

# 2018 VIA Metropolitan Transit On-Board Survey

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DRAFT REPORT  
MAY 2019



Prepared for The VIA  
Metropolitan Transit (VIA)  
by ETC Institute



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## EXECUTIVE SUMMARY

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The 2018 VIA Metropolitan Transit On-Board Origin-Destination (OD) Survey was carried out by ETC Institute on behalf of The VIA Metropolitan Transit (VIA). The data collection began in October of 2018 and ended in December of 2018. This report will provide an overview and detailed description of the 2018 On-Board OD Survey process. The report covers the survey findings, purpose/background, design, sampling, administration methodology, and quality control process.

### OBJECTIVES

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The primary objectives for the Survey were as follows:

- ▲ Compile statistically-accurate information about the use of transit in the region by VIA passengers.
- ▲ Generate reliable linked OD data to support computerized travel demand modeling and transportation network simulation activities for purposes of regional long-range transportation planning.

### SURVEY METHODOLOGY SUMMARY

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ETC Institute Interviewers conducted the On-Board Survey upon a representative sample of VIA routes on weekdays. The passenger-intercept interviews were completed using hand-held tablet personal computers (PCs) upon which the online Survey, created and developed by ETC Institute in cooperation with VIA, was administered. Passengers were selected for participation using a random sampling function built into the Survey programming and passenger responses were captured in real time. ETC Institute Interviewers were required to adhere strictly to the random sampling protocol and were at no time permitted to exercise personal discretion with regard to the selection of Survey subjects.

For those passengers who elected to participate, the Survey was administered in two uninterrupted sections: The first was designed to create a detailed record of the passenger's current one-way trip and the second to gather required demographic data. In the initial section, the survey application's mapping features allowed for geocoding of addresses using information provided by the passenger. Passengers were able to see each on-screen map and confirm the accuracy of the trip data collected. At the end of the Survey's first section, passengers were asked to confirm a comprehensive summary of their complete origin-to-destination trip. In the demographics section of the Survey, passengers were offered the choice of physically selecting the answers themselves (actually pressing the buttons on the tablet PC screen) to ensure their privacy. Upon completion of the Survey, minimal passenger contact information was collected and passengers were thanked for their time and willingness to participate.

ETC Institute Interviewers were available to answer passenger questions, the most common of which involved the need to ask for personal information and how the information gathered would ultimately be used. Passengers were assured all information collected would be kept strictly confidential, that VIA intended to use the information for research purposes designed to improve their system and that the information would never be used for any commercial purpose.

The summary information on the following page, and through much of the report, is based on the linked weight factors (unless noted otherwise). A linked passenger trip is a trip from origin to destination on the transit system. Even if a passenger must make several transfers during a one-way journey the trip is counted as one linked trip on the system. Unlinked passenger trips count each boarding separately regardless of transfers (unlinked weight factor).

## TRANSIT TRIP CHARACTERISTICS

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The following bullets describe weekday VIA passengers' transit trips:

- ▲ Thirty-seven (37.0 percent) of all VIA transit passengers' trips surveyed were home-to-work or work-to-home trips. Half of all transit passenger trips (50.5 percent) surveyed were either home-to-other (non-work) or other-to-home (non-work). Thirteen percent of all transit passengers' trips were non-home-based type trips (12.5 percent).
- ▲ Ninety-four percent of transit passengers responding to the survey reported walking to access transit (94.3 percent). About two percent reported Bicycling/Wheelchair/E-Scooter to transit (2.3 percent). Three percent reported driving or being dropped off by someone else (3.4 percent).
- ▲ Half of all VIA passengers had trips that did not require any transfers on any system routes to complete their one-way trip (52.0 percent). About one-third of passengers required one transfer (36.3 percent), and twelve percent required two or more transfers (11.7 percent). ***Transfer percentages above were based on the unlinked expansion.***
- ▲ Over one-third of all VIA passengers paid by "Local cash fare" for their one-way trip (37.1 percent). Another thirty-one percent (30.9 percent) used "31-Day Pass".

## TRANSIT PASSENGER PROFILE

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The following bullets describe weekday VIA passengers' demographics:

- ▲ Seventy-two percent of VIA passengers are employed either full-time/part-time (71.6 percent).
- ▲ Eighty-one percent of VIA passengers (81.2 percent) have education attainment of graduated high school/GED or higher level of education. Nineteen percent of VIA passengers (18.8 percent) have education level of less than high school diploma or GED.
- ▲ Nearly seventy-three percent of VIA passengers are between 18 and 50 years of age (72.7 percent), with almost fifty percent being between 18 and 34 years of age (48.3 percent).
- ▲ The race/ethnicity of VIA passengers in the region are: 61.3 percent Hispanic, 20.7 percent White / Caucasian, 19.8 percent Black / African American, 2.2 percent Asian / Pacific Islander, 0.9 percent American Indian / Alaska Native, and 0.2 percent "Other".
- ▲ Two-thirds of VIA passengers report an annual household income below \$25,000 (66.5 percent) and thirty-two percent (31.6 percent) reported an annual household income of between \$25,000 and \$75,000.
- ▲ Sixty-seven percent of VIA passengers use transit at least five days a week (66.6 percent); with either thirty-two percent of passengers utilizing VIA five days a week (31.9 percent) or thirty-five percent of passengers (34.7 percent) utilizing VIA six to seven days per week.
- ▲ Seventeen percent of VIA passengers said they could not make the trip if there was no bus available (16.6 percent).

## Chapter 1. OD SURVEY SYSTEM RESULTS

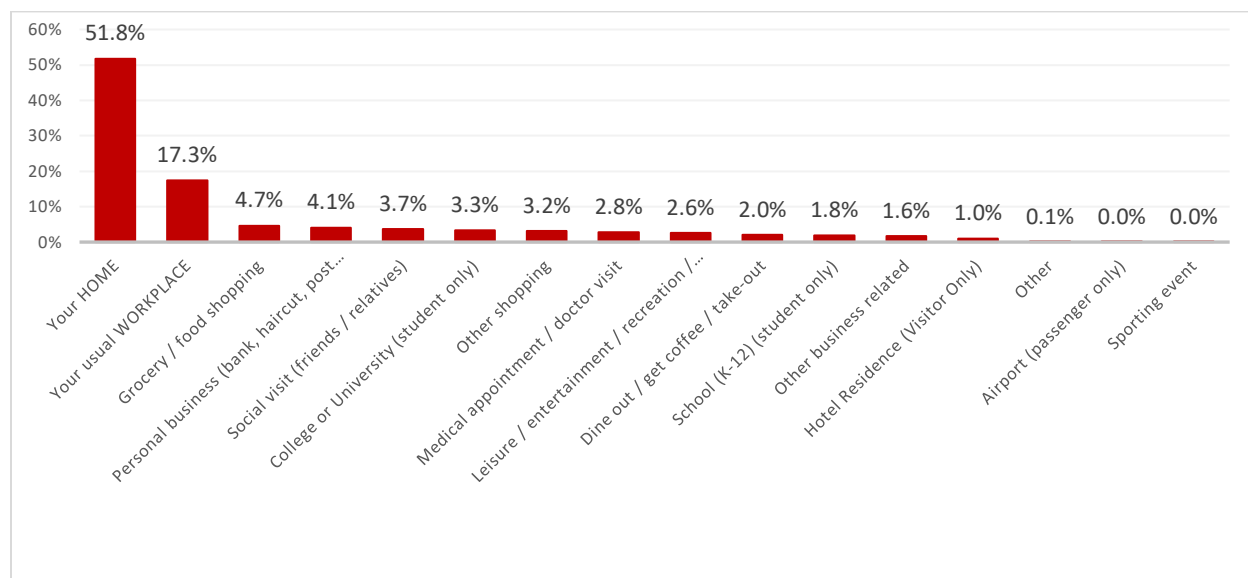
Chapter 1 highlights selected demographic and trip-related findings from VIA OD Survey. Four major categories are presented regarding the Survey findings: (1) Travel characteristics, (2) Pass/Payment characteristics, (3) Household and (4) Rider demographics. Regarding results, the database used for the charts/tables in this chapter were expanded using the *linked weight factors unless noted*.

### TRAVEL CHARACTERISTICS

#### TYPES OF PLACES VIA PASSENGERS ARE COMING FROM

Table 1-1 Series below shows the top types of places VIA Passengers are coming from. Based on the Survey results, more than half of VIA Passengers (51.8 percent) selected “Your HOME” for where their trip originated from. Another top choice was “Your usual WORKPLACE” with 17.3 percent of VIA Passengers. An additional 4.7 percent of VIA Passengers reported they were coming from “Grocery / food shopping”.

Table 1-1: Types of Places VIA Passengers are COMING FROM



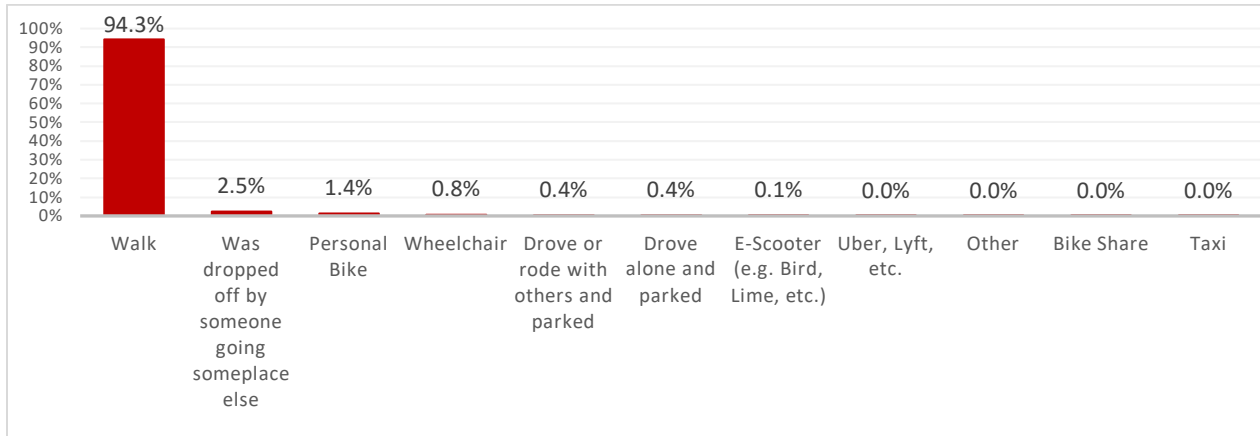
	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Your HOME	47.4%	53.5%	54.3%	46.4%	48.7%	52.4%	55.0%	30.2%	51.8%
Your usual WORKPLACE	18.3%	18.1%	16.7%	17.6%	20.1%	16.3%	23.0%	23.7%	17.3%
Grocery / food shopping	2.6%	6.4%	4.9%	0.3%	3.9%	4.8%	8.5%	0.0%	4.7%
Personal business (bank, haircut, post office)	5.2%	2.9%	3.0%	3.7%	5.8%	4.1%	0.0%	8.2%	4.1%
Social visit (friends / relatives)	5.8%	3.0%	3.3%	2.0%	3.1%	4.2%	0.5%	1.9%	3.7%
College or University (student only)	6.2%	4.5%	3.2%	23.5%	3.0%	2.0%	0.0%	0.0%	3.3%
Other shopping	0.8%	2.8%	4.1%	1.2%	4.4%	2.9%	1.5%	1.1%	3.2%
Medical appointment / doctor visit	6.1%	1.8%	4.2%	0.5%	1.8%	2.9%	2.3%	1.7%	2.8%
Leisure / entertainment / recreation / sightseeing	2.2%	1.2%	2.0%	1.5%	3.1%	2.7%	0.0%	23.2%	2.6%
Dine out / get coffee / take-out	1.7%	2.2%	1.5%	0.8%	2.3%	2.2%	1.5%	1.7%	2.0%
School (K-12) (student only)	1.0%	2.0%	1.5%	0.0%	0.7%	2.4%	0.0%	0.9%	1.8%
Other business related	0.3%	1.1%	1.4%	1.1%	1.6%	1.9%	1.5%	4.1%	1.6%
Hotel Residence (Visitor Only)	2.0%	0.6%	0.1%	1.6%	1.5%	1.0%	2.8%	3.4%	1.0%
Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	3.5%	0.0%	0.1%
Airport (passenger only)	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Sporting event	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## HOW PASSENGERS ACCESS PUBLIC TRANSIT

How Passengers first access public transit for their one-way trip by service type is shown in Table 1-2 Series. A large majority of all VIA Passengers (94.3 percent) selected that they accessed public

transit by “Walk”, compared to next highest (2.5 percent) of VIA Passengers who reported “Was dropped off by someone going someplace else”. An additional 1.4 percent of VIA Passengers reported they accessed first access public transit by “Personal bike”.

Table 1-2: How Passengers Access Public Transit



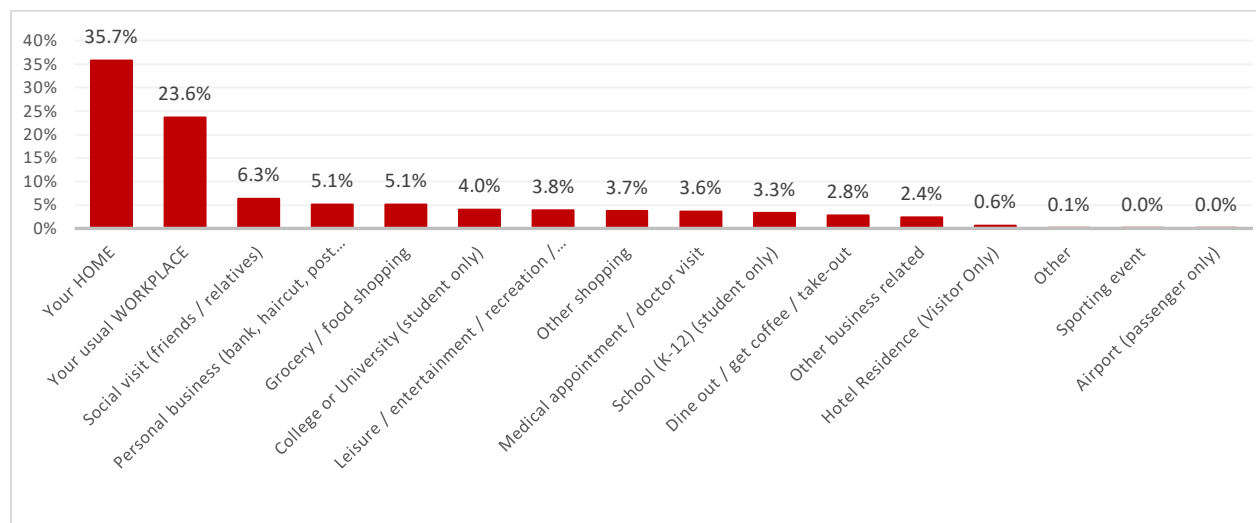
	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Walk	93.4%	95.9%	94.6%	75.2%	92.3%	95.4%	97.4%	90.7%	94.3%
Was dropped off by someone going someplace else	1.9%	2.5%	2.5%	6.5%	3.2%	2.1%	2.6%	0.0%	2.5%
Personal Bike	1.7%	1.1%	1.3%	2.2%	2.3%	1.2%	0.0%	0.0%	1.4%
Wheelchair	0.7%	0.5%	1.0%	1.2%	0.8%	0.8%	0.0%	0.0%	0.8%
Drove or rode with others and parked	0.6%	0.0%	0.2%	7.8%	0.4%	0.2%	0.0%	6.8%	0.4%
Drove alone and parked	1.0%	0.0%	0.3%	6.8%	0.4%	0.2%	0.0%	2.5%	0.4%
E-Scooter (e.g. Bird, Lime, etc.)	0.4%	0.0%	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.1%
Uber, Lyft, etc.	0.1%	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
Other	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
Bike Share	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Taxi	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Car Share (e.g. ZipCar, etc)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## TYPES OF PLACES VIA PASSENGERS ARE GOING TO

Table 1-3 Series below shows the top types of places VIA Passengers are going to. Based on the Survey results, 35.7 percent of VIA Passengers selected “Your HOME” for where they were headed on this trip. Another top choice was “Your usual WORKPLACE” with 23.6 percent of VIA

Passengers. The third top choice was “Social visit (friends / relatives)” with 6.3 percent of VIA Passengers.

Table 1-3: Types of Places VIA Passengers are GOING TO



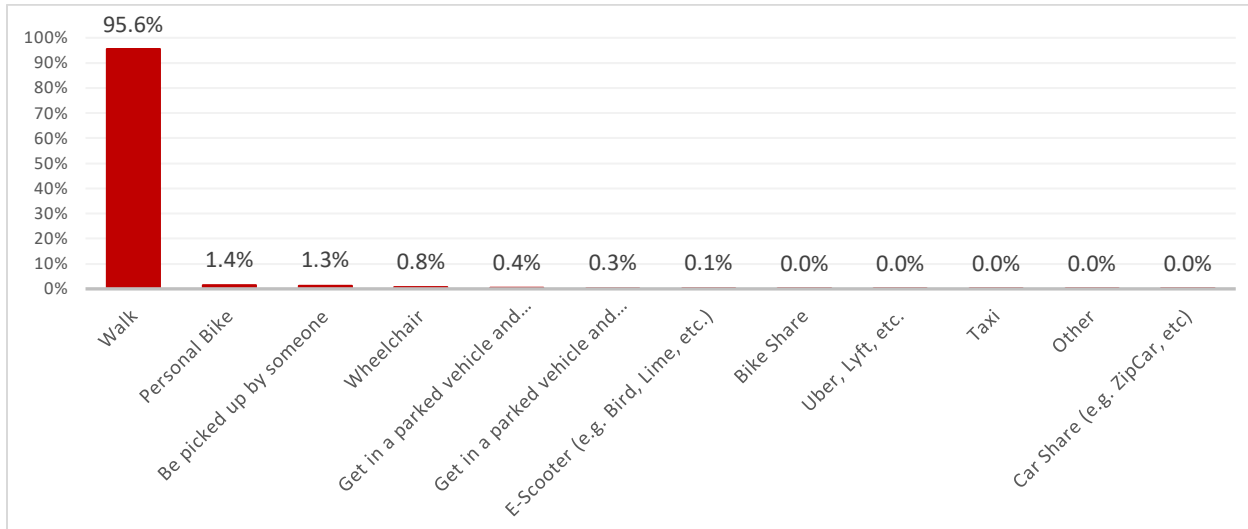
	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Your HOME	33.6%	38.9%	36.0%	35.9%	36.2%	35.0%	33.8%	28.3%	35.7%
Your usual WORKPLACE	23.9%	25.5%	23.4%	24.8%	23.8%	23.2%	30.4%	13.4%	23.6%
Social visit (friends / relatives)	3.1%	6.3%	5.4%	2.8%	6.8%	6.8%	6.5%	0.9%	6.3%
Personal business (bank, haircut, post office)	7.5%	4.0%	3.9%	4.1%	5.2%	5.4%	5.0%	12.6%	5.1%
Grocery / food shopping	4.9%	5.0%	5.2%	0.6%	5.4%	5.2%	2.1%	0.9%	5.1%
College or University (student only)	8.1%	3.9%	4.7%	21.7%	2.9%	3.1%	1.5%	0.0%	4.0%
Leisure / entertainment / recreation / sightseeing	3.5%	2.1%	2.2%	3.9%	4.7%	4.2%	2.1%	21.9%	3.8%
Other shopping	2.5%	3.0%	4.6%	1.7%	4.5%	3.5%	1.5%	0.9%	3.7%
Medical appointment / doctor visit	5.6%	2.1%	5.4%	0.8%	2.7%	3.7%	4.7%	0.6%	3.6%
School (K-12) (student only)	0.8%	3.9%	3.9%	0.8%	1.5%	3.8%	0.0%	0.0%	3.3%
Dine out / get coffee / take-out	1.9%	3.0%	2.6%	0.9%	2.5%	3.0%	2.5%	12.2%	2.8%
Other business related	2.5%	2.1%	2.5%	1.7%	2.3%	2.5%	8.8%	3.4%	2.4%
Hotel Residence (Visitor Only)	1.8%	0.2%	0.1%	0.2%	1.2%	0.5%	1.1%	5.1%	0.6%
Other	0.2%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Sporting event	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Airport (passenger only)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

#### HOW PASSENGERS TRAVELED FROM TRANSIT TO THEIR FINAL DESTINATION

Table 1-4 Series shows how Passengers traveled from transit to their final destination. The majority of all transit Passengers (95.6 percent) selected “Walk” for their egress mode type to their final

destination after using public transit, compared to the next highest (1.4 percent) of VIA Passengers that selected either “Personal Bike”. An additional 1.3 percent of VIA Passengers reported they traveled from transit to their final destination by “Be picked up by someone”.

