Avenue/Downtown Newport News/Newmarket (OUTBOUND)	1	2	1	1	6		6	3	1	3	13	

Route Type	ROUTE SURVEYED	Sample Goals					Route Total	Collected Surveys					Route Total
		AM Peak (Before 9am)	Mid Day (9am-3pm)	PM Peak (3-6pm)	Evening (After 6pm)	Direction Total		AM Peak (Before 9am)	Mid Day (9am-3pm)	PM Peak (3-6pm)	Evening (After 6pm)	Direction Total	
Local Bus	105 - Maple Avenue & 27th Street/Peninsula Town Center (INBOUND)	2	4	3	3	12	56	13	7	11	3	34	66
Local Bus	105 - Maple Avenue & 27th Street/Peninsula Town Center (OUTBOUND)	4	7	3	2	16		10	11	10	1	32	
Local Bus	106 - Newport News/Fort Eustis (INBOUND)	4	7	4	3	18	72	4	16	8	6	34	85
Local Bus	106 - Newport News/Fort Eustis (OUTBOUND)	3	7	4	3	18		8	19	21	3	51	
Local Bus	107 - Newport News/Warwick Boulevard/Riverside Convalescent Center (INBOUND)	4	6	4	3	17	71	4	22	9	6	41	95
Local Bus	107 - Newport News/Warwick Boulevard/Riverside Convalescent Center (OUTBOUND)	4	8	4	3	18		5	41	5	3	54	
Local Bus	108 - Lee Hall/Patrick Henry Mall/Fishing Point City Center/CNU (INBOUND)	3	4	2	2	11	41	3	15	8	2	28	55
Local Bus	108 - Lee Hall/Patrick Henry Mall/Fishing Point City Center/CNU (OUTBOUND)	2	3	2	2	10		3	13	9	2	27	
Local Bus	109 - Pembroke Avenue/Downtown Hampton/Buckroe (INBOUND)	2	4	1	1	8	18	2	8	1	1	12	21
Local Bus	109 - Pembroke Avenue/Downtown Hampton/Buckroe (OUTBOUND)	0	1	0	0	1		0	5	1	3	9	
Local Bus	110 - Downtown Hampton/VPCC (INBOUND)	1	4	3	1	9	33	2	7	9	1	19	38
Local Bus	110 - Downtown Hampton/VPCC (OUTBOUND)	1	3	2	1	7		3	6	8	2	19	
Local Bus	111 - Virginia Peninsula Community College/Warwick Forest (INBOUND)	1	3	2	1	7	30	2	12	4	4	22	41
Local Bus	111 - Virginia Peninsula Community College/Warwick Forest (OUTBOUND)	1	4	2	1	8		3	10	3	3	19	
Local Bus	112 - Downtown Newport News/Riverside Hospital/Lee Hall (INBOUND)	11	20	15	8	54	214	30	58	33	18	139	279
Local Bus	112 - Downtown Newport News/Riverside Hospital/Lee Hall (OUTBOUND)	12	22	12	7	53		31	62	31	16	140	
Local Bus	114 - Newmarket/Downtown Hampton (INBOUND)	5	15	9	5	33	120	6	45	11	12	74	136
Local Bus	114 - Newmarket/Downtown Hampton (OUTBOUND)	4	13	7	4	27		11	35	11	5	62	
Local Bus	115 - Buckroe/Willow Oaks/Downtown Hampton (INBOUND)	1	3	1	1	6	19	1	8	2	1	12	22
Local Bus	115 - Buckroe/Willow Oaks/Downtown Hampton (OUTBOUND)	1	1	1	1	4		3	4	2	1	10	
Local Bus	117 - Hampton University/V.A. Hospital (INBOUND)	1	2	1	0	5	11	0	1	0	0	1	14
Local Bus	117 - Hampton University/V.A. Hospital (OUTBOUND)	0	0	0	0	1		0	6	6	1	13	
Local Bus	118 - Langley/Semple Farm Road (INBOUND)	2	6	3	1	12	41	2	11	8	3	24	50
Local Bus	118 - Langley/Semple Farm Road (OUTBOUND)	2	3	2	1	8		4	19	2	1	26	
