



Atlanta Regional Commission Regional On-Board Transit Survey

SUMMARY OF FINDINGS

ETC INSTITUTE



Transit Systems Surveyed

- Metropolitan Atlanta Rapid Transit Authority (MARTA)
- Cherokee Area Transportation System (CATS)
- Gwinnett County Transit
- Hall Area Transit (Gainesville Connection)
- Cobb Transit Service (CobbLinc)
- State Road and Tollway Authority (SRTA)



Agenda

- Project Scope and Purpose
- Major Findings
- QA / QC Overview
- Data Expansion Overview
- Data Base Overview



Project Scope and Purpose

- The main purpose of this on-board transit survey is to update ARC's Travel Demand Forecasting Model. The data collected was able to provide valuable, current information on travel patterns and demographics for transit riders as well as service characteristics.
- Survey tasks involved developing a sampling plan, designing the survey instrument, conducting a pilot test, processing the data, expanding the data, analyzing the data, and reporting the results. The overall goal was to collect a 10 percent sample on all routes and rail. A total of 43,398 completed questionnaires were collected.



Tasks Accomplished

- Survey Training (February 2019 and August 2019)
- Survey Administration (February 2019 - June 2019 and continuation August 2019 - December 2019)
- Data Processing and QA/QC (February 2019 – February 2020)
- Initial Data Expansion (March- April 2020)
- Secondary Data Expansion (April - May 2020)
- Survey Documentation and Final Report (June 2020)

Completed Interviews Collected

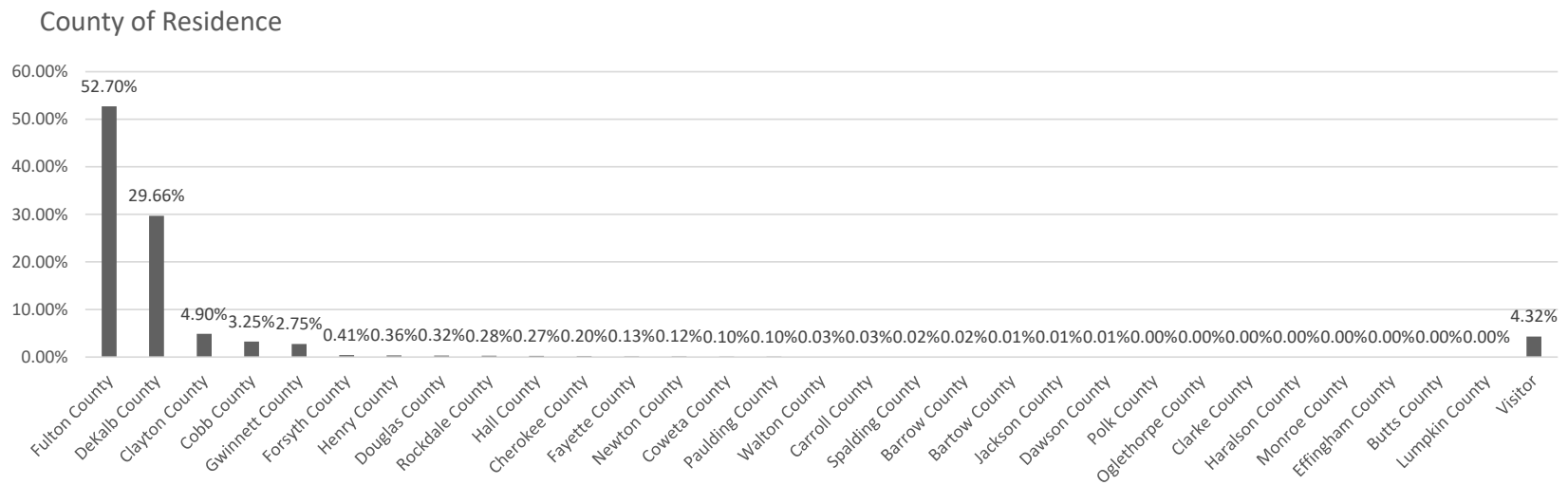
System	Average Daily Ridership	Surveys Collected	% Collected
Cherokee	63	20	32%
Cobb	9,753	941	10%
SRTA	3,591	472	12%
Gwinnett	5,844	617	11%
Hall	552	94	17%
Marta Bus	160,891	19,844	12%
Marta Rail	136,891	21,410	16%
Totals	317,945	43,398	14%