Table 1-4: How Passengers Traveled from Transit to Their Final Destination



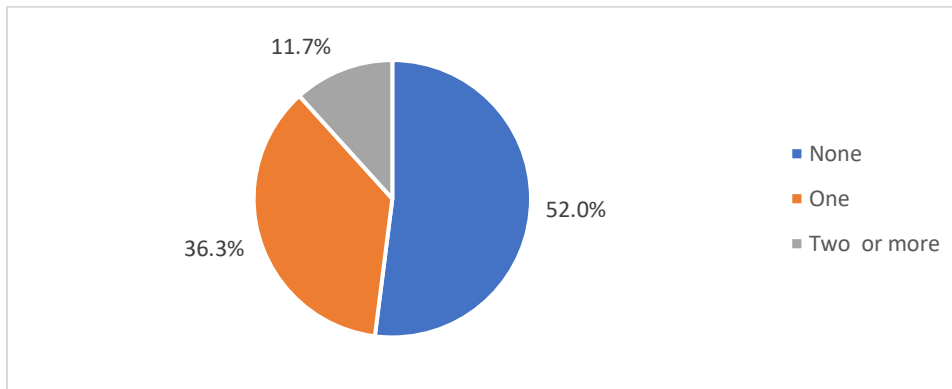
	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Walk	94.6%	96.6%	95.3%	80.5%	94.4%	96.5%	100.0%	98.1%	95.6%
Personal Bike	1.4%	1.0%	1.3%	2.3%	2.1%	1.2%	0.0%	0.0%	1.4%
Be picked up by someone	1.8%	1.2%	1.4%	4.9%	1.9%	0.9%	0.0%	1.9%	1.3%
Wheelchair	0.7%	0.5%	1.0%	1.2%	0.8%	0.8%	0.0%	0.0%	0.8%
Get in a parked vehicle and drive alone	1.3%	0.1%	0.3%	8.7%	0.3%	0.2%	0.0%	0.0%	0.4%
Get in a parked vehicle and drive/ride with someone	0.2%	0.4%	0.6%	2.3%	0.2%	0.1%	0.0%	0.0%	0.3%
E-Scooter (e.g. Bird, Lime, etc.)	0.1%	0.0%	0.0%	0.0%	0.2%	0.2%	0.0%	0.0%	0.1%
Bike Share	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%
Uber, Lyft, etc.	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Taxi	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Other	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Car Share (e.g. ZipCar, etc)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## NUMBER OF SYSTEM TRANSFERS USED

Table 1-5 series shows the total number of transfers used in the one-way trip by VIA Passengers. Most VIA Passengers (52.0 percent) used zero VIA System transfers to make their current trip,

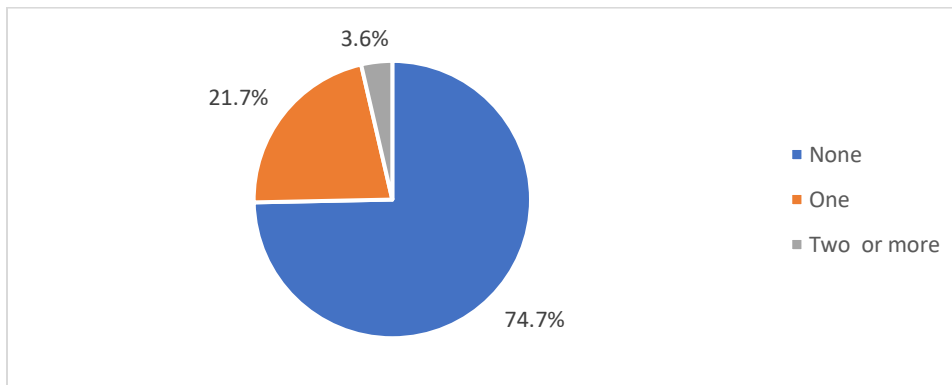
compared to, 36.3 of VIA Passengers that used one VIA System transfer during their trip. *Transfer percentages were based on the unlinked secondary expansion.*

Table 1-5a: Number of System Transfers Used in The One-Way Trip



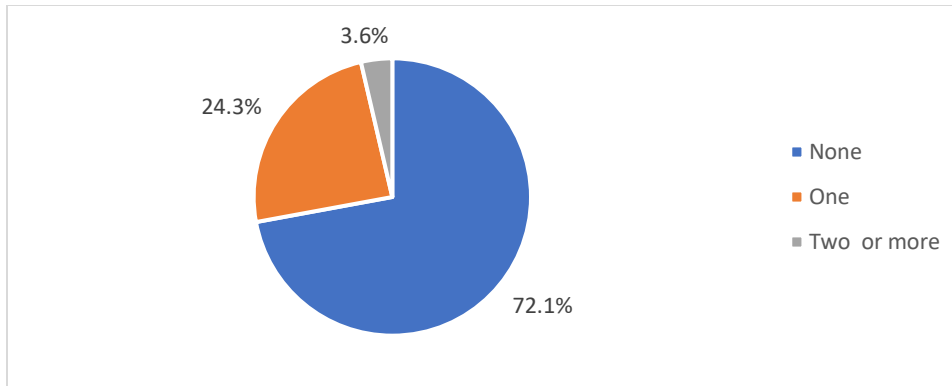
	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
None	49.8%	46.9%	53.3%	44.4%	48.4%	54.6%	57.4%	43.7%	52.0%
One	37.6%	37.3%	34.3%	36.7%	37.7%	36.0%	34.6%	44.7%	36.3%
Two or more	12.5%	15.8%	12.4%	18.9%	13.9%	9.4%	8.0%	11.6%	11.7%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Table 1-5b: Number of Total Transfers Before Surveyed Route



	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
None	69.0%	71.3%	75.4%	67.3%	70.7%	77.2%	83.8%	72.9%	74.7%
One	28.4%	20.8%	20.4%	30.0%	26.5%	20.0%	16.2%	24.7%	21.7%
Two or more	2.6%	7.9%	4.2%	2.7%	2.7%	2.8%	0.0%	2.4%	3.6%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Table 1-5c: Number of Total Transfers After Surveyed Route



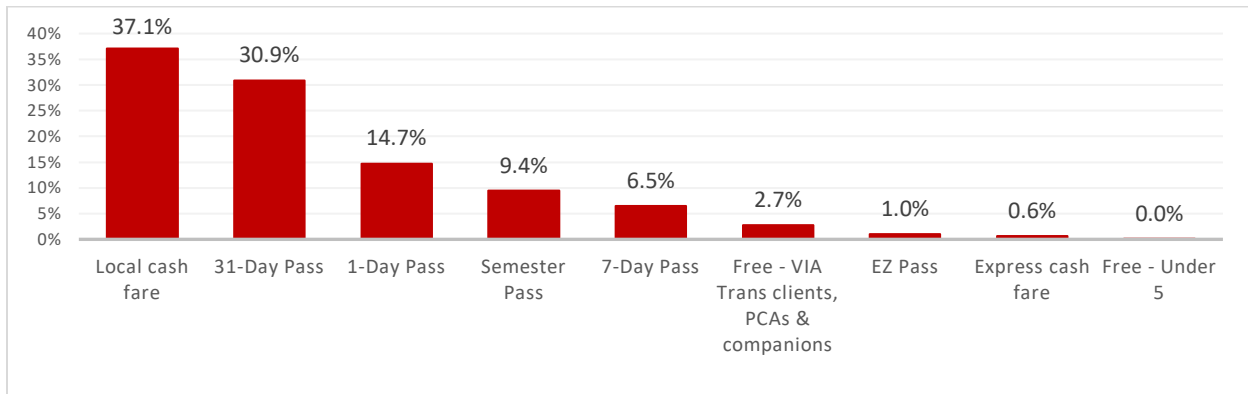
	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
None	72.4%	73.4%	73.0%	64.5%	66.6%	73.7%	65.6%	66.2%	72.1%
One	25.4%	20.6%	22.9%	27.2%	32.1%	22.8%	34.4%	29.3%	24.3%
Two or more	2.3%	6.0%	4.1%	8.3%	1.3%	3.5%	0.0%	4.6%	3.6%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## PASS/PAYMENT CHARACTERISTICS

### HOW DID YOU PAY FOR THIS ONE-WAY TRIP

Table 1-6 series shows the fare payment used by VIA Passengers. As shown in these visuals, “Local cash fare” was the most widely used fare payment type as indicated by Passengers for VIA (37.1 percent), compared to the next highest, “31-Day Pass” (30.9 percent).

Table 1-6: Fare Payment Type



	PRIMO	Downto wn Circulator	Cross- town	Express	Limited Stop	Major Radial	Minor Radial	Circulato r	Grand Total
Local cash fare	31.4%	40.0%	33.7%	10.0%	36.9%	38.8%	46.2%	55.0%	37.1%
31-Day Pass	36.1%	27.4%	34.3%	29.0%	30.3%	30.7%	31.9%	26.6%	30.9%
1-Day Pass	10.8%	15.0%	13.7%	16.5%	18.7%	14.0%	7.8%	8.8%	14.7%
Semester Pass	13.6%	9.8%	10.2%	33.3%	6.4%	8.7%	6.5%	4.8%	9.4%
7-Day Pass	4.2%	7.6%	6.7%	4.6%	7.4%	6.2%	3.0%	2.1%	6.5%
Free - VIA Trans clients, PCAs & companions	3.5%	2.3%	3.3%	2.2%	2.8%	2.7%	3.0%	0.0%	2.7%
EZ Pass	1.2%	0.4%	0.5%	3.2%	0.7%	1.3%	0.0%	1.9%	1.0%
Express cash fare	1.1%	0.4%	0.8%	1.7%	0.7%	0.5%	3.0%	3.4%	0.6%
Free - Under 5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

## WHAT FARE CATEGORY DID YOU PAY

Table 1-7 series illustrates the fare category used by VIA Passengers. The large majority of VIA Passengers uses the “Regular / Full Fare” fare category for riding (81.8 percent), compared to the next highest, “Student fare (any student ID)” (11.4 percent). An additional 4.6 percent of VIA Passengers reported they paid “Senior half-price (age 62 and over)” fare category. Of those Passengers that used EZ Pass, the majority work for a private employer (48.7 percent), compared to the next highest, “City” (35.1%). The large majority of VIA Passengers (81.4 percent) reported that they owned a mobile phone and of those, one-fifth (20.3 percent) reported that they paid the fare through the goMobile App.

Table 1-7a: Fare Category Type

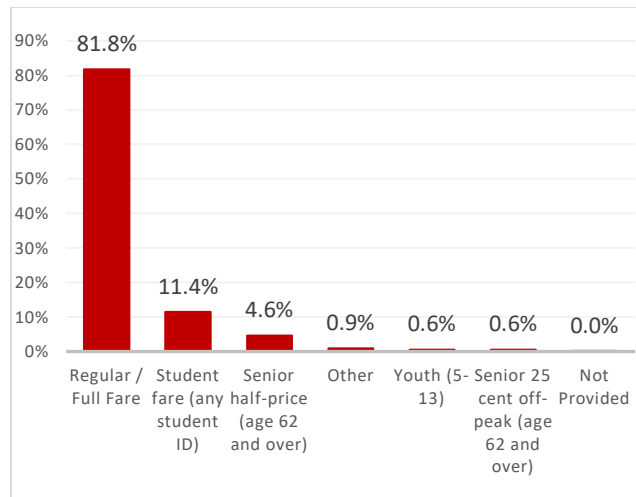
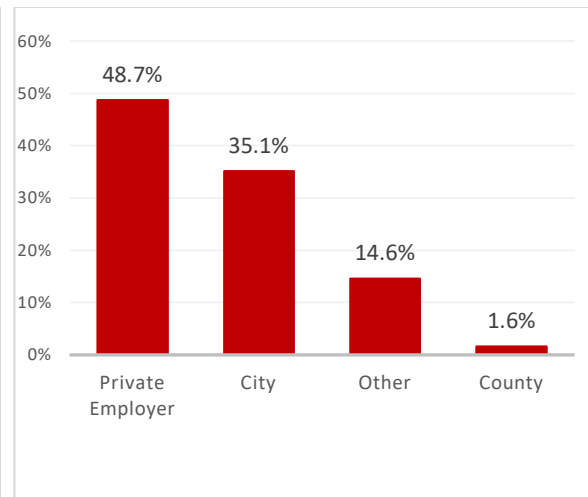


Table 1-7b: Employer IF used EZ Pass

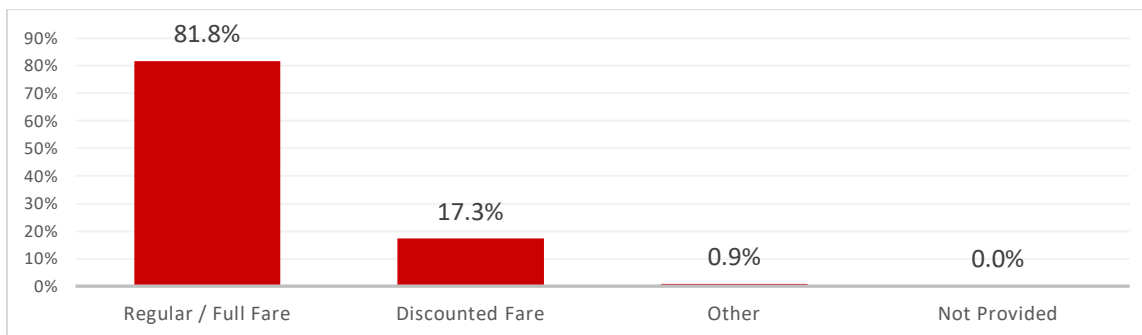


	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Regular / Full Fare	78.4%	83.1%	80.0%	59.7%	86.7%	81.9%	81.7%	85.3%	81.8%
Student fare (any student ID)	15.9%	12.2%	12.6%	33.5%	8.4%	10.6%	8.2%	4.8%	11.4%
Senior half-price (age 62 and over)	4.2%	2.8%	6.1%	2.5%	3.6%	4.9%	7.6%	9.0%	4.6%
Other	0.9%	0.6%	0.5%	4.0%	0.6%	1.0%	0.0%	0.9%	0.9%
Youth (5-13)	0.1%	1.0%	0.6%	0.0%	0.0%	0.8%	0.0%	0.0%	0.6%
Senior 25 cent off-peak (age 62 and over)	0.4%	0.3%	0.2%	0.1%	0.7%	0.8%	2.2%	0.0%	0.6%
Not Provided	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	0.0%	0.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Private Employer	72.7%	70.1%	58.8%	10.7%	51.8%	48.6%	0.0%	63.2%	48.7%
City	16.3%	29.9%	34.0%	65.2%	17.5%	35.8%	0.0%	36.8%	35.1%
Other	11.0%	0.0%	7.3%	8.1%	30.7%	15.1%	0.0%	0.0%	14.6%
County	0.0%	0.0%	0.0%	16.0%	0.0%	0.5%	0.0%	0.0%	1.6%

Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
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Table 1-7c: Fare Category Type (Grouped vs Discounted)



	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Regular / Full Fare	78.4%	83.1%	80.0%	59.7%	86.7%	81.9%	81.7%	85.3%	81.8%
<b>Discounted Fare</b>	20.7%	16.3%	19.5%	36.2%	12.8%	17.1%	18.0%	13.8%	17.3%
Other	0.9%	0.6%	0.5%	4.0%	0.6%	1.0%	0.0%	0.9%	0.9%
Not Provided	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	0.0%	0.0%
Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1-7d: Own Smartphone

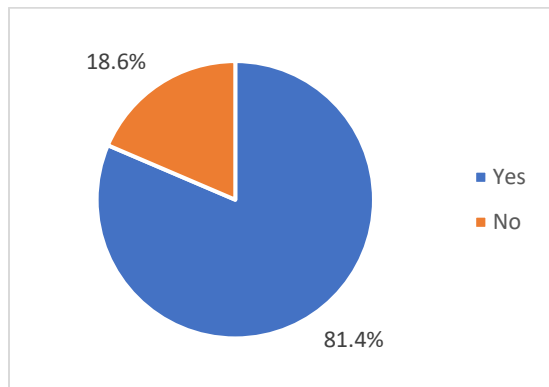
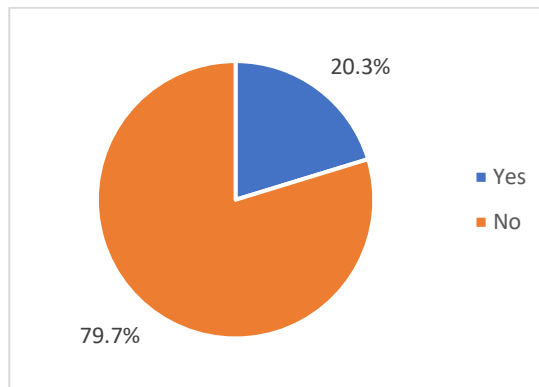


Table 1-7e: Fare Paid through the goMobile App



	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Yes	85.6%	86.9%	81.7%	90.5%	80.6%	79.8%	72.8%	78.3%	81.4%
No	14.4%	13.1%	18.3%	9.5%	19.4%	20.2%	27.2%	21.7%	18.6%
Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

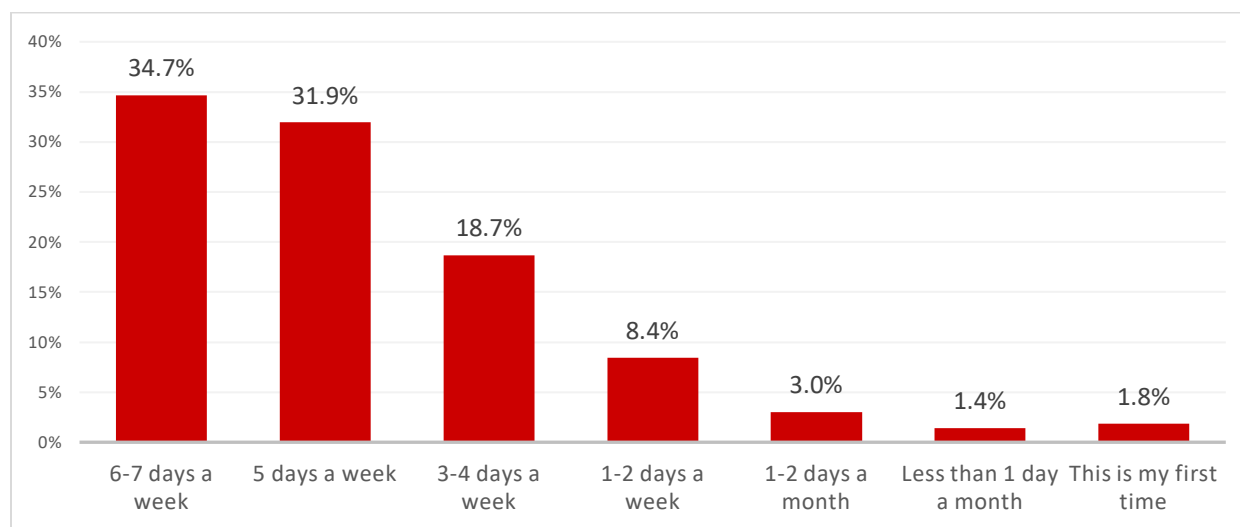
	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Yes	15.4%	21.7%	21.4%	27.6%	19.4%	19.7%	28.6%	17.8%	20.3%
No	84.6%	78.3%	78.6%	72.4%	80.6%	80.3%	71.4%	82.2%	79.7%

Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
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## HOW MANY DAYS IN A TYPICAL WEEK DO YOU RIDE VIA

Table 1-8 shows the VIA frequency usage reported by the Passenger. Two-thirds of the VIA Passengers (66.6 percent) indicated they ride VIA at least 5 days a week.

