OKI
Ohio · Kentucky · Indiana
Regional Council of Governments

2024 Regional On-Board Survey

FINAL REPORT

2024 Ohio-Kentucky-Indiana Regional Council of Governments (OKI) On-Board Transit Passenger Survey

Prepared for: The Ohio-Kentucky-Indiana Regional Council of Governments (OKI)

ETC Institute

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APC	Automatic Passenger Count
AWR	Average Weekday Ridership
BCRTA	Butler County Regional Transit Authority
CTC	Clermont Transportation Connection
FTA	Federal Transit Authority
OD	Origin – Destination
O2O	On-to-Off
OKI	Ohio-Kentucky-Indiana Regional Council of Governments
SORTA	Southwest Ohio Regional Transit Authority
TANK	Transit Authority of Northern Kentucky
TRT	Transit Review Team

EXECUTIVE SUMMARY

Background

In 2024, the Ohio-Kentucky-Indiana (OKI) Regional Council of Governments, with consultant support from ETC Institute, conducted a regional On-Board Origin Destination (OD) survey of all fixed routes operated by Southwest Ohio Regional Transit Authority (SORTA), Transit Authority of Northern Kentucky (TANK), Butler County Regional Transit Authority (BCRTA), and Clermont Transportation Connection (CTC) and Cincinnati Streetcar. The study was conducted in the Southwest Ohio and North Kentucky region which OKI encompasses.

On-to-Off (O2O) counts were conducted to identify boarding and alighting patterns of transit riders for selected SORTA routes as well as provide a basis for expanding the results of the OD survey. The OD survey was conducted in order to collect comprehensive data regarding transit ridership, travel behavior and demographics of riders within the OKI region. The main purpose of the survey is to gather updated travel behavior data to gain a better understanding of today's transit riders. In addition, the data collected will be used to:

- Develop and update OKI's Travel Demand Model
- Meet FTA Title VI Requirements.
- Provide transit operators valuable insight into their system utilization.

Survey tasks included developing a sampling plan, designing the survey instrument, conducting full-scale collection, processing, expansion, analyzing, and reporting the results. The full data collection was performed from January 29th through March 6th, 2024.

Survey Design and Administration

The survey design process consisted of OKI, SORTA, TANK, BCRTA, CTC, Streetcar, and ETC Institute collaborating to design the survey questionnaire and develop a sampling plan that would ensure adequate data collection to perform analysis. The goal was to obtain at least 5,000 OD surveys and 4,429 O2O bus pairs for the highest demand routes. A total of 5,583 OD surveys and 6,344 O2O bus pairs were collected.

Survey Results

ETC Institute created sets of statistics at the regional level. These statistics focused on passengers' transit traveler's demographics, transit travel patterns, and trip purposes. These profiles are based off linked expansion weight factors.

Trip Profiles

- Riders' key origin location is home (48%), and key destination place is home (41%). Workplace is the second most common origin (18%) and destination place type (21%). Nine percent of origin place types are school (college and K-12) and 8% of destinations are school.
- The majority (96%) of OKI regional riders walk to get from their origin to their first transit vehicle and 97% walk from their final stop to their destination. Only 3% of riders use a personal vehicle to access transit and 3% use a personal vehicle to egress transit.
- Over half of riders (66%) use only one route to complete their one-way trip from their origin to their destination.

- The most common fare type is a one-day pass (38%) that is mainly used by SORTA riders. Ninety-six percent of riders pay regular fare and 39% use Transit App Pay.
- Eighty-seven percent of riders use transit more than three days per week and 29% of riders would use an Uber, Lyft, or Taxi to make their trip if transit service was unavailable.

Passenger Profiles

- The majority of regional riders own a smart phone (95%) and own a debit or credit card (85%).
- Over half (56%) of riders do not have a vehicle available to their household and only 18% of riders could have used a household vehicle to make their one-way trip.
- Over half (55%) of riders live in either one to two person households, 14% of riders live in households with no one employed, and 48% of riders' household income is below $24,999.
- Fifty-six percent of riders are male, the most common riders' age (32%) is between 35-54, and the most common ethnicity is Black / African American 58%.

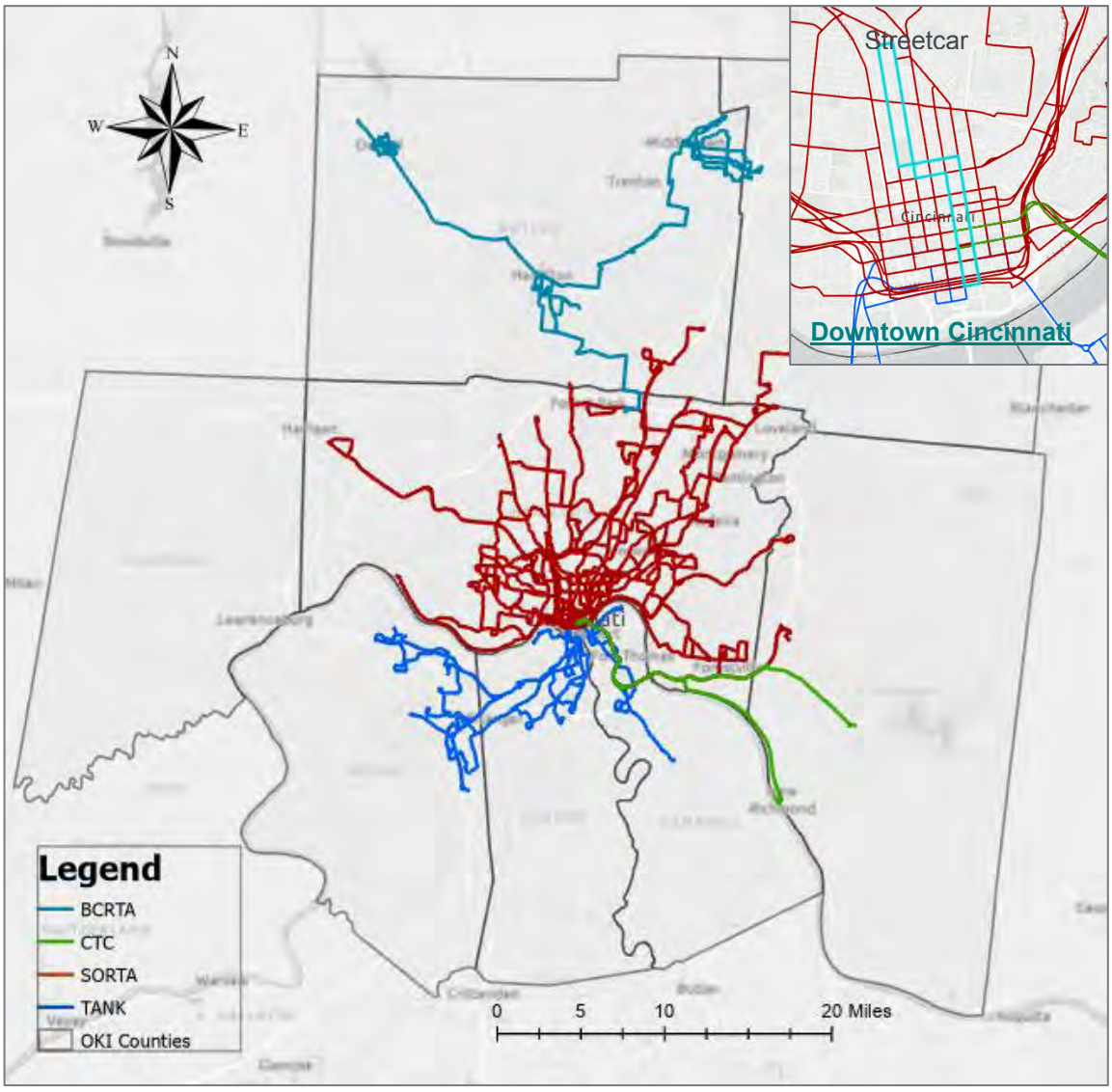
Household Characteristics

- A majority, 56%, of riders do not own a household vehicle. Only 18% had the option to use a household vehicle for their transit trip.
- The most common household size is one person, accounting for 30% of riders. This is followed by two-person households at 26%, and three-person households at 17%.
- Households with one working individual make up 38% of riders, followed by those with two earners at 30%, and households without any employed members at 14%.
- Approximately 21% of riders have an annual household income less than $10,000.

1. INTRODUCTION

In 2024 Ohio-Kentucky-Indiana (OKI) Regional Council of Governments conducted an Origin and Destination (OD) onboard passenger survey interviewing bus riders for all fixed routes (excluding school shuttle services) within the region. Surveyed transit systems include the Southwest Ohio Regional Transit Authority (SORTA), Transit Authority of Northern Kentucky (TANK), Butler County Regional Transit Authority (BCRTA), and Clermont Transportation Connection Transit System (CTC), and Cincinnati Streetcar.

Figure 1 – Fixed Transit Routes in the OKI Region



Note: TANK school shuttles were excluded from the scope of this OD survey.

SORTA is the largest transit service provider in the OKI region and primarily serves Hamilton County OH. TANK operates transit services in Northern Kentucky (Boone, Campell, and Kenton counties) and provides commuter services facilitating travel between Northern Kentucky and downtown Cincinnati. BCRTA manages a network of transit routes within Butler County and

provides regional transit connections between Butler County and Hamilton County. CTC operates two fixed routes connecting Clermont County and Downtown Cincinnati. The City of Cincinnati operates the Cincinnati Bell Connector streetcar, which circulates between the Over-the-Rhine and Downtown Cincinnati. Figure 1 shows the transit routes included in the OD survey. Collectively, these systems accommodated approximately 54,000 weekday daily riders during Fall 2023. The OD survey aimed to interview at least 9% of riders from each route and obtain a minimum number of 5,000 OD surveys for the entire region.

In addition, to enhance OD trip expansion on heavy demand routes, On-to-Off (O2O) counts were conducted to capture riders boarding and alighting location pairs on all bus routes (except for circular routes) with a minimum average weekday ridership (AWR) threshold of at least 2,000. Based on the established criterion, eight SORTA routes were selected for the O2O count survey. The goal was to gather a minimum of 4,429 O2O bus pairs, representing 20% of the total ridership on these routes.

The full data collection was performed from January 29th through March 6th, 2024. The survey yielded a comprehensive dataset, comprising 5,583 OD surveys and 6,344 O2O bus pairs. This collection surpassed the initial target, indicating a robust sample size that would contribute to the reliability of the subsequent data analysis.

Table 1: Overall Survey Goals and Completions

Survey Type	Goal	Completed
Bus O2O Pairs	4,429	6,344
OD Surveys	5,000	5,583

The 2024 transit survey collected comprehensive data regarding transit ridership, travel behavior and demographics of riders within the OKI region. The main purpose of the survey is to gather updated travel behavior data to gain a better understanding of today's transit riders. In addition, the data collected will be used to:

- Develop and update OKI's Travel Demand Model
- Meet FTA Title VI Requirements.
- Provide transit operators valuable insight into their system utilization.

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

2. SURVEY ADMINISTRATION

2.1 Sampling Plans

To ensure the distribution of completed surveys mirrors the distribution of SORTA, TANK, BCTA, Streetcar, and CTC passengers, ETC Institute and OKI established proportional sampling goals for the OD survey. The source of the ridership used to plan for the survey was August through October 2023 AWR from transit agencies. This data source was summarized by ETC. ETC created cell level (route/direction/time-of-day) ridership data by normalizing the daily ridership totals. Table 2 lists the four time periods for survey sampling, which are determined by ridership patterns and time-of-day parameters in the OKI travel demand model. These cell level sample sizes created by ETC were used to fine tune the collection and conduct the expansion.

Table 2: Project Time Periods

Time Period	Time Range
AM Peak	3:00 a.m. to 9:00 a.m.
Midday	9:00 a.m. to 3:00 p.m.
PM Peak	3:00 p.m. to 7:00 p.m.
Evening	After 7:00 p.m.

Origin and Destination Sampling Plans

ETC Institute developed a sampling plan that would ensure the completion of the OD survey by at least 5,000 surveys. The sampling plan for the OD survey was designed to obtain completed surveys from a minimum of 9% of the ridership on each fixed route. Table 3 shows the planned minimum sample size and number of OD surveys collected by each transit system.

Table 3: OD Surveys Collected by Transit System

Service Type	Min. Sample Size	Surveys Collected
SORTA	3,728	4,164
TANK	602	752
BCTA	303	414
Streetcar	244	246
CTC	6	7
Total	**5,000**	**5,583**

Note: Total sample size is not the total of all transit agencies but overall needed

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

On-to-Off Sampling Plans

All routes in the selected systems were reviewed to determine if the AWR was sufficient to warrant the O2O counts. A minimum AWR threshold of at least 2,000 was required to be a part of this effort. Based on the AWR ridership used to plan for the survey, eight SORTA routes qualified the criterion

and were selected for the O2O survey. For each route surveyed, 20% of the AWR had O2O pairs collected. All O2O counts were collected on weekdays across the entire service day.