Major Findings

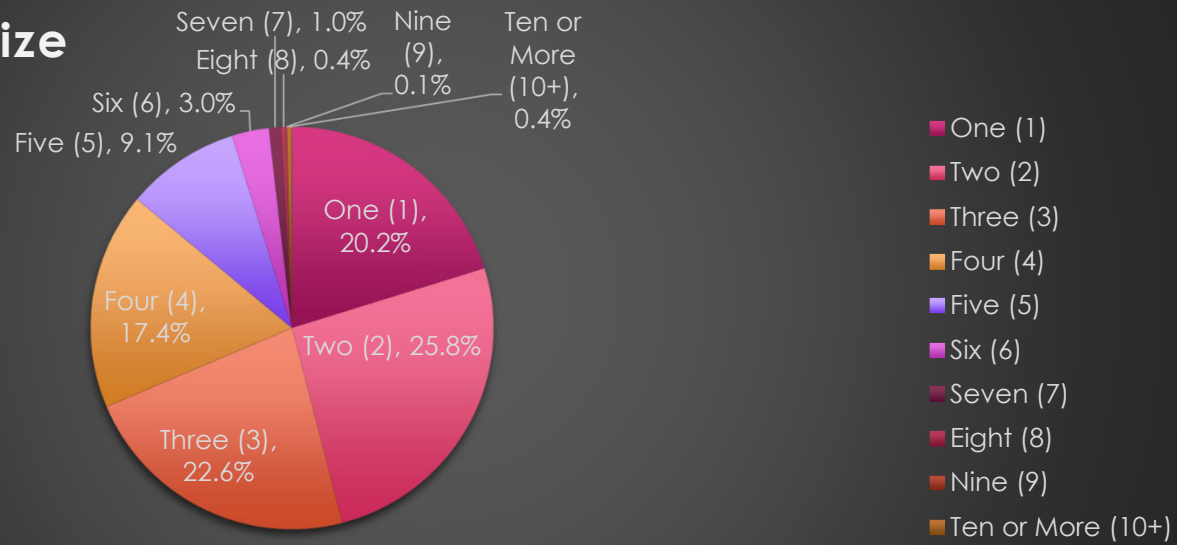
Transit User Profile

County of Residence



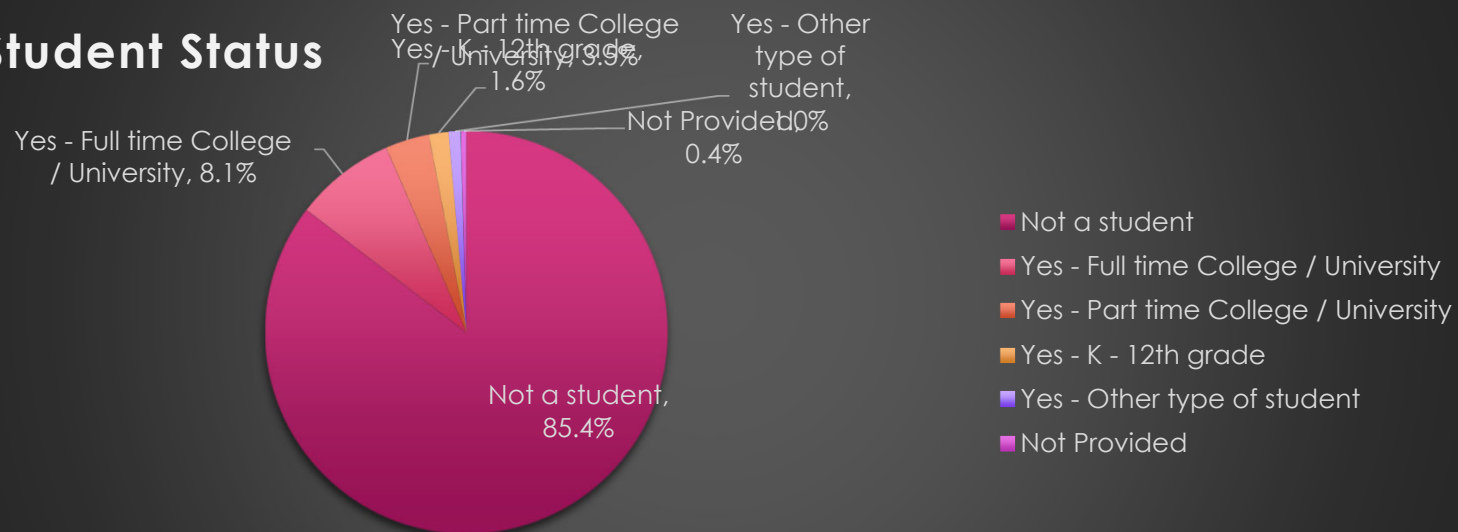
Household Size

Household Size



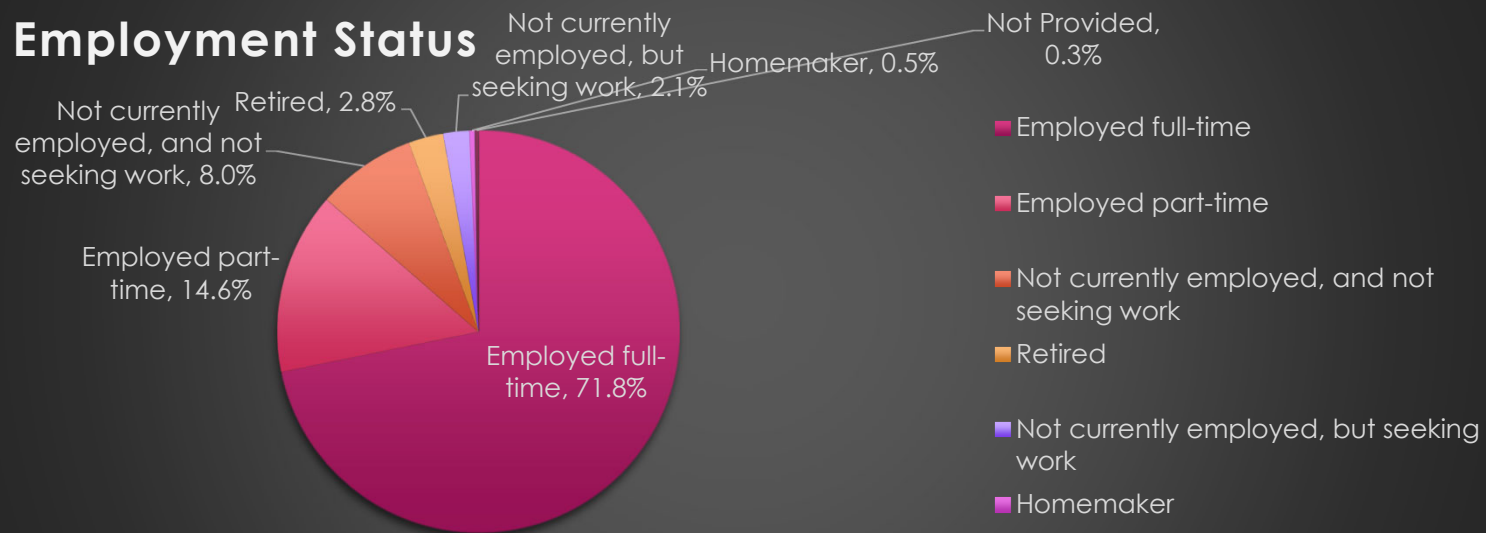
Student Status

Student Status



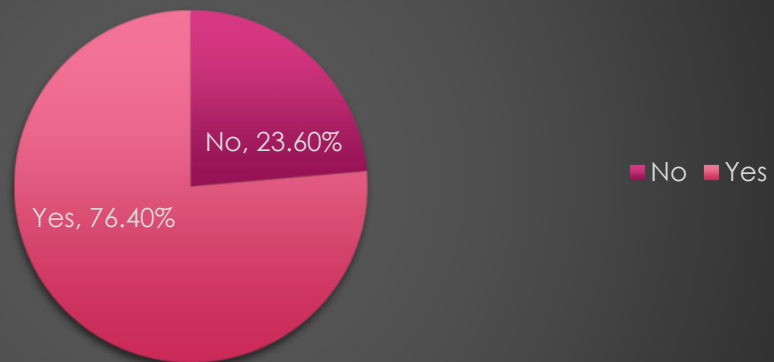
Employment Status

Employment Status



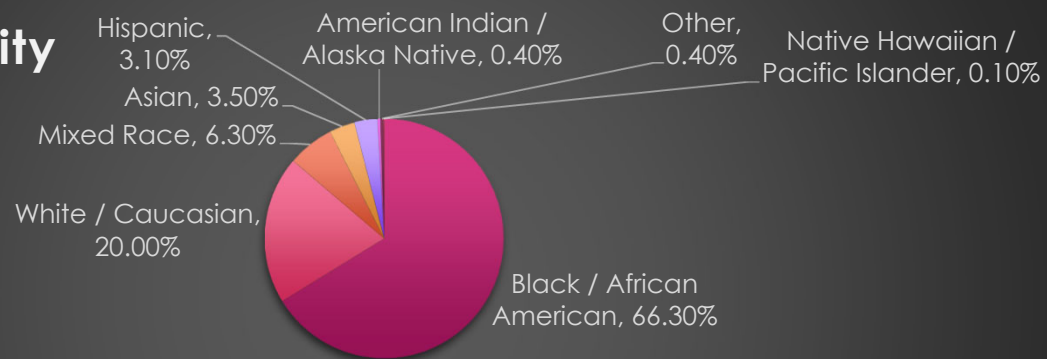
Drivers License Status

Drivers License



Race / Ethnicity

Race / Ethnicity



Black / African American

Mixed Race

Hispanic

Other

White / Caucasian