Table 1-8: Trip Frequency

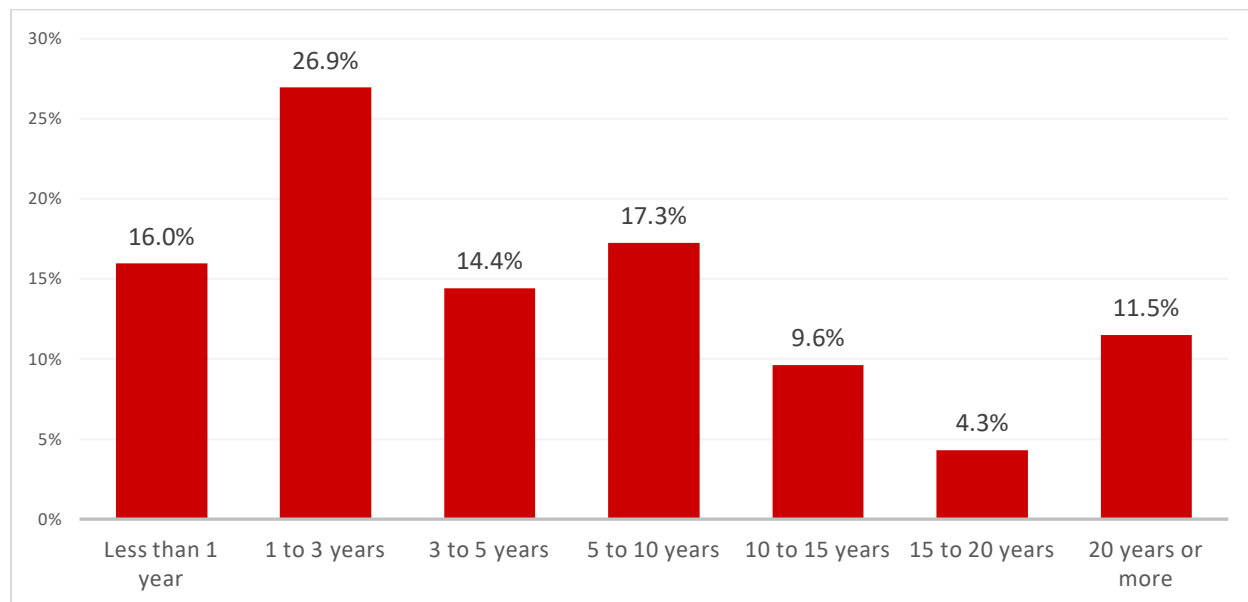


	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
6-7 days a week	42.0%	31.9%	34.2%	21.4%	35.2%	35.5%	43.7%	31.7%	34.7%
5 days a week	28.3%	33.5%	34.4%	43.6%	28.8%	31.6%	23.4%	23.9%	31.9%
3-4 days a week	13.6%	20.4%	18.6%	21.1%	19.3%	18.4%	15.6%	10.0%	18.7%
1-2 days a week	6.5%	9.1%	8.0%	9.6%	9.7%	8.1%	11.3%	4.7%	8.4%
1-2 days a month	4.5%	2.8%	3.2%	2.3%	2.7%	3.0%	3.2%	5.9%	3.0%
Less than 1 day a month	1.6%	1.0%	0.8%	1.4%	1.3%	1.7%	0.0%	1.7%	1.4%
This is my first time	3.5%	1.4%	0.7%	0.6%	3.0%	1.6%	2.8%	22.1%	1.8%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## HOW LONG HAVE YOU BEEN USING VIA

The Table 1-9 Series shows the length of VIA service usage reported by the respondent. As shown in this visual, “Less than 3 years” was the largest length of used service by VIA Passengers (42.9 percent), compared to the next highest “3 to 10 years” (31.7 percent).

Table 1-9: Length of Service Use

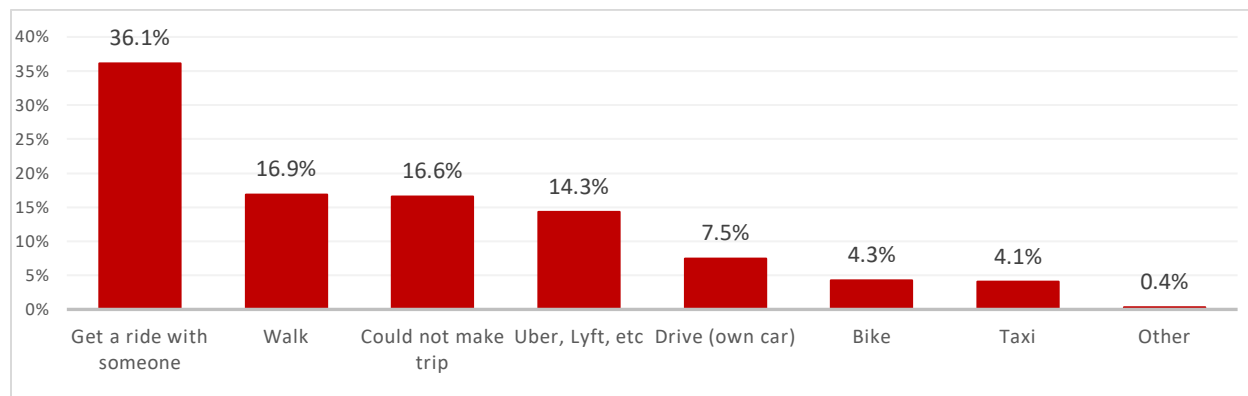


	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Less than 1 year	18.0%	15.2%	14.3%	22.8%	17.4%	15.5%	10.2%	34.5%	16.0%
1 to 3 years	36.7%	31.0%	27.9%	29.8%	26.4%	25.3%	16.4%	21.8%	26.9%
3 to 5 years	14.1%	16.5%	14.1%	14.6%	13.4%	14.5%	5.0%	4.7%	14.4%
5 to 10 years	11.3%	16.6%	17.9%	12.8%	19.8%	17.2%	12.3%	8.7%	17.3%
10 to 15 years	6.8%	8.9%	9.0%	7.2%	8.6%	10.5%	16.2%	7.2%	9.6%
15 to 20 years	3.1%	3.8%	4.2%	3.5%	4.5%	4.5%	10.7%	3.6%	4.3%
20 years or more	10.0%	7.9%	12.5%	9.4%	9.9%	12.5%	29.2%	19.5%	11.5%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## HOW TO MAKE THIS TRIP IF THE BUS WAS NOT AVAILABLE

The Table 1-10 Series shows how the respondent would make this trip if the bus was not available. As shown in this visual, thirty-six percent of VIA Passengers (36.1 percent) said that they would “Get a ride with someone” while 16.6 percent responded that they could not make this trip without the bus.

Table 1-10: How To Make This Trip If The Bus Was Not Available



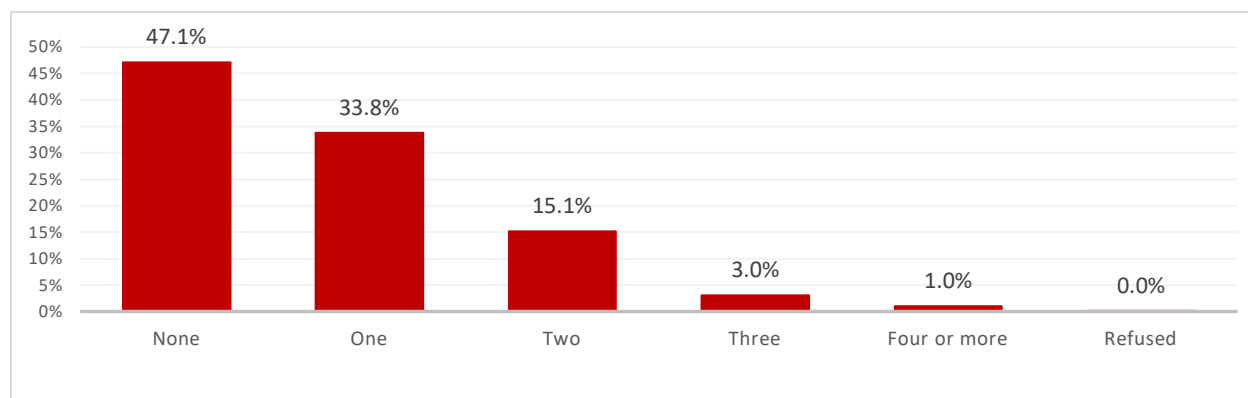
	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Get a ride with someone	26.8%	36.3%	39.9%	34.3%	33.6%	36.7%	27.3%	16.5%	36.1%
Walk	12.1%	19.1%	15.8%	3.8%	15.2%	17.8%	19.2%	36.2%	16.9%
Could not make trip	17.2%	15.7%	16.6%	10.2%	20.4%	16.0%	19.2%	11.8%	16.6%
Uber, Lyft, etc	23.0%	15.1%	13.0%	18.7%	15.3%	13.6%	13.3%	9.9%	14.3%
Drive (own car)	13.5%	6.4%	7.4%	29.3%	7.6%	6.3%	5.0%	10.2%	7.5%
Bike	3.0%	3.4%	4.2%	2.9%	4.3%	4.7%	3.0%	1.1%	4.3%
Taxi	4.3%	3.5%	3.0%	0.8%	3.5%	4.6%	13.1%	14.3%	4.1%
Other	0.1%	0.5%	0.2%	0.0%	0.1%	0.5%	0.0%	0.0%	0.4%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## HOUSEHOLD DEMOGRAPHICS

### HOW MANY WORKING VEHICLES (AUTO OR MOTORCYCLES) ARE AVAILABLE TO YOUR HOUSEHOLD

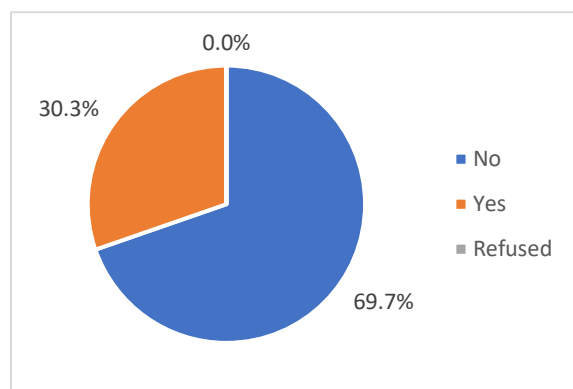
Table 1-11 Series shows the number of household vehicles for VIA Passengers' household. Almost half (47.1 percent) of VIA Passengers indicated they are without a working vehicle in their household, compared to 33.8 percent of Passengers with one working vehicle in their household, and 19.1 percent of Passengers with two or more working vehicles in their household. Of those Passengers whom indicated they have a vehicle in their household, majority (69.7 percent) indicated their vehicle wasn't available for this one-way trip.

Table 1-11a: Number of Available Household Vehicles (Includes Residents Only)



	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
None	45.8%	43.9%	48.0%	27.6%	46.5%	48.4%	63.0%	66.1%	47.1%
One	40.1%	35.3%	33.2%	31.6%	35.6%	33.0%	24.9%	19.7%	33.8%
Two	10.4%	16.5%	15.8%	29.8%	13.5%	14.7%	12.1%	12.1%	15.1%
Three	2.9%	3.3%	2.2%	8.9%	3.0%	3.0%	0.0%	1.1%	3.0%
Four or more	0.8%	1.0%	0.8%	2.1%	1.4%	0.9%	0.0%	1.1%	1.0%
Refused	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Table 1-11b: Vehicle Availability for This Trip (Includes Residents Who Owns at Least One Vehicle Only)

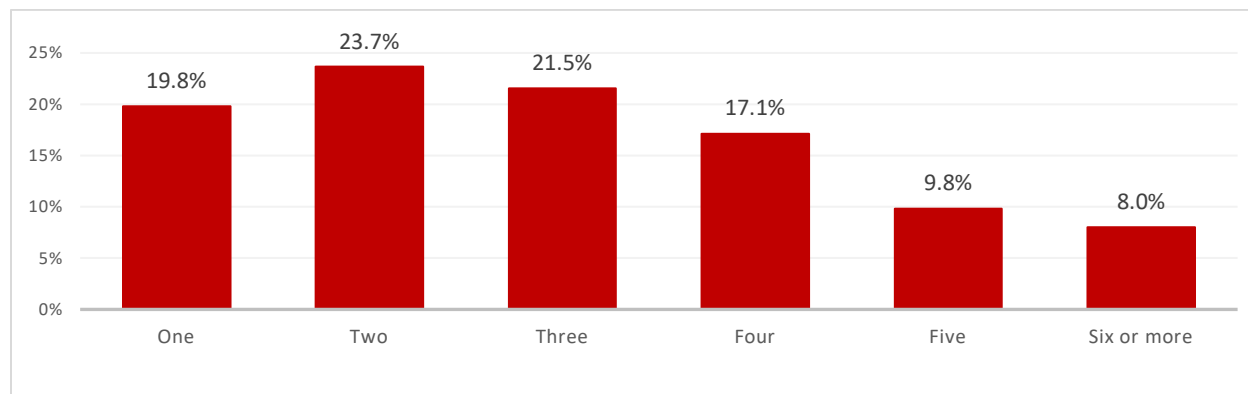


	Percent
NO	69.7%
YES	30.3%
REFUSED	0.0%
<b>Grand Total</b>	<b>100.0%</b>

## INCLUDING YOU, HOW MANY PEOPLE LIVE IN YOUR HOUSEHOLD

The total number of household members for VIA Passengers' household is shown in Table 1-12. Slightly less than half of VIA Passengers (43.5 percent) are in a one or two-member household, compared to 38.6 percent of VIA Passengers with three or four members in the household, and 17.8 percent of VIA Passengers with five or more members in the household.

Table 1-12: Total Number of Household Members (Includes Residents Only)



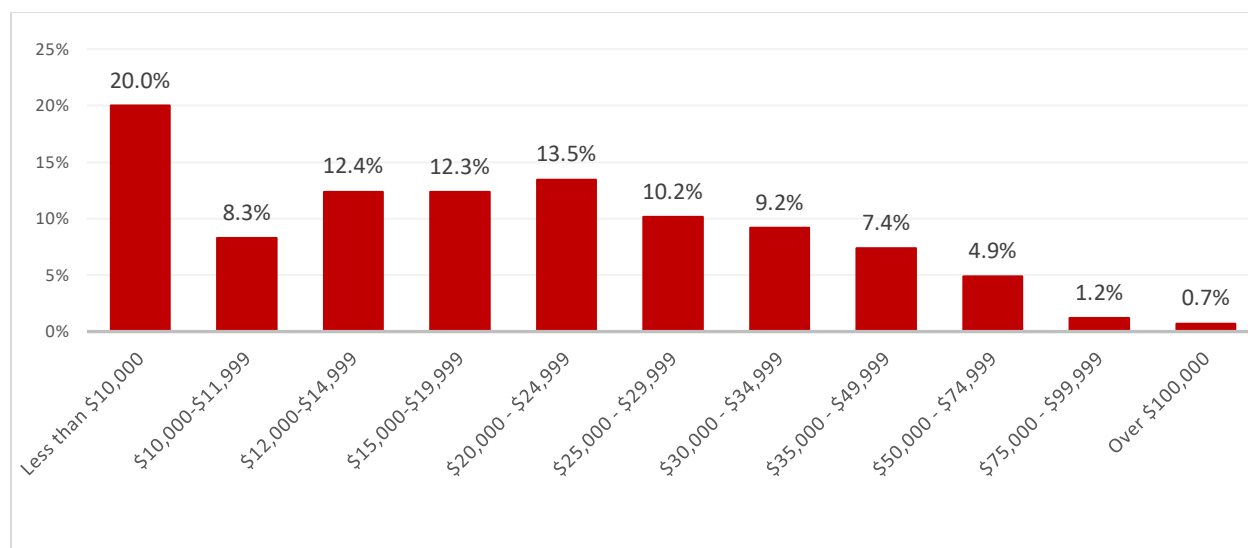
	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
One	28.1%	16.5%	19.9%	18.6%	20.2%	19.7%	25.4%	39.0%	19.8%
Two	32.9%	23.3%	24.9%	23.8%	24.1%	22.7%	30.8%	17.5%	23.7%
Three	19.6%	21.8%	20.9%	20.1%	21.7%	21.9%	19.7%	16.2%	21.5%
Four or more	19.4%	38.4%	34.3%	37.5%	33.9%	35.7%	24.1%	27.3%	35.0%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>



## WHICH OF THE FOLLOWING BEST DESCRIBES YOUR TOTAL ANNUAL HOUSEHOLD INCOME IN 2017 BEFORE TAXES

Table 1-13 shows the Total Annual Household Income for VIA Passengers' household. Two-thirds (66.5 percent) of VIA Passengers indicated their household income is below "\$25,000", compared to 31.6 percent of VIA Passengers with household income between "\$25,000 - \$75,000", and 1.9 percent of VIA Passengers with household income of "\$75,000 or more".

