Indianapolis Public Transportation Corporation Title VI Program

Prepared by:

TMD
TRANSPORTATION MANAGEMENT & DESIGN, INC.

Photo by: Chris Whonsetler

Contents

Title VI Program

This document is being submitted by the Indianapolis Public Transportation Corporation (IndyGo) to the Federal Transit Administration (FTA) in compliance with the requirements of FTA Circular 4702.1B "Title VI Requirement and Guidelines for Federal Transit Administration Recipients." This document specifically meets the requirements of Chapter III, Part 4 "Requirement to Prepare and Submit a Title VI Program." The necessary contents of each Title VI program, as outlined in Chapter III, are shown below with responses detailing how IndyGo has met each requirement.

1) A copy of the recipient's Title VI notice to the public that indicates the recipient complies with Title VI, and informs members of the public of the protections against discrimination afforded to them by Title VI. Include a list of locations where the notice is posted.

IndyGo operates its programs without regard to race, color or national origin in accordance with Title VI of the Civil Rights Act of 1964. It informs members of the public of the protections against discrimination afforded to them by Title VI. A copy of the public notice is located in Appendix A. The text reads as follows:

> In accordance with Title VI of the Civil Rights Act of 1964, IndyGo operates its programs without regard to race, color or national origin. If you believe you have been the victim of a discriminatory practice under Title VI, you may file an official complaint. For more information on IndyGo's Title VI Policy and the procedures to file a complaint, contact:
>
> IndyGo Customer Service at Transit Center
> Monday – Friday: 8 a.m. – 6 p.m.
> Saturday: 9 a.m. – Noon
> Call Center Hours
> 317.635.3344
> Monday – Friday: 7 a.m. – 7 p.m.
> Saturday: 9 a.m. – 4 p.m.
> www.IndyGo.net

IndyGo's Title VI notice to the public is posted in the following locations:

- All transit vehicles
- IndyGo website: www.indygo.net/about-indygo/title-vi/
- IndyGo Fixed Route Guidelines
- IndyGo Open Door Rider Guidelines
- System Map
- IndyGo reception desk and meeting rooms
- Julia M. Carson Transit Center

A copy of the system map and a screen capture of the IndyGo Title VI website have been included in Appendix A.

2) A copy of the recipient's instructions to the public regarding how to file a Title VI discrimination complaint, including a copy of the complaint form.

Instructions for filing Title VI discrimination complaints are included in the IndyGo Title VI notice to the public. Customers are instructed to file a complaint through the Customer Service Center by either calling or completing an online comment form. A copy of the online comment form is provided in Appendix B. Customers may also download a complaint form and mail or fax it to the Director of Compliance and Civil Rights. A copy of the complaint form is provided in Appendix B.

3) A list of any public transportation-related Title VI investigations, complaints, or lawsuits filed with the recipient since the time of the last submission.

A total of six official complaints have been filed since the previous Title VI program submission. One complaint was filed with the Indiana Civil Rights Commission (ICRC) and five were filed with the Indianapolis Public Transportation Corporation (IPTC). A summary of complaints filed with IndyGo and actions taken are summarized in Appendix B.

4) A public participation plan that includes an outreach plan to engage minority and limited English proficient populations, as well as a summary of outreach efforts made since the last Title VI Program submission.

IndyGo's public engagement plan is included in Appendix C. The plan describes all aspects of the public engagement process including, the thresholds for determining when public hearings are necessary, the appropriate timeline and means of communication for advertising the public hearing, acceptable venues for meetings, and the required contents for the public hearings. The document also includes strategies for providing meaningful outreach to limited English proficient (LEP) populations.

Since the previous Title VI program submittal, IndyGo has conducted a number of focused public outreach efforts. These include:

- Public outreach related to the TOD (Transit Oriented Development) Strategic Plan
- Efforts related to Green, Blue, Purple, and Red Line service recommendations and facility improvements.
- Public and stakeholder outreach related to proposed 2016 service changes (the proposed changes were implemented in June 2016).

In addition to these focused efforts IndyGo continues to provide information to, and solicit feedback from the public via traditional media, social media, and its customer service programs. A complete summary of IndyGo public outreach efforts since the previous Title VI program submission is included in Appendix C.