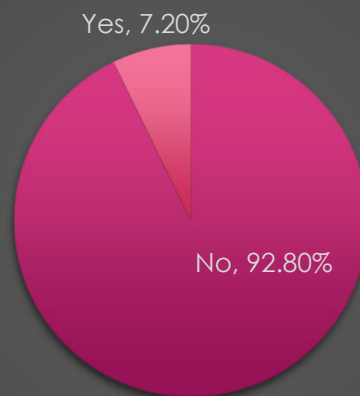
Asian

American Indian / Alaska Native

Native Hawaiian / Pacific Islander

Hispanic Latino Descent

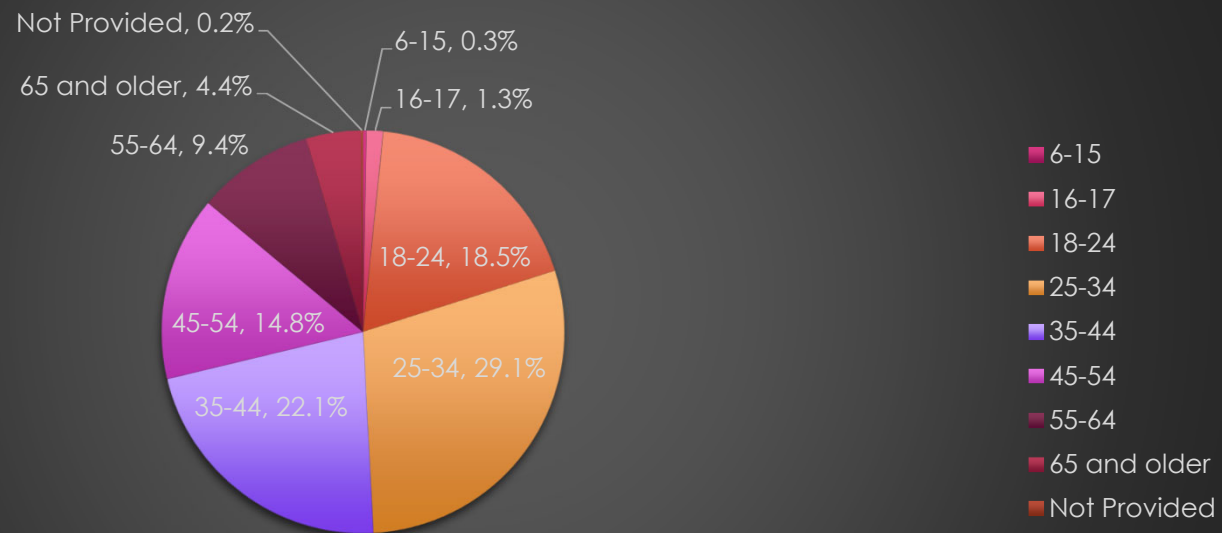
Hispanic Latino Including Mixed Race



■ No ■ Yes

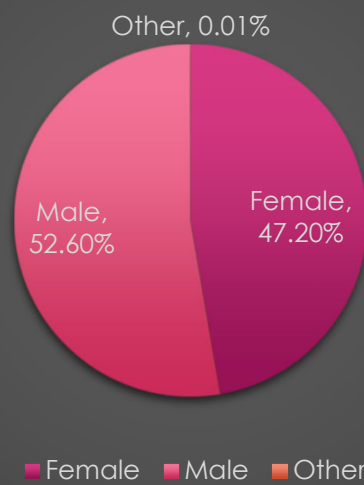
Age

Age



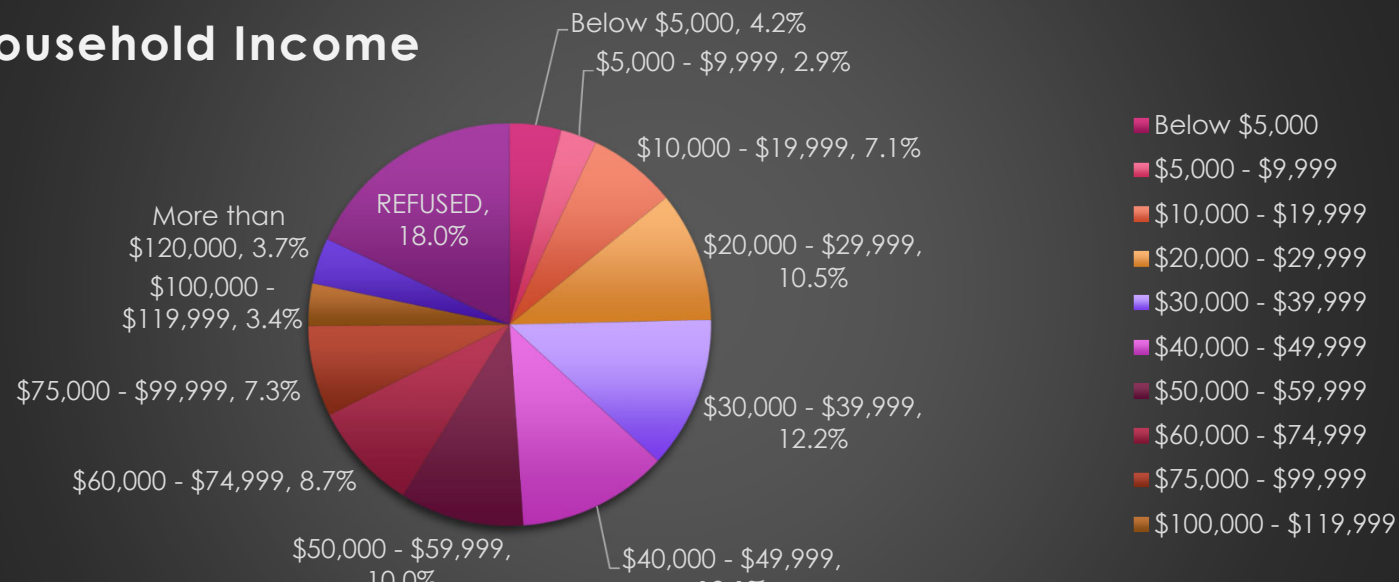
Gender

Gender



Household Income

Household Income

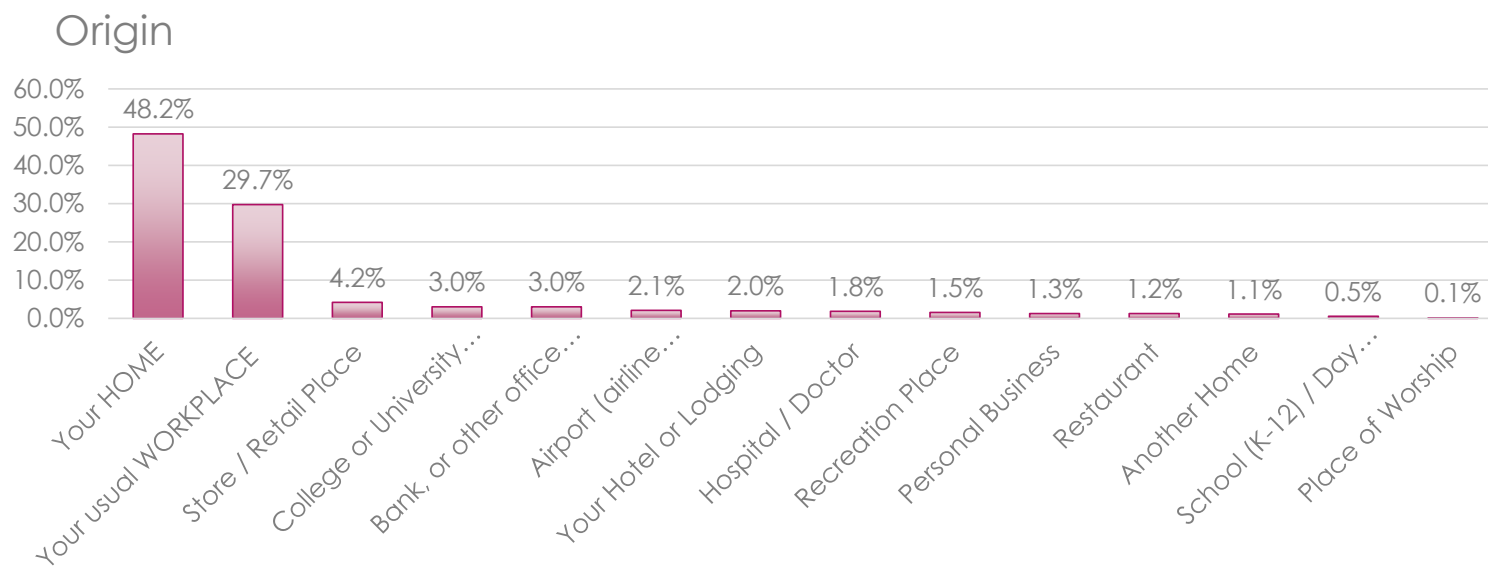




Major Findings

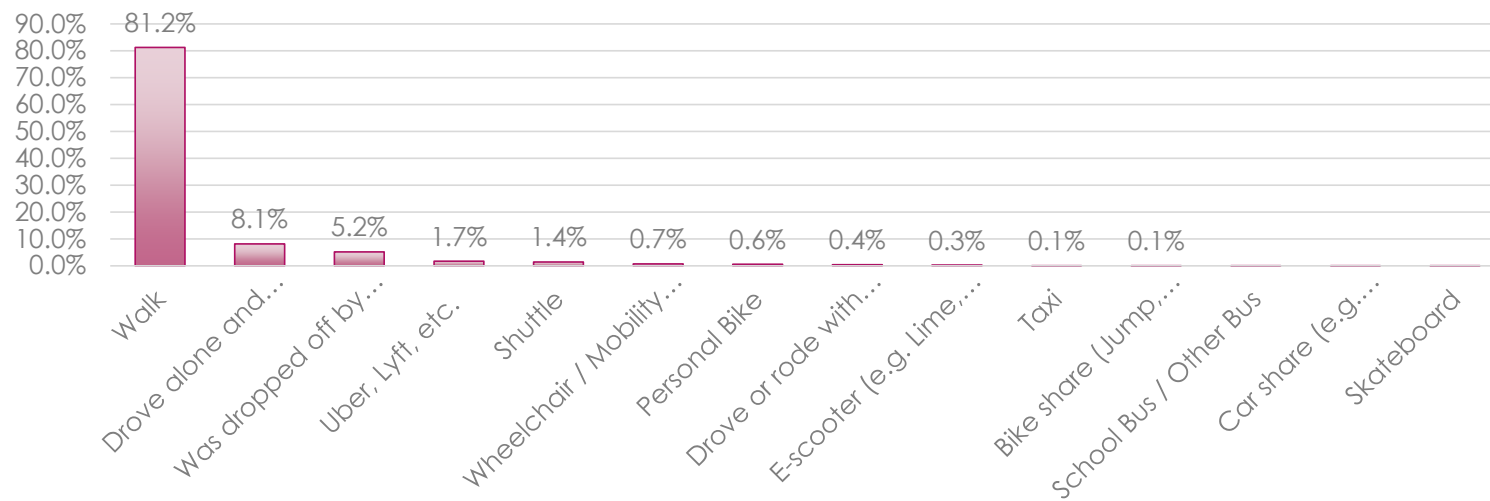
Trip Characteristics

Origin Place Types



Access Mode

Access Mode



Access Mode	< \$75,000	>\$75,000
Walk	87.05%	70.88%
Was dropped off by someone going someplace else	5.00%	7.73%
Drove alone and parked	3.18%	13.83%
Uber, Lyft, etc.	1.52%	2.83%
Shuttle	1.11%	1.96%
Wheelchair / Mobility Aid	0.82%	0.25%
Personal Bike	0.53%	0.84%
Drove or rode with others and parked	0.30%	1.06%
E-scooter (e.g. Lime, Bird, etc.)	0.30%	0.32%
Taxi	0.07%	0.11%
Bike share (Jump, Relay, etc.)	0.05%	0.02%
School Bus / Other Bus	0.03%	0.13%
Car share (e.g. Zipcar, etc.)	0.02%	0.04%
Skateboard	0.02%	0.00%
Grand Total	100.00%	100.00%