In total, 6,344 boarding and alighting pairs were collected. **Appendix A** contains the sample plans which show the O2O counts of total boarding and alighting pairs collected by route, time-of-day, and direction.

2.2 Survey Design

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

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

2.3 Survey Recruitment and Training

Assembling a team of high-quality survey staff was one of the most important steps in the OD administration process. In addition to using ETC in-house survey staff, ETC collaborated with the staffing firms ANIK and Stat Team to provide interviewers for the OD Survey.

ETC Institute conducted two training sessions for the project. Training sessions focused on the study purpose and objectives, the survey instruments, scripts on how to respond to passengers' questions, how to use data collection tools, instructions on how to conduct themselves when working with the public, and safety training. The survey staff were instructed to understand that while they were not OKI, SORTA, Streetcar, TANK, BCTA, or CTC employees, they were representing these agencies while on transit vehicles or property and they needed to act in a manner that reflected positively.

Maximizing participation and legitimizing the survey among passengers depended on the public response to the survey staff. To support a good public image, ETC Institute imposed strict dress code standards that required survey staff to wear clean appropriate clothing to present a casual, yet neat, appearance that ensured professionalism and comfort. Survey staff were provided with survey badges and vests, identifying interviewers to transit operators 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.

As survey staff are the key ingredient to the success of a project, ETC provided in-depth project specific training to ensure successful data collection. The interviewer training reviewed project specifics and field procedures and provided training on how to actively engage customers

(passengers). Key highlights in our training focused on courtesy, professionalism, and person-to-person interactions.

The ETC field manager created the necessary training materials for conducting the OD training. The classroom training session included a PowerPoint presentation to explain the purpose and objectives of the survey, procedures and requirements, survey logistics, how to maximize response rates (including difficult-to-survey 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.

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

- Tips on intercepting/interacting with non-English speakers and passengers with limited English proficiency.
- Cultural sensitivity.
- Importance of understanding the intent of the questions.
- Instructions on conveying the purpose of the survey to passengers.
- Importance of adhering to our random sampling protocol at the outset of every survey.
- Procedure for properly recording all refusals and completing a short observational assessment of the refusing passenger for internal purposes.
- Importance of data confidentiality and instruction on how to address passenger concerns regarding the same.
- Overview of the transit systems covering all topics covered in the tablet questionnaire with route-specific instruction as needed.
- How to manage passenger comments and complaints.
- Expectations of Conduct.
- Safety training.

The following day after OD training, interviewers went out for live surveying from the Fountain Square transit center. This allowed ETC staff to gauge each interviewer's comprehension of the survey and instrument and provide feedback as needed.

2.4 OD Survey Field Administration

Survey staff would report to their assigned locations such as Fountain Square transit center and multiple other individual bus stops for their shifts. ETC ran two survey shifts that captured surveys between 5am and 11pm. Surveys were conducted Monday through Thursday.

OD Survey Procedures

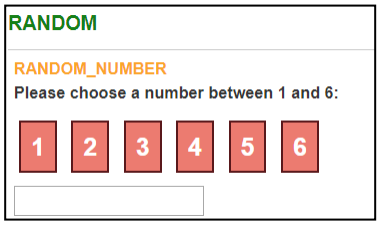
For the OD survey, interviewers boarded their assigned bus and selected riders at random to participate in the survey. While conducting the interview, interviewers asked the respondent each question from the survey tablet and recorded each response provided to them by the passenger.

Selection of OD Participants

For the OD interview the tablet generated a random number (shown in Figure 2) to determine which passengers were asked to participate in the survey after boarding the vehicle.

If four people boarded a bus, the tablet randomly generated a number from 1 to 6. If the tablet responded 2, the second person who boarded the bus was asked to participate in the survey. If the tablet responded 1, the first person was asked to participate in the survey, and so forth. The selection was limited to the first six people who boarded a bus or train at any given stop to ensure the interviewer could keep track of the passengers as they boarded.

Figure 2 – OD Survey Random Number Generator



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

Respondents who did not have time to complete the survey during their bus trip, or who spoke a language different from the interviewer, were given the option of providing their phone numbers to conduct the survey at another time. Those who provided their phone numbers for callbacks were then contacted by ETC Institute's call center to complete the survey. Interviewers that spoke the foreign language of the passenger translated the English tablet version during the interview and indicated in which language the interview was conducted. Additionally, interviewers carried paper surveys in Spanish that could be distributed for self-administration.

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

- Approached the passenger identified and asked him/her/them to participate in the survey.
- If the passenger refused, the interviewers ended the survey, excused themselves and completed three observational questions (age, race, and gender).
- If the passenger agreed to participate, the interviewer asked the passenger if he/she/they had at least 5 minutes to complete the survey.
- If the person did not have at least 5 minutes on the bus, the interviewer asked the person to provide his/her name and mobile phone number or e-mail in order to send a link to a self-administered on-line version. 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 onboard.
- If the person had at least 5 minutes on the bus, the interviewer completed the survey on the vehicle.

OD In-Field Quality Assurance/Quality Control

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

- Distribution of surveys by demographics - There were several demographics monitored including race, gender, and age to ensure that riders were randomly selected. If percentages of an individual interviewer greatly differed from other interviewers, especially on the same route, this was used to provide feedback to staff.

- Distribution of surveys by trip characteristics - Transfer rates were monitored to ensure data quality. If interviewers showed fewer transfers than average, their trip path was more heavily scrutinized to ensure transfers were being captured accurately. The linked trip decomposition, described later in the report, shows that the transfer rates captured were in line with what was expected.
- Length of each survey in minutes - If staff average survey time was much longer than others, feedback was provided to staff to help them improve their efficiency. If average times were much shorter data was reviewed to ensure the trip paths and transfers were accurately captured.
- Percentage of refusals - For staff who had received significantly more refusals, additional time was spent training the staff on the survey introduction. If staff showed very few refusals feedback was provided to ensure that they are capturing refusals properly. As mentioned previously, refusals based on gender and race were similar.
- Percentage of short trips – There were two options in the survey when riders indicated they were willing to participate and whether they had at least 5 minutes or not. If a passenger did not have at least five minutes, they were able to provide a phone number or email for a self-administered version. In cases where these distributions were slightly off due to passengers not completing a survey due to short trips, the expansion process accounted for any differences.
- Percentage of capturing non-English speakers. Staff responses were reviewed to ensure the attempt to capture non-English speakers occurred.

Data Collection Dashboard and Status Reporting

ETC created a data collection dashboard for OKI to view the collection productivity, demographics collected, and to visually show locational data on a plot map. The dashboard gave the ability to review the data collected in an interactive fashion rather than relying on traditional static reports. ETC Supervisors monitored data collection with a similar dashboard designed for supervisors to monitor collection goals and quality check interviewer's demographics and other items.

Figure 3 – Data Collection Dashboard

The whole team was able to view from access to the Data Collection Dashboard which allowed for real time status reporting. The sample collected for each day type was monitored at both the overall route level as well as direction and time of day levels.

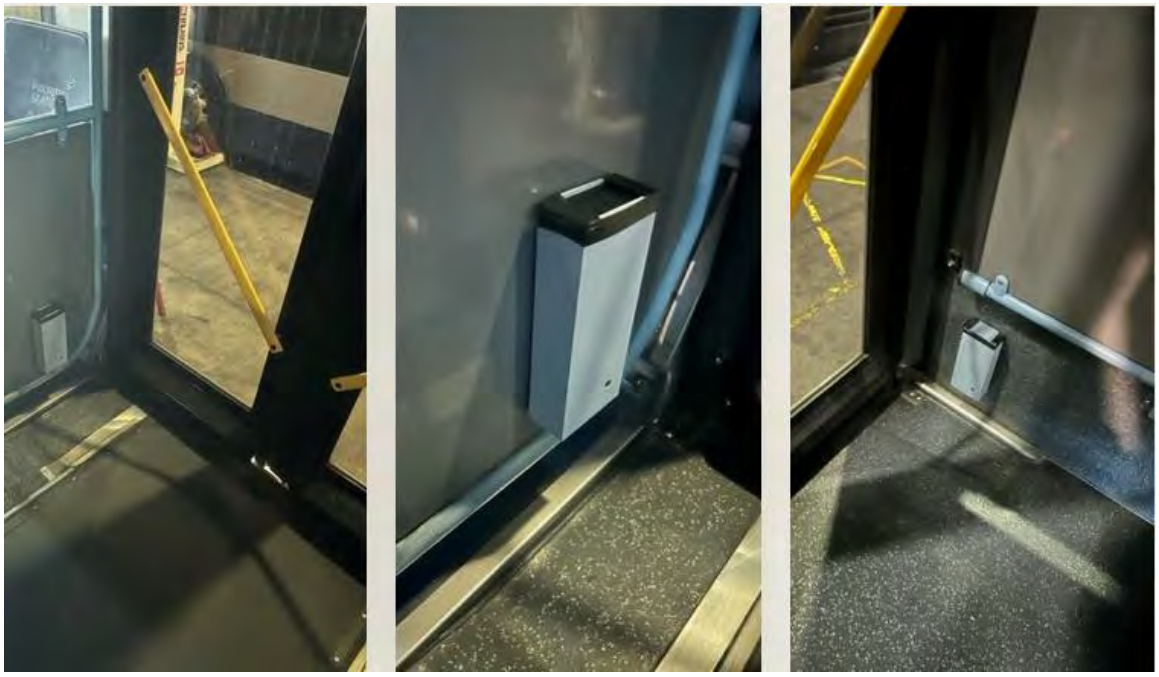
2.5 On-to-Off Count Administration

On-to-Off Collection Method

ETC Institute implemented a new method of capturing passenger boarding and alighting pairs (O2O pairs) using video recording devices that capture pictures of passengers from the knee down. By capturing from the knee down the passenger's identity remained unknown. Utilizing the devices eliminated using survey staff on board vehicles thus lowering labor costs and human error and allowed for nearly a 100 percent pair count.

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

Figure 4 – On-to-Off Recording Device and Positioning on Vehicle



On-to-Off Collection Administration

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

- Check in with dispatch and provide block numbers.

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

On-to-Off Processing

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

2.6 OD Data Review Process

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

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

Process For Identifying Complete Records

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

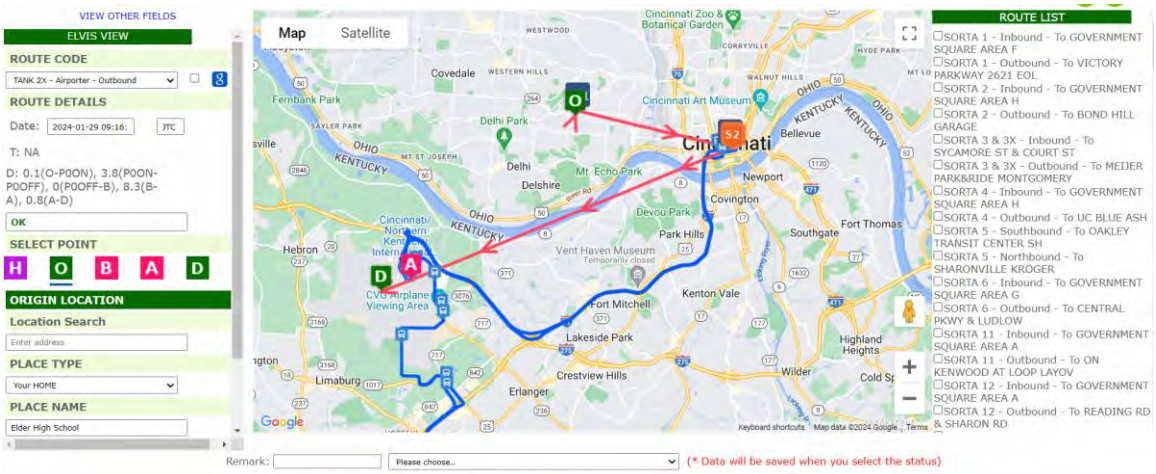
- Route/Direction
- Time of trip
- Transfers made
- Home address
- Origin address
- Destination address
- Origin place type
- Destination place type
- Access mode
- Egress mode
- Boarding location
- Alighting location

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

Online Visual Review Tool

ETC Institute online visual review tool allowed for the review of all completed records. The tool displayed all elements of the one-way trip, as well as a series of distance ratio checks. After directions were finalized, each record went through speed/distance/time checks. Figure 4 shows an example of the online visual review tool.

Figure 5 - Online Visual Review Tool (Editable Version)



Pre-Distance Checks

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

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

Transit Review Team

The TRT reviewed all completed records, paying special attention to records that were flagged by the previously described checks. Typically, around 10 percent of all records receive an automatic flag. The issues listed in Table 4 result in actions that allow about 50 percent of those records that are flagged to be retained.