Local Bus	120 - Downtown Hampton/Mallory/Buckroe (INBOUND)	1	3	1	1	6	15	0	7	2	0	9	19
Local Bus	120 - Downtown Hampton/Mallory/Buckroe (OUTBOUND)	0	1	0	0	2		3	3	4	0	10	
Local Bus	403 - Buckroe Shopping Center (INBOUND)	0	0	0	0	0	3	0	0	3	0	3	3
Local Bus	403 - Buckroe Shopping Center (OUTBOUND)	1	0	0	0	1		0	0	0	0	0	
Local Bus	405 - NNTC / Buckroe (INBOUND)	0	0	0	0	0	1	0	0	0	0	0	0
Local Bus	405 - NNTC / Buckroe (OUTBOUND)	0	0	0	0	0		0	0	0	0	0	
Local Bus	414 - NNTC/Jefferson/Oakland (INBOUND)	0	0	1	0	1	8	0	0	9	0	9	12
Local Bus	414 - NNTC/Jefferson/Oakland (OUTBOUND)	2	0	1	0	3		2	0	1	0	3	
Local Bus	415 - NNTC/Denbigh (INBOUND)	1	0	0	0	1	3	1	0	0	0	1	2
Local Bus	415 - NNTC/Denbigh (OUTBOUND)	0	0	1	0	1		0	0	1	0	1	
Local Bus	430 - Denbigh Fringe/NNTC (INBOUND)	2	0	0	0	2	8	2	0	0	0	2	8
Local Bus	430 - Denbigh Fringe/NNTC (OUTBOUND)	0	0	2	0	2		0	0	6	0	6	
757 Express	921 - Newport News Transit Center/Williamsburg Transit Center (INBOUND)	1	0	0	0	1	5	3	0	2	0	5	6
757 Express	921 - Newport News Transit Center/Williamsburg Transit Center (OUTBOUND)	0	0	1	0	1		0	0	1	0	1	
757 Express	960 - Virginia Beach/Norfolk (INBOUND)	1	2	3	1	7	30	3	2	7	2	14	34
757 Express	960 - Virginia Beach/Norfolk (OUTBOUND)	4	2	1	1	8		5	8	6	1	20	
757 Express	961 - Norfolk/Hampton/Newport News (INBOUND)	5	5	4	3	16	63	8	15	6	4	33	70
757 Express	961 - Norfolk/Hampton/Newport News (OUTBOUND)	4	5	5	2	15		14	14	7	2	37	
757 Express	964 - Smithfield/Gwalthney/Newport News Shipbuilding (INBOUND)	2	0	0	0	2	8	2	0	0	1	3	7
757 Express	964 - Smithfield/Gwalthney/Newport News Shipbuilding (OUTBOUND)	0	0	2	0	2		1	0	3	0	4	
757 Express	966 - Silverleaf / Newport News Shipbuilding (INBOUND)	2	0	0	0	2	8	4	0	0	0	4	9
757 Express	966 - Silverleaf / Newport News Shipbuilding (OUTBOUND)	0	0	2	0	2		0	0	5	0	5	
757 Express	967 - Virginia Beach/Chesapeake/Norfolk/Newport News (INBOUND)	5	0	0	0	6	22	12	0	0	0	12	23
757 Express	967 - Virginia Beach/Chesapeake/Norfolk/Newport News (OUTBOUND)	0	2	4	0	6		0	3	8	0	11	
757 Express	972 - TCC Virginia Beach/Newport News Shipyard (INBOUND)	0	0	2	0	2	7	0	0	4	0	4	8
757 Express	972 - TCC Virginia Beach/Newport News Shipyard (OUTBOUND)	2	0	0	0	2		4	0	0	0	4	
757 Express	980 - Downtown Norfolk/Amazon Chesapeake-Suffolk (INBOUND)	0	0	1	0	1	5	0	0	2	0	2	6
757 Express	980 - Downtown Norfolk/Amazon Chesapeake-Suffolk (OUTBOUND)	1	0	0	0	1		3	0	1	0	4	
Light Rail	800 - EVMC/Fort Norfolk/Newtown Road (TO NEWTOWN ROAD)	13	34	29	20	95	307	19	103	73	34	229	472
Light Rail	800 - EVMC/Fort Norfolk/Newtown Road (TO EVMC/FORT NORFOLK)	22	34	23	16	95		26	90	82	45	243	
Totals		359	678	438	280	1755	3450	626	1831	1058	547	4062	4062