How Income Affects Access To Transit

HH INCOME < \$75,000

WALK- 87%

DRIVE ALONE-3%

DROPPED OFF-5%

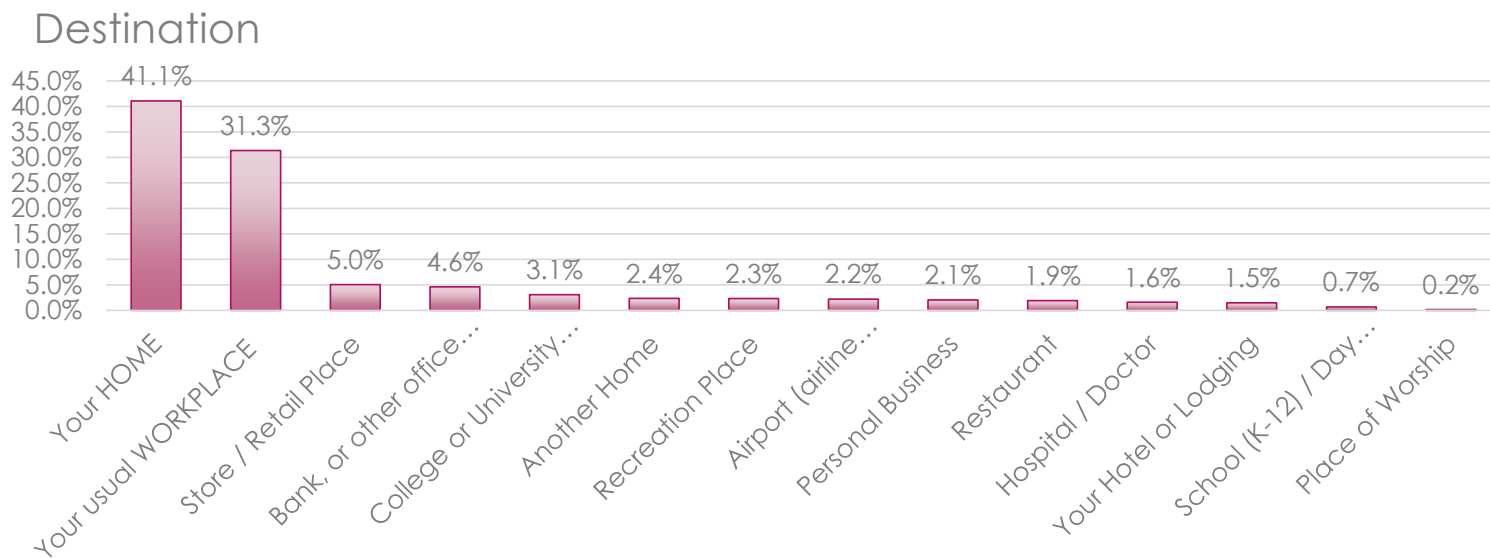
HH INCOME > \$75,000

WALK -71%

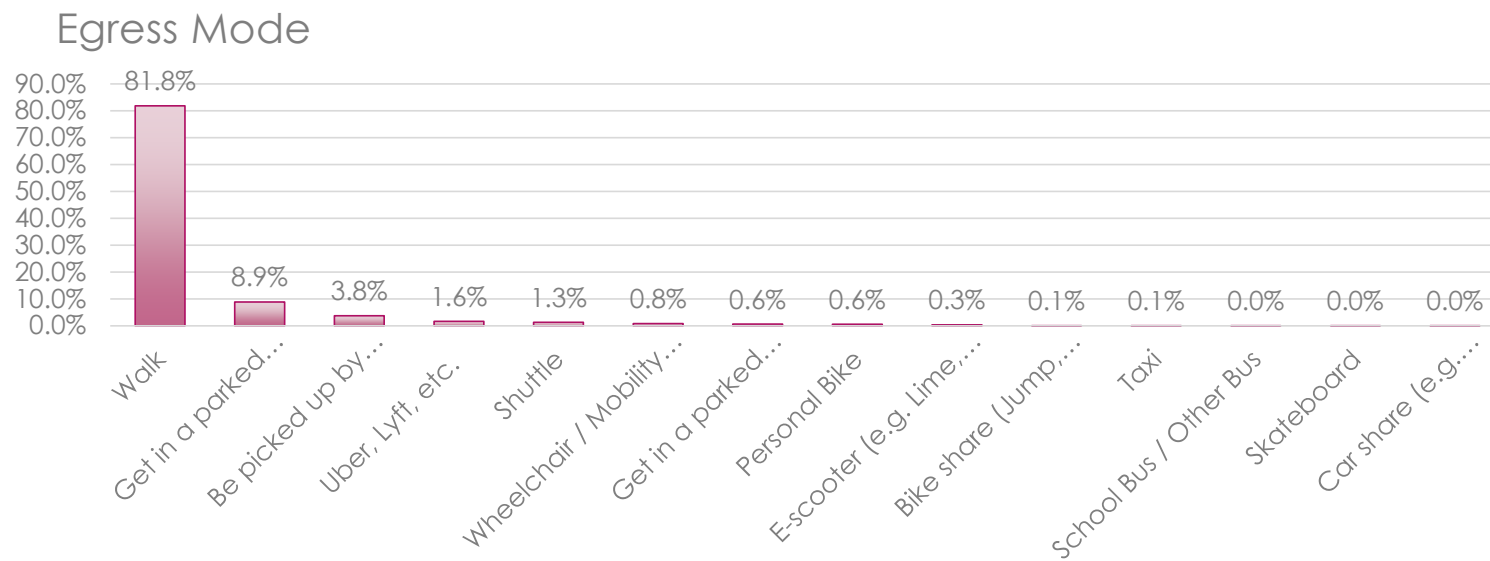
DRIVE ALONE-14%

DROPPED OFF-8%

Destination Place Types



Egress Mode



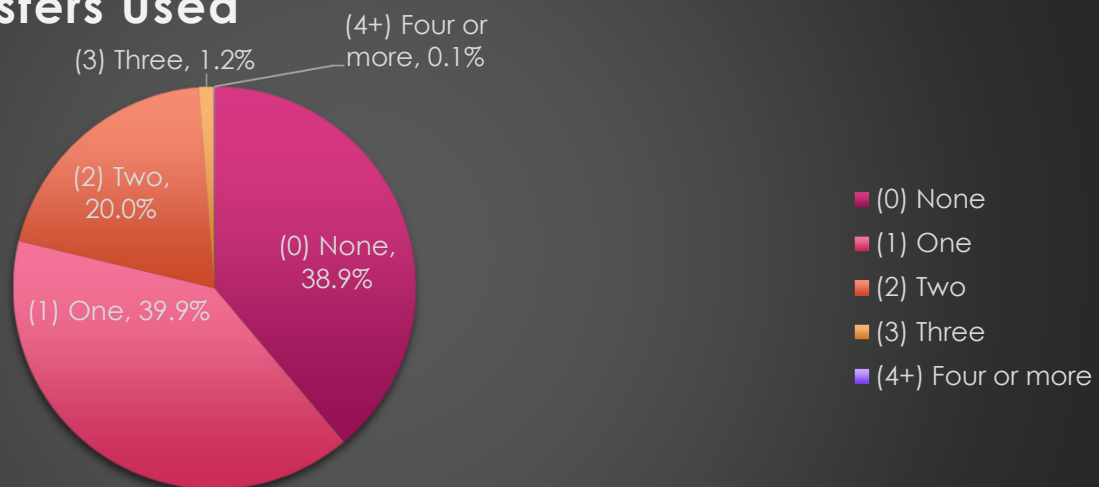
Origin and Destination Place County

Origin County	%
Barrow County	0.00%
Bartow County	0.00%
Carroll County	0.01%
Cherokee County	0.11%
Clarke County	0.00%
Clayton County	9.19%
Cobb County	2.83%
Coweta County	0.04%
Dawson County	0.00%
DeKalb County	25.15%
Douglas County	0.12%
Fayette County	0.08%
Forsyth County	0.18%
Fulton County	59.78%
Gwinnett County	1.92%
Hall County	0.24%
Henry County	0.12%
Jackson County	0.00%
Muscogee County	0.00%
Newton County	0.05%
Paulding County	0.04%
Polk County	0.00%
Rockdale County	0.09%