Table 1-13: Total Household Income (excluded don't know/no response)



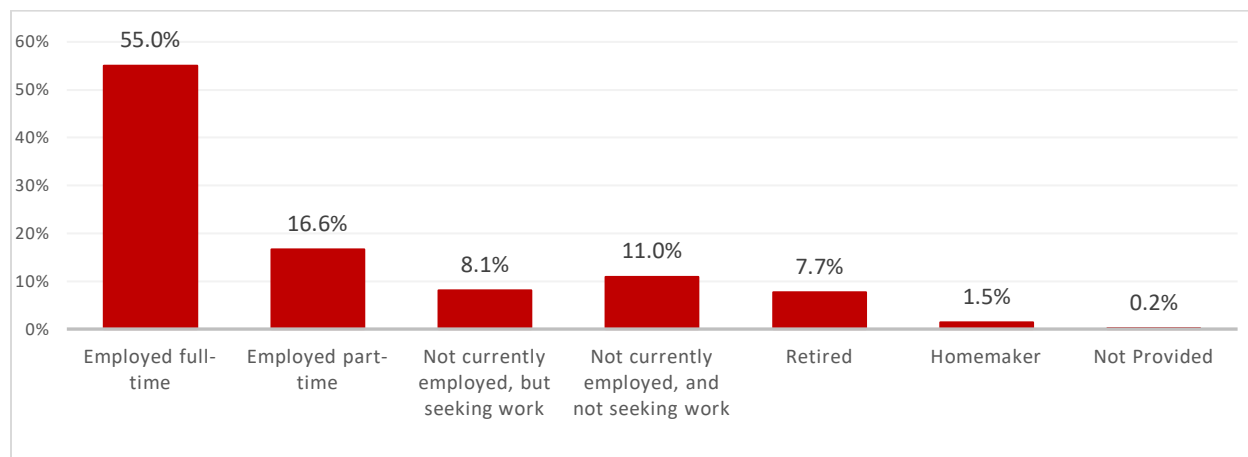
	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Less than \$10,000	18.1%	21.6%	19.3%	22.0%	19.0%	20.1%	28.5%	14.9%	20.0%
\$10,000-\$11,999	7.4%	7.7%	9.9%	5.0%	10.5%	7.5%	4.4%	14.1%	8.3%
\$12,000-\$14,999	8.7%	11.8%	13.4%	6.9%	14.1%	12.4%	8.7%	5.0%	12.4%
\$15,000-\$19,999	7.8%	10.8%	13.6%	8.9%	12.1%	12.9%	15.9%	7.1%	12.3%
\$20,000-\$24,999	10.7%	13.6%	13.6%	13.2%	12.4%	13.9%	18.1%	10.6%	13.5%
\$25,000-\$29,999	8.7%	10.7%	9.5%	7.0%	9.2%	10.8%	8.2%	8.9%	10.2%
\$30,000-\$34,999	10.4%	9.9%	9.0%	8.0%	9.0%	9.2%	5.1%	5.8%	9.2%
\$35,000-\$49,999	13.3%	8.3%	6.5%	8.5%	6.3%	7.2%	7.0%	15.2%	7.4%
\$50,000-\$74,999	10.3%	4.1%	4.3%	11.7%	4.6%	4.5%	0.9%	14.8%	4.9%
\$75,000-\$99,999	3.4%	1.2%	0.6%	2.5%	1.6%	1.0%	2.7%	3.7%	1.2%
Over \$100,000	1.2%	0.3%	0.4%	6.4%	1.2%	0.4%	0.5%	0.0%	0.7%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## PASSENGER DEMOGRAPHICS

### EMPLOYMENT STATUS

Table 1-14 shows the employment status of VIA Passengers. Most VIA Passengers (71.6 percent) reported “Employed” (either full- or part-time) for employment status.

Table 1-14: Employment Status

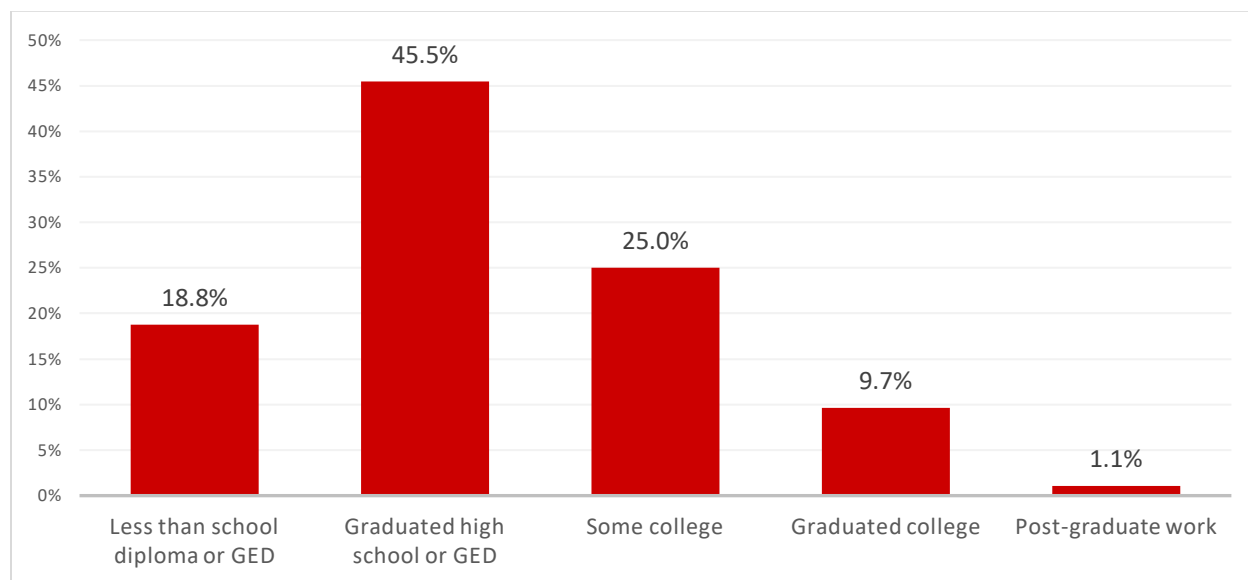


	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Employed full-time	56.9%	57.2%	54.7%	45.7%	58.3%	53.9%	60.3%	59.5%	55.0%
Employed part-time	16.2%	15.7%	17.0%	31.7%	14.9%	16.5%	16.1%	12.1%	16.6%
Not currently employed, but seeking work	8.6%	6.9%	8.5%	5.9%	7.7%	8.3%	11.2%	14.7%	8.1%
Not currently employed, and not seeking work	10.8%	12.0%	9.9%	13.8%	9.4%	11.5%	3.0%	2.8%	11.0%
Retired	7.0%	6.4%	8.2%	2.5%	7.8%	8.1%	4.7%	10.9%	7.7%
Homemaker	0.5%	1.5%	1.4%	0.3%	1.7%	1.5%	4.7%	0.0%	1.5%
Not Provided	0.0%	0.3%	0.3%	0.0%	0.1%	0.2%	0.0%	0.0%	0.2%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## LEVEL OF EDUCATION

Table 1-15 shows the student status of VIA Passengers. Nearly half of VIA Passengers (45.5 percent) reported “Graduated high school or GED” for their level of education attainment, compared to 25.0 percent of VIA Passengers that reported “Some college” as their highest level of education.

Table 1-15: Level of Education

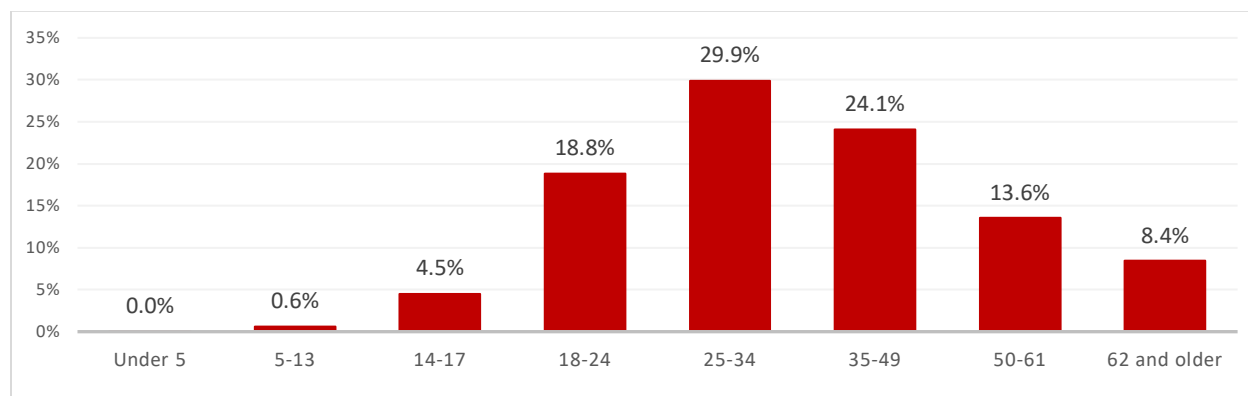


	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Less than school diploma or GED	11.4%	17.6%	17.9%	8.3%	15.3%	21.2%	43.6%	12.6%	18.8%
Graduated high school or GED	33.0%	43.2%	47.6%	23.5%	49.1%	46.3%	30.1%	40.5%	45.5%
Some college	29.7%	30.0%	24.7%	47.7%	24.3%	22.8%	15.6%	26.3%	25.0%
Graduated college	23.8%	8.4%	9.0%	16.7%	9.7%	8.9%	6.7%	18.9%	9.7%
Post-graduate work	2.1%	0.9%	0.8%	3.8%	1.6%	0.8%	4.0%	1.7%	1.1%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## AGE OF TRANSIT PASSENGER

Table 1-16 shows the age of VIA Passengers. Nearly half (48.7 percent) of VIA Passengers indicated their age is between 18-34, compared to 5.1 percent of VIA Passengers indicated their age is below 18 and 46.1 percent of VIA Passengers indicated their age is 35 or over.

Table 1-16: Age of Transit Passenger (excluded non-provided results)

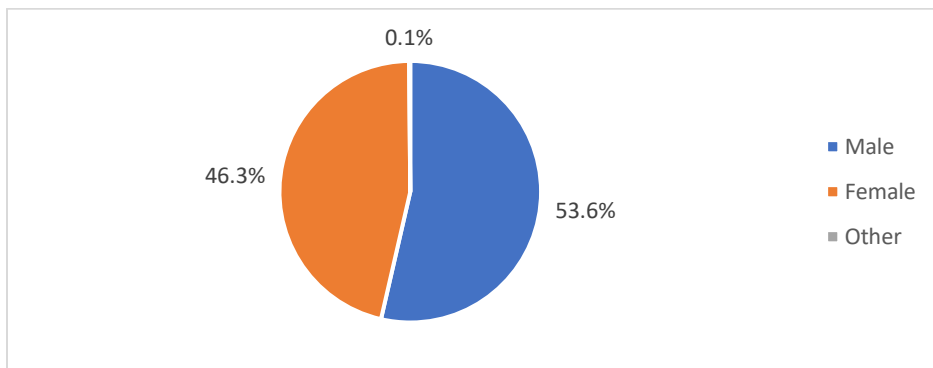


	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Under 5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5-13	0.1%	1.0%	0.6%	0.0%	0.0%	0.8%	0.0%	0.0%	0.6%
14-17	2.0%	5.2%	5.1%	0.9%	2.3%	5.1%	1.5%	0.9%	4.5%
18-24	16.6%	22.7%	19.0%	41.5%	18.4%	16.9%	3.3%	10.8%	18.7%
25-34	27.7%	30.8%	29.6%	21.6%	32.3%	29.4%	22.0%	20.7%	29.7%
35-49	28.1%	22.8%	22.6%	19.6%	25.4%	25.0%	26.9%	15.6%	24.3%
50-61	17.4%	11.4%	12.9%	10.5%	13.7%	14.3%	29.3%	37.4%	13.8%
62 and older	8.1%	6.1%	10.2%	6.0%	7.8%	8.6%	17.0%	14.6%	8.4%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## WHAT IS YOUR GENDER

The gender of VIA Passengers is presented in Table 1-17. Over half of VIA Passengers (53.6 percent) indicated they were male, compared to (46.3 percent) who indicated they were female.

Table 1-17: Gender of Transit Passenger

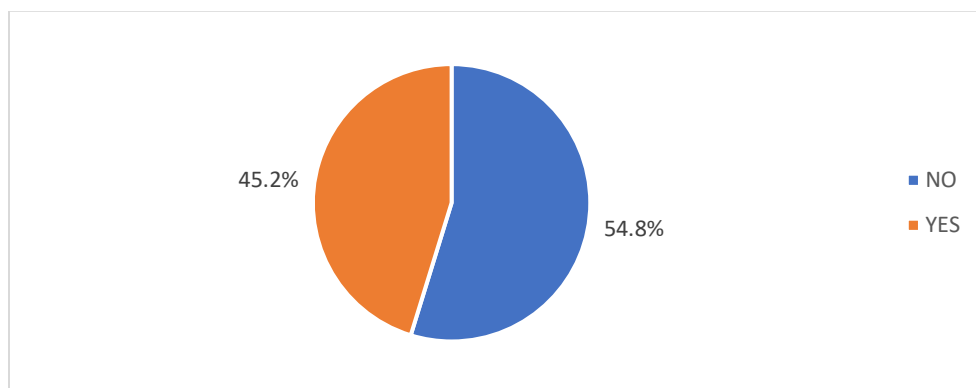


	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Male	54.4%	51.0%	52.6%	50.9%	55.2%	54.3%	40.2%	43.2%	53.6%
Female	45.4%	48.9%	47.4%	49.1%	44.8%	45.4%	59.8%	56.8%	46.3%
Other	0.2%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.1%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## DO YOU HAVE A VALID DRIVER'S LICENSE?

Table 1-18 shows if the Transit Passenger has a valid driver's license. Over half of VIA Passengers (54.8 percent) indicated they did not have a valid driver's license, compared to (45.2 percent) who indicated they had a valid driver's license.

Table 1-18: Does Transit Passenger have a valid Driver's License

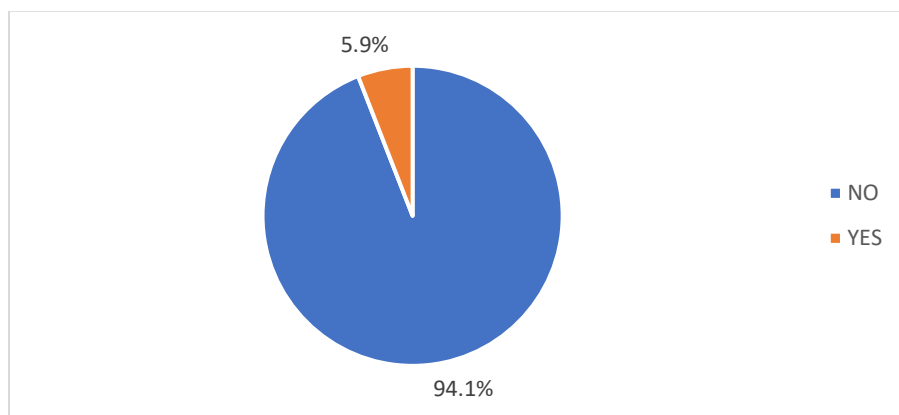


	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Yes	56.3%	47.3%	45.5%	58.6%	47.0%	42.8%	33.3%	55.8%	45.2%
No	43.7%	52.7%	54.5%	41.4%	53.0%	57.2%	66.7%	44.2%	54.8%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## DO YOU HAVE A DISABILITY THAT LIMITS MOBILITY?

Table 1-19 shows if the Transit Passenger indicated they have a disability. Six percent of VIA Passengers (5.9 percent) indicated they had an ADA-certified physical disability or other disability that limits their mobility, compared to (94.1 percent) who indicated they did not have a disability.

Table 1-19: Does Transit Passenger have a Disability that Limits Mobility

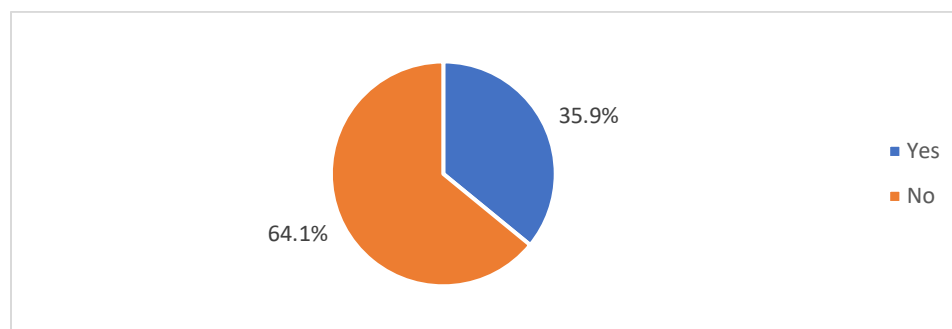


	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Yes	6.8%	5.3%	6.4%	2.9%	5.0%	6.3%	2.9%	8.4%	5.9%
No	93.2%	94.7%	93.6%	97.1%	95.0%	93.7%	97.1%	91.6%	94.1%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## DO YOU SPEAK A LANGUAGE OTHER THAN ENGLISH AT HOME

The language spoken at the home of VIA Passengers is displayed in the Table 1-20 Series. More than one-third (35.9 percent) of VIA Passengers indicated they spoke a language other than English at home. Of those VIA Passengers, about two-thirds (68.1 percent) indicated they spoke English “Very well” as shown the second chart in the Table 1-20 Series.

Table 1-20a: Transit Passengers That Speak Another Language Besides English At Home

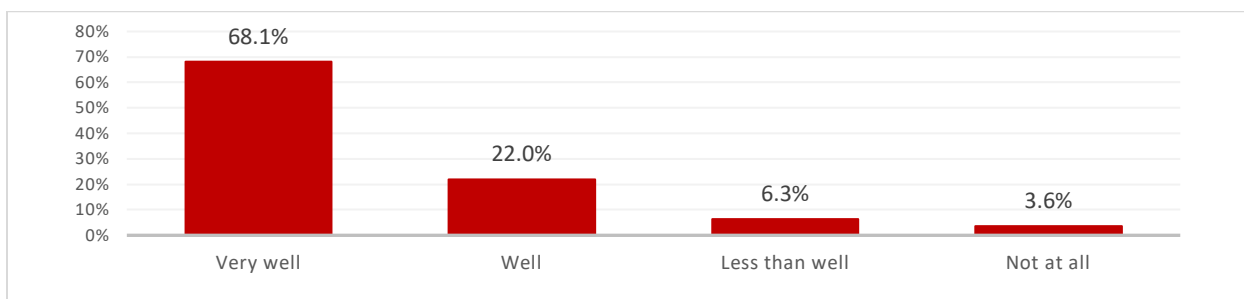


	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Yes	41.5%	26.9%	35.7%	32.5%	34.4%	38.1%	54.5%	48.3%	35.9%
No	58.5%	73.1%	64.3%	67.5%	65.6%	61.9%	45.5%	51.7%	64.1%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Table 1-20b: IF YES: What other language do you speak?