**Saturday OD Survey Sample Plan**

Route Type	ROUTE SURVEYED	Sample Goals	Collected Surveys
Local Bus	1 - Downtown Norfolk/Ocean View/Pembroke East	23	27
Local Bus	2 - Naval Station Norfolk/Downtown Norfolk	5	5
Local Bus	3 - Downtown Norfolk/Naval Station Norfolk	20	23
Local Bus	4 - ODU/Downtown Norfolk	4	5
Local Bus	5 - Willoughby/Evelyn T Butts	3	4
Local Bus	6 - Downtown Norfolk/South Norfolk/Robert Hall Boulevard	6	6
Local Bus	8 - Downtown Norfolk/Evelyn Butts	13	17
Local Bus	9 - Downtown Norfolk/Sewells Point	6	6
Local Bus	11 - Downtown Norfolk/Colonial Place	2	2
Local Bus	12 - South Norfolk/TCC Virginia Beach	5	5
Local Bus	13 - Downtown Norfolk/Robert Hall Boulevard/Chesapeake Crossing	10	14
Local Bus	14 - Robert Hall/Chesapeake Municipal Center	2	2
Local Bus	15 - Evelyn Butts/Robert Hall Boulevard	25	26
Local Bus	18 - Downtown Norfolk/Ballentine Boulevard	1	1
Local Bus	20 - Downtown Norfolk/Virginia Beach Oceanfront	49	54
Local Bus	21 - Naval Station Norfolk/Joint Expeditionary Base Little Creek	14	17
Local Bus	22 - Haygood	3	3
Local Bus	23 - Norfolk General Hospital/Military Circle/JANAF	10	10
Local Bus	24 - Robert Hall Boulevard/Greenbrier Mall/Summit Pointe/Pembroke	3	5
Local Bus	25 - Newtown Road Station/Princess Anne/Virginia Beach Municipal Center	4	4
Local Bus	26 - Lynnhaven Parkway/TCC Virginia Beach	2	2
Local Bus	27 - Pleasure House Rd./Newtown Rd Station	5	5
Local Bus	29 - Great Neck/Pleasure House Rd/TCC Virginia Beach	4	4
Wave	30 - Atlantic Avenue Trolley	34	47
Wave	31 - Aquarium & Campground Trolley	13	14
Local Bus	33 - North Seashore/Virginia Beach Municipal Center	5	5
Local Bus	34 - Oceanfront Connector	0	1
Wave	35 - Bayfront Trolley	6	13
Local Bus	36 - Pembroke East/TCC Virginia Beach	4	6
Local Bus	41 - Downtown Portsmouth/Victory Crossing	4	4
Local Bus	43 - Downtown County Street/Bart Street	2	2
Local Bus	44 - Norfolk General Hospital/Midtown Portsmouth	6	6
Local Bus	45 - Downtown Norfolk/Downtown Portsmouth/Victory Crossing	16	16



Route Type	ROUTE_SURVEYED	Sample Goals	Collected Surveys
Local Bus	47 - Downtown Portsmouth/Churchland	5	6
Local Bus	50 - Academy Park/Victory Crossing	2	2
Local Bus	57 - Robert Hall Boulevard/Cavalier	4	4
Local Bus	58 - South Norfolk/Bainbridge Boulevard/Chesapeake Municipal Center/TCC Chesapeake	2	1
Ferry	90 - Elizabeth River Ferry	23	38
Local Bus	101 - Downtown Newport News/Downtown Hampton	8	11
Local Bus	102 - Peninsula Town Center/Downtown Hampton	2	4
Local Bus	103 - Downtown Newport News/Downtown Hampton	7	7
Local Bus	104 - Marshall Avenue/Downtown Newport News/Newmarket	4	5
Local Bus	105 - Maple Avenue & 27th Stree/Peninsula Town Center	9	12
Local Bus	106 - Newport News/Fort Eustis	10	11
Local Bus	107 - Newport News/Warwick Boulevard/Riverside Convalescent Center	11	13
Local Bus	108 - Lee Hall/Patrick Henry Mall/Fishing Point City Center/CNU	7	7
Local Bus	109 - Pembroke Avenue/Downtown Hampton/Buckroe	2	2
Local Bus	110 - Downtown Hampton/VPCC	4	5
Local Bus	111 - Virginia Peninsula Community College/Warwick Forest	4	4
Local Bus	112 - Downtown Newport News/Riverside Hospital/Lee Hall	31	37
Local Bus	114 - Newmarket/Downtown Hampton	21	23
Local Bus	115 - Buckroe/Willow Oaks/Downtown Hampton	2	2
Local Bus	117 - Hampton University/V.A. Hospital	1	1
Local Bus	118 - Langley/Semple Farm Road	6	7
Local Bus	120 - Downtown Hampton/Mallory/Buckroe	2	2
Light Rail	800 - EVMC/Fort Norfolk/Newtown Road	144	146
757 Express	960 - Virginia Beach/Norfolk	6	8
757 Express	961 - Norfolk/Hampton/Newport News	9	11
757 Express	980 - Downtown Norfolk/Amazon Chesapeake-Suffolk	1	1
<b>Totals</b>		<b>641</b>	<b>731</b>