Table 4: General Issues

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

Post-Processing Additional Checks

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

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

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

3. SURVEY WEIGHTING AND EXPANSION

When survey goals are created, they are typically based off a percentage of the AWR for the routes in the system. That is further broken down by time periods and directions. Once a sample percentage is agreed upon, the goals for the survey collection are based off the ridership for each route by time period and direction, and then multiplied by the sampling percentage. For “Circular” or “Loop” routes, e.g., Cincinnati Streetcar, the ridership is typically only broken down into time period as there are many riders that will board going in one direction but alight going the other direction due to the functionality of the route. This typically is also the case if there are directional routes where many riders travel through the terminus and alight going the opposite direction of initial boarding.

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

3.1 Route Segmentation with APC Data

ETC Institute primarily creates segments for bus/rail routes based on "boarding/alighting (total ridership)" percentages along the route. The preferred method is to segment routes using Stop-Level Ridership data. Routes with Stop-Level Ridership data are divided into segments based on the "boarding/alighting (total ridership)" patterns. A new segment begins after approximately a specific percentage of the route’s "boarding/alighting (total ridership)" has occurred, and another segment initiates after reaching a similar threshold. The final segment is established after a designated portion of the "boarding/alighting (total ridership)" has taken place. Figure 6 illustrates this segmentation process using stop-level ridership data.

Figure 6 – Segmentation with Stop Level Ridership Example

Segmentation with Stop Ridership Example

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

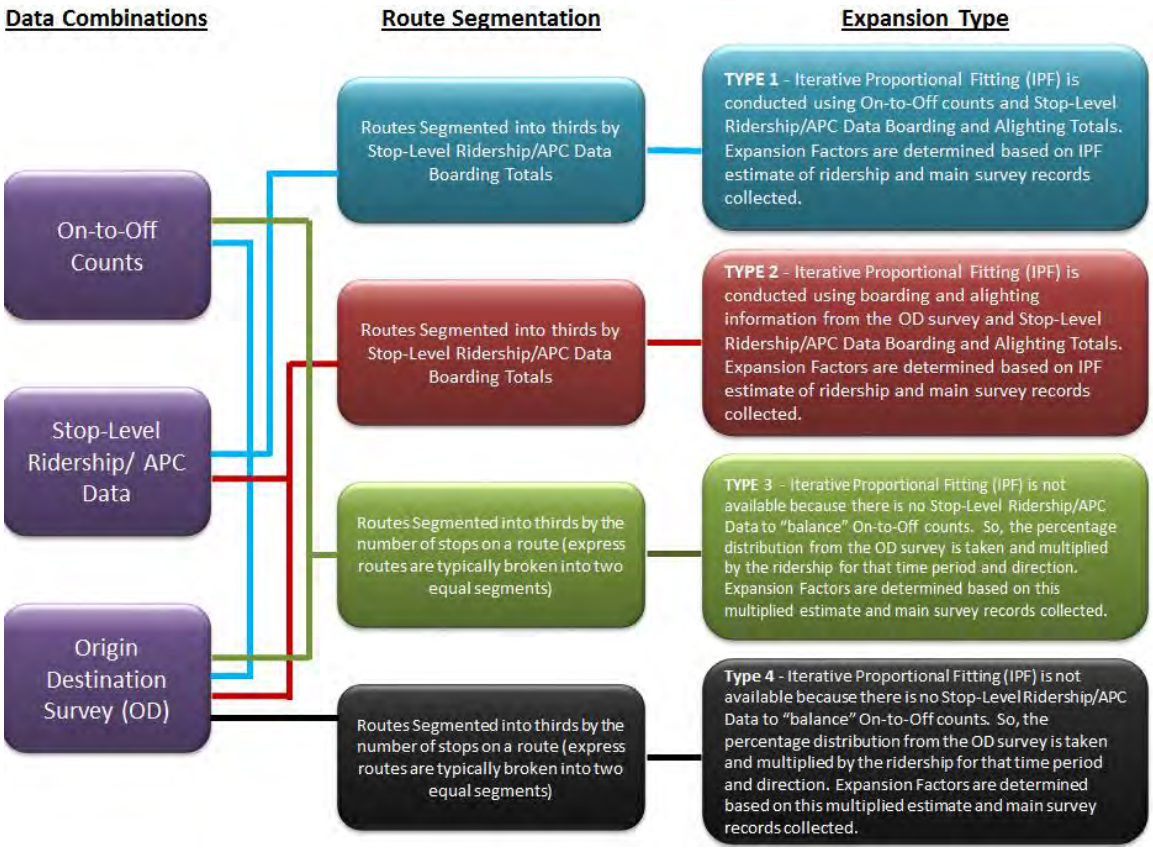
After the default segmentation process is completed, the default segments are forwarded to the respective route agencies for their review and adjustments. These adjustments are made based on specific characteristics of various sections of the route. These new agency segments will be used for the expansion.

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

3.2 Data Expansion Approaches

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

Figure 7 – Segmentation Process with Stop Level Ridership

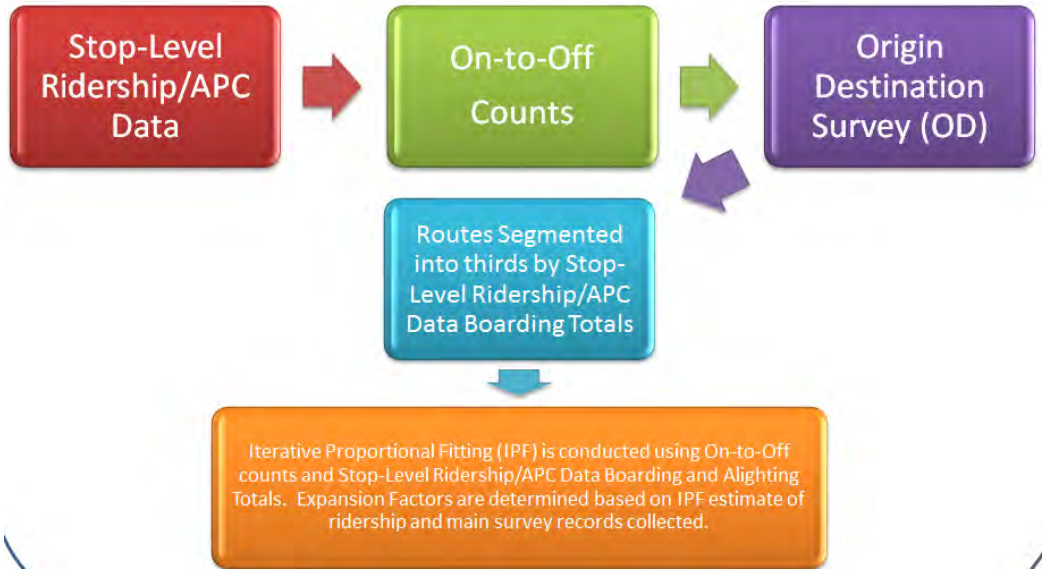


Four data expansion methods have been formulated based on available data. The specifics of each method are outlined below.

Type 1 Expansion: Bus Routes with Stop-Level Ridership / APC Data, O2O Counts, and OD Survey Data

Of the four types of sample expansion discussed, Type 1 expansion was the preferred method as it incorporated all three types of data that were available. This type of expansion was conducted on the more heavily traveled routes in the system and occurred after route stops were divided into three segments based on total boarding distribution by direction, as previously described. The segments were then appended to both the O2O counts and OD data based on the boarding and alighting locations. The process for Type 1 expansion is illustrated in Figure 8.

Figure 8 – Type 1 Expansion



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

Figure 9 – An Example of Data Expansion Results of O2O Counts

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

Figure 10 shows the distribution of the data in Figure 9 expressed as a percentage of all boardings for the specific time period and direction. Figure 10 was created by dividing each O2O cell in Figure 9 by the sum of all O2O counts Figure 9, which is 115. For example, 20/115 (17.4%) of all trips boarded in segment 2 and alighted in segment 3, as shown in Figure 10.

Figure 10 – An Example of Data Expansion Segment Results of O2O Counts

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

The total APC ridership for the route, time period, and direction was then applied to the O2O distribution percentages in Figure 10. This produced estimated ridership flow between each boarding to alighting segment pair as shown in Figure 11. For instance, applying the actual ridership of 320 created an initial estimate of 56 trips (17.4% x 320) from segment 2 to segment 3.

Figure 11 – An Example of Initial Projected Ridership Flows based on O2O Counts

Route: Example Eastbound (6am-9am)	PROJECTED RIDERSHIP BASED ON THE ON-TO-OFF SURVEY			
Segment	Total	1	2	3
1	167	14	42	111
2	125	0	70	56
3	28	0	0	28
Total	320	14	111	195

In order to develop a more accurate estimate of the ridership flows between segments on each route, ETC Institute developed an IPF algorithm to balance the differences between the ridership projected from the O2O counts (shown in Figure 11) and the APC ridership for each segment (shown in Figure 12). The IPF process is described below:

Figure 12 – An Example of Stop-Level Ridership / APC Data

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

Step 1: Correction for the Boardings. The estimated ridership from the O2O counts for each route (as shown in Figure 12) was multiplied by the ratio of the actual boardings from stop-level ridership / APC data for each segment by the estimated boardings for each segment. For example, if the actual boardings for Segment 1 were 120 and the estimated boardings were 100, each cell

associated with Segment 1 would have been multiplied by 1.2 (120 / 100) to adjust the estimated boardings to match actual boardings.

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

The processes described in Step 1 and Step 2 were repeated sequentially until the difference between the actual and estimated boardings and alightings converged to zero. Figure 13 shows that after seven balancing iterations in this algorithm, there were no differences between the projected distribution and the actual boardings and alightings.

Figure 13 – Iterative Balance Process

7th STEP of ITERATIVE BALANCING TO CORRECT DISTRIBUTION OF RIDERSHIP BY ALIGHTING Location

Segment	Total	DIFFERENCE FROM ACTUAL BOARDINGS	1	2	3
1	100	0	20	32	49
2	100	0	0	68	32
3	120	0	0	0	120
Total	320	0	20	100	200
DIFFERENCE FROM ACTUAL ALIGHTINGS	0		0	0	0

7th STEP of ITERATIVE BALANCING TO CORRECT DISTRIBUTION OF RIDERSHIP BY BOARDING Location

Segment	Total	DIFFERENCE FROM ACTUAL BOARDINGS	1	2	3
1	100	0	20	32	48
2	100	0	0	68	32
3	120	0	0	0	120
Total	320	0	20	100	200
DIFFERENCE FROM ACTUAL ALIGHTINGS	0		0	0	0

The final estimate for ridership flows is shown in Figure 14.

Figure 14 – An Example of Final Estimate of Ridership Flows between Segments

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

The actual number of OD records completed for each boarding to alighting segment pair is shown in Figure 15. To calculate the expansion factors, the final estimate of ridership between segments shown in Figure 14 was divided by the actual number of OD records collected listed in Figure 15. This calculation produced the expansion factors shown in Figure 16. For example, the 32 estimated riders projected to board in segment 2 and alight in segment 3 were divided by the 10 OD records to produce an expansion factor of 3.15 to be applied to records that boarded in segment 2 and alighted in segment 3, as shown in Figure 16.

Figure 15 – Number of Completed Onboard OD Interview Surveys (Bus)

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

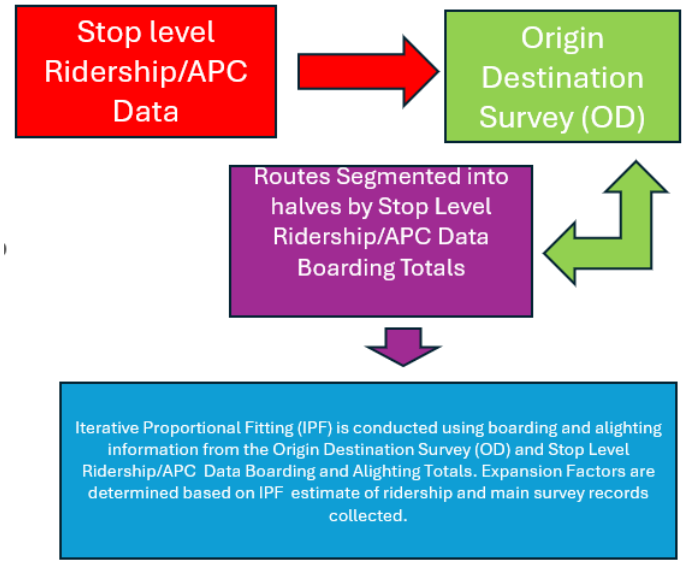
Figure 16 – Weighting Factors (Bus)

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

Type 2 Expansion: Bus Routes with Stop-Level Ridership / APC Data, OD Survey Data, but no O2O Counts

O2O counts are not collected for lower ridership routes. However, sometimes these routes will have stop-level ridership / APC data available. In this case, Type 2 expansion is appropriate. This type of expansion also divided stops into two segments based on total boarding distribution by direction. These segments were then appended to the OD records based on the boarding and alighting locations. The methodology for Type 2 expansion is explained in Figure 17.