	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Spanish	75.7%	90.1%	94.1%	92.7%	92.7%	95.3%	94.3%	88.6%	93.5%
French	0.7%	0.1%	0.4%	0.5%	1.1%	0.8%	0.0%	3.5%	0.7%
Korean	4.3%	0.6%	0.6%	0.0%	0.4%	0.6%	0.0%	0.0%	0.7%
Japanese	3.8%	1.7%	0.6%	0.0%	0.5%	0.3%	2.5%	0.0%	0.6%
German	1.1%	0.9%	0.7%	1.2%	0.9%	0.5%	0.0%	0.0%	0.6%
American Sign Language (ASL)	0.4%	0.8%	0.4%	0.4%	0.2%	0.3%	0.0%	0.0%	0.4%
Arabic, Standard	1.5%	0.9%	0.2%	2.8%	0.2%	0.1%	0.0%	0.0%	0.3%
Hindi	4.4%	0.0%	0.2%	0.0%	0.5%	0.0%	3.3%	0.0%	0.3%
Tagalog	0.8%	0.6%	0.1%	0.4%	0.4%	0.2%	0.0%	4.4%	0.3%
Chinese	1.4%	0.3%	0.5%	0.0%	0.3%	0.1%	0.0%	0.0%	0.3%
Other	5.6%	3.8%	2.0%	2.0%	2.5%	1.5%	0.0%	3.5%	2.1%
Not Provided	0.2%	0.3%	0.2%	0.0%	0.4%	0.1%	0.0%	0.0%	0.2%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Table 1-20c: IF YES: How well do you speak English?

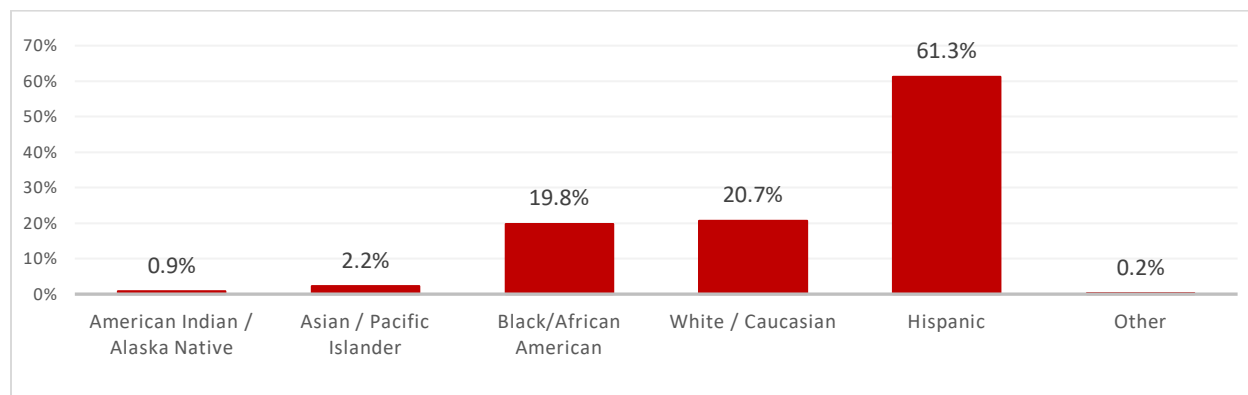


	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Very well	81.7%	70.9%	71.1%	71.5%	72.4%	65.0%	48.9%	56.4%	68.1%
Well	13.8%	21.0%	17.7%	19.4%	20.4%	24.1%	28.2%	33.9%	22.0%
Less than well	3.3%	5.0%	7.1%	7.8%	3.8%	6.9%	22.9%	7.2%	6.3%
Not at all	1.2%	3.0%	4.0%	1.3%	3.3%	4.0%	0.0%	2.5%	3.6%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## RACE/ETHNICITY OF TRANSIT PASSENGER

Table 1-21 shows the race/ethnicity of VIA Passengers. VIA Passengers were able to select from 'American Indian/Alaskan Native', 'Asian/Pacific Islander', 'Black/African American', 'White/Caucasian', 'Hispanic', or 'Other'. Totals add up to more than 100% because respondents were encouraged to check all answers that applied. Over half of VIA Passengers (61.3 percent) indicated they were "Hispanic", compared to the next highest (20.7 percent) of VIA Passengers who reported "White/Caucasian".

Table 1-21: Race/Ethnicity of VIA Passengers (Mark All That Applies)

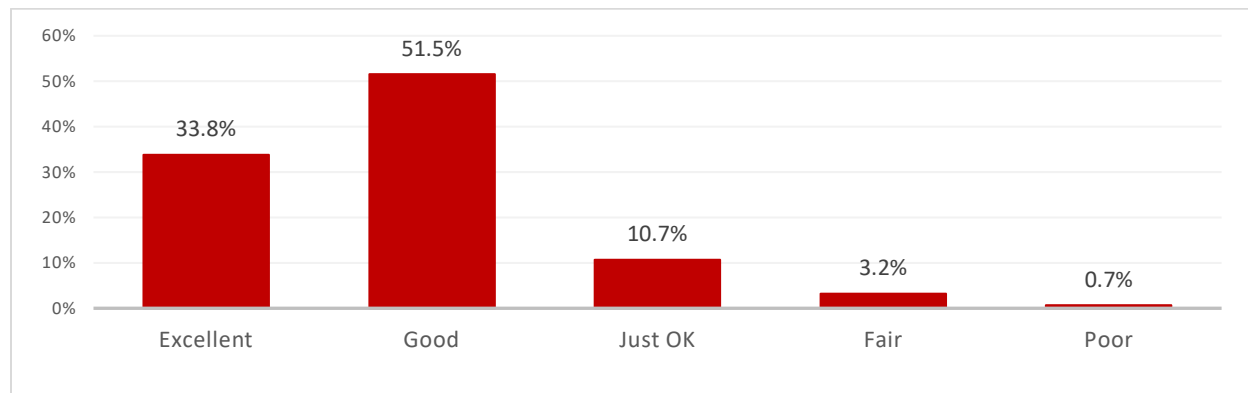


	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
American Indian/Alaska Native	1.4%	0.6%	1.1%	2.0%	0.9%	0.8%	1.5%	1.7%	0.9%
Asian/Pacific Islander	8.7%	2.7%	2.2%	3.7%	2.1%	1.6%	6.1%	6.6%	2.2%
Black/African American	21.1%	21.0%	15.8%	13.5%	21.7%	20.6%	6.1%	13.4%	19.8%
White/Caucasian	28.1%	26.2%	20.5%	24.0%	23.2%	18.1%	7.0%	36.2%	20.7%
Hispanic	46.2%	53.5%	66.0%	64.3%	57.1%	63.7%	82.4%	51.5%	61.3%
Other	0.6%	0.5%	0.2%	0.1%	0.4%	0.2%	0.0%	0.0%	0.2%

## RATING OF VIA'S SERVICE

Table 1-22 shows how VIA passengers rates services by VIA. Overall, the large majority of VIA passengers (85.3 percent) rated that VIA's service is either 'Excellent' or 'Good'.

Table 1-22: Rating of VIA's service

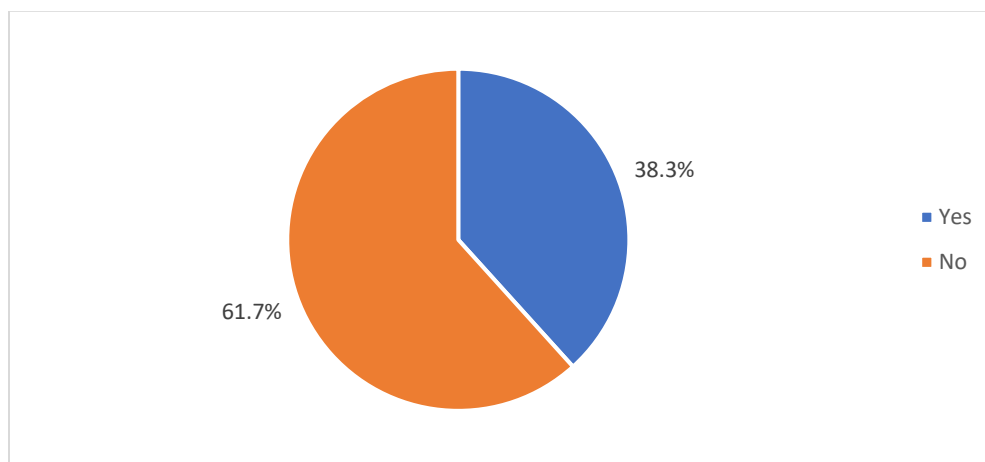


	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Excellent	39.4%	37.0%	33.8%	34.5%	33.2%	32.7%	34.1%	44.0%	33.8%
Good	48.0%	48.6%	51.3%	49.7%	53.1%	52.2%	48.9%	42.2%	51.5%
Just OK	8.0%	10.5%	11.1%	10.5%	10.7%	10.9%	8.3%	7.5%	10.7%
Fair	3.1%	3.3%	3.0%	4.7%	2.6%	3.3%	8.7%	3.4%	3.2%
Poor	1.4%	0.6%	0.8%	0.5%	0.4%	0.8%	0.0%	2.9%	0.7%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## USING A CREDIT CARD FOR ONLINE PAYMENTS

Table 1-23 shows whether VIA passengers use a credit card for online payments. More than one-third of VIA Passengers (38.3 percent) indicated they did not use a credit card for online payments, compared to those who reported to use a credit card for online payments (61.7 percent).

Table 1-23: Using a Credit Card for Online Payments

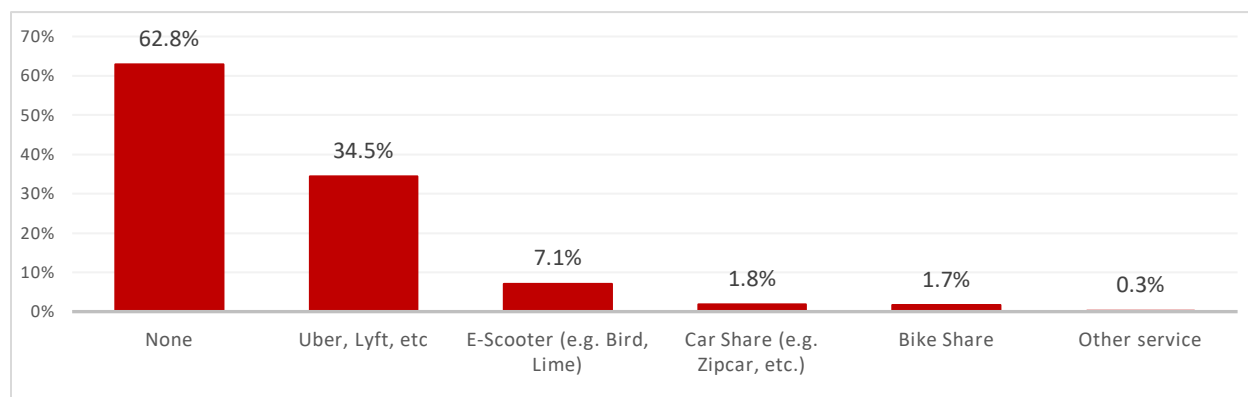


	PRIMO	Downtown Circulator	Crosstown	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
Yes	52.1%	41.9%	38.6%	62.7%	37.0%	35.8%	34.1%	32.3%	38.3%
No	47.9%	58.1%	61.4%	37.3%	63.0%	64.2%	65.9%	67.7%	61.7%
Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## OTHER TRANSPORTATION SERVICES USED IN THE SAN ANTONIO REGION

Table 1-24 shows other transportation services VIA passengers use in the San Antonio region. Totals add up to more than 100% because respondents were encouraged to check all answers that applied. Sixty-three percent of VIA Passengers (62.8 percent) indicated they did not use any other ride services, compared to next highest (34.5 percent) of VIA Passengers who reported 'Uber, Lyft, etc.'

Table 1-24: Other Transportation Services Used in the Columbus Area (Mark All That Applies)



	PRIMO	Downtown Circulator	Cross-town	Express	Limited Stop	Major Radial	Minor Radial	Circulator	Grand Total
None	52.2%	62.4%	65.9%	46.0%	63.1%	63.5%	68.0%	57.5%	62.8%
Uber, Lyft, etc	47.1%	35.3%	31.7%	48.1%	34.2%	33.8%	29.6%	30.6%	34.5%
E-Scooter (e.g. Bird, Lime)	4.1%	4.5%	5.9%	15.3%	7.0%	7.9%	5.5%	2.4%	7.1%
Car Share (e.g. Zipcar, etc.)	0.7%	1.5%	1.4%	3.4%	2.0%	2.0%	0.0%	0.0%	1.8%
Bike Share	1.1%	1.0%	1.4%	3.1%	1.8%	1.8%	0.0%	0.0%	1.7%
Other service	0.2%	0.0%	0.1%	0.0%	0.2%	0.3%	0.0%	11.9%	0.3%
<b>Grand Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## Chapter 2. SURVEY METHODOLOGY

### SAMPLING PLAN

To ensure that the distribution of completed surveys mirrored the actual distribution of VIA passengers who use the system, ETC Institute and VIA established proportional sampling goals for each VIA route. The time periods for the weekday collection of this survey were as follows:

*Figure 2-1: Project Time Periods*

TIME PERIOD	TIME RANGE
AM PEAK	6:00 am-8:29 am
MIDDAY	8:30 am-3:00 pm
PM PEAK	3:00 pm-6:00 pm
EVENING	After 6:00 pm

### SAMPLING GOALS FOR OD SURVEY

ETC Institute developed a **weekday** sampling plan that would ensure the completion of the OD survey by approximately 12,750 passengers utilizing a **twelve percent** sampling rate across all routes with a goal of **ten percent** sample on the directional and time period level. The original weekday ridership average was provided by VIA. See Appendix B for the confidence level by route and route type.

#### *Weekday*

Table 2-1 shows the original goals by route, time period, and direction. The sampling plan for the OD survey was designed to obtain completed surveys utilizing various sampling rates for each route operated by VIA.

Table 2-1: Weekday OD Sampling Goals

Route Type	Rte. #	Route Name	Direction	AM Peak (6:00-8:29am)	Midday (8:30am - 2:59pm)	PM Peak (3:00-5:59pm)	Evening (After 6pm)	TOD/DIR Total	Survey Goal	Surveys Collected
Major Radial	2	BLANCO	NORTHBOUND	28	56	30	19	133	364	391
Major Radial	2	BLANCO	SOUTHBOUND	31	59	35	17	142		
Limited Stop	3	SAN PEDRO SKIP	NORTHBOUND	17	50	22	13	102	222	296
Limited Stop	3	SAN PEDRO SKIP	SOUTHBOUND	18	64	34	26	142		
Major Radial	4	SAN PEDRO FREQUENT	NORTHBOUND	19	45	30	15	109	308	326
Major Radial	4	SAN PEDRO FREQUENT	SOUTHBOUND	20	47	28	12	107		
Major Radial	5	MCCULLOUGH	NORTHBOUND	12	23	12	6	53	153	174
Major Radial	5	MCCULLOUGH	SOUTHBOUND	11	26	13	8	59		
Express	6	US 281 EXPRESS	NORTHBOUND	3	0	3	1	7	14	24
Express	6	US 281 EXPRESS	SOUTHBOUND	4	0	2	0	7		
Express	7	STONE OAK PARK AND RIDE	NORTHBOUND	1	0	4	0	5	13	21
Express	7	STONE OAK PARK AND RIDE	SOUTHBOUND	4	0	3	0	7		
Major Radial	8	NORTH ST. MARY'S	NORTHBOUND	15	23	12	8	59	142	162
Major Radial	8	NORTH ST. MARY'S	SOUTHBOUND	12	25	15	8	60		
Major Radial	9	BROADWAY	NORTHBOUND	14	20	12	5	52	136	167
Major Radial	9	BROADWAY	SOUTHBOUND	12	21	13	10	56		
Major Radial	10	NACO/BROADWAY	NORTHBOUND	15	25	12	7	60	165	178
Major Radial	10	NACO/BROADWAY	SOUTHBOUND	10	27	18	10	65		
Limited Stop	11	VIVA CULTURE	NORTHBOUND	0	7	4	2	13	40	39
Limited Stop	11	VIVA CULTURE	SOUTHBOUND	0	7	4	2	13		
Limited Stop	14	PERRIN BEITEL SKIP	NORTHBOUND	21	47	28	20	116	296	348
Limited Stop	14	PERRIN BEITEL SKIP	SOUTHBOUND	21	53	29	21	125		
Express	17	IH-35 EXPRESS	EASTBOUND	4	3	13	6	25	122	123
Express	17	IH-35 EXPRESS	WESTBOUND	10	8	4	4	27		
Major Radial	20	NEW BRAUNFELS FREQUENT	NORTHBOUND	49	118	48	34	248	464	574
Major Radial	20	NEW BRAUNFELS FREQUENT	SOUTHBOUND	36	110	51	26	222		
Major Radial	21	KIRBY/CONVERSE	EASTBOUND	16	17	12	6	51	177	199
Major Radial	21	KIRBY/CONVERSE	WESTBOUND	20	24	18	12	74		
Major Radial	22	HAYS FREQUENT	EASTBOUND	7	20	11	8	46	125	135
Major Radial	22	HAYS FREQUENT	WESTBOUND	12	25	10	6	53		
Major Radial	24	EAST HOUSTON FREQUENT	EASTBOUND	18	38	25	17	97	240	251
Major Radial	24	EAST HOUSTON FREQUENT	WESTBOUND	23	45	24	12	103		
Major Radial	25	E. COMMERCE FREQUENT	EASTBOUND	21	43	20	16	101	203	200
Major Radial	25	E. COMMERCE FREQUENT	WESTBOUND	17	29	13	9	69		
Major Radial	26	MARTIN LUTHER KING	EASTBOUND	15	45	23	15	97	234	234
Major Radial	26	MARTIN LUTHER KING	WESTBOUND	16	44	26	12	98		
Major Radial	28	PORTER	EASTBOUND	13	36	25	16	89	203	256
Major Radial	28	PORTER	WESTBOUND	23	32	16	10	80		
Major Radial	30	RIGSBY	EASTBOUND	9	25	17	8	59	140	192
Major Radial	30	RIGSBY	WESTBOUND	18	21	12	7	57		
Major Radial	32	STEVES	NORTHBOUND	15	16	5	4	41	97	159
Major Radial	32	STEVES	SOUTHBOUND	7	14	11	8	40		
Major Radial	34	SOUTH ST. MARY'S	NORTHBOUND	23	50	25	12	110	241	245
Major Radial	34	SOUTH ST. MARY'S	SOUTHBOUND	14	40	22	15	91		
Major Radial	36	S. PRESA	NORTHBOUND	13	13	7	4	38	81	114
Major Radial	36	S. PRESA	SOUTHBOUND	5	10	11	4	30		
Limited Stop	40	VIVA MISSIONS	NORTHBOUND	0	5	3	0	7	27	31
Limited Stop	40	VIVA MISSIONS	SOUTHBOUND	0	5	3	0	7		
Major Radial	42	ROOSEVELT	NORTHBOUND	14	19	13	6	52	114	132
Major Radial	42	ROOSEVELT	SOUTHBOUND	6	16	12	9	43		
Major Radial	43	SOUTH FLORES	NORTHBOUND	15	25	11	5	55	133	152
Major Radial	43	SOUTH FLORES	SOUTHBOUND	9	24	13	9	55		
Major Radial	44	PLEASANTON	NORTHBOUND	20	36	11	8	74	175	179
Major Radial	44	PLEASANTON	SOUTHBOUND	9	33	19	11	72		
Major Radial	46	COMMERCIAL	NORTHBOUND	9	10	4	2	25	58	65
Major Radial	46	COMMERCIAL	SOUTHBOUND	3	9	6	4	23		
Express	48	IH-35 SOUTH EXPRESS	NORTHBOUND	1	0	0	0	2	5	9
Express	48	IH-35 SOUTH EXPRESS	SOUTHBOUND	1	0	1	0	2		
Major Radial	51	NOGALITOS	NORTHBOUND	20	30	15	8	72	164	228
Major Radial	51	NOGALITOS	SOUTHBOUND	11	27	16	11	64		
Major Radial	54	SOUTH ALAMO	NORTHBOUND	4	4	2	1	10	19	46
Major Radial	54	SOUTH ALAMO	SOUTHBOUND	1	3	2	0	6		
Major Radial	62	KIRK	NORTHBOUND	3	5	6	3	17	45	53
Major Radial	62	KIRK	SOUTHBOUND	7	7	5	2	21		
Express	64	US 90 EXPRESS	EASTBOUND	17	13	8	2	40	97	184
Express	64	US 90 EXPRESS	WESTBOUND	9	12	15	5	41		
Major Radial	66	CERALVO FREQUENT	EASTBOUND	13	25	11	5	54	122	135
Major Radial	66	CERALVO FREQUENT	WESTBOUND	7	20	12	8	47		
Major Radial	67	LAREDO	NORTHBOUND	9	16	7	5	36	68	84
Major Radial	67	LAREDO	SOUTHBOUND	3	9	5	3	20		