Spalding County	0.00%
Walton County	0.02%

Destination County	%
Barrow County	0.01%
Bartow County	0.01%
Butts County	0.00%
Carroll County	0.02%
Cherokee County	0.15%
Clayton County	8.97%
Cobb County	3.25%
Coweta County	0.07%
Dawson County	0.00%
DeKalb County	25.14%
Douglas County	0.22%
Fayette County	0.07%
Forsyth County	0.30%
Fulton County	58.67%
Gwinnett County	2.25%
Hall County	0.25%
Haralson County	0.00%
Harris County	0.00%
Henry County	0.24%
Jackson County	0.00%
Monroe County	0.00%
Newton County	0.07%
Paulding County	0.06%
Polk County	0.00%
Rockdale County	0.20%
Spalding County	0.01%
Walton County	0.02%

Total Transfers

Number of Transfers Used





Most Common Fare Method

Top Five

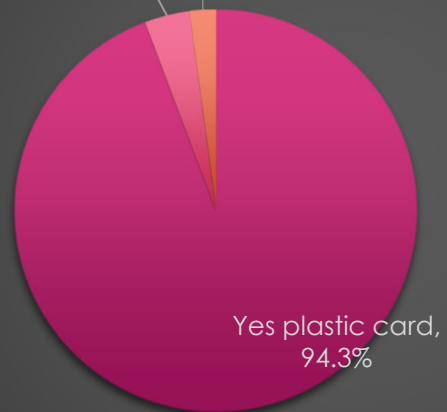
- One-Way Trip 30.9%
- Seven Day Pass 27.6%
- Thirty Day Pass 19%
- Employer Partnership Program 7%
- One-Day Pass 6.6%