5) A copy of the recipient's plan for providing language assistance to persons with limited English proficiency, based on the DOT LEP Guidance.

IndyGo's plans for providing language assistance to LEP populations are included in the public engagement plan found in Appendix C.

6) Recipients that have transit-related, non-elected planning boards, advisory councils or committees, or similar bodies, the membership of which is selected by the recipient, must provide a table depicting the racial breakdown of the membership of those committees, and a description of efforts made to encourage the participation of minorities on such committees or councils.

IndyGo's Board of Directors consists of seven members which are appointed by the Mayor of Indianapolis and the City-County Council of Indianapolis and Marion County. As such, this requirement does not apply.

A separate Mobility Advisory Council (MAC) has been established by the Board of Directors to advise IndyGo on the provision of public transportation services for individuals with disabilities and provide education to the general public about these transportation needs. The current racial makeup of the MAC is four individuals who identify as Black or African American and six individuals who identify as White. Given the historically diverse racial makeup of MAC members, no additional steps have been deemed necessary to encourage minority participation on the MAC.

7) Primary recipients shall include a narrative or description of efforts the primary recipient uses to ensure subrecipients are complying with Title VI, as well as a schedule of subrecipient Title VI program submissions.

IndyGo extends Federal financial assistance to subrecipients through the JARC, New Freedom, and Section 5310 programs.

IndyGo provides a summary and checklist of Title VI program requirements, a sample notice to the public, sample complaint form and sample complaint procedures to all

TABLE 1: RATIAL BREAKDOWN OF MOBILE ADVISORY COUNCIL (MAC) MEMBERS

	Service Area		Mobile Advisory Council (MAC) Members	
Non-Hispanic, White	420,340	55%	6	60%
Hispanic or Latino	80,341	11%	0	0%
Black or African American	221,003	29%	4	40%
American Indian and Alaska Native	1,229	0%	0	0%
Asian	16,895	2%	0	0%
Native Hawaiian and Other Pacific Islander	169	0%	0	0%
Other	2,145	0%	0	0%
Two or More Races	18,345	2%	0	0%

subrecipients. Copies of these documents have been provided in Appendix D. IndyGo also provides Title VI training to all potential subrecipients during the annual "call for projects" meeting. Subrecipients are additionally provided either a copy of or link to the IndyGo Title VI Program Plan, which includes the IndyGo notice to the public, complaint form and complaint procedures for their reference.

Subrecipients are required to submit their Title VI Program documentation to IndyGo every 3 years. The IPTC Director of Compliance and Civil Rights completes a compliance review of each subrecipient and issues a review letter advising the subrecipient that they are either in compliance or that follow up is needed. Subrecipients are additionally monitored for Title VI compliance during site visits. A copy of the site visit checklist has been provided in Appendix D. All subrecipients also annually complete the FTA-required Title VI certifications and assurances. In addition, IndyGo monitors subrecipients by requiring Title VI complaint reports and a summary of public outreach and involvement activities on an annual basis.

8) If the recipient has constructed a facility, such as a vehicle storage facility, maintenance facility, operation center, etc., the recipient shall include a copy of the Title VI equity analysis conducted during the planning stage with regard to the location of the facility.

IndyGo has not constructed an applicable facility since the previous Title VI Program submission.

9) Additional information as specified in chapters IV, V, and VI, depending on whether the recipient is a fixed route transit provider, a State, or an MPO.

a) System-wide service standards and system-wide service policies, whether existing or new (i.e., adopted by the transit provider since the last submission).

IndyGo uses the following system-wide service standards and policies to evaluate transit service:

- Vehicle Load: IndyGo's service standard for vehicle load is a maximum peak load factor of 1.25 and a maximum off-peak load factor of 1.00. Load factor is defined as the number of passengers on a bus divided by the number of seats available. IndyGo's peak periods are defined as weekdays between 6:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m.
- Vehicle Headway: IndyGo's service standard for vehicle headway is 30 minutes or less during peak periods and 60 minutes or less during off-peak periods.
- On-Time Performance: IndyGo measures the on-time performance of its buses at set

timepoints along each route. IndyGo defines a bus arrival as on-time if it arrives at a timepoint no more than one minute earlier or five minutes later than the scheduled arrival time. IndyGo's service standard is for 90 percent of bus timepoint arrivals to be on-time.