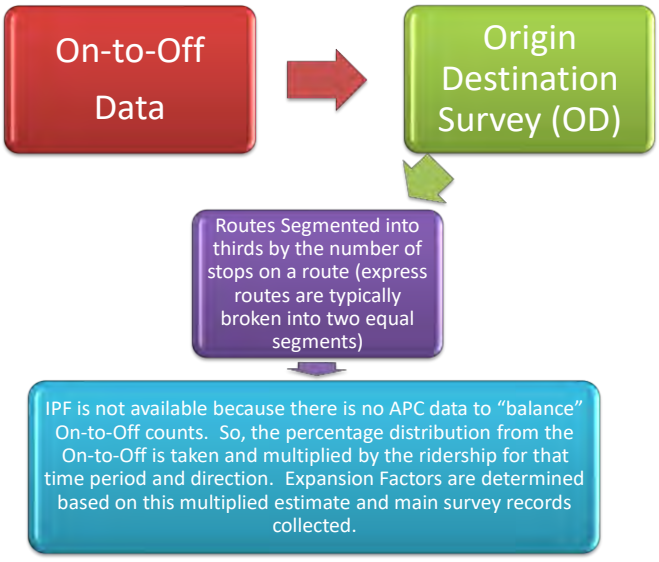
Figure 17 – Type 2 Expansion



Type 3 Expansion: Bus Routes with O2O Counts and OD Survey Data, but Without APC Data

Expansion Type 3 is utilized for routes where O2O counts are collected but APC data is not available. In this method, routes without APC data are segmented into three segments based on number of stops along a route. For example, if Route X has 30 stops, then the first ten stops would be Segment 1, the second ten stops would be Segment 2, and the remaining ten stops would be Segment 3. These segments were then appended to the O2O and OD survey databases. The data is then expanded using a similar process to the previous expansion methods by route and direction. Instead of using APC data in this expansion process, however, it is only expanded using the OD Survey Data and the O2O Counts. *Note: This type of expansion was not utilized in this project.*

Figure 18 – Type 3 Expansion



Type 4 Expansion: Bus Routes with OD Survey Data, without O2O Counts Data, or APC Data

For routes that ***only*** have OD survey data, Type 4 expansion is utilized. For this type of expansion there is no stop level data available. For this reason, a more rudimentary form of expansion must take place. The level of granularity for average daily ridership that can be provided from the agency determines the level of granularity for which expansion can occur. For example, when average daily ridership figures were available by route, time period and direction the number of OD surveys captured for that route, time period and direction were directly divided into the corresponding ridership provided. Alternatively, when average daily ridership figures were only available for the entire route and not broken down into time period or direction, the number of OD surveys captured for that route were directly divided into the corresponding ridership provided.

The expansion type used for each record / route is provided in the datafile.

3.3 Decomposition Analysis

Decomposition analysis measures the overall representativeness of the survey records relative to linked and unlinked trips on an individual route basis.

In transit OD surveys, an unlinked-trip weight is typically derived from on the AWR for the route on which the respondent was surveyed. This weight does not account for transfers to or from other routes. Conversely, a linked-trip weight is calculated considering the number of transfers as 1 / (1 + the number of transfers). For example, if a rider made one transfer, the linked-trip weight would be 1/2; if the rider made two transfers, then the linked-trip weight would be 1/3.

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

As detailed in Table 5, The decomposition analysis aggregated link factors for surveyed routes. In the table, the “Route Survey” columns sums all linked on route trips, while the “Transfer Route” column includes the total number of linked transfer trips from and to each route. “Total Summed Linked” is the summation of the values under “Route Survey” and “Transfer Route”. “Observed Boarding” is the AWR calculated from APC or farebox data. The analysis indicates the on-board survey closely mirrors actual system usage, with a negligible 0.00% discrepancy between the total boardings from summed linked weight factors and observed ridership. While there is not a firm rule when assessing the decomposition, it is expected that the percentage difference would be lower for higher volume routes. Routes with the most significant deviations from the linked factors, compared to observed counts, are typically low-volume routes, which inherently possess a higher margin of error. While there is not a firm rule when assessing the decomposition, it is expected that the percentage difference should be lower for higher volume routes. Table 5 shows the difference between derived and observed boardings by route. Only one route with at least 600 riders is exhibiting a difference of ±15% between the two factors, indicating very good accuracy overall.

Table 5: Decomposition Analysis by Route

route_name	gency_nam	Route Surveyed	Transfer Route	Total Summed Linked	Observed Boardings	Total Difference	% Difference
BCRTA Blue Line	BCRTA	267.11	37.15	304.26	289.00	-15.26	-5.3%
BCRTA CincyLink	BCRTA	96.50	10.48	106.98	130.00	23.02	17.7%
BCRTA Gold Line	BCRTA	150.00	31.02	181.02	166.00	-15.02	-9.0%
BCRTA Green Line	BCRTA	136.01	20.78	156.80	179.00	22.20	12.4%
BCRTA R1 - Hamilton/Middletown Shuttle	BCRTA	152.72	60.00	212.72	203.00	-9.72	-4.8%
BCRTA R3 - Hamilton/Oxford Connector	BCRTA	251.22	41.12	292.33	265.00	-27.33	-10.3%
BCRTA R6 - Job Connector	BCRTA	62.00	34.54	96.54	88.00	-8.54	-9.7%
BCRTA Red Line	BCRTA	98.99	6.57	105.56	121.00	15.44	12.8%
BCRTA U1/U1W - Campus Core w/Wal-Mart Flyer	BCRTA	257.78	0.00	257.78	276.00	18.22	6.6%
BCRTA U3 - Tollgate Loop	BCRTA	1225.00	2.19	1227.19	1225.00	-2.19	-0.2%
BCRTA U4 - Western Campus/North Loop	BCRTA	580.00	0.00	580.00	580.00	0.00	0.0%
CTC 2X New Richmond Express	CTC	1.00	0.00	1.00	2.00	1.00	50.0%
CTC 4X Amelia Express	CTC	42.00	0.00	42.00	42.00	0.00	0.0%
SORTA 1	SORTA	33.11	28.04	61.16	46.30	-14.86	-32.1%
SORTA 11	SORTA	1654.76	536.98	2191.74	2104.10	-87.64	-4.2%
SORTA 12	SORTA	18.38	18.24	36.61	24.50	-12.11	-49.4%
SORTA 16	SORTA	1282.35	224.59	1506.93	1569.10	62.17	4.0%
SORTA 17	SORTA	3061.44	626.29	3687.72	3659.40	-28.32	-0.8%
SORTA 19	SORTA	1747.12	286.85	2033.96	2130.50	96.54	4.5%
SORTA 2	SORTA	39.40	0.00	39.40	40.60	1.20	3.0%
SORTA 20	SORTA	902.60	209.31	1111.91	1110.10	-1.81	-0.2%
SORTA 21	SORTA	1503.87	362.27	1866.14	1802.30	-63.84	-3.5%
SORTA 22	SORTA	121.12	3.29	124.41	138.70	14.29	10.3%
SORTA 23X	SORTA	61.27	7.74	69.01	70.30	1.29	1.8%
SORTA 24	SORTA	615.54	131.05	746.58	720.00	-26.58	-3.7%
SORTA 25	SORTA	25.10	6.45	31.55	25.10	-6.45	-25.7%
SORTA 27	SORTA	615.42	224.48	839.89	812.50	-27.39	-3.4%
SORTA 28	SORTA	185.27	77.13	262.40	231.20	-31.20	-13.5%
SORTA 29X	SORTA	78.00	7.87	85.87	82.80	-3.07	-3.7%
SORTA 30	SORTA	86.07	21.53	107.60	103.90	-3.70	-3.6%
SORTA 31	SORTA	1115.91	247.02	1362.93	1436.00	73.07	5.1%
SORTA 32	SORTA	862.92	344.58	1207.51	1060.70	-146.81	-13.8%
SORTA 33	SORTA	2761.83	523.22	3285.05	3441.50	156.45	4.5%
SORTA 36	SORTA	398.23	99.95	498.19	492.00	-6.19	-1.3%
SORTA 37	SORTA	738.92	95.07	833.99	846.10	12.11	1.4%
SORTA 38	SORTA	80.82	4.63	85.44	88.00	2.56	2.9%
SORTA 3X	SORTA	100.30	36.20	136.50	115.20	-21.30	-18.5%
SORTA 4	SORTA	1834.12	509.89	2344.01	2224.40	-119.61	-5.4%
SORTA 40	SORTA	70.00	6.76	76.76	70.00	-6.76	-9.7%
SORTA 41	SORTA	1099.54	236.81	1336.35	1433.20	96.85	6.8%
SORTA 43	SORTA	3165.31	697.51	3862.82	3841.90	-20.92	-0.5%
SORTA 46	SORTA	1385.59	240.28	1625.87	1595.10	-30.77	-1.9%
SORTA 49	SORTA	247.55	92.94	340.49	308.10	-32.39	-10.5%
SORTA 5	SORTA	261.18	120.05	381.23	360.40	-20.83	-5.8%
SORTA 50	SORTA	49.94	42.83	92.77	66.60	-26.17	-39.3%
SORTA 51	SORTA	1616.21	418.23	2034.44	1907.30	-127.14	-6.7%
SORTA 52X	SORTA	16.08	0.00	16.08	26.30	10.23	38.9%
SORTA 6	SORTA	1019.09	225.12	1244.21	1185.30	-58.91	-5.0%
SORTA 64	SORTA	1131.06	175.75	1306.81	1402.70	95.89	6.8%
SORTA 65	SORTA	172.13	34.01	206.14	240.40	34.26	14.3%
SORTA 67	SORTA	156.06	73.67	229.72	247.30	17.58	7.1%
SORTA 71X	SORTA	136.09	6.06	142.15	145.20	3.05	2.1%
SORTA 74X	SORTA	75.75	2.95	78.71	83.10	4.39	5.3%
SORTA 75X	SORTA	33.70	0.00	33.70	33.70	0.00	0.0%
SORTA 77	SORTA	50.28	9.79	60.07	75.30	15.23	20.2%
SORTA 78	SORTA	1730.35	356.12	2086.47	2111.00	24.53	1.2%
SORTA 81	SORTA	11.55	3.27	14.82	23.10	8.28	35.8%
SORTA 82X	SORTA	35.00	1.52	36.52	35.00	-1.52	-4.3%
SORTA M+	SORTA	674.90	9.51	684.41	856.90	172.49	20.1%
SORTA Streetcar	SORTA	2102.04	83.36	2185.40	2332.17	146.77	6.3%
TANK 1 - Dixie Highway/Florence	TANK	790.41	187.63	978.04	1064.17	86.13	8.1%
TANK 12 - Bellevue/Dayton	TANK	147.05	83.46	230.51	191.54	-38.97	-20.3%
TANK 16 - West Newport/Fort Thomas	TANK	136.77	55.04	191.82	171.18	-20.64	-12.1%
TANK 17X - Buttermilk Pike Express	TANK	36.61	3.30	39.92	39.48	-0.44	-1.1%
TANK 22X - Mt. Zion Road Express	TANK	43.02	0.00	43.02	43.02	0.00	0.0%
TANK 24 - NKU Shuttle - LOOP	TANK	360.43	0.00	360.43	363.99	3.57	1.0%
TANK 25 - NKU/Alexandria	TANK	534.15	213.00	747.15	704.63	-42.52	-6.0%
TANK 25X - Alexandria Express	TANK	60.75	6.23	66.97	60.75	-6.23	-10.2%
TANK 2X - Airporter	TANK	274.67	163.95	438.63	419.73	-18.89	-4.5%
TANK 3 - Ludlow/Bromley	TANK	154.38	44.85	199.23	180.11	-19.12	-10.6%
TANK 30X - Lake Park Drive./Fort Wright Express	TANK	50.32	7.90	58.21	50.32	-7.90	-15.7%
TANK 32X - Aero Parkway/Burlington Express	TANK	45.36	2.09	47.45	54.75	7.30	13.3%
TANK 39X - Petersburg Road/South Hebron Express	TANK	112.18	57.89	170.07	150.50	-19.57	-13.0%
TANK 40X - Worldwide Boulevard/North Hebron Express	TANK	164.32	28.71	193.04	206.47	13.44	6.5%
TANK 42X - Industrial Road/Florence Express	TANK	201.85	119.44	321.29	290.30	-30.99	-10.7%
TANK 5 - Holman Avenue/Fort Wright	TANK	264.66	67.74	332.40	355.05	22.65	6.4%
TANK 61 - Covington Health Connection	TANK	42.75	2.52	45.27	48.17	2.90	6.0%
TANK 62 - CVG Campus Shuttle	TANK	27.44	0.00	27.44	27.44	0.00	0.0%
TANK 7 - Madison Avenue/Latonia	TANK	431.03	132.18	563.21	537.46	-25.75	-4.8%
TANK 8 - Eastern Avenue/Crestview Hills	TANK	372.55	65.54	438.09	432.47	-5.62	-1.3%
TANK TROLLY - SOUTHBANK SHUTTLE - LOOP	TANK	262.89	70.62	333.50	309.42	-24.08	-7.8%
	Total	42997.16	9025.15	52022.31	52022.31	0.00	0.0%

4. SURVEY FINDINGS

The fully weighted and expanded OKI data were used to create the following analyses which include trip analyses and demographic analysis. The results are based off the survey instrument which is provided in **Appendix B**. All tables were created using linked expansion factors other than system transfers which used unlinked expansion factors.