Breeze Card Use

Breeze Card

Yes paper ticket, 3.6%

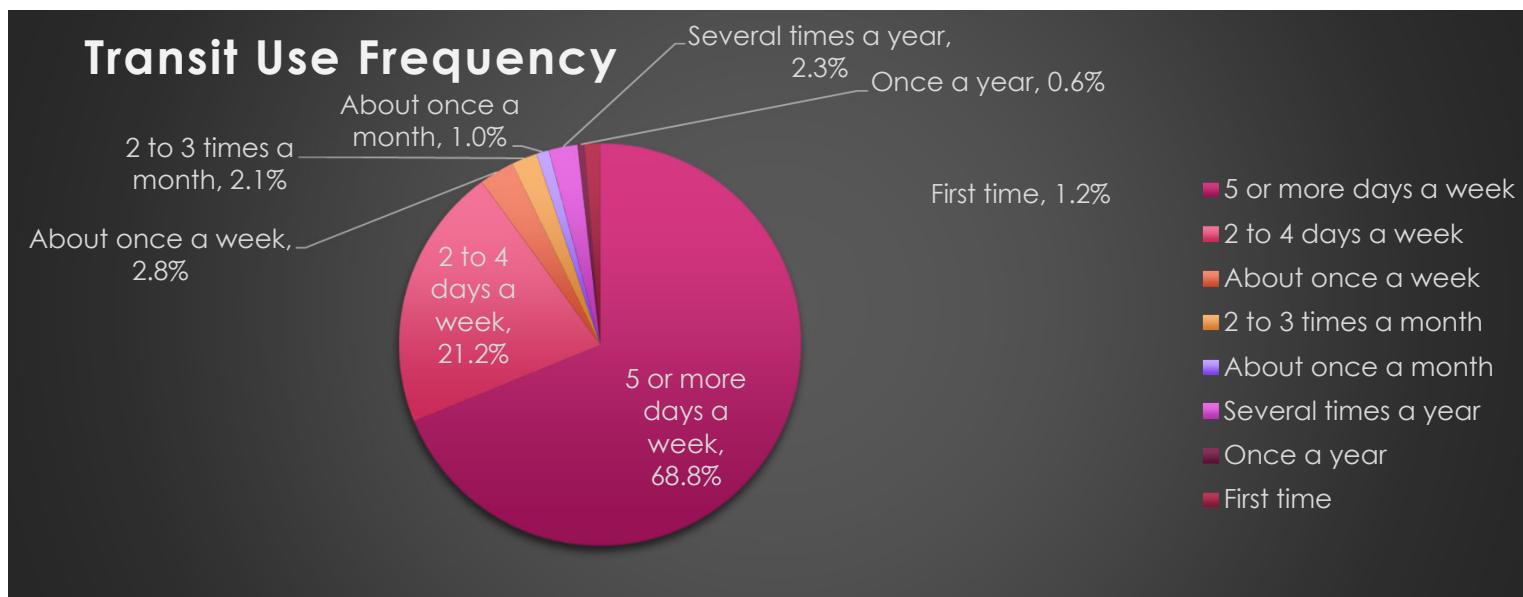
No, 2.1%



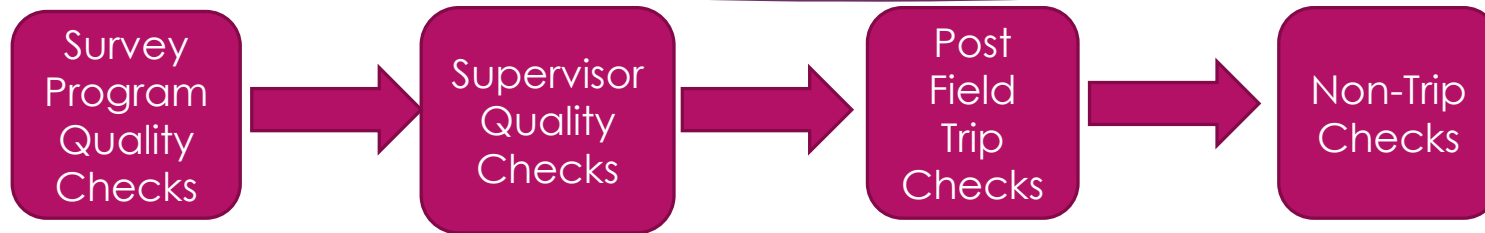
Yes plastic card,
94.3%

- Yes plastic card
- Yes paper ticket
- No

Transit Use Frequency



QA / QC Overview



The first quality checks are conducted by ETC's survey program allowing the surveyor to validate the trip path. The tablets that were used to collect the Origin Destination (OD) survey data contained an on-screen mapping feature that allowed for real-time geocoding of locations using either address, intersection, or place searches. The respondents then confirmed the geocoded location based on the on-screen map that showed the searched address/location via a Google Map indicator icon.

Online Visual Review Tool

- ▶ ETC Institute created an online visual review tool that allows for the review of all completed records within the database. This tool shows all components of each individual trip as well as a series of preprogrammed distance and ratio checks. Field Supervisors reviewed all survey records using this tool in real time and a secondary office review occurred to finalize the record.

The screenshot displays the 'Online Visual Review Tool' interface. At the top, a navigation bar includes tabs for 'Route Code', 'Date', 'Interviewer Initials', 'Distances between various trip points', 'Distance and Ratio Check Flag', and 'Official Route Map and Stops'. The main content area is divided into several sections: 'ROUTE CODE' (with a dropdown menu), 'Date' (with a date picker), 'Interviewer Initials' (with a text input), 'Distances between various trip points' (with a text input), 'Distance and Ratio Check Flag' (with a dropdown menu), and 'Official Route Map and Stops' (with a map). The map shows a route from 'Origin Location' to 'Destination Location' with various stops marked by colored letters (H, O, B, A, D). Below the map, there are sections for 'SELECT POINT', 'ORIGIN LOCATION', 'PLACE TYPE', 'PLACE NAME', 'ORIGIN ADDRESS', and 'DESTINATION ADDRESS'. At the bottom, a navigation bar includes tabs for 'Home Information Tab', 'Origin Information Tab', 'Boarding, Access Mode and Previous Transfers Tab', 'Alighting, Egress Mode and Next Transfers Tab', and 'Destination Information Tab'. Blue arrows point from the callout boxes to the corresponding elements in the interface.