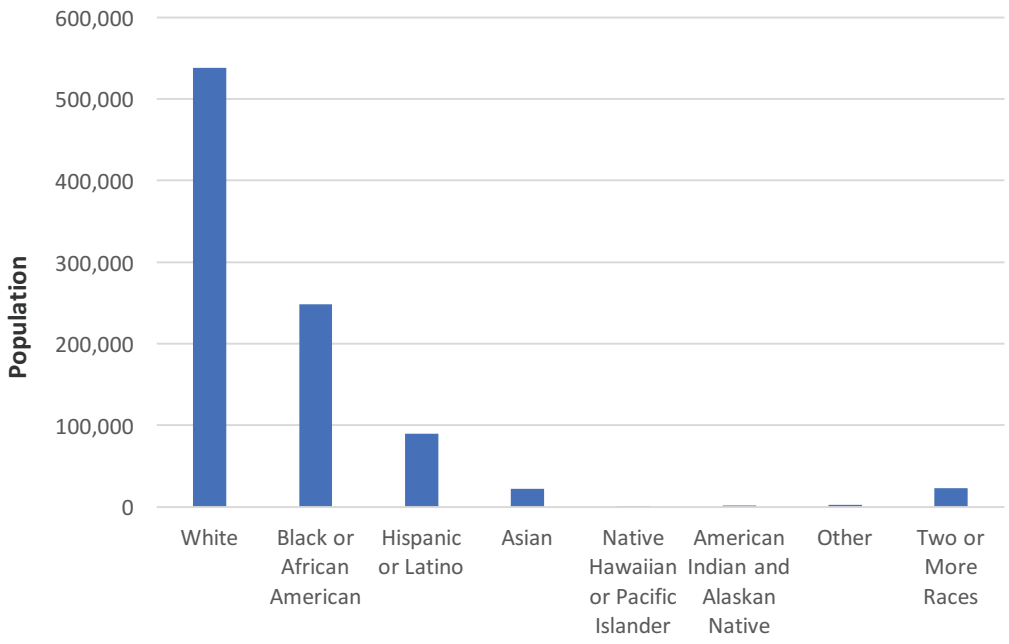
- **Service Availability:** IndyGo's service standard for service availability is for 80 percent of the service area population to be located within three-quarter miles of transit service.
- **Distribution of Transit Amenities:** IndyGo's service policy is for transit amenities to be distributed equitably throughout the system. Transit amenities include shelters, benches, informational displays, and trash cans. IndyGo's current policy states that the ridership threshold for Shelters is 20 passenger boardings per day, standard benches it is 10 boardings per day, and Simmie Seat two-person benches it is 5 boardings per day. IndyGo does not have a threshold for trash receptacles. Trash receptacles are provided at each shelter location and by request through the Adopt a Stop Program. Adopt a Stop trash receptacles are only placed in locations where a citizen has agreed to fully accept responsibility to empty trash on a weekly basis.
- **Vehicle Assignment:** IndyGo's service policy is for its transit vehicles to be assigned equitably between all routes with regard to vehicle age.

b) A demographic analysis of the transit provider's service area. This shall include demographic maps and charts completed since submission of the last Title VI Program that contains demographic information and service profiles.

Maps highlighting the distribution of minority, non-minority, low-income, and non-low-income populations throughout the IndyGo service area are included in the Service Monitoring Report in Appendix E. Additional maps also highlight the distribution of minority, non-minority, low-income, and non-low-income routes as defined by the FTA.

The IndyGo fixed-route service area is defined as the extents of Marion County. The demographic data is from the 2015 American Community Survey. The total population for the IndyGo service area is 926,335. The

FIGURE 1: DEMOGRAPHIC PROFILE OF INDYGO FIXED-ROUTE SERVICE AREA



demographic profile of the IndyGo fixed-route service area is shown in the Figure 1.

c) Data regarding customer demographics and travel patterns, collected from passenger surveys.