4.1 Trip Level Analysis

The top three origin place types for riders are home (48%), work (18%), and personal business (5%). BCRTA had a greater number of riders coming from college (36%). Table 6 shows riders origin place type.

Table 6: Trip Origin

Origin Place Type	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Your HOME	47.5%	48.7%	31.0%	46.6%	46.5%	48.8%
Your usual workplace	18.1%	18.8%	10.3%	26.5%	3.7%	51.2%
Personal Business (bank, haircut, post office)	5.0%	5.0%	12.5%	3.4%	2.9%	0.0%
Social visit (friends / relatives)	4.8%	5.2%	5.2%	3.3%	2.3%	0.0%
Grocery / food shopping	4.7%	4.6%	11.8%	3.8%	2.2%	0.0%
College / University (students only)	4.4%	1.3%	0.4%	6.7%	35.5%	0.0%
School K-12 (students only)	4.3%	5.5%	0.5%	0.2%	0.4%	0.0%
Leisure / entertainment / recreation / sightseeing	2.6%	2.6%	10.1%	1.0%	0.0%	0.0%
Other shopping	2.3%	2.5%	3.7%	1.5%	0.4%	0.0%
Other business related	2.0%	1.7%	3.0%	2.5%	3.8%	0.0%
Dine out / get coffee / take-out	1.8%	1.5%	10.1%	1.5%	0.7%	0.0%
Medical appointment / doctor visit	1.8%	1.8%	0.4%	2.9%	1.3%	0.0%
Hotel	0.4%	0.5%	0.6%	0.0%	0.0%	0.0%
Other	0.2%	0.2%	0.4%	0.0%	0.3%	0.0%
Sporting event	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%
Airport (passengers only)	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%

The top three destination place types for riders are home (41%), work (21%), and social visits (6%). BCRTA had a greater number of riders going to college (27%). Table 7 shows riders destination place type.

Table 7: Trip Destination

Destination Place Type	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Your HOME	40.7%	40.6%	35.9%	41.4%	44.0%	51.2%
Your usual workplace	21.1%	22.3%	6.7%	26.0%	10.9%	48.8%
Social visit (friends / relatives)	6.3%	7.1%	4.4%	3.7%	2.1%	0.0%
Personal Business (bank, haircut, post office)	5.4%	5.5%	10.2%	4.0%	3.6%	0.0%
Grocery / food shopping	5.0%	4.9%	7.2%	3.9%	5.8%	0.0%
College / University (students only)	4.1%	1.8%	0.4%	6.1%	26.5%	0.0%
Leisure / entertainment / recreation / sightseeing	3.8%	3.4%	17.8%	2.7%	0.8%	0.0%
School K-12 (students only)	3.7%	4.6%	0.4%	0.7%	0.3%	0.0%
Medical appointment / doctor visit	2.9%	3.2%	0.4%	2.7%	1.8%	0.0%
Other business related	2.4%	2.2%	2.4%	4.4%	1.3%	0.0%
Other shopping	2.4%	2.4%	3.4%	2.4%	1.2%	0.0%
Dine out / get coffee / take-out	2.0%	1.6%	9.9%	1.6%	1.7%	0.0%
Hotel	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%
Airport (passengers only)	0.1%	0.0%	0.4%	0.3%	0.0%	0.0%
Other	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
Sporting event	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Most (96%) riders walk to their first transit stop from their origin. CTC has a higher percentage (16%) of drive alone and park for access mode. Table 8 shows how riders access their bus / streetcar.

Table 8: Access Mode

Access Mode	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Walk	95.9%	96.7%	93.2%	92.8%	94.3%	83.7%
Drove alone and parked	1.3%	0.8%	1.7%	3.9%	2.7%	16.3%
Dropped off by someone going elsewhere	1.2%	1.2%	0.0%	1.1%	1.6%	0.0%
Wheelchair / scooter	0.6%	0.5%	1.7%	0.6%	0.4%	0.0%
Personal Bike	0.4%	0.3%	1.3%	0.7%	0.5%	0.0%
Uber, Lyft, etc.	0.3%	0.3%	0.5%	0.4%	0.0%	0.0%
Drove or rode with others and parked	0.1%	0.0%	0.9%	0.5%	0.0%	0.0%
Other	0.1%	0.1%	0.2%	0.2%	0.0%	0.0%
E-Scooter (Bird, Lime, etc.)	0.1%	0.0%	0.5%	0.0%	0.5%	0.0%

Most (97%) riders walk to get to their destination after their last stop. CTC has a higher percentage (33%) of get in a parked vehicle and drive alone for egress mode. Table 9 shows how riders egress their bus / streetcar.

Table 9: Egress Mode

Egress Mode	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Walk	96.6%	97.3%	94.9%	93.0%	95.7%	51.2%
Get in a parked vehicle & drive alone	1.1%	0.6%	0.0%	4.2%	1.9%	32.6%
Be picked up by someone	0.7%	0.7%	0.9%	1.0%	1.0%	0.0%
Wheelchair / scooter	0.6%	0.5%	1.7%	0.6%	0.4%	0.0%
Personal Bike	0.5%	0.4%	1.3%	0.7%	0.5%	0.0%
Uber, Lyft, etc.	0.2%	0.3%	0.4%	0.1%	0.0%	0.0%
Get in a parked vehicle & drive/ride w/someone	0.2%	0.2%	0.0%	0.3%	0.0%	0.0%
E-Scooter (Bird, Lime, etc.)	0.1%	0.0%	0.5%	0.0%	0.5%	0.0%
Other	0.0%	0.0%	0.2%	0.1%	0.0%	16.3%

Sixty-six percent of riders only take one route (no transfers) to complete their one-way trip. Table 10 shows the number of transfers used in riders' one-way trips.

Table 10: Number of Transfers

Total Routes used to Make One-Way Trip	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
0	66.2%	64.6%	80.3%	59.0%	86.7%	95.5%
1	31.2%	32.4%	19.7%	39.0%	11.9%	4.5%
2	2.5%	2.9%	0.0%	2.0%	0.9%	0.0%
3	0.1%	0.1%	0.0%	0.0%	0.4%	0.0%
4	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%

Thirty-eight percent of riders at the regional level use a 1 Day Pass for their fare method. This is mainly due to SORTA in which 44% of riders use a day pass while TANK riders typically use both a day pass (30%) and one way or single fare (30%), and 51% of CTC riders use a one way or single ride. Table 11 shows the fare methods riders use. BCRTA is a free system and 97% of riders ride free but there are other options listed as riders may transfer to another system.

Table 11: Fare Method

Fare Method	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
One Day Pass	37.6%	44.7%	1.6%	30.1%	0.0%	0.0%
One-way or Single Ride	21.5%	23.5%	2.2%	30.2%	1.1%	51.2%
30 Day Pass	15.1%	17.4%	0.0%	16.1%	0.6%	0.0%
Student or Faculty Pass	9.0%	9.6%	0.5%	15.3%	0.0%	0.0%
Free BCRTA	7.4%	0.0%	0.0%	0.0%	97.1%	0.0%
Other	4.8%	2.4%	53.8%	2.5%	1.3%	0.0%
Free - Other	2.7%	0.8%	41.9%	0.4%	0.0%	0.0%
Regional Stored-Value Cards	0.7%	0.9%	0.0%	0.0%	0.0%	0.0%
Free - Employee Pass	0.5%	0.4%	0.0%	1.5%	0.0%	0.0%
Southbank Shuttle	0.4%	0.0%	0.0%	3.8%	0.0%	0.0%
Cincinnati State ID Card	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%
10 Ride Card	0.0%	0.0%	0.0%	0.0%	0.0%	48.8%

Ninety-six percent of riders pay regular fare at the regional level. CTC has a much higher reduced / disabled fare percentage (33%) in comparison with the other agencies. Table 12 shows if riders pay regular or discounted fare. BCRTA is a free fare, so this question was not asked.

Table 12: Fare Discount

Fare Discount	Regional Total	SORTA	STREETCAR	TANK	CTC
Regular	95.6%	95.6%	97.7%	94.7%	67.4%
Reduced, Senior 65 and over	3.0%	3.1%	1.7%	2.9%	0.0%
Reduced, Disabled (Access Card)	1.1%	1.3%	0.7%	0.0%	0.0%
Reduced, Disabled	0.3%	0.0%	0.0%	2.3%	32.6%

Thirty-nine percent of riders use the Transit App to pay by EZFAIR. CTC and BCRTA do not offer this payment method. Table 13 shows if riders use Transit App to pay via EZFAIR.

Table 13: Use Transit App to Pay by EZFAIR

Transit App Pay	REGIONAL TOTAL	SORTA	STREETCAR	TANK
Yes	38.6%	42.1%	2.3%	30.4%
No	61.4%	57.9%	97.7%	69.6%

Sixteen percent of riders Employer pays for some or all their transit fare. Tank riders have the highest percentage in comparison to others with 20% of riders fare being subsidized. Table 14 shows if riders fare is subsidized by their employer.

Table 14: Fare Subsidy

Fare Paid By Employer	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Yes, entire fare	12.5%	13.3%	0.7%	19.9%	2.9%	0.0%
Yes, some of fare	3.6%	4.4%	0.0%	2.4%	0.0%	32.6%
No	83.8%	82.4%	99.3%	77.8%	97.1%	67.4%

Over half of riders use transit between 3 – 5 days weekly and 34% ride transit 6 – 7 days weekly. Table 15 shows how many days weekly riders use transit.

Table 15: Transit Use Frequency

Transit Use Frequency	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
First time to make this trip	0.9%	0.6%	3.4%	1.8%	1.1%	0.0%
Less than 1 day per month	0.8%	0.7%	3.2%	0.5%	0.3%	0.0%
1-2 days per week	9.2%	9.4%	5.6%	8.9%	10.3%	0.0%
1-3 days per month	2.4%	2.4%	5.2%	2.0%	1.3%	0.0%
3-5 days per week	52.8%	51.3%	40.1%	54.3%	72.6%	100.0%
6-7 days per week	33.9%	35.6%	42.4%	32.4%	14.5%	0.0%

If transit services were not available in the region, 29% would use Uber/Lyft/Taxi, 25% would ride with someone else, and 17% would walk / wheelchair to make their trip. Thirty-three percent of CTC riders would not be able to make their trip if transit services were unavailable. Table 16 shows how riders would make their trip if transit services were not available.

Table 16: Mode for Trip if Transit Was not Available

Alernative Transport if Transit Wasn't Available	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Uber / Lyft / Taxi	29.0%	31.9%	13.3%	27.8%	10.8%	16.3%
Ride with someone else	25.0%	28.2%	10.6%	16.8%	13.3%	2.3%
Walk / Wheelchair	16.8%	10.7%	44.9%	19.4%	57.6%	0.0%
Would not make this trip	15.4%	16.3%	10.8%	16.8%	6.5%	32.6%
Drive	10.8%	9.8%	13.9%	17.3%	10.1%	48.8%
Bicycle	2.5%	2.5%	5.7%	1.8%	1.6%	0.0%
Red Bike (Bikeshare	0.3%	0.3%	0.9%	0.0%	0.0%	0.0%
E-Scooter (Bird, Lime, etc.)	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%

4.2 Rider Analysis

Ninety-five percent of riders own a smartphone. Table 17 shows if riders own a working smartphone.

Table 17: Working Smartphone Status

Own Smart Phone	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Yes	94.6%	94.5%	90.4%	96.3%	96.3%	100.0%
No	5.4%	5.5%	9.6%	3.7%	3.7%	0.0%

Eighty-five percent of riders have a debit or credit card. Table 18 shows if riders have a debit or credit card.

Table 18: Credit or Debit Card Status

Own Credit or Debit Card	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Yes	84.6%	83.2%	82.6%	90.1%	92.1%	100.0%
No	15.4%	16.8%	17.4%	9.9%	7.9%	0.0%

Ninety- seven percent of riders live in the OKI region. Table 19 shows riders' visitor status.