Route Type	Rte. #	Route Name	Direction	AM Peak (6:00-8:29am)	Midday (8:30am - 2:59pm)	PM Peak (3:00-5:59pm)	Evening (After 6pm)	TOD/DIR Total	Survey Goal	Surveys Collected
Major Radial	68	GUADALUPE FREQUENT	EASTBOUND	17	46	18	13	94	226	225
Major Radial	68	GUADALUPE FREQUENT	WESTBOUND	10	48	23	13	94		
Minor Radial	70	CESAR CHAVEZ	EASTBOUND	2	5	2	1	9	23	29
Minor Radial	70	CESAR CHAVEZ	WESTBOUND	1	5	3	0	9		
Major Radial	75	W. COMMERCE FREQUENT	EASTBOUND	25	47	19	14	105	303	312
Major Radial	75	W. COMMERCE FREQUENT	WESTBOUND	19	69	35	24	148		
Limited Stop	76	WEST COMMERCE SKIP	EASTBOUND	33	75	30	22	159	341	340
Limited Stop	76	WEST COMMERCE SKIP	WESTBOUND	19	56	29	21	125		
Major Radial	77	MARTIN	EASTBOUND	13	10	7	4	34	78	92
Major Radial	77	MARTIN	WESTBOUND	4	9	11	7	30		
Major Radial	79	RUIZ FREQUENT	EASTBOUND	17	32	11	8	69	141	184
Major Radial	79	RUIZ FREQUENT	WESTBOUND	5	21	12	11	49		
Major Radial	82	CULEBRA	NORTHBOUND	18	41	26	14	99	252	274
Major Radial	82	CULEBRA	SOUTHBOUND	25	48	24	14	111		
Major Radial	88	BANDERA	NORTHBOUND	19	43	26	17	104	250	260
Major Radial	88	BANDERA	SOUTHBOUND	21	44	24	14	104		
Major Radial	89	POPLAR	NORTHBOUND	6	11	9	5	30	85	95
Major Radial	89	POPLAR	SOUTHBOUND	11	13	9	7	40		
Major Radial	90	WOODLAWN	EASTBOUND	12	29	14	8	63	144	188
Major Radial	90	WOODLAWN	WESTBOUND	8	26	15	8	57		
Express	93	IH-10 CROSSROADS/U.T.S.A EXPRESS	NORTHBOUND	5	5	6	2	17	37	52
Express	93	IH-10 CROSSROADS/U.T.S.A EXPRESS	SOUTHBOUND	3	3	4	4	14		
Express	94	IH-10 FIESTA TEXAS EXPRESS	EASTBOUND	3	2	1	5	11	36	53
Express	94	IH-10 FIESTA TEXAS EXPRESS	WESTBOUND	3	4	5	7	19		
Major Radial	95	FREDERICKSBURG RD.	NORTHBOUND	8	27	13	2	50	117	132
Major Radial	95	FREDERICKSBURG RD.	SOUTHBOUND	7	25	11	4	48		
Major Radial	96	VANCE JACKSON	NORTHBOUND	25	46	24	19	114	275	272
Major Radial	96	VANCE JACKSON	SOUTHBOUND	25	50	26	15	115		
Major Radial	97	WEST AVENUE	NORTHBOUND	18	40	19	13	90	204	237
Major Radial	97	WEST AVENUE	SOUTHBOUND	18	32	17	13	80		
PRIMO	100	PRIMO	NORTHBOUND	39	94	50	31	214	528	552
PRIMO	100	PRIMO	SOUTHBOUND	50	94	50	31	225		
PRIMO	101	PRIMO	NORTHBOUND	10	21	12	7	50	121	170
PRIMO	101	PRIMO	SOUTHBOUND	10	21	12	7	50		
Downtown Circulator	301	VIVA CENTRO	EASTBOUND	2	9	6	3	21	50	73
Downtown Circulator	301	VIVA CENTRO	WESTBOUND	2	9	6	3	21		
Crosstown	502	THOUSAND OAKS	EASTBOUND	14	25	13	7	59	148	160
Crosstown	502	THOUSAND OAKS	WESTBOUND	14	25	14	11	64		
Crosstown	503	HUEBNER CROSSTOWN	NORTHBOUND	4	8	4	3	19	44	49
Crosstown	503	HUEBNER CROSSTOWN	SOUTHBOUND	3	7	5	3	17		
Crosstown	505	BASSE	EASTBOUND	7	12	6	3	27	63	87
Crosstown	505	BASSE	WESTBOUND	6	10	6	3	25		
Crosstown	509	HILDEBRAND	EASTBOUND	9	19	8	6	42	99	128
Crosstown	509	HILDEBRAND	WESTBOUND	10	16	8	6	41		
Crosstown	515	SOUTHCROSS	EASTBOUND	6	19	9	3	37	91	105
Crosstown	515	SOUTHCROSS	WESTBOUND	7	19	10	3	39		
Crosstown	520	ZARZAMORA FREQUENT	NORTHBOUND	60	121	57	33	271	689	773
Crosstown	520	ZARZAMORA FREQUENT	SOUTHBOUND	56	143	63	41	303		
Crosstown	522	BABCOCK	NORTHBOUND	12	22	9	5	48	116	166
Crosstown	522	BABCOCK	SOUTHBOUND	7	21	13	7	48		
Crosstown	524	GENERAL MCMULLEN FREQUENT	NORTHBOUND	29	66	27	10	133	321	350
Crosstown	524	GENERAL MCMULLEN FREQUENT	SOUTHBOUND	23	65	31	15	135		
Crosstown	534	WURZBACH	NORTHBOUND	26	58	27	13	125	290	315
Crosstown	534	WURZBACH	SOUTHBOUND	19	50	31	16	116		
Limited Stop	550	LOOPER SKIP	CLOCKWISE	84	168	84	44	379	455	539
Limited Stop	551	LOOPER SKIP	COUNTERCLOCKWISE	74	149	82	49	353	424	560
Circulator	602	NORTH STAR/MEDICAL CENTER	EASTBOUND	13	21	10	7	51	126	162
Circulator	602	NORTH STAR/MEDICAL CENTER	WESTBOUND	11	22	11	10	54		
Circulator	603	MEDICAL CENTER/UTSA	NORTHBOUND	9	14	10	7	41	95	122
Circulator	603	MEDICAL CENTER/UTSA	SOUTHBOUND	6	12	12	8	38		
Circulator	604	MEDICAL CENTER/UNIVERSITY PARK	NORTHBOUND	5	11	7	5	27	60	67



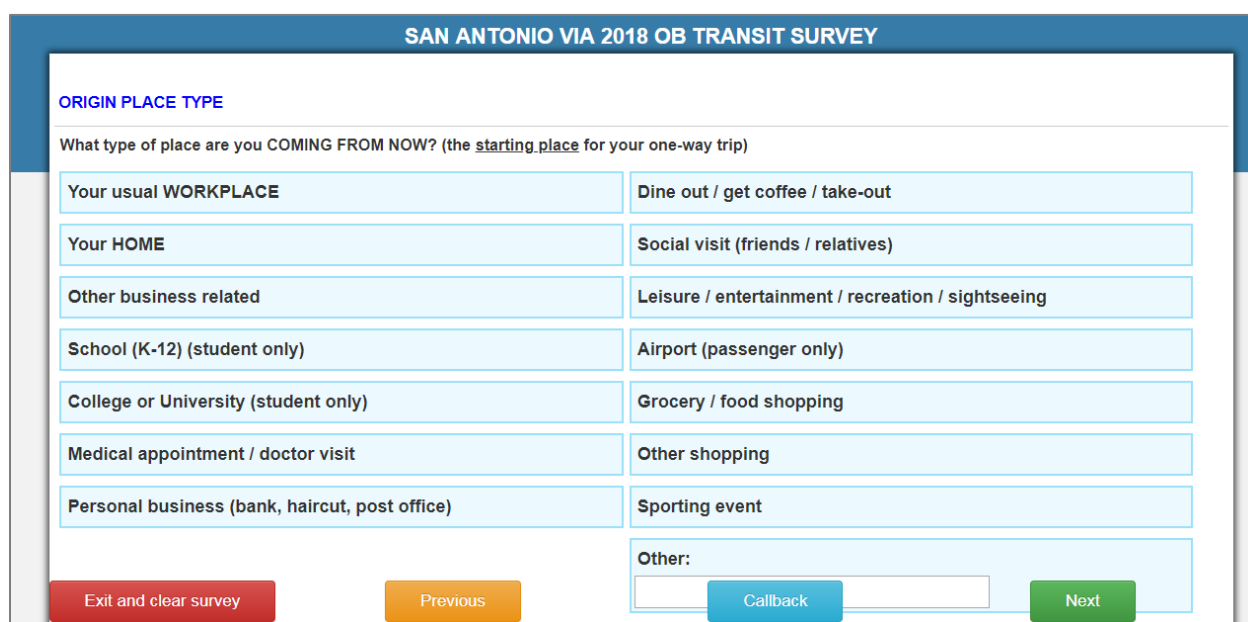
Route Type	Rte. #	Route Name	Direction	AM Peak (6:00-8:29am)	Midday (8:30am - 2:59pm)	PM Peak (3:00-5:59pm)	Evening (After 6pm)	TOD/DIR Total	Survey Goal	Surveys Collected
Circulator	604	MEDICAL CENTER/UNIVERSITY PARK	SOUTHBOUND	5	8	6	4	23		
Circulator	605	U.T.S.A/MAINLAND	NORTHBOUND	3	5	2	1	10	22	56
Circulator	605	U.T.S.A/MAINLAND	SOUTHBOUND	1	3	1	2	8		
Circulator	606	MEDICAL CENTER/ALAMO RANCH	EASTBOUND	5	8	4	3	21	55	66
Circulator	606	MEDICAL CENTER/ALAMO RANCH	WESTBOUND	5	9	6	5	25		
Circulator	607	MEDICAL CENTER/INGRAM	NORTHBOUND	3	9	6	5	23	52	62
Circulator	607	MEDICAL CENTER/INGRAM	SOUTHBOUND	4	9	4	4	20		
Circulator	609	INGRAM/MAINLAND	NORTHBOUND	3	6	4	3	16	38	55
Circulator	609	INGRAM/MAINLAND	SOUTHBOUND	3	6	4	2	16		
Circulator	610	INGRAM/NORTHWEST CROSSING	EASTBOUND	8	9	4	3	24	61	69
Circulator	610	INGRAM/NORTHWEST CROSSING	WESTBOUND	3	9	8	7	27		
Circulator	611	VALLEY-HI/KEL-LAC	NORTHBOUND	4	7	3	2	15	45	80
Circulator	611	VALLEY-HI/KEL-LAC	SOUTHBOUND	2	10	5	6	23		
Circulator	612	KEL-LAC/WESTLAKE	NORTHBOUND	3	6	4	5	18	39	58
Circulator	612	KEL-LAC/WESTLAKE	SOUTHBOUND	4	6	2	3	14		
Circulator	613	HERITAGE NW/KEL-LAC	EASTBOUND	6	15	6	3	30	76	91
Circulator	613	HERITAGE NW/KEL-LAC	WESTBOUND	5	14	7	6	33		
Circulator	614	HIDDEN COVE/KEL-LAC	NORTHBOUND	2	4	1	2	9	28	50
Circulator	614	HIDDEN COVE/KEL-LAC	SOUTHBOUND	2	4	3	5	15		
Circulator	615	KEL-LAC/HERITAGE PARK	EASTBOUND	6	11	4	2	23	69	101
Circulator	615	KEL-LAC/HERITAGE PARK	WESTBOUND	6	13	9	6	34		
Circulator	616	SKY HARBOUR/KEL-LAC	NORTHBOUND	7	13	5	4	29	75	94
Circulator	616	SKY HARBOUR/KEL-LAC	SOUTHBOUND	4	13	8	10	34		
Circulator	617	KEL-LAC/RAINBOW HILLS	NORTHBOUND	4	14	8	7	32	64	80
Circulator	617	KEL-LAC/RAINBOW HILLS	SOUTHBOUND	5	9	4	3	21		
Circulator	618	INGRAM/WESTLAKES	NORTHBOUND	3	10	5	4	22	51	53
Circulator	618	INGRAM/WESTLAKES	SOUTHBOUND	5	9	4	2	21		
Circulator	619	KEL-LAC/INDIAN CREEK	NORTHBOUND	6	6	3	2	17	46	75
Circulator	619	KEL-LAC/INDIAN CREEK	SOUTHBOUND	2	7	7	6	22		
Circulator	620	NORTHWEST VISTA COLLEGE/INGRAM	EASTBOUND	6	8	5	3	23	60	84
Circulator	620	NORTHWEST VISTA COLLEGE/INGRAM	WESTBOUND	3	5	4	3	16		
Circulator	629	INDUSTRY PARK	NORTHBOUND	4	6	2	2	13	28	52
Circulator	629	INDUSTRY PARK	SOUTHBOUND	2	5	3	3	13		
Circulator	630	RANDOLPH/KIRBY/SUNRISE	NORTHBOUND	4	6	3	2	15	31	37
Circulator	630	RANDOLPH/KIRBY/SUNRISE	SOUTHBOUND	4	7	4	4	19		
Circulator	631	SUNRISE/SUMMERFEST	NORTHBOUND	2	4	1	1	8	27	35
Circulator	631	SUNRISE/SUMMERFEST	SOUTHBOUND	2	5	4	4	15		
Circulator	632	RANDOLPH/VENTURA	EASTBOUND	8	27	17	14	67	160	185
Circulator	632	RANDOLPH/VENTURA	WESTBOUND	11	21	10	6	49		
Circulator	640	VALLEY FORGE	NORTHBOUND	2	2	2	1	7	19	26
Circulator	640	VALLEY FORGE	SOUTHBOUND	1	3	2	1	7		
Circulator	641	KNOLL CREEK	NORTHBOUND	2	6	3	1	11	27	35
Circulator	641	KNOLL CREEK	SOUTHBOUND	2	4	2	1	8		
Circulator	642	NACOGDOCHES	NORTHBOUND	3	6	3	3	15	32	37
Circulator	642	NACOGDOCHES	SOUTHBOUND	2	4	3	3	12		
Circulator	647	NORTH STAR/HARRY WURZBACH	NORTHBOUND	3	9	4	2	18	38	48
Circulator	647	NORTH STAR/HARRY WURZBACH	SOUTHBOUND	2	7	4	2	15		
Circulator	648	NORTH STAR/STONE OAK	NORTHBOUND	7	10	4	2	24	55	73
Circulator	648	NORTH STAR/STONE OAK	SOUTHBOUND	5	8	5	2	21		
Circulator	651	DECO DISTRICT/CASTLE HILLS	NORTHBOUND	3	6	4	3	16	74	84
Circulator	651	DECO DISTRICT/CASTLE HILLS	SOUTHBOUND	2	6	4	2	14		
Circulator	660	NORTHWEST VISTA COLLEGE/UNIVERSITY PARK & RIDE	NORTHBOUND	5	10	4	2	22	38	109
Circulator	660	NORTHWEST VISTA COLLEGE/UNIVERSITY PARK & RIDE	SOUTHBOUND	1	6	3	2	13		
Total				2,111	4,504	2,420	1,483	10,519	12,749	15,024

## SURVEY INSTRUMENT

The tablet PCs were the preferred survey method as the tablet PCs have on-screen mapping features that allow for real-time geocoding of addresses and places based off either address, intersection, or place searches using feedback from respondents. The respondents could then confirm the geocoded location based on the on-screen map that displayed the searched address/location via a Google Map indicator icon. In addition to using the mapping feature to collect the global positioning system coordinates of major survey locations (home address, origin address, destination address, boarding location and alighting location), the tablet PC also allowed the interviewer to walk through each question with the respondent. This allowed the interviewer to answer any questions as well as to ensure the accuracy of the data collected. The respondent could also select the answers to the questions directly on the tablet PC during the demographic section to allow for more privacy.

Respondents who did not have time to complete the Survey during their bus trip were also given the option of providing their phone numbers to be called back. Those who provided their phone numbers were then contacted by ETC Institute’s call center to complete the Survey. Figure 2-2 through Figure 2-6 show examples from the tablet PC Survey.

Figure 2-2: Tablet PC Screenshot for Question: “What Type of Place Are You Coming from Now?”