The most recent on-board passenger survey was conducted in 2016. The report summarizing this information is provided in Appendix F.

d) Results of the monitoring program of service standards and policies and any action taken, including documentation (e.g., a resolution, copy of meeting minutes, or similar documentation) to verify the board's or governing entity or official(s)'s consideration, awareness, and approval of the monitoring results.

The most recent IndyGo Service Monitoring Report as well as meeting agenda documenting the IndyGo Board's review and approval of the report are included in Appendix E.

e) A description of the public engagement process for setting the "major service change policy" and disparate impact policy.

IndyGo conducted a public engagement process to solicit feedback from the public on its proposed Title VI policies for "major service change," "disparate impact," and "disproportionate burden" in June 2013. A summary of the public outreach efforts and comments received by the public are provided in Appendix G.

f) A copy of board meeting minutes or a resolution demonstrating the board's or governing entity or official(s)'s consideration, awareness, and approval of the major service change policy and disparate impact policy.

The meeting minutes documenting the IndyGo Board's review and approval of the proposed Title VI policies are included in the summary of public outreach efforts in Appendix G.

g) Results of equity analyses for any major service changes and/or fare changes implemented since the last Title VI Program submission.

IndyGo conducted a service equity analysis for the proposed service changes that were part of their 2016 IndyGo Forward service restructuring. This analysis found no disparate impacts to minority populations or disproportionate burdens to low-income populations as a result of the service improvements. The IndyGo Forward Title VI Service Equity Analysis report is provided in Appendix H.

h) A copy of board meeting minutes or a resolution demonstrating the board's or governing entity or official(s)'s consideration, awareness, and approval of the equity analysis for any service or fare changes required by this circular.

The meeting minutes documenting the IndyGo Board's review and approval of the 2016 IndyGo Forward Service Equity Analysis are included with the Service Equity Analysis report in Appendix H.

Appendix A

- Title VI Notice to the Public
- Title VI Website Screenshot
- IndyGo System Map

NOTICE:

INDYGO TITLE VI POLICY

In accordance with Title VI of the Civil Rights Act of 1964, IndyGo operates its programs without regard to race, color or national origin. If you believe you have been the victim of a discriminatory practice under Title VI, you may file an official complaint. For more information on IndyGo's Title VI Policy and the procedures to file a complaint, contact:

INDYGO CUSTOMER SERVICE

317.635.3344
Monday – Friday: 7 a.m. – 7 p.m.
Saturday: 9 a.m. – Noon
www.IndyGo.net

AVISO:

INDYGO NORMA DEL TÍTULO VI

De conformidad con el Título VI de la ley de Derechos Civiles de 1964, IndyGo opera las programas de transporte sin consideración de la raza, el color u origen nacional. Si usted cree que ha sido víctima de una práctica discriminatoria en virtud del Título VI, puede presentar una queja oficial. Para más información sobre la norma del título VI y el proceso de presenter una queja, contacte:

INDYGO SERVICIO AL CLIENTE

317.635.3344
lunes – viernes: 7 a.m. – 7 p.m.
sábado: 9 a.m. – mediodía
www.IndyGo.net

IndyGo

TITLE VI NOTICE TO THE PUBLIC

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IndyGo

IndyGo's Title VI Policy

IndyGo welcomes feedback from passengers and the community.

If you have comments, complaints or believe you have been denied the benefits of IndyGo's services on the basis of age, sex or disability/handicap please call our Customer Service Center or fill out the online comment form. Your comment will be entered into a database and investigated by the appropriate IndyGo department. For all comments, if a response is requested, staff will follow up within 10 business days.

IndyGo operates its programs without regard to race, color or national origin in accordance with Title VI of the Civil Rights Act of 1964.

If you believe you have been the victim of a discriminatory practice due to your race, color or national origin, you may file an official Title VI complaint. For more information on IndyGo's Title VI Policy and the procedures to file a complaint, contact IndyGo Customer Service or fill out the Title VI Complaint Form . Once the form is completed, mail or fax it to the IndyGo Director of Compliance and Civil Rights. (En Español)

Mail: 1501 W. Washington St. Indianapolis, IN 46222

Fax: 317.634.6585

IndyGo