**On-to-Off Pairs Sample Plan**

Route Type	Route / Direction	Sampling Goals					Total Surveys	COMPLETED					
		AM Peak (Before 9am)	Midday (9:00am- 2:59pm)	PM Peak (3:00- 5:59pm)	Evening (After 6:00pm)	Total		AM Peak (Before 9am)	Midday (9:00am- 2:59pm)	PM Peak (3:00- 5:59pm)	Evening (After 6:00pm)	Total	Total Surveys
Local Bus	1 - Downtown Norfolk/Ocean View/Pembroke East (INBOUND)	19	30	17	10	76	215	115	161	97	0	373	778
	1 - Downtown Norfolk/Ocean View/Pembroke East (OUTBOUND)	17	34	20	15	86		93	175	126	11	405	
Local Bus	2 - Naval Station Norfolk/Downtown Norfolk (INBOUND)	2	4	3	2	11	28	17	24	24	0	65	134
	2 - Naval Station Norfolk/Downtown Norfolk (OUTBOUND)	3	4	2	2	10		28	22	19	0	69	
Local Bus	3 - Downtown Norfolk/Naval Station Norfolk (INBOUND)	20	27	13	8	67	176	91	78	33	13	215	358
	3 - Downtown Norfolk/Naval Station Norfolk (OUTBOUND)	11	24	18	12	64		40	54	38	11	143	
Local Bus	8 - Downtown Norfolk/Evelyn Butts (INBOUND)	4	7	4	3	18	49	27	62	35	41	165	330
	8 - Downtown Norfolk/Evelyn Butts (OUTBOUND)	3	8	4	3	18		34	54	38	39	165	
Local Bus	12 - South Norfolk/TCC Virginia Beach (INBOUND)	1	3	2	1	7	20	10	22	7	4	43	103
	12 - South Norfolk/TCC Virginia Beach (OUTBOUND)	3	3	1	1	8		26	20	12	2	60	
Local Bus	15 - Evelyn Butts/Robert Hall Boulevard (INBOUND)	13	30	20	12	75	202	7	3	73	61	144	333
	15 - Evelyn Butts/Robert Hall Boulevard (OUTBOUND)	20	33	17	7	77		26	55	69	39	189	
Local Bus	20 - Downtown Norfolk/Virginia Beach Oceanfront (INBOUND)	21	55	34	25	135	374	71	166	117	64	418	832
	20 - Downtown Norfolk/Virginia Beach Oceanfront (OUTBOUND)	33	58	32	23	146		100	158	119	37	414	
Local Bus	21 - Naval Station Norfolk/Joint Expeditionary Base Little Creek (INBOUND)	9	15	8	6	38	113	52	14	39	18	123	285
	21 - Naval Station Norfolk/Joint Expeditionary Base Little Creek (OUTBOUND)	10	18	12	7	46		29	70	56	7	162	
Local Bus	25 - Newtown Road Station/Princess Anne/Virginia Beach Municipal Center (INBOUND)	1	2	2	1	6	18	20	18	5	0	43	94
	25 - Newtown Road Station/Princess Anne/Virginia Beach Municipal Center (OUTBOUND)	1	3	2	1	7		22	29	0	0	51	
Local Bus	26 - Lynnhaven Parkway/TCC Virginia Beach (INBOUND)	1	1	1	0	3	7	1	2	0	0	3	7
	26 - Lynnhaven Parkway/TCC Virginia Beach (OUTBOUND)	1	1	1	0	2		2	2	0	0	4	
Wave	30 - Atlantic Avenue Trolley (INBOUND)	1	22	16	26	65	158	2	48	81	37	168	322
	30 - Atlantic Avenue Trolley (OUTBOUND)	1	17	13	23	54		0	32	46	76	154	
Local Bus	33 - North Seashore/Virginia Beach Municipal Center (INBOUND)	1	3	2	1	7	18	6	10	10	0	26	46
	33 - North Seashore/Virginia Beach Municipal Center (OUTBOUND)	2	3	1	1	7		20	0	0	0	20	
Local Bus	36 - Pembroke East/TCC Virginia Beach (INBOUND)	1	3	2	1	8	19	19	29	37	7	92	185
	36 - Pembroke East/TCC Virginia Beach (OUTBOUND)	1	3	2	1	7		11	29	37	16	93	
Local Bus	45 - Downtown Norfolk/Downtown Portsmouth/Victory Crossing (INBOUND)	14	18	11	6	49	134	59	51	18	12	140	240