The screenshot shows a survey interface titled "SAN ANTONIO VIA 2018 OB TRANSIT SURVEY". The question is "ORIGIN PLACE TYPE" and "What type of place are you COMING FROM NOW? (the starting place for your one-way trip)". The interface displays a grid of 14 buttons for selection, arranged in two columns. At the bottom, there are navigation buttons: "Exit and clear survey" (red), "Previous" (orange), "Callback" (blue, with an adjacent text input field), and "Next" (green).

ORIGIN PLACE TYPE	
What type of place are you COMING FROM NOW? (the <u>starting place</u> for your one-way trip)	
Your usual WORKPLACE	Dine out / get coffee / take-out
Your HOME	Social visit (friends / relatives)
Other business related	Leisure / entertainment / recreation / sightseeing
School (K-12) (student only)	Airport (passenger only)
College or University (student only)	Grocery / food shopping
Medical appointment / doctor visit	Other shopping
Personal business (bank, haircut, post office)	Sporting event
Other:	
<input type="text"/>	

Figure 2-3: Tablet PC Screenshot for Question: “How Did You Get from Your Origin to Your Very First Bus on This One-Way Trip?”

SAN ANTONIO VIA 2018 OB TRANSIT SURVEY

**ACCESS MODE**

How did you GET FROM your origin [ Your usual WORKPLACE ] TO [ 95 FREDERICKSBURG RD. NORTHBOUND ] on this one-way trip?

Walk	Drove or rode with others and parked
Wheelchair	Car Share (e.g. ZipCar, etc)
Personal Bike	Taxi
Bike Share	E-Scooter (e.g. Bird, Lime, etc.)
Was dropped off by someone going someplace else	Uber, Lyft, etc.
Drove alone and parked	Other, please specify: <input type="text"/>

THIS ROUTE: 95 FREDERICKSBURG RD. NORTHBOUND

© ETC Institute 2018

Exit and clear survey Previous Callback Next

Figure 2-4: Tablet PC Screenshot for Question: “Where Will You Get off This Bus on This One-Way Trip?”

SAN ANTONIO VIA 2018 OB TRANSIT SURVEY

**ALIGHT SURVEY ROUTE**

Where will you GET OFF [ 20 NEW BRAUNFELS FREQUENT SOUTHBOUND ] on this one-way trip?

Street Address Latitude Longitude  User Stop

Enter a location here Distance: \_\_\_\_\_ mi Clear Me

Exit and clear survey Previous Callback Next

Figure 2-5: Tablet PC Screenshot of a set of Demographic Questions

**SAN ANTONIO VIA 2018 OB TRANSIT SURVEY**

**ABOUT YOU AND YOUR HOUSEHOLD**

Including YOU, how many people live in your household?

One (1)	Three (3)	Five (5)	Seven (7)	Nine (9)
Two (2)	Four (4)	Six (6)	Eight (8)	Ten or More (10+)

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

None (0)	Three (3)	Six (6)	Nine (9)
One (1)	Four (4)	Seven (7)	Ten or more (10+)
Two (2)	Five (5)	Eight (8)	

*VEH IF NO BUS: Taxi*

What is your employment status?

Employed full-time	Retired
Employed part-time	Homemaker
Not currently employed, but seeking work	Other:
Not currently employed, and not seeking work	<input type="text"/>

*(select the one response that BEST describes you)*

Which of the following best describes the highest level of education you have achieved?

Exit and clear survey	a or GED	Previous	Graduated colle	Suspend	Callback	Next
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Figure 2-6: Tablet PC Screenshot of a set of Demographic Questions

**SAN ANTONIO VIA 2018 OB TRANSIT SURVEY**

**ABOUT YOU AND YOUR HOUSEHOLD**

Do you have a valid driver's license?  
Choose one of the following answers

Yes	No
-----	----

*VEH IF NO BUS: Taxi*

Do you have any health conditions that make it necessary for you to ride the bus?  
Choose one of the following answers

Yes	No
-----	----

What is your age?

Under 5	25-34
5-13	35-49
14-17	50-61
18-24	62 and older

*FARE PAYMENT USED: 7-Day Pass*  
*TYPE OF FARE: Regular / Full Fare*

What is your race / ethnicity?  
Check any that apply

American Indian / Alaska Native	White / Caucasian
Asian / Pacific Islander	Hispanic
Black / African American	Other
	<input type="text"/>

What is your gender?  
Choose one of the following answers

Male	Female	Other:
		<input type="text"/>

Exit and clear survey	Previous	Suspend	Callback
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## Chapter 3. SURVEY ADMINISTRATION

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### LABOR RECRUITMENT AND TRAINING

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Assembling a team of high-quality surveying staff was one of the most important steps in the OD administration process. ETC Institute collaborated with a staffing firm to provide interviewers for the OD survey.

The training session focused on the survey purpose and objectives, the survey instrument, scripts on how to respond to passengers' questions, how to use data collection tools correctly, the random sampling protocol, instructions on how to conduct themselves when working with the public, and safety training. Survey staff were instructed to understand that while they were not VIA employees, they were representing the agency while on transit vehicles or property, and that they needed to act in a manner that reflected positively on VIA at all times. There were additional training sessions conducted throughout the data collection process on an as-needed basis but with smaller groups.

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 interviewer badges and vests to identify interviewers to VIA staff and passengers to further legitimize their appearance. The badge and dress code standards promoted a professional appearance and reinforced survey legitimacy, which increased passengers' trust in the interviewers and the process.

### TRAINING OD INTERVIEWERS

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The ETC Institute Field Supervisor created the necessary training materials and conducted the OD training. The classroom training session included a PowerPoint presentation to explain the purpose and objectives of the survey, questionnaire content, interviewer procedures and requirements, random sampling protocol, survey logistics, how to maximize response rates (including difficult-to-survey passengers), 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.

ETC Institute 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 that issue.

- ▲ Overview of the VIA system covering all topics covered in the tablet questionnaire with route-specific instruction as needed.
- ▲ How to handle passenger comments and complaints.
- ▲ Safety training.

Toward the end of training, interviewers conducted mock interviews using the survey tablets. This allowed ETC Institute staff to gauge each interviewer’s comprehension of the survey and instrument and provide feedback as needed. After the training, interviewers were tested on items discussed in training.

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

Interviewers who were conducting the survey properly could go to the next phase of field training. Interviewers who needed more help but showed promise were asked to spend a second day in the field under direct supervision. Once an interviewer had demonstrated proficiency under direct supervision, he/she was given a field test during which the prospective interviewer conducted surveys on his/her own. During this period the interviewer’s productivity and data quality were remotely assessed by ETC Institute’s staff.

## OD PASSENGER SURVEY INTERVIEWERS ROLES

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For the OD Survey, interviewers boarded their assigned bus and selected passengers 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.

## SURVEY ADMINISTRATION

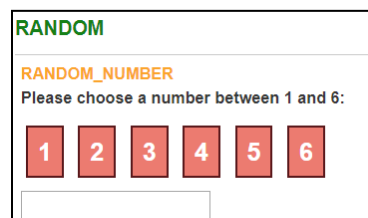
### SELECTION OF PARTICIPANTS

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For the OD surveys conducted by tablets, a random number generator (shown in Figure 3-1) was used to determine which passengers were asked to participate in the survey after boarding the surveying bus.

If four people boarded a bus, the tablet PC randomly generated a number from 1 to 4. If the answer was 2, the second person who boarded the bus was asked to participate in the survey. If the answer was 1, the first person was asked to participate in the survey, and so

*Figure 3-1: OD Survey Random Number Generator*



forth. The selection was 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 bus or train, the tablet PC 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 (*after, if 1 was selected*).

Respondents who did not have time to complete the survey during their bus trip or who spoke a language different from the interviewers were given the option of providing their phone numbers to conduct the survey at another time. Those who provided their phone numbers for call back were then contacted by ETC Institute's call center to complete the survey. Less than 0.5 percent of records were completed by phone. Those interviewers that did speak the foreign language of the passenger translated the English tablet PC version and indicated which language the interview was conducted in.

ETC Institute maintained adequate bilingual (English/Spanish) interviewer staff throughout the entire project. At any given time, at least 15.0 percent of the interview staff were bilingual.

## OD SURVEY PROCEDURE

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All routes were classified as fixed routes and were surveyed using the tablet PCs. Fixed routes are routes that provide regular/continuous service throughout the day. Interviewers selected people for the survey in accordance with the sampling procedures described earlier in this subchapter. Once an interviewer had employed random sampling protocol to identify the passenger to be surveyed, the interviewer:

- Approached the passenger who was identified and asked him or her to participate in the survey.
- If the person refused, the interviewer ended the survey, excused themselves and completed three observational questions.
- If the person agreed to participate, the interviewer asked the respondent if he/she 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 name, and phone number for a later call back in the likely event that they alighted prior to completing the survey. A phone interviewer from ETC Institute's call center contacted the respondent and asked him/her to provide the information by phone. This methodology ensured that people who completed short trips on public transit were well represented. The vast majority of records were able to be completed on-board with only a nominal amount of records completed by phone.
- If the person had at least 5 minutes on the bus, the interviewer began administering the survey to the respondent as a face-to-face interview using a tablet PC.

Typically for routes that have a limited number of stops/time, surveyors would distribute and collect paper questionnaires on routes, in addition to conducting the tablet PC survey. Each paper questionnaire that was used by ETC Institute tracked the route and trip time (the paper questionnaire is provided in Appendix A). The paper surveys that were collected on these routes were then entered into the online database with the tablet PC survey instrument. During actual



collection, the need for this methodology was significantly reduced, and only a nominal amount of records was completed by paper.

## IN-FIELD QUALITY ASSURANCE/QUALITY CONTROL

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Each day, ETC Institute's Field Supervisor reviewed each employee's data regarding the following issues to assess whether the employee was conducting the survey properly:

- ▲ Distribution of surveys by demographics.
- ▲ Distribution of surveys by trip characteristics.
- ▲ Length of each survey in minutes.
- ▲ Percentage of refusals.
- ▲ Percentage of short trips.

In addition to daily reviews of demographic responses, trip speed, etc. a comprehensive weekly report was created at the direction of the Field Supervisor which included a detailed itemized breakdown of each interviewer's performance for the week, specifically analyzing distribution of survey responses in relation to the norm. The weekly report was reviewed by all supervisory staff and discussed during a weekly meeting/conference call during which a corrective action plan was formulated in each case. A member of the supervisory team would be assigned each issue. That supervisor would take the corrective action, then add a dated note to the weekly report describing in detail the remedial action taken. The same supervisor would be assigned to follow-up on the issue with the interviewer in question during the current week. If the corrective plan did not prove successful, the interviewer was removed from the schedule, either temporarily pending supplemental training or permanently, where such action was deemed appropriate by the Field Supervisor.

ETC Institute's Field Supervisors routinely conducted spot checks on assigned bus routes and made frequent unannounced visits to stops and stations. Supervisors also utilized anonymous "secret shoppers" to pose as passengers on buses to check up on staff attitude, appearance, performance, and compliance with ETC Institute rules and procedures. Also, Field Supervisors could verify if an interviewer was on their assigned route by viewing the displayed geographic locations of where the interviews were taking place as well as track productivity and data accuracy down to the second it occurred. These checks ensured data integrity and helped identify any interviewer who was falling short of our standards for field survey collection.

## Chapter 4. DATA REVIEW PROCESS

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Many of the processes described in previous chapters of this report were essential elements of the overall quality assurance/quality control (QA/QC) process that was implemented throughout the survey administration process. The establishment of specific sampling goals and procedures for managing the goals ensured that a representative sample was obtained from each bus route. Training of interviewers and the high levels of oversight provided by the Field Manager and the Field Supervisors ensured that the survey was administered properly. Also, the use of the latest geocoding tools such as ETC Institute's tablet PC survey with an embedded Google map search, ETC Institute Elvis program, and Caliper® Maptitude geographic information system (GIS) software, all of which contributed to the high quality of geocoding accuracy that was achieved.

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

### PROCESS FOR IDENTIFYING COMPLETE RECORDS

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To classify a survey as being completed, the record must have contained all elements of the one-way trip. ETC Institute has classified required trip data as containing complete answers to the following:

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

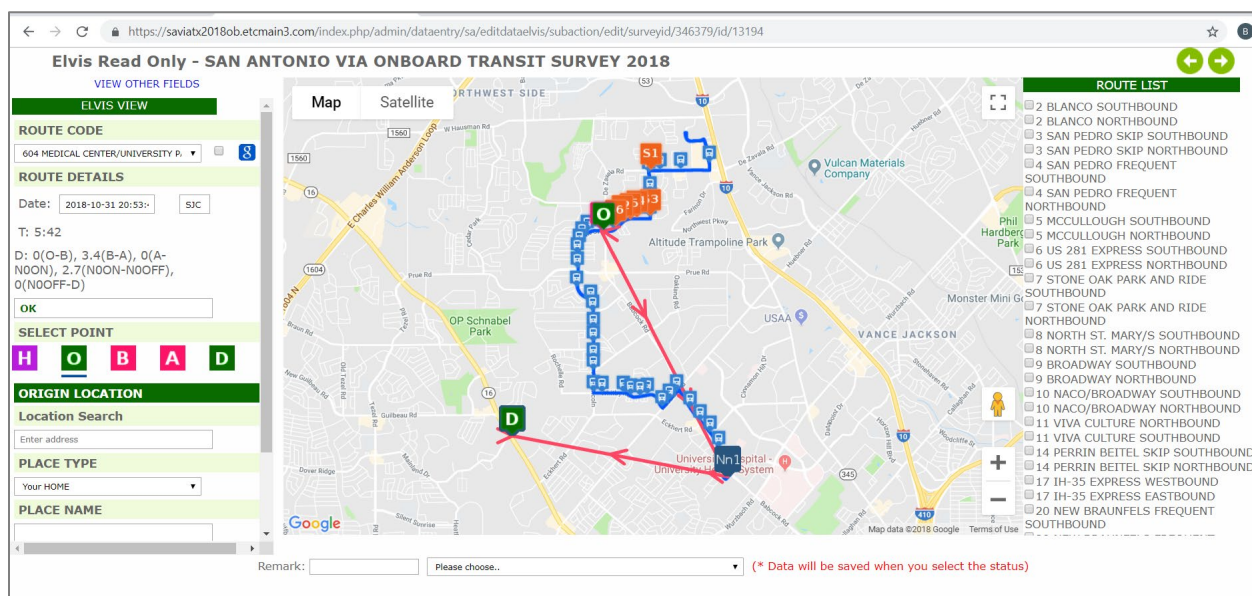
In addition to the required trip-data questions, a survey must have been marked as complete by the online survey program, which occurred only if the interviewer had navigated through every required question on the online survey instrument, including demographic questions.

### ONLINE VISUAL REVIEW TOOL

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ETC Institute created an online visual review tool that allowed for the review of all completed records within the database. This tool displayed all components of each individual trip as well as a series of preprogrammed distance and ratio checks as described on subsequent pages. After directions were finalized, the next step was to run each record through the speed/distance/time checks. Figure 4-1 shows an example of the online visual review tool.

Figure 4-1: Online Visual Review Tool (Editable Version)



## PRE-DISTANCE CHECKS

A series of distance and ratio checks are preprogrammed into the online visual review tool to allow for ETC Institute’s Transit Review Team (TRT) to take a more systematic approach in reviewing complete records. The TRT process for editing surveys is described later in this chapter.

**Note: The distance and ratio checks described were meant to alert the reviewer that closer evaluation was needed. It did not necessarily indicate that the record was inaccurate or unusable.**

The distances used for the checks were 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. Some of the distance checks that were run are listed below:

- Access/Egress-Mode Distance Check (distances from origin to boarding and alighting to destination).
- Origin-to-Destination Check (distance from origin to destination).
- Boarding-and-Alighting Distance Check (distance checks from boarding to alighting location).

## PRE-RATIO CHECKS

After all transfer checks were completed, the next step in this process involved the application of a series of QA/QC Ratio Checks.

Three ratio checks were conducted for each record. First, the distance between boarding and alighting was divided by the distance between origin and destination. If the passenger had a high ratio, then the passenger was on the bus for an extensive time compared to the origin-to-destination distance. If the check created an extremely low ratio, the use of transit seemed unnecessary.

Second, the distance between origin and boarding was divided by the distance between origin and destination. If the passenger had a high ratio, the origin to boarding distance was excessive compared to the origin to destination.

Third, the distance between alighting and destination was divided by the distance between origin and destination. If the passenger had a high ratio, the alighting to destination distance was excessive compared to the origin to destination.

## TRANSIT REVIEW TEAM

ETC Institute has a dedicated team whose priority is reviewing and editing completed records using an online visual review tool. The TRT reviewed all completed records collected for the Survey, paying special attention to records that were automatically flagged by the previously-described distance checks. Typically, around 10 percent of all records receive an automatic flag. Prior to making edits to any survey, they first attempted to contact the respondent to clarify any questionable answer choices regarding the trip. If no contact was made, or if contact was not possible, which occurs for most cases, the general issues listed in Table 5-1 generally result in actions that allow about 30 percent of those records that are automatically flagged to be retained, or approximately 3 percent of all completed surveys.

*Table 4-1: 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 surveyor selects the wrong choice from the list of possible 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 surveyor	Change direction of route selected and, if necessary, update boarding and alighting locations based on appropriate direction.

## POST-PROCESSING ADDITIONAL CHECKS

---

After all records were reviewed by the TRT, the next step in this process involved the application of a series of QA/QC non-trip checks. Non-trip checks are described as anything not pertaining to the respondent's actual trip (i.e., demographic information).

Non-trip related checks included:

- ▲ Ensuring the respondents who indicated that their origin or destination place type was usual workplace were either full-time or part-time employed.
- ▲ Ensuring the time of day a survey was completed was reasonable given the published operating schedule for the route.
- ▲ Ensuring that the appropriate fare type was used given the age of respondent.
- ▲ Checking that there is a representative demographic distribution based on age, gender, and income status.
- ▲ Removing any personal contact information used for quality control purposes during the data collection portion of the project to protect the anonymity of the respondents.

Once all records had gone through the pre-processing and post-processing QA/QC checks, those that were deemed complete and usable were then used to update the completion report used by the field staff to ensure that all contractual goals had been met. After the final high-level review was completed, metadata (a codebook or data dictionary) was created to suitably explain the data in the database.

## Chapter 5. SURVEY WEIGHTING AND EXPANSION

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Most VIA interviews were expanded to average daily Automatic Passenger Counter (APC) ridership totals by route, direction, time-of-day, and by segments containing the boarding and corresponding alighting location of the passenger. A handful of routes (11, 40, 100, 101, and 301) did not have APC data available and therefore those records were instead expanded to summarized farebox ridership counts by route and time-of-day. The following chapter describes the methodology that was used to develop the unlinked expansion factors.

When survey quantity goals are created, they are typically based upon a percentage of the average weekday ridership for the routes in the system. These are further broken down by time periods and directions. The time periods that are created (e.g., “PM Peak”, 3 pm to 6 pm) are based off the specific needs of the VIA System.

The purpose of developing survey quantity 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/station-level expansion is generally reserved for rail lines due to the high volume of ridership and limited stops.