Table 19: Resident Status

Visitor Status	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
No	96.8%	96.5%	94.4%	97.5%	99.9%	100.0%
Yes	3.2%	3.5%	5.6%	2.5%	0.1%	0.0%

Seventy percent of riders are employed either full or part time. Table 20 shows riders' employment status.

Table 20: Employment Status

Employment Status	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Employed full-time	50.3%	51.7%	48.9%	59.6%	23.6%	83.7%
Employed part-time	19.6%	18.8%	13.2%	19.2%	32.6%	16.3%
Not currently employed, but seeking work	8.2%	9.6%	5.3%	2.0%	3.7%	0.0%
Not currently employed, and not seeking work	15.0%	12.5%	22.2%	13.9%	36.6%	0.0%
Homemaker	0.2%	0.2%	0.4%	0.0%	0.2%	0.0%
Retired	6.8%	7.1%	10.0%	5.3%	3.4%	0.0%

Over three-quarters (76%) of riders are not students. BCRTA has a much higher percentage (66%) of college students that ride over other regional agencies. Table 21 shows riders student status.

Table 21: Student Status

Student Status	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Not a student	75.8%	78.5%	90.8%	79.6%	32.7%	100.0%
Yes - Full-time College / University	11.2%	5.8%	3.7%	16.3%	63.6%	0.0%
Yes - Part-time College / University	2.7%	2.9%	2.1%	1.4%	2.0%	0.0%
Yes - K-12th grade	9.9%	12.3%	3.3%	2.4%	0.7%	0.0%
Yes - Other	0.4%	0.4%	0.0%	0.2%	1.0%	0.0%

Fifty-nine percent of riders do not have a valid driver's license. BCRTA has a much higher percentage (64%) of riders that have a license. Table 22 shows riders' drivers' license status.

Table 22: Driver's License Status

Drivers License Status	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
No	59.1%	62.4%	49.8%	56.2%	36.2%	51.2%
Yes	40.9%	37.6%	50.2%	43.8%	63.8%	48.8%

Table 23 shows riders' disability status. Eight percent of riders have a disability. CTC has a much higher disabled ridership in comparison to other agencies.

Table 23: Disability Status

Disability Status	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
No	91.8%	91.2%	90.1%	94.8%	94.6%	67.4%
Yes	8.2%	8.8%	9.9%	5.2%	5.4%	32.6%

The highest (32%) age category of riders is between the ages of 35 – 54. BCRTA has a much higher (66%) 18 – 25 age ridership. Table 24 shows riders' age distribution.

Table 24: Age

Age	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Under 18	8.5%	10.6%	2.9%	1.7%	0.3%	0.0%
18-25	22.9%	19.4%	13.3%	22.0%	66.0%	0.0%
26-34	17.2%	17.6%	18.7%	17.8%	11.5%	32.6%
35-54	31.6%	33.0%	32.2%	34.2%	13.8%	51.2%
55-64	13.3%	13.1%	18.2%	18.6%	5.9%	16.3%
65 and over	6.4%	6.4%	14.6%	5.7%	2.6%	0.0%

Black / African Americans make up the highest race / ethnic group for riders at 58%. CTC riders are made up predominately (100%) of White / Caucasian riders. Table 25 shows riders race / ethnicity.

Table 25: Race / Ethnicity

Race / Ethnicity	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
American Indian / Alaska Native	1.2%	1.6%	0.0%	0.1%	0.0%	0.0%
Asian	4.3%	2.1%	2.1%	7.8%	24.1%	0.0%
Black / African American	58.4%	67.5%	46.5%	31.4%	12.6%	0.0%
Hispanic / Latino	3.9%	3.7%	5.2%	5.2%	4.0%	0.0%
Somali	0.2%	0.2%	0.0%	0.3%	0.6%	0.0%
White / Caucasian	35.9%	29.7%	47.7%	57.1%	61.4%	100.0%

Eleven percent of riders speak another language other than English at home and the highest spoken language at home is Spanish with 5% of riders speak Spanish at home. Table 26 shows if riders speak another language other than English at home.

Table 26: Speak Another Language at Home

Speak Another Language at Home	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
No	88.9%	91.0%	85.9%	85.6%	73.2%	100.0%
Yes	11.1%	9.0%	14.1%	14.4%	26.8%	0.0%

Only 1% of riders are Language English Proficient meaning that they speak English less than well. Table 27 shows how well riders speak English that answered they speak other languages at home.

Table 27: English Proficiency

English Proficeincy	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Very well	7.5%	7.7%	10.4%	5.6%	5.9%	0.0%
Well	2.6%	0.7%	1.6%	5.1%	18.6%	0.0%
Less than well	1.0%	0.5%	2.1%	3.2%	2.4%	0.0%
Not at all	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%
Only Speak English (No other Language Spoken)	88.9%	91.0%	85.9%	85.6%	73.2%	100.0%

4.2 Household Analysis

Over half (56%) of riders do not have a household vehicle and only 18% of riders could have used a household vehicle to make their transit trip. Table 28 shows riders' household vehicle availability and Table 29 shows if riders could have used a household vehicle to make their transit trip.

Table 28: Household Vehicle Availability

Household Vehicle Count	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
None (0)	56.3%	57.6%	59.0%	53.2%	45.4%	48.8%
One (1)	25.3%	25.9%	25.4%	25.0%	20.3%	0.0%
Two (2)	12.8%	12.1%	12.2%	15.7%	15.4%	48.8%
Three (3)	3.5%	3.0%	3.0%	3.2%	8.8%	0.0%
Four (4)	1.4%	0.7%	0.0%	2.4%	8.1%	0.0%
Five (5)	0.4%	0.4%	0.4%	0.0%	1.5%	0.0%
Six (6)	0.1%	0.1%	0.0%	0.3%	0.1%	2.3%
Seven (7)	0.1%	0.1%	0.0%	0.0%	0.2%	0.0%
Eight (8)	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%
Nine (9)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 29: Use Household Vehicle for Current Trip

Could Have Used Household Vehicle For Current Trip	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
No	82.2%	85.0%	76.4%	73.5%	69.3%	51.2%
Yes	17.8%	15.0%	23.6%	26.5%	30.7%	48.8%

Thirty percent of riders live in one person households. The second most common household size is two person households (26%), and the third most common household size is three person households (17%). Table 30 shows riders household size.

Table 30: Household Size

Household Size	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
One (1)	29.5%	28.7%	46.5%	32.0%	22.5%	48.8%
Two (2)	25.6%	24.4%	27.4%	28.3%	33.5%	16.3%
Three (3)	17.0%	17.4%	11.2%	18.0%	15.2%	0.0%
Four (4)	13.4%	13.5%	7.3%	9.6%	21.4%	32.6%
Five (5)	7.7%	8.8%	2.6%	5.8%	2.8%	2.3%
Six (6)	2.6%	2.8%	1.5%	1.7%	2.2%	0.0%
Seven (7)	1.6%	1.7%	0.7%	2.4%	0.7%	0.0%
Eight (8)	1.0%	1.0%	0.4%	0.8%	1.2%	0.0%
Nine (9)	0.4%	0.4%	0.0%	0.5%	0.0%	0.0%
Ten or More (10+)	1.2%	1.2%	2.5%	0.7%	0.6%	0.0%

Thirty-eight percent of riders have one household employee. The second most common number of household employees is two persons (30%) and the third most common is zero household employees (14%). Table 31 shows the number of household employees in a rider's household.

Table 31: Household Employees

Household Employees	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
None (0)	13.7%	12.1%	27.9%	12.1%	23.0%	0.0%
One (1)	38.1%	38.5%	37.0%	39.1%	32.3%	83.7%
Two (2)	30.4%	31.2%	27.2%	30.7%	24.9%	16.3%
Three (3)	11.4%	11.9%	4.7%	9.9%	12.8%	0.0%
Four (4)	3.8%	3.6%	1.6%	5.0%	5.6%	0.0%
Five (5)	1.4%	1.5%	0.8%	1.2%	1.0%	0.0%
Six (6)	0.5%	0.6%	0.4%	0.6%	0.0%	0.0%
Seven (7)	0.2%	0.1%	0.0%	0.3%	0.4%	0.0%
Eight (8)	0.3%	0.3%	0.0%	0.6%	0.0%	0.0%
Nine (9)	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%
Ten or More (10+)	0.2%	0.2%	0.4%	0.2%	0.0%	0.0%

Twenty-one percent of riders live in a household that makes less than $10,000 annually, and 48% of riders have an annual household income less than $25,000. Table 32 shows riders household income.

Table 32: Household Income

Houshehold Income	REGIONAL TOTAL	SORTA	STREETCAR	TANK	BCRTA	CTC
Less than $10,000	21.5%	18.4%	25.6%	25.5%	40.4%	0.0%
$10,000 - $14,999	10.4%	8.9%	12.4%	7.6%	26.7%	0.0%
$15,000 - $19,999	8.2%	8.5%	5.6%	6.9%	9.6%	0.0%
$20,000 - $24,999	8.3%	8.9%	6.2%	8.2%	4.3%	19.4%
$25,000 - $29,999	8.5%	9.4%	4.1%	6.9%	4.5%	41.7%
$30,000 - $34,999	7.5%	8.4%	3.3%	7.1%	1.6%	0.0%
$35,000 - $39,999	8.1%	9.0%	5.9%	6.4%	4.4%	0.0%
$40,000 - $49,999	9.4%	11.1%	5.3%	7.1%	0.7%	0.0%
$50,000 - $74,999	9.5%	9.8%	11.8%	10.3%	5.2%	0.0%
$75,000 - $99,999	3.8%	3.6%	7.5%	5.6%	1.3%	0.0%
Over $100,000	4.7%	4.0%	12.5%	8.4%	1.4%	38.9%

APPENDIX A SURVEY SAMPLING PLANS

OD Survey Sample Plan

ROUTE_SURVEYED	Sample Goals					Surveys Collected				
	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE TOTAL	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE TOTAL
CTC 2X New Richmond Express - To Cincinnati	0	0	0	0	1	0	0	0	0	1
CTC 2X New Richmond Express - To New Richmond	0	0	0	0		0	0	1	0	
CTC 4X Amelia Express - To Cincinnati	0	0	0	0	5	3	0	3	0	6
CTC 4X Amelia Express - From Cincinnati	0	0	0	0		0	0	0	0	
TANK 1 - Dixie Highway/Florence - Inbound	8	10	10	4	126	9	27	16	9	133
TANK 1 - Dixie Highway/Florence - Outbound	6	11	9	5		8	49	10	5	
TANK 3 - Ludlow/Bromley - Inbound	2	2	1	0	24	2	9	3	1	31
TANK 3 - Ludlow/Bromley - Outbound	1	2	2	1		1	8	4	3	
TANK 5 - Holman Avenue/Fort Wright - Inbound	2	3	3	2	40	8	3	5	3	46
TANK 5 - Holman Avenue/Fort Wright - Outbound	2	3	2	1		9	12	4	2	
TANK 7 - Madison Avenue/Latonia - Inbound	5	5	2	1	62	5	26	4	4	81
TANK 7 - Madison Avenue/Latonia - Outbound	2	4	3	2		6	30	3	3	
TANK 8 - Eastern Avenue/Crestview Hills - Inbound	3	4	3	2	51	4	22	7	4	67
TANK 8 - Eastern Avenue/Crestview Hills - Outbound	2	4	3	2		8	12	6	4	
TANK 12 - Bellevue/Dayton - Inbound	1	2	1	0	15	2	5	4	1	22
TANK 12 - Bellevue/Dayton - Outbound	1	1	1	1		2	2	5	1	
TANK 16 - West Newport/Fort Thomas - Inbound	1	1	1	1	13	3	3	3	3	26
TANK 16 - West Newport/Fort Thomas - Outbound	1	1	1	1		3	3	4	4	
TANK 24 - NKU Shuttle - LOOP	3	10	7	6	28	3	24	9	8	44
TANK 25 - NKU/Alexandria - Inbound	4	6	5	3	74	4	14	14	4	80
TANK 25 - NKU/Alexandria - Outbound	3	5	5	3		6	18	15	5	
TANK 61 - Covington Health Connection - Inbound	0	0	0	0	2	0	0	2	0	3
TANK 61 - Covington Health Connection - Outbound	0	0	0	0		0	1	0	0	
TANK 62 - CVG Campus Shuttle - Inbound	0	0	0	0	3	0	2	0	0	5
TANK 62 - CVG Campus Shuttle - Outbound	0	0	0	0		0	3	0	0	
TANK 2X - Airporter - Inbound	2	2	3	3	38	3	11	8	8	50
TANK 2X - Airporter - Outbound	3	4	2	2		4	10	4	2	
TANK 17X - Buttermilk Pike Express - Inbound	1	0	0	0	4	5	0	0	0	7
TANK 17X - Buttermilk Pike Express - Outbound	0	0	1	0		0	0	2	0	