	45 - Downtown Norfolk/Downtown Portsmouth/Victory Crossing (OUTBOUND)	9	19	14	10	52		15	39	25	21	100	
Local Bus	47 - Downtown Portsmouth/Churchland (INBOUND)	2	4	2	1	9	29	5	16	26	7	54	126
	47 - Downtown Portsmouth/Churchland (OUTBOUND)	2	5	3	2	12		8	22	35	7	72	
Local Bus	101 - Downtown Newport News/Downtown Hampton (INBOUND)	3	5	2	2	13	33	46	65	42	13	166	224
	101 - Downtown Newport News/Downtown Hampton (OUTBOUND)	2	5	3	2	12		8	38	12	0	58	
Local Bus	106 - Newport News/Fort Eustis (INBOUND)	4	6	4	3	17	45	53	23	78	18	172	337
	106 - Newport News/Fort Eustis (OUTBOUND)	3	7	4	3	17		36	44	54	31	165	
Local Bus	107 - Newport News/Warwick Boulevard/Riverside Convalescent Center (INBOUND)	3	6	4	3	16	45	7	31	4	0	42	125
	107 - Newport News/Warwick Boulevard/Riverside Convalescent Center (OUTBOUND)	4	7	4	3	17		28	54	1	0	83	
Local Bus	112 - Downtown Newport News/Riverside Hospital/Lee Hall (INBOUND)	20	38	28	16	101	268	41	79	56	15	191	341
	112 - Downtown Newport News/Riverside Hospital/Lee Hall (OUTBOUND)	23	41	23	13	100		56	51	43	0	150	
Local Bus	114 - Newmarket/Downtown Hampton (INBOUND)	10	28	16	9	62	150	11	39	50	0	100	219
	114 - Newmarket/Downtown Hampton (OUTBOUND)	7	23	13	7	50		24	49	46	0	119	
Local Bus	118 - Langley/Semple Farm Road (INBOUND)	2	6	3	1	12	26	10	39	20	4	73	153
	118 - Langley/Semple Farm Road (OUTBOUND)	2	3	2	1	8		16	27	25	12	80	
Light Rail	800 - EVMC/Fort Norfolk/Newtown Road (TO EVMC/FORT NORFOLK)	34	51	34	25	144	312	87	82	69	46	284	654
	800 - EVMC/Fort Norfolk/Newtown Road (TO NEWTOWN ROAD)	19	50	44	29	142		50	129	128	63	370	
Totals		362	733	459	327	1,880	2,437	1,429	2,215	1,850	732	6,226	6,226

Note: Additional 367 on routes not included in the sample plan due to interlining

## APPENDIX B SURVEY QUESTIONNAIRE

### Hampton Roads Transit (HRT) 2023 OnBoard Survey

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

All personal information will be kept strictly confidential and **WILL NOT** be shared or sold.

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

(If you are visiting the Hampton Roads area, please list the hotel name or address where you are staying)

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)

- ☐ Your usual WORKPLACE ☐ Shopping  
☐ Other business-related ☐ Eating/Dining Out  
☐ College / University (students only) ☐ School (K-12)  
☐ Airport (as an air passenger) ☐ Sporting event  
☐ Recreation / sightseeing  
☐ Medical appointment / doctor's visit  
☐ Social visits (friends/relatives)  
☐ Personal business (bank, post office)  
☐ Pick up/drop off someone (daycare, school)  
☐ Your **HOME** → Go to Question #4  
☐ Your **HOTEL** → Go to Question #4  
☐ 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: \_\_\_\_\_

4. How did you **GET FROM** your origin (the place in Question #1) **TO THE VERY FIRST** bus / train / ferry you used for this one-way trip?