Route Code

Date

Interviewer Initials

Distances between various trip points

Distance and Ratio Check Flag

Official Route Map and Stops

ROUTE CODE

Date

Interviewer Initials

Distances between various trip points

Distance and Ratio Check Flag

Official Route Map and Stops

SELECT POINT

ORIGIN LOCATION

PLACE TYPE

PLACE NAME

ORIGIN ADDRESS

DESTINATION ADDRESS

Home Information Tab

Origin Information Tab

Boarding, Access Mode and Previous Transfers Tab

Alighting, Egress Mode and Next Transfers Tab

Destination Information Tab



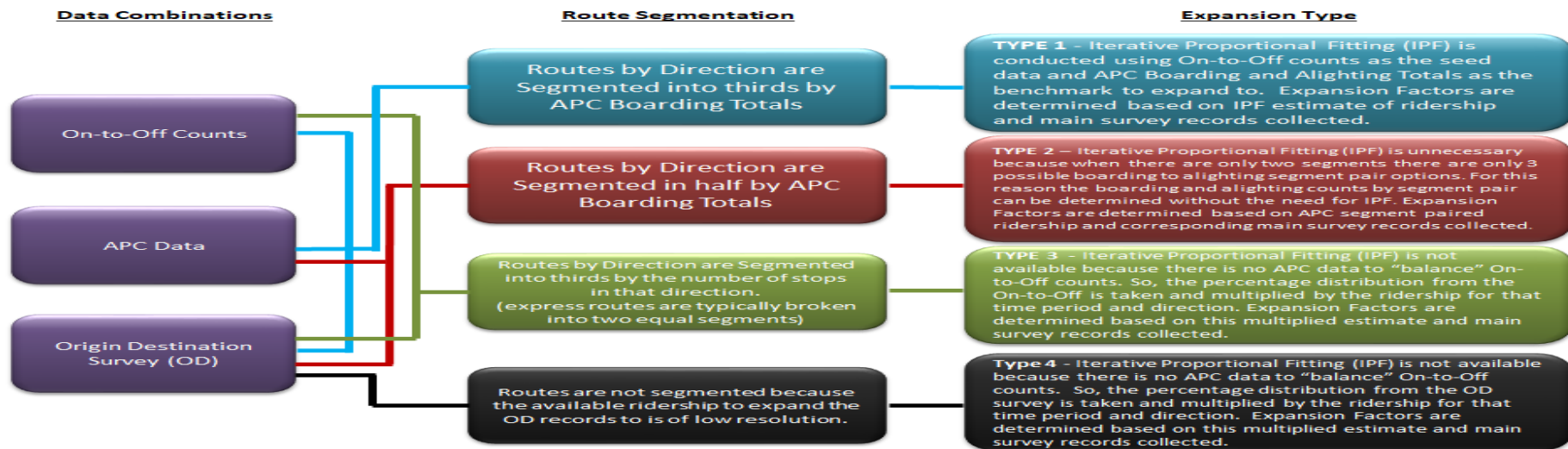
Non-Trip Checks

After all records were reviewed by the Transit Review Team, the next step 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:

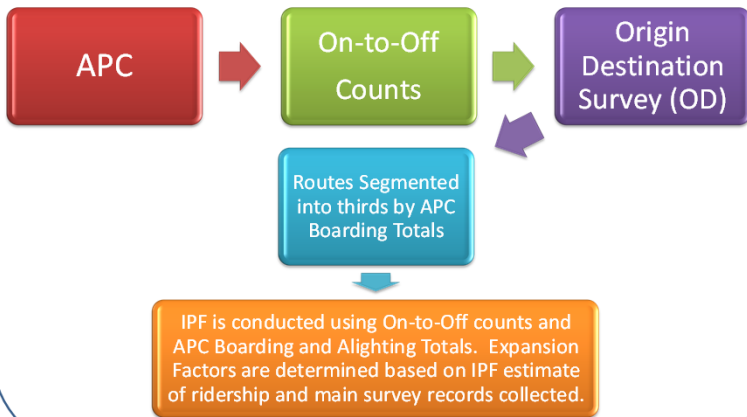
- Ensuring the respondents who indicated that they were employed also reported that at least one member of their household was employed.
- Ensuring the time of day a survey was completed was reasonable given the published operating schedule for the route.
- Ensuring that the appropriate fare type was used in response to 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 in order to protect the anonymity of the respondents.

Data Expansion Overview

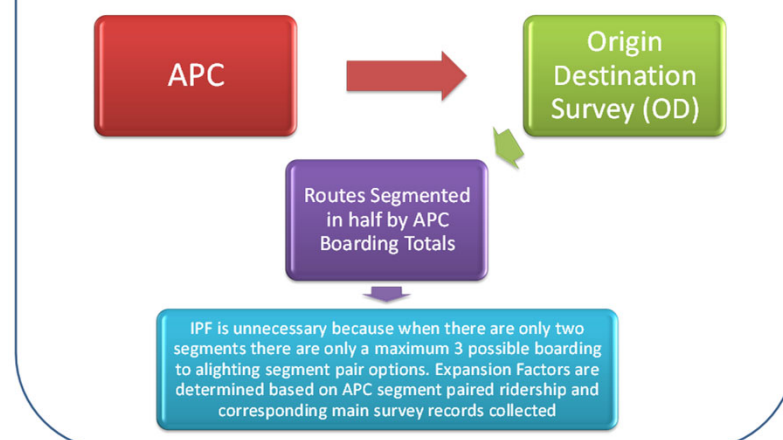
ARC interviews were expanded by route, direction, time-of-day, and by segments containing the boarding and corresponding alighting location of the passenger. Stop/station-level expansion was used for rail lines as passengers more typically remember the stop they got on and off the rail.



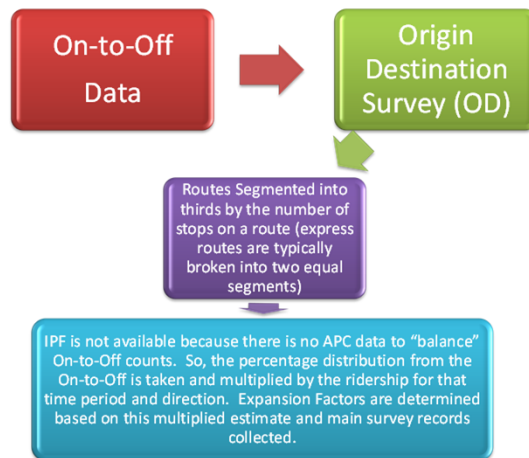
Type 1 Expansion



Type 2 Expansion



Type 3 Expansion



Type 4 Expansion

Type 4 expansion occurs when routes have OD survey data and ridership is only available at the route level.



Expansion Types by System

- Type 1 Expansion - 11 Marta Bus Routes and Heavy Rail
- Type 2 Expansion - 11 CobbLinc Routes, 10 Gwinnett Routes, and 99 MARTA bus routes
- Type 3 Expansion - No routes expanded at Type 3
- Type 4 Expansion - 5 Gainesville Routes, 5 CobbLinc, 2 Gwinnett Routes, 2 Cherokee Transit Routes, and the Atlanta Streetcar

Secondary Data Expansion

The secondary expansion builds upon the primary expansion by adjusting the weights across additional dimensions (such as students, mode of access/egress, PNR trips, etc.) based on independently collected counts. This allows the survey dataset to represent known travel patterns more closely since it corrects for differences in response rates across markets that are not as easily addressed. This only occurred for MARTA routes.



Agency	APC Dataset	PNR Vehicle Capacity	PNR Vehicle Count	# of PNR lots
ARC	N/A	"Park_and_Ride_locations.shp"(location inventory only)	N/A	109
MARTA	"request_20200323_arcga_apcdata.xlsx"	"Parking - FY'19 - 2nd Qtr. - (. Oct Nov Dec 2019) Friday, November 16, 2018.xls"		29
		"Parking - FY'19 - 3rd Qtr. - (. Jan Feb March 2019) - Final.xlsx"		29
		"FY20 - Parking Utilization Report.xlsx"		23