ROUTE_SURVEYED	Sample Goals					Surveys Collected				
	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE TOTAL	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE TOTAL
TANK 22X - Mt. Zion Road Express - Inbound	1	0	0	0	6	4	0	0	0	8
TANK 22X - Mt. Zion Road Express - Outbound	0	0	1	0		0	0	4	0	
TANK 25X - Alexandria Express - Inbound	1	0	0	0	6	4	0	0	0	7
TANK 25X - Alexandria Express - Outbound	0	0	1	0		0	0	3	0	
TANK 30X - Lake Park Drive./Fort Wright Express - Inbound	0	0	0	0	7	4	0	0	0	12
TANK 30X - Lake Park Drive./Fort Wright Express - Outbound	0	0	0	0		0	0	8	0	
TANK 32X - Aero Parkway/Burlington Express - Inbound	1	0	0	0	3	2	0	0	0	4
TANK 32X - Aero Parkway/Burlington Express - Outbound	0	0	1	0		0	0	2	0	
TANK 39X - Petersburg Road/South Hebron Express - Inbound	3	0	1	0	16	8	2	5	0	21
TANK 39X - Petersburg Road/South Hebron Express - Outbound	1	0	2	0		1	2	3	0	
TANK 40X - Worldwide Boulevard/North Hebron Express - Inbound	1	0	1	0	15	6	0	5	0	19
TANK 40X - Worldwide Boulevard/North Hebron Express - Outbound	3	0	2	0		4	0	4	0	
TANK 42X - Industrial Road/Florence Express - Inbound	2	1	2	1	21	11	5	3	1	38
TANK 42X - Industrial Road/Florence Express - Outbound	1	2	2	1		6	4	6	2	
TANK TROLLY - SOUTHBANK SHUTTLE - LOOP	3	7	9	5	47	4	16	19	9	48
BCRTA U1/U1W - Campus Core w/Wal-Mart Flyer - Loop	0	6	5	1	26	0	17	11	5	33
BCRTA U3 - Tollgate Loop - Loop	8	26	13	3	99	8	74	14	11	107
BCRTA U4 - Western Campus/North Loop - Loop	4	12	6	2	48	6	21	13	10	50
BCRTA R1 - Hamilton/Middletown Shuttle - NORTHBOUND	1	3	2	1	21	3	13	8	0	46
BCRTA R1 - Hamilton/Middletown Shuttle - SOUTHBOUND	1	2	1	0		2	11	7	2	
BCRTA R3 - Hamilton/Oxford Connector - SOUTHBOUND	1	2	2	0	19	3	13	3	3	42
BCRTA R3 - Hamilton/Oxford Connector - NORTHBOUND	1	2	2	0		2	15	3	0	
BCRTA R6 - Job Connector - INBOUND	0	1	0	0	7	0	4	0	1	10
BCRTA R6 - Job Connector - OUTBOUND	0	1	0	0		1	4	0	0	
BCRTA Blue Line - Loop	3	8	3	0	28	11	18	9	0	38
BCRTA Green Line - Loop	1	4	2	0	15	8	18	2	0	28
BCRTA Gold Line - Loop	2	4	2	0	17	5	18	3	0	26
BCRTA Red Line - Loop	1	4	1	0	13	7	10	5	0	22
BCRTA CincyLink - OUTBOUND	3	0	0	0	12	2	1	6	0	12
BCRTA CincyLink - INBOUND	0	0	3	0		0	0	3	0	
SORTA 1 - Inbound - To GOVERNMENT SQUARE AREA F	0	1	0	0	4	7	2	0	0	15
SORTA 1 - Outbound - To VICTORY PARKWAY 2621 EOL	0	0	0	0		3	2	1	0	
SORTA 2 - Inbound - To GOVERNMENT SQUARE AREA H	1	0	0	0	4	6	0	0	0	15
SORTA 2 - Outbound - To BOND HILL GARAGE	0	0	1	0		0	0	9	0	
SORTA 3 & 3X - Inbound - To SYCAMORE ST & COURT ST	2	0	1	0	9	3	0	3	0	12
SORTA 3 & 3X - Outbound - To MEIJER PARK&RIDE MONTGOMERY	1	0	2	0		1	0	5	0	
SORTA 4 - Inbound - To GOVERNMENT SQUARE AREA H	14	18	17	10	207	19	53	33	13	227
SORTA 4 - Outbound - To UC BLUE ASH	10	19	18	9		22	55	24	8	
SORTA 5 - Southbound - To OAKLEY TRANSIT CENTER SH	2	3	2	1	30	5	4	8	1	35
SORTA 5 - Northbound - To SHARONVILLE KROGER	2	3	3	1		4	7	5	1	
SORTA 6 - Inbound - To GOVERNMENT SQUARE AREA G	10	11	8	3	106	18	36	8	3	131
SORTA 6 - Outbound - To CENTRAL PKWY & LUDLOW	4	8	11	5		15	34	12	5	
SORTA 11 - Inbound - To GOVERNMENT SQUARE AREA A	12	15	19	7	190	23	54	33	13	215
SORTA 11 - Outbound - To ON KENWOOD AT LOOP LAYOV	15	14	16	7		21	45	20	6	
SORTA 12 - Inbound - To GOVERNMENT SQUARE AREA A	1	0	0	0	2	2	0	0	0	2
SORTA 12 - Outbound - To READING RD & SHARON RD	0	0	1	0		0	0	0	0	
SORTA 16 - Inbound - To GOVERNMENT SQUARE AREA H	12	14	10	6	135	12	31	21	6	147
SORTA 16 - Outbound - To COLERAIN RD & SPRINGDALE RD	6	11	12	4		9	44	16	8	

ROUTE_SURVEYED	Sample Goals					Surveys Collected				
	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE Total	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE Total
SORTA 17 - Inbound - To GOVERNMENT SQUARE AREA B	26	31	28	13	346	31	91	43	29	376
SORTA 17 - Outbound - To SPRING GROVE AVE & HARRISON	19	26	31	19		35	80	43	24	
SORTA 19 - Inbound - To QUEENSGATE GARAGE	14	20	16	9	210	23	35	44	16	224
SORTA 19 - Outbound - To NORTHSIDE TRANSIT CENTER -	9	19	19	10		23	42	29	12	
SORTA 20 - Inbound - To GOVERNMENT SQUARE AREA B	8	10	9	4	105	10	31	8	9	115
SORTA 20 - Outbound - To FAIRFIELD MEIJER & KOLB	5	9	9	5		16	23	12	6	
SORTA 21 - Inbound - To GOVERNMENT SQUARE AREA D	15	18	14	7	176	20	37	22	18	188
SORTA 21 - Outbound - To PARKCREST LN LAYOVER	6	12	16	9		14	43	26	8	
SORTA 22 - Eastbound - Glenway Transit Center - Madisonville Crosstown	3	0	0	0	11	7	0	0	0	10
SORTA 22 - Westbound - Glenway Transit Center - Madisonville Crosstown	0	0	4	0		0	0	3	0	
SORTA 23X - Inbound - To GOVERNMENT SQUARE AREA E	2	0	0	0	6	5	0	1	0	13
SORTA 23X - Outbound - To FOREST PARK PARK & RIDE	0	0	1	0		1	0	6	0	
SORTA 24 - Westbound - To BOND HILL GARAGE	7	5	4	2	66	9	15	10	8	86
SORTA 24 - Eastbound - To TOWN CENTER WAY & ANDERSON	4	4	9	2		8	23	10	3	
SORTA 25 - Inbound - To READING RD AT PENDLETON	1	0	0	0	2	3	0	0	0	4
SORTA 25 - Outbound - To ERIE AVE & THOBURNE ST	0	0	0	0		0	0	1	0	
SORTA 27 - Inbound - To DEPOT ST & GEST ST	8	6	7	3	76	11	13	21	6	79
SORTA 27 - Outbound - To CASEY DR LAYOVER	4	5	7	3		4	10	10	4	
SORTA 28 - Inbound - To MONTGOMERY RD & SHERMAN AVE	1	1	3	1	20	4	4	2	1	26
SORTA 28 - Outbound - To ON KENWOOD AT LOOP LAYOV	2	1	1	1		2	8	3	2	
SORTA 29X - Inbound - To QUEENSGATE GARAGE	2	0	0	0	6	4	0	1	0	12
SORTA 29X - Outbound - To MOHAWK TRAIL	0	0	2	0		1	0	6	0	
SORTA 30 - Inbound - To BEECHMONT AVE & FOREST RD	2	0	1	0	10	6	0	0	0	11
SORTA 30 - Outbound - To TOWN CENTER WAY & ANDERSON P	0	0	2	0		0	0	5	0	
SORTA 31 - Eastbound - To BREWSTER AT MONTGOMERY	10	12	12	4	132	12	34	21	7	136
SORTA 31 - Westbound - To 8TH ST & STATE ST	9	11	11	4		9	27	18	8	
SORTA 32 - Inbound - To QUEENSGATE GARAGE	11	12	9	3	111	16	45	16	6	149
SORTA 32 - Outbound - To GRACELY DR & RIVER RD	6	9	9	3		17	35	9	5	
SORTA 33 - Inbound - To GOVERNMENT SQUARE AREA A	23	27	27	12	328	25	67	60	26	340
SORTA 33 - Outbound - To DALTON AVE & SHERMAN AVE	18	26	32	18		34	63	45	20	
SORTA 36 - Eastbound - Price Hill - Norwood Crosstown	3	2	4	1	39	7	4	4	1	43
SORTA 36 - Westbound - Price Hill - Norwood Crosstown	2	3	5	1		3	5	14	5	
SORTA 37 - Eastbound - To OAKLEY TRANSIT CENTER SH	10	1	7	0	69	20	11	12	0	81
SORTA 37 - Westbound - To RIDGE AVE & ACOMB AVE	8	1	11	0		11	2	25	0	
SORTA 38 - Inbound - To AUBURN AVE & BODMANN AVE	2	0	0	0	8	4	0	0	0	14
SORTA 38 - Outbound - To QUEENSGATE GARAGE	0	0	2	0		0	0	10	0	
SORTA 40 - Inbound - To 9TH ST & CENTRAL AVE	2	0	0	0	6	4	0	0	0	7
SORTA 40 - Outbound - To SCHOOL SECTION RD & HARRISO	0	0	2	0		0	0	3	0	
SORTA 41 - Eastbound - To OAKLEY TRANSIT CENTER SHELTE	15	7	9	2	123	15	19	32	11	137
SORTA 41 - Westbound - To IBSEN AVE & CALVERT	7	6	17	4		8	24	18	10	
SORTA 42X - Inbound - To RACE ST & LIBERTY ST	0	0	0	0	0	0	0	0	0	0
SORTA 42X - Outbound - To WINNESTE AVE 4831	0	0	0	0		0	0	0	0	
SORTA 43 - Inbound - To GOVERNMENT SQUARE AREA C	21	32	27	14	328	24	81	51	14	353
SORTA 43 - Outbound - To SHARONVILLE KROGER	16	28	26	18		25	88	50	20	
SORTA 46 - Inbound - To GOVERNMENT SQUARE AREA C	10	15	10	6	146	16	24	30	12	158
SORTA 46 - Outbound - To ESTE AVE LAYOVER	6	13	13	9		15	21	30	10	
SORTA 49 - Inbound - To EZZARD CHARLES DR & WESTERN	3	3	2	1	33	6	7	3	2	39
SORTA 49 - Outbound - To SUTTER AVE & BLEECKER LN	1	3	3	2		4	7	8	2	