- ☐ Walk ☐ Wheelchair or scooter  
☐ Personal Bike ☐ E-Bike  
☐ E-Scooter (rented) ☐ E-Scooter (personal)  
☐ Was dropped off by someone (answer 4a)  
☐ Drove alone and parked (answer 4a)  
☐ Drove or rode with others and parked (answer 4a)  
☐ Taxi. (answer 4a)  
☐ Uber, Lyft, etc. (answer 4a)  
☐ Other: \_\_\_\_\_

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

\_\_\_\_\_

5. Where did you **get ON** this bus/train/ferry?

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)

- ☐ Your usual WORKPLACE ☐ Shopping  
☐ Other business-related ☐ Eating/Dining Out  
☐ College / University (students only) ☐ School (K-12)  
☐ Airport (as an air passenger) ☐ Sporting event  
☐ Recreation / sightseeing  
☐ Medical appointment / doctor's visit  
☐ Social visits (friends/relatives)  
☐ Personal business (bank, post office)  
☐ Pick up/drop off someone (daycare, school)  
☐ Your **HOME** → Go to Question #9  
☐ Your **HOTEL** → 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: \_\_\_\_\_

9. How will you **GET TO** your destination (listed in Question #6) after you get off the **LAST** bus / train / ferry you will use for this one-way trip?

- ☐ Walk ☐ Wheelchair or scooter  
☐ Personal Bike ☐ E-Bike  
☐ E-Scooter (rented) ☐ E-Scooter (personal)  
☐ Be picked up by someone (answer 9a)  
☐ Get in a parked vehicle & drive alone (answer 9a)  
☐ Get in a parked vehicle & drive/ride w/others (answer 9a)  
☐ Taxi (answer 9a)  
☐ Uber, Lyft, etc. (answer 9a)  
☐ Other: \_\_\_\_\_

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

\_\_\_\_\_

10. Where will you **get OFF** this bus/train/ferry?

Please provide the nearest intersection / station name / Park-n-Ride lot:

\_\_\_\_\_

11a. Did you transfer **FROM** another service **BEFORE** getting on this vehicle? ☐ Yes ☐ No

11b. Will you transfer **TO** another service **AFTER** getting off this vehicle? ☐ Yes ☐ No

11c. Please list the **BUS/TRAIN/FERRY ROUTES** in the exact order you use them for this one-way trip

START →  →  →  →  → END

1st Route 2nd Route 3rd Route 4th Route

Continue

**OTHER INFORMATION ABOUT THIS TRIP**

12. What time did you **BOARD this** bus/train/ferry? \_\_\_\_\_ : \_\_\_\_\_ am / pm (circle one)
13. Will you (or did you) make this same trip in exactly the opposite direction today?  
☐ Yes - At what time did/will you leave for this trip in the opposite direction? \_\_\_\_\_:\_\_\_\_\_ am/pm (circle one) ☐ No
14. Do you have a bank account or credit/debit card? ☐ Yes ☐ No
15. Do you have a working smartphone with data plan (e.g., iPhone, Android / Windows Phone, etc.)? ☐ Yes ☐ No
16. Specifically, what type of fare did you use for your trip today?  
☐ Adult Single Trip (cash) ☐ 1-Day Go Pass ☐ 7-Day Go Pass ☐ 30-Day Go Pass ☐ Try Transit 1 day  
☐ VB Wave Go Pass 1 Day ☐ VB Wave Go Pass 3 Day ☐ Ferry Roundtrip ☐ Try Transit 30 day  
☐ GoPass 365 ☐ GoSemester ☐ e-Tide Ticket (Ticketleap) ☐ Student Freedom Pass
17. Did you receive any of the following special fare discounts for your trip today? (Check one)  
☐ None ☐ Youth ☐ Senior ☐ Disabled ☐ HRT Employees/Spouse/Retirees
18. Where did you purchase your fare today?  
☐ Customer Serv. Ctr. ☐ Farebox ☐ Mobile App ☐ Retail Location ☐ Ticket Vending Machine (TVM) ☐ Other
19. Did you pay cash or credit / debit for your fare today? ☐ Cash ☐ Credit / Debit
20. On average, how often do you use public transportation in the Hampton Roads area?  
☐ 7 days per week ☐ 5 days per week ☐ 3 days per week ☐ Once per week ☐ A few times per year  
☐ 6 days per week ☐ 4 days per week ☐ 2 days per week ☐ At least once per month ☐ First time
21. On average, how often did you use transit before the Pandemic?  
☐ 7 days per week ☐ 5 days per week ☐ 3 days per week ☐ Once per week ☐ A few times per year  
☐ 6 days per week ☐ 4 days per week ☐ 2 days per week ☐ At least once per month ☐ Didn't use transit