Routes with stop-level ridership (APC) were divided into *two* segments based on total boarding distribution by direction. The handful of routes where APC data was not available were not segmented as ridership by stop/segment was not available to expand to.

### TYPES OF DATA EXPANSION

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The type of data expansion conducted depended on the data available for the specific route. For this project, the three types of data available were: Stop-level ridership (APC) data from the fall of 2018 (from VIA), Farebox ridership data from the fall of 2018 (from VIA) and Origin-Destination (OD) Survey Data (collected by ETC Institute).

### EXPANSION FOR BUS ROUTES WITH APC DATA AND OD SURVEY DATA

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Routes with usable APC data were separated based on direction, then divided into two segments based on the total boardings for the entire day. After approximately half of the route’s total APC ridership had boarded, the second segment began. Figure 5-1 on the following page shows an example of how a route with APC data might have been segmented.

Figure 5-1: Segmentation with APC Example

Segmentation with APC Example					
Direction: Eastbound	APC Data		Segmentation		
			Running Total of Boardings	Running Percentage of Total Boardings	Segment
Stops	Boardings	Alightings	Running Total of Boardings	Running Percentage of Total Boardings	Segment
Stop 1	30	0	30	25%	1
Stop 2	5	5	35	29%	1
Stop 3	10	8	45	38%	1
Stop 4	5	13	50	42%	1
Stop 5	5	5	55	46%	1
Stop 6	10	6	65	54%	2
Stop 7	5	8	70	58%	2
Stop 8	20	10	90	75%	2
Stop 9	15	20	105	88%	2
Stop 10	13	10	118	98%	2
Stop 11	2	15	120	100%	2
Stop 12	0	20	120	100%	2
	<b>120</b>	<b>120</b>			

After the segmentation process, the segments were then appended to the full APC dataset. The next step was to determine how much ridership belonged into each paired boarding to alighting segment for every route, direction, and time period. Figure 5-2 shows an example of what the segments look like after being appended to the APC data for the appropriate route, direction, and time period. We can see the boardings and alightings for each stop along with the segments. With two segments you have three possible boarding to alighting pair options: a) boarding segment 1 to alighting segment 1, b) boarding segment 1 to alighting segment 2 and c) boarding segment 2 to alighting segment 2. Boarding segment 2 to alighting segment 1 is not an option as that means the rider would be going in the opposite direction. In the case of this example, the rider would be heading westbound if they boarded segment 2 and alighted on segment 1. In order to determine the ridership for the possible boarding to alighting pairs in this example we start with boarding segment 1 to alighting segment 1. This is simple to determine as you simply add up the alightings for those stops associated with segment 1 which equals 17. Since these 17 people alighted in segment 1 that means they must have boarded on stops within segment 1, so boarding to alighting pair (1 to 1) for this route, time period and direction has 17 boardings and 17 alightings. For boarding to alighting pair (2 to 2) instead of looking at the alightings we instead look at the

Figure 5-2: Example of Segments by Route, Direction and Time Period

Route X Eastbound during the AM Peak			
Stops	Boardings	Alightings	Segment
Stop 1	15	0	1
Stop 2	3	3	1
Stop 3	5	4	1
Stop 4	3	7	1
Stop 5	3	3	1
Stop 6	4	3	2
Stop 7	3	4	2
Stop 8	10	5	2
Stop 9	8	10	2
Stop 10	7	5	2
Stop 11	1	8	2
Stop 12	0	10	2
	<b>62</b>	<b>62</b>	

boardings. Adding up the boardings for segment 2 in the example above shows 33 total boardings. If those riders boarded within segment 2, then they must have alighted within segment 2 as well which means boarding to alighting pair (2 to 2) for this route, time period and direction has 33 boardings and 33 alightings. This only leaves boarding to alighting segment pair 1 to 2. This can be determined two different ways. Adding up all of the boardings for segment 1 gives us a total of 29 boardings. We have already determined that 17 of those segment 1 boardings alighted within segment 1, which means the remaining segment 1 boardings must have alighted within segment 2, which gives us 12 boardings and 12 alightings for segment pair 1 to 2 (29-17). Likewise, you can sum up the total number of alightings for segment 2 which equals 45 alightings. We have already determined that 33 of those segment 2 alightings boarded within segment 2, which means the remaining segment 2 alightings must have boarded within segment 1, which also gives us 12 boardings and 12 alightings for segment pair 1 to 2 (45-33).

The final step in the process is simply to append the appropriate boarding and alighting segments to each record in the OD dataset based on route, direction, time period, boarding location and alighting location. Then divide the appropriate segment to segment pair ridership, calculated as described previously, by the corresponding number of records that match the same route, direction, time period and boarding segment to alighting segment. For example, in the previously described scenario for Route X heading eastbound in the “AM Peak” time period we had 12 riders boarding on segment 1 and alighting on segment 2. If we had 4 OD surveys that were also Route X heading eastbound during the “AM Peak” time period that boarded within segment 1 and alighted within segment 2, we would just divide 12 riders by 4 surveys to come up with an unlinked weight factor of 3 for each of the 4 OD surveys. These unlinked weight factors are then appended to the OD dataset, summed by route, direction, and time period to ensure that the total summed unlinked weight factors match the provided APC boardings by route, direction and time period.

#### EXPANSION FOR BUS ROUTES WITH FAREBOX DATA AND OD SURVEY DATA

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For the handful of routes that did not have APC data and instead only had farebox ridership data by time period and OD survey data, the expansion was much simpler. Farebox ridership data from the fall of 2018 was averaged for routes 11, 40, 100, 101, and 301 by route and time period. Then those averages were divided by the corresponding number of OD surveys that matched the same route and time period. For example, if 100 riders boarded one of the routes listed above during the “AM Peak” time period and there were 20 corresponding surveys in the OD dataset collected for that route during that same time period, then the unlinked weight factor for those OD records would be 5 (100/20). These unlinked weight factors are then appended to the OD dataset, summed by route and time period to ensure that the total summed unlinked weight factors match the averaged farebox ridership by route and time period.

#### GENERAL RULE FOR EXPANSION FACTORS

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While there are no specific guidelines for the expansion factor values, ETC Institute uses a guideline of trying to keep expansion factors below three times the average expansion factor based on the sampling percentage. This is done to keep any one record from representing a markedly high number of passengers in the system.

The formula for determining this guideline is:

$$1 / (\text{Sampling percent}) \times 3 = \text{Guideline Weight Factor}$$

If the expansion factor for a boarding segment to alighting segment pair is greater than three times the average expansion factor, then it is typically aggregated into the adjacent boarding-to-alighting

segment where it will have the least impact on the previously existing expansion factors. This guideline is standard for all the various expansion types.

#### LINKED TRIP EXPANSION FACTORS FOR ALL RECORDS

The linked-trip expansion factor helps to account for the number of transfers that were made by each passenger, so the linked expansion factors should better represent the overall system. Linked expansion factors are generated after the unlinked expansion factors are created. The equation that is used to calculate the linked trip multiplying factor is shown below:

$$\text{Linked Trip Multiplying Factor} = [1 / (1 + \# \text{ of system transfers})]$$

If a passenger did not make a transfer, the linked trip multiplying factor would be 1.0 because the person would have only boarded one vehicle. If a person made two transfers, the linked trip expansion factor would be 0.33 because the person would have boarded three transit vehicles during his/her one-way trip. An example of how the linked trip expansion factors were calculated is provided in Figure 5-3.

*Figure 5-3: Sample Calculations of Linked Trip Multiplying Factors*

Number of Transfers	Calculation [1/(1+Number of Transfers)]	Linked Trip Multiplying Factor
0	[1/(1+0)]	1
1	[1/(1+1)]	0.5
2	[1/(1+2)]	0.33
3	[1/(1+3)]	0.25

Page

Once the linked trip multiplier is created, it is multiplied by the unlinked expansion factor to create the linked expansion factor.

# Appendix A: Survey Instrument

## VIA 2018 Transit On-Board Survey

Please take a few minutes to answer a few questions to help us plan for your transit needs.

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 San Antonio area, please list the hotel name or address where you are staying)

Street Address \_\_\_\_\_

City \_\_\_\_\_

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
- Other business related
- School K-12 (students only)
- College / University (students only)
- Medical appointment / doctor visit
- Personal business (bank, haircut, post office)
- Dine out / get coffee / take-out
- Social visit (friends / relatives)
- Leisure / entertainment / recreation / sightseeing
- Airport (passengers only)
- Your HOME → Go to Question #4
- Other:
- Grocery / food shopping
- Other shopping
- Sporting event

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: \_\_\_\_\_ Zip: \_\_\_\_\_

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

- Walk
- Personal Bike
- Was dropped off by someone going someplace else (answer 4a)
- Drove alone and parked (answer 4a)
- Drove or rode with others and parked (answer 4a)
- Car share (e.g. Zipcar, etc.) (answer 4a)
- Taxi
- Uber, Lyft, etc.
- Wheelchair
- Bike share
- E-Scooter (e.g. Bird, Lime, etc.)
- Other

4a. Where did you board the **first** bus you used for this one-way trip (Nearest intersection / Park & Ride lot / Transit Center):

\_\_\_\_\_

5. Where did you get **ON this bus?** Please provide the nearest intersection / Transit Center / Station Name / Park & Ride lot:

\_\_\_\_\_

### GOING TO?

6. What type of place are you **GOING TO NOW?**  
 (the destination for your one-way trip)

- Your usual workplace
- Other business related
- School K-12 (students only)
- College / University (students only)
- Medical appointment / doctor visit
- Personal business (bank, haircut, post office)
- Dine out / get coffee / take-out
- Social visit (friends / relatives)
- Leisure / entertainment / recreation / sightseeing
- Airport (passengers only)
- Your HOME → Go to Question #6
- Other:
- Grocery / food shopping
- Other shopping
- Sporting event

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: \_\_\_\_\_ Zip: \_\_\_\_\_

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

- Walk
- Personal Bike
- Be picked up by someone (answer 9a)
- Get in a parked vehicle and drive alone (answer 9a)
- Get in a parked vehicle and drive/ride with someone (answer 9a)
- Car share (e.g. Zipcar, etc.) (answer 9a)
- Taxi
- Uber, Lyft, etc.
- Wheelchair
- Bike share
- E-Scooter (e.g. Bird, Lime, etc.)
- Other

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

\_\_\_\_\_

10. Where will you **EXIT this bus?** Please provide the nearest intersection / Transit Center / Station Name / Park & Ride lot:

\_\_\_\_\_

11. Did you transfer FROM another bus **BEFORE** getting on this bus?  Yes  No
12. Will you transfer TO another bus **AFTER** getting off this bus?  Yes  No
13. Please list the **VIA BUS ROUTES** in the order you use them for this one-way trip

START →  →  →  →  → END

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

**Continues**



### OTHER INFORMATION ABOUT THIS TRIP

14. What time did you BOARD this bus? \_\_\_\_\_ : \_\_\_\_\_ am / pm (circle one)

15. Will you (or did you) make this same trip in exactly the opposite direction today?  
 No  Yes - At what time did / will you leave for this trip in the opposite direction? \_\_\_\_\_ am/pm (circle one)

16. What fare payment methods did you use for this one-way trip? (select all that apply)  
 Local cash fare  1 Day Pass  7 Day Pass  31 Day Pass  
 Express cash fare  EZ Pass  Free - VIA Trans clients, PCAs & companions  
 Semester Pass  Other  Free - Under 5

16a. [If Q16 is EZ Pass] Are you employed by the:  City  County  Private Employer  Other

17. What type of fare was this?  Regular / Full Fare  Discount Fare:  Student fare (any student ID)  
 Senior half-price (age 62 and over)  Senior 25 cent off-peak (age 62 and over)  Youth (5-13)

18. Do you own a smartphone?  Yes  No

19. [If Q18 is Yes] Did you pay your fare through the goMobile app?  Yes  No

20. How often do you use VIA?  
 6-7 days a week  5 days a week  3-4 days a week  1-2 days a week  
 1-2 days a month  Less than 1 day a month  This is my first time

21. How long have you been using the VIA buses at least weekly? \_\_\_\_\_ Year(s)

22. How many one-way bus trips, door to door, do you make each day that you use VIA? (One trip can include more than one bus ride if you transfer)  
 One  Two  Three  Four  Five or more

23. How would you make this trip if the bus was not available?  
 Walk  Uber, Lyft, etc.  Taxi  Could not make trip  
 Drive (own car)  Get a ride with someone  Bike  Other (specify)

### ABOUT YOU AND YOUR HOUSEHOLD

24. Are you a visitor to the San Antonio area?  No  Yes

25. Including YOU, how many people live in your household? \_\_\_\_\_ people

26. How many working vehicles (cars, trucks, or motorcycles) are available to your household? \_\_\_\_\_ vehicles  
 26a. [If Q26 is more than NONE] Could you have used one of these vehicles for this trip?  Yes  No

27. What is your employment status? (check the one response that BEST describes you)  
 Employed full-time  Not currently employed, but seeking work  Retired  
 Employed part-time  Not currently employed, and not seeking work  Homemaker

28. Which of the following best describes the highest level of education you have achieved?  
 Less than school diploma or GED  Graduated high school or GED  Some college  
 Graduated college  Post-graduate work

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

30. Do you have any health conditions that make it necessary for you to ride the bus?  Yes  No

31. What is your AGE?  
 Under 5  5-13  14-17  18-24  25-34  35-49  50-61  62 and older

32. What is your race/ethnicity? (select all that apply)  
 American Indian/Alaska Native  Asian/Pacific Islander  Black/African American  
 White/Caucasian  Hispanic  Other

33. What is your gender?  Male  Female  Other \_\_\_\_\_

34. Do you speak a language other than English at home?  No  Yes - Which language?  
 34a. [If #34 is Yes] How well do you speak English?  Very Well  Well  Less than well  Not at all

35. Which of the following BEST describes your TOTAL ANNUAL HOUSEHOLD INCOME in 2017 before taxes?  
 Less than \$10,000  \$15,000 - \$19,999  \$30,000 - \$34,999  \$75,000 - \$99,999  
 \$10,000 - \$11,999  \$20,000 - \$24,999  \$35,000 - \$49,999  Over \$100,000  
 \$12,000 - \$14,999  \$25,000 - \$29,999  \$50,000 - \$74,999

36. How would you rate VIA's service?  
 Excellent  Good  Just OK  Fair  Poor

37. Do you use any of the following services in the San Antonio? (select all that apply)  
 Uber, Lyft, etc.  Car Share (e.g. Zipcar, etc.)  Bike Share  E-Scooter (e.g. Bird, Lime)  None

38. Do you regularly use a credit card for online payments?  Yes  No

#### REGISTER TO WIN A \$100 GIFT CARD

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

Your Name: \_\_\_\_\_

Phone Number: (\_\_\_\_) \_\_\_\_\_

***Thank you for your help!***

## Appendix B: Confidence Interval by Route & Type

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Route Type	Rte. #	Surveys Collected	Total Ridership	Confidence Interval (+/-) at the 95% level of confidence:
PRIMO	All	722	5403	3.40
Circulator	All	2146	13275	1.94
Crosstown	All	2133	15495	1.97
Express	All	466	2695	4.13
Limited Stop	All	2153	15046	1.96
Major Radial	All	7302	53724	1.07
Minor Radial	All	29	189	16.79
Circulator	All	73	419	10.44
All Routes	All	15024	106245	0.74
Major Radial	2	391	3032	4.63
Limited Stop	3	296	1852	5.22
Major Radial	4	326	2565	5.07
Major Radial	5	174	1277	6.91
Express	6	24	116	17.89
Express	7	21	109	19.30
Major Radial	8	162	1187	7.16
Major Radial	9	167	1136	7.01
Major Radial	10	178	1379	6.86
Limited Stop	11	39	334	14.77
Limited Stop	14	348	2467	4.87
Express	17	123	1013	8.29
Major Radial	20	574	3865	3.77
Major Radial	21	199	1477	6.46
Major Radial	22	135	1040	7.87
Major Radial	24	251	2000	5.79
Major Radial	25	200	1695	6.51
Major Radial	26	234	1954	6.01
Major Radial	28	256	1691	5.64
Major Radial	30	192	1165	6.47
Major Radial	32	159	805	6.97
Major Radial	34	245	2008	5.87
Major Radial	36	114	678	8.38
Limited Stop	40	31	224	16.37
Major Radial	42	132	951	7.92
Major Radial	43	152	1105	7.39
Major Radial	44	179	1454	6.86
Major Radial	46	65	485	11.32
Express	48	9	41	29.22
Major Radial	51	228	1364	5.93
Major Radial	54	46	159	12.22
Major Radial	62	53	379	12.50
Express	64	184	808	6.35
Major Radial	66	135	1014	7.86
Major Radial	67	84	566	9.88
Major Radial	68	225	1881	6.13
Minor Radial	70	29	189	16.79
Major Radial	75	312	2527	5.20
Limited Stop	76	340	2844	4.99
Major Radial	77	92	648	9.47
Major Radial	79	184	1174	6.64
Major Radial	82	274	2101	5.52
Major Radial	88	260	2081	5.69
Major Radial	89	95	706	9.36
Major Radial	90	188	1202	6.57
Express	93	52	306	12.40
Express	94	53	302	12.24
Major Radial	95	132	979	7.94
Major Radial	96	272	2292	5.58
Major Radial	97	237	1702	5.91
PRIMO	100	552	4398	3.90
PRIMO	101	170	1005	6.85
Downtown Circulator	301	73	419	10.44
Crosstown	502	160	1231	7.23
Crosstown	503	49	364	13.04
Crosstown	505	87	525	9.61

Route Type	Rte. #	Surveys Collected	Total Ridership	Confidence Interval (+/-) at the 95% level of confidence:
Crosstown	509	128	824	7.97
Crosstown	515	105	759	8.88
Crosstown	520	773	5739	3.28
Crosstown	522	166	964	6.92
Crosstown	524	350	2676	4.88
Crosstown	534	315	2413	5.15
Limited Stop	550	539	3794	3.91
Limited Stop	551	560	3531	3.80
Circulator	602	162	1053	7.09
Circulator	603	122	792	8.17
Circulator	604	67	500	11.15
Circulator	605	56	181	10.91
Circulator	606	66	458	11.17
Circulator	607	62	433	11.53
Circulator	609	55	319	12.04
Circulator	610	69	512	10.98
Circulator	611	80	377	9.74
Circulator	612	58	327	11.69
Circulator	613	91	636	9.52
Circulator	614	50	236	12.33
Circulator	615	101	572	8.86
Circulator	616	94	626	9.33
Circulator	617	80	534	10.11
Circulator	618	53	422	12.60
Circulator	619	75	387	10.17
Circulator	620	84	496	9.76
Circulator	629	52	233	12.00
Circulator	630	37	259	14.94
Circulator	631	35	229	15.28
Circulator	632	185	1333	6.69
Circulator	640	26	158	17.62
Circulator	641	35	224	15.25
Circulator	642	37	264	14.97
Circulator	647	48	317	13.05
Circulator	648	73	462	10.54
Circulator	651	84	620	9.95
Circulator	660	109	317	7.62