ROUTE_SURVEYED	Sample Goals					Surveys Collected				
	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE TOTAL	AM Peak [Before 9am]	Midday [9am-3pm]	PM Peak [3pm-7pm]	Evening [After 7pm]	ROUTE TOTAL
SORTA 50 - Inbound - To 6TH ST & PLUM ST	2	0	0	0	6	4	0	0	0	10
SORTA 50 - Northbound - To SHARONVILLE KROGER	0	0	1	0		3	0	2	1	
SORTA 51 - Eastbound - To BANK ST & DALTON AVE	14	18	12	7	192	20	46	32	10	221
SORTA 51 - Westbound - To GLENWAY CROSSING TRANSIT	9	16	18	11		17	51	29	16	
SORTA 52X - Inbound - To 8TH ST & STATE AVE	1	0	0	0	3	2	0	0	0	3
SORTA 52X - Outbound - To QUEENSGATE GARAGE	0	0	1	0		0	0	1	0	
SORTA 64 - Inbound - To 6TH AND MAIN ST	10	13	14	5	130	10	21	29	12	139
SORTA 64 - Outbound - To GLENWAY CROSSING TRANSIT	7	9	9	5		8	24	20	15	
SORTA 65 - Eastbound - To NORTHSIDE TRANSIT CENTER	2	0	3	0	21	2	0	5	0	23
SORTA 65 - Westbound - To GLENWAY CROSSING TRANSIT	4	0	2	0		6	2	8	0	
SORTA 67 - Eastbound - To MEIJER PARK&RIDE MONTGOMERY	1	2	2	1	20	3	2	2	2	21
SORTA 67 - Westbound - To FOREST PARK PARK & RIDE	1	2	2	1		1	3	3	5	
SORTA 71X - Inbound - To SYCAMORE ST & COURT ST	2	0	0	0	9	2	0	1	0	11
SORTA 71X - Outbound - To FIELDS ERTEL RD & ROYAL	0	0	2	0		0	2	6	0	
SORTA 74X - Outbound - To CTC LAYOVER	0	0	2	0	7	0	0	6	0	13
SORTA 74X - Inbound - To NORTHSIDE TRANSIT CENTER	2	0	0	0		7	0	0	0	
SORTA 75X - Inbound - To COLUMBIA PKWY & STANLEY AVE	1	0	0	0	3	2	0	0	0	3
SORTA 75X - Outbound - To PLAINVILLE RD & BRAMBLE AVE	0	0	1	0		0	0	1	0	
SORTA 77 - Inbound - To 6TH ST & PLUM ST	2	0	0	0	8	3	0	2	0	11
SORTA 77 - Outbound - To SYCAMORE ST & 4TH ST	0	0	1	0		0	0	6	0	
SORTA 78 - Inbound - To VINE ST & KESSLER AVE	15	19	14	7	192	16	44	32	9	205
SORTA 78 - Outbound - To CENTURY CIRCLE - VINEYARD	10	16	18	9		22	48	24	10	
SORTA 81 - Inbound - To 4TH ST & SYCAMORE ST	0	0	0	0	2	1	0	0	0	2
SORTA 81 - Outbound - To TOWN CENTER WAY & ANDERSON P	0	0	1	0		0	0	1	0	
SORTA 82X - Inbound - To 5TH ST & SYCAMORE ST	1	0	0	0	3	3	0	0	0	4
SORTA 82X - Outbound - To WOODBURN AVE & BURDETTE AVE	0	0	1	0		0	0	1	0	
SORTA 90 - Inbound - To RIVERFRONT TRANSIT CENTE	5	10	8	4	90	8	22	9	6	98
SORTA 90 - Outbound - To KENWOOD TOWNE CENTER - MONTG	4	10	7	3		6	31	12	4	
SORTA Streetcar - Loop	7	53	49	27	244	10	118	87	31	246
Totals	**611**	**833**	**838**	**376**	**4882**	**1048**	**2360**	**1567**	**608**	**5583**

On-to-Off Sample Plan

Route #	Direction	Sampling Goals						Collected Pairs					
		AM Peak (Before 9am)	Midday (9:00am-2:59pm)	PM Peak (3:00-6:59pm)	Evening (After 7:00pm)	Total	Total Surveys	AM Peak (Before 9am)	Midday (9:00am-2:59pm)	PM Peak (3:00-6:59pm)	Evening (After 7:00pm)	Total	Total Surveys
SORTA ROUTE 4	Inbound - To GOVERNMENT SQUARE AREA H	41	55	52	31	**179**	**461**	112	155	74	31	372	**722**
	Outbound - To UC BLUE ASH	31	56	53	26	**166**		111	120	85	34	350	
SORTA ROUTE 11	Inbound - To GOVERNMENT SQUARE AREA A	37	45	57	22	**162**	**422**	110	65	45	18	238	**529**
	Outbound - To ON KENWOOD AT LOOP LAYOV	46	41	49	20	**155**		111	95	59	26	291	
SORTA ROUTE 17	Inbound - To GOVERNMENT SQUARE AREA B	77	93	85	38	**293**	**769**	242	148	85	45	520	**946**
	Outbound - To SPRING GROVE AVE & HARRISON	56	77	93	57	**283**		124	159	78	65	426	
SORTA ROUTE 19	Inbound - To QUEENSGATE GARAGE	42	61	47	27	**177**	**466**	61	100	38	24	223	**487**
	Outbound - To NORTHSIDE TRANSIT CENTER -	27	58	57	30	**172**		57	136	52	19	264	
SORTA ROUTE 33	Inbound - To GOVERNMENT SQUARE AREA A	68	81	80	36	**265**	**729**	169	273	137	36	615	**1,231**
	Outbound - To DALTON AVE & SHERMAN AVE	53	77	97	55	**282**		147	247	163	59	616	
SORTA ROUTE 43	Inbound - To GOVERNMENT SQUARE AREA C	63	97	80	41	**281**	**728**	118	315	113	50	596	**1,145**
	Outbound - To SHARONVILLE KROGER	48	85	78	53	**264**		98	249	157	45	549	
SORTA ROUTE 51	Eastbound - To BANK ST & DALTON AVE	43	54	37	22	**157**	**427**	48	93	56	23	220	**447**
	Westbound - To GLENWAY CROSSING TRANSIT	28	48	55	32	**163**		61	77	70	19	227	
SORTA ROUTE 78	To VINE ST & KESSLER AVE-Inbound	44	56	43	20	**163**	**428**	183	124	45	18	370	**730**
	To CENTURY CIRCLE - VINEYARD-Outbound	30	48	53	28	**158**		136	142	41	41	360	
	TOTALS	734	1,032	1,018	538	3,322	4,429	1,888	2,498	1,298	553	6,237	6,237
											Additional interled routes	A	107

APPENDIX B SURVEY QUESTIONNAIRE

OKI 2024 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 Cincinnati area, please list the **hotel name** or address where you are staying) If you are unhoused select bubble* O

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)

O Your usual workplace
O Other business related
O School K-12 (students only)
O College / University (students only)
O Medical appointment / doctor visit
O Personal business (bank, haircut, post office)
O Dine out / get coffee / take-out
O Social visit (friends / relatives)
O Leisure / entertainment / recreation / sightseeing
O Airport (passengers only)
O Hotel → *Go to Question #4*
O Your **HOME** → *Go to Question #4*
O Non-destination Trip → *Skip Qs #6-11*
O Other: _____
O Grocery / food shopping
O Other shopping
O 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:)

_____

City: _____ Zip: _____

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

O Walk
O Wheelchair
O E-Scooter (Bird, Lime, etc.)
O Personal Bike
O Red Bike (Bikeshare)
O Taxi
O Uber, Lyft, etc.
O Dropped off by someone going elsewhere (answer 4a)
O Drove alone and parked (answer 4a)
O Drove or rode with others and parked (answer 4a)
O Other_____

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

_____

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

O Your usual workplace
O Other business related
O School K-12 (students only)
O College / University (students only)
O Medical appointment / doctor visit
O Personal business (bank, haircut, post office)
O Dine out / get coffee / take-out
O Social visit (friends / relatives)
O Leisure / entertainment / recreation / sightseeing
O Airport (passengers only)
O Hotel → *Go to Question #9*
O Your **HOME** → *Go to Question #9*
O Other: _____
O Grocery / food shopping
O Other shopping
O 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:)

_____

City: _____ Zip: _____

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

O Walk
O Wheelchair / scooter
O E-Scooter (Bird, Lime, etc.)
O Personal Bike
O Red Bike (Bikeshare)
O Taxi
O Uber, Lyft, etc.
O Be picked up by someone (answer 9a)
O Get in a parked vehicle and drive alone (answer 9a)
O Get in a parked vehicle and drive/ride with someone (answer 9a)
O Other_____

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

_____

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

_____

11a. Did you transfer FROM another bus BEFORE getting on this bus/train? O Yes O No

11b. Will you transfer TO another bus AFTER getting off this bus/train? O Yes O No

11c. Please list the SYSTEMS & ROUTES in the order you use them for this one-way trip.

START → [ ] → [ ] → [ ] → [ ] → END

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

Continue

OTHER INFORMATION ABOUT THIS TRIP

12. What time did you BOARD this bus/train? _____ : _____ **am / pm (circle one)**

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

14. Did you use the Transit App to pay your fare (with EZFair)? O Yes O No

15a. What fare payment methods did you use for this one-way trip?

15b. What type of fare was this?

16. Did your employer or another organization pay for your fare? O Yes, entire fare O Yes, some of fare O No

17. How many days a week do you use public transit?
O 6-7 days per week O 1-2 days per week O Less than 1 day per month
O 3-5 days per week O 1-3 days per month O First time to make this trip

18. Do you have a working smartphone? O Yes O No

19. Do you have a credit or debit card? O Yes O No

20. If bus service was not available, how would you make this trip?
O Drive O E-Scooter (Bird, Lime, etc.) O Walk/Wheelchair O Uber/Lyft/Taxi
O Bicycle O Ride with someone else O Red Bike (Bikeshare) O Would not make this trip

ABOUT YOU AND YOUR HOUSEHOLD

21. Are you a visitor to the Cincinnati area? O No O Yes

23. How many working vehicles (cars, trucks, or motorcycles) are available to your household? _____ vehicles
23a. [If Q23 is more than NONE] Could you have used one of these vehicles for this trip? OYes ONo

24. Including YOU, how many people live in your household? _____ people

25. Including YOU, how many people (over age 15) in your household are employed full or part-time?__# people

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

26a. Did you make a trip to work since you left home? O Yes O No
26b. Will you make a trip to work before you will arrive home? O Yes O No
26c. [If #26a or #27b is YES] Provide work name /address_____

27. What is your student status? (check the one response that BEST describes you)
O Not a student O Yes – Full Time college / university (specify institution name) _____
O Yes – K - 12th grade O Yes – Part Time college / university (specify institution name) _____
O Yes, other (specify institution name) _____

27a. Did you make a trip to school since you left home? O Yes O No
27b. Will you make a trip to school before you will arrive home? O Yes O No
27c. [If #27a or #27b is YES] Provide school name_____

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

29. Do you have an ADA certified physical disability or other disability that limits your mobility? O Yes O No

30. What is your age? O Under 18 O 18-25 O 26-34 O 35-54 O 55-64 O 65 and over

31. What is your race / ethnicity? (check all that apply)
O American Indian/Alaska Native O Asian O Black/African American O Hispanic/Latino
O Somali O White/Caucasian O Other: _____

32. What is your gender? O Male O Female O Other _____

33. Do you speak a language other than English at home? O No O Yes - **Which language?** _____
33a. [If #33 is Yes] How well do you speak English? O Very Well O Well O Less than well O Not at all

34. Which of the following BEST describes your TOTAL ANNUAL HOUSEHOLD INCOME in 2023 before taxes?
O Less than $10,000 O $20,000 - $24,999 O $35,000 - $39,999 O $75,000 - $99,999
O $10,000 - $14,999 O $25,000 - $29,999 O $40,000 - $49,999 O Over $100,000
O $15,000 - $19,999 O $30,000 - $34,999 O $50,000 - $74,999

REGISTER TO WIN A $100 GIFT CARD

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

Your Name: _____

Phone Number: (_____) _____

Thank you for your help!

FARE METHODS BY AGENCY

SORTA		
Did you use t	**What fare payment methods did you use for this one-way trip?**	**What type of fare was this?**
Yes	One-way Cash or Ticket	Regular
No	1 Day Pass	Reduced, child aged 2-5
	30 Day Pass	Reduced, Disabled (Access Card)
	Regional Stored-Value Cards	Reduced, Senior 65 and over
	Free - SORTA Metro Employee	
	Cinncinati State ID Card	
	University of Cincinnati ID Card	
	CPS Student Smart Card (skip next Q)	
	Free - Child ages 2 and under (skip next Q)	
	Free - Other _____	
	Other _____	
TANK		
Did you use t	**What fare payment methods did you use for this one-way trip?**	**What type of fare was this?**
Yes	One-way Cash (only ask if not Transit App)	Regular
No	TANK 1 Day Pass	Reduced, Disabled
	TANK / Metro 1 Day Pass	Reduced, Senior 65 and over
	TANK 30 Day Pass	
	TANK / Metro 30 Day Pass	
	Southbank Shuttle (only available for this route; skip next Q)	
	Northern Kentucky University ID Card (skip next Q)	
	Gateway Community & Technical College ID Card (skip next Q)	
	Student Fare - Middle and High School (skip next Q)	
	Free - Child under 48 in (skip next Q)	
	Free - Employee / Friends of TANK	
	Free - SORTA Employee	
	Free - Other _____	
	Other _____	
BCRTA		
CINCYLINK	**What fare payment methods did you use for this one-way trip?**	
	Single Ride $5	
	30 day pass $120	
	ALL OTHER ROUTES ARE FREE	
CTC		
Did you use t	**14. What fare payment methods did you use for this one-way trip?**	**What type of fare was this?**
	One-way Cash (only ask if not Transit App)	Regular
This question c	Student with ID (skip next Q)	Reduced, child under 48 inches
	10 Ride Card	Reduced, Disabled
	Free - Other _____	Reduced, Senior 65 and over
	Other _____	