**ABOUT YOU AND YOUR HOUSEHOLD**

22. Are you a visitor to the Hampton Roads region? ☐ No ☐ Yes (if YES, please skip to Q27)
23. What is your employment status? (check the one response that BEST describes you)  
☐ Employed full-time ☐ Not currently employed – seeking work ☐ Retired  
☐ Employed part-time ☐ Not currently employed – not seeking work ☐ Homemaker
- IF YOU ARE EMPLOYED:**
- 23a. Did you make a trip to work since you left home? ☐ Yes ☐ No
- 23b. Will you make a trip to work before you will arrive home? ☐ Yes ☐ No
- 23c. [If #23a or #23b is YES] Provide work name /address \_\_\_\_\_
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 - 8<sup>th</sup> grade ☐ Yes – 9<sup>th</sup>-12<sup>th</sup> grade ☐ Yes – Vocational/technical/trade school ☐ Yes - Other
- IF YOU ARE A STUDENT:**
- 24a. Did you make a trip to school since you left home? ☐ Yes ☐ No
- 24b. Will you make a trip to school before you will arrive home? ☐ Yes ☐ No
- 24c. [If #24a or #24b is YES] Provide school name \_\_\_\_\_
25. How many working vehicles (cars, trucks, motorcycles) are available to your household? \_\_\_\_\_ vehicles
- 25a. [If #25 is more than "0"] Could you have used one of these vehicles for this trip? ☐ Yes ☐ No
26. Including YOU, how many people **live** in your household? \_\_\_\_\_ people
27. Including YOU, how many people at least age 16 in your household are employed full/part time? \_\_\_\_\_ people
28. Do you have a valid driver's license? ☐ Yes ☐ No
29. What is your AGE? ☐ 15 and Under ☐ 16-17 ☐ 18-24 ☐ 25-34 ☐ 35-44  
☐ 45-54 ☐ 55-64 ☐ 65-84 ☐ 85 and over
30. What is your race / ethnicity? (check all that apply)  
☐ American Indian/Alaska Native ☐ Asian ☐ Black/African/African American ☐ Hispanic/Latino  
☐ Native Hawaiian/Pacific Islander ☐ White ☐ Other: \_\_\_\_\_
31. What is your gender? ☐ Male ☐ Female ☐ Other
32. Do you have a disability that has been verified by Hampton Roads Transit or another organization that limits your mobility? ☐ Yes – HRT Verified disability ☐ Yes – other verified ☐ No
- [If "Yes" to 32] 32a. Do you use a mobility device or service animal when going places? (check all that apply)  
☐ No ☐ Service Animal ☐ Wheelchair ☐ Scooter ☐ Walker ☐ Prosthesis  
☐ Cane ☐ White Cane ☐ Crutches ☐ Other: \_\_\_\_\_
33. Do you speak a language other than English at home? ☐ No ☐ Yes - Which language? \_\_\_\_\_
- 33a. [If #33 is Yes] How well do you speak English? ☐ Very Well ☐ Well ☐ Less than well ☐ Not at all
34. Which of the following BEST describes your TOTAL ANNUAL HOUSEHOLD INCOME in 2022 before taxes?  
☐ Less than \$10,000 ☐ \$14,000 - \$24,999 ☐ \$35,000 - \$49,999 ☐ \$75,000 or more  
☐ \$10,000 - \$14,999 ☐ \$25,000 - \$34,999 ☐ \$50,000 - \$74,999

**REGISTER TO WIN XXX**

People who submit an accurately completed survey will be entered in a random drawing for 1 of XX monthly passes.  
 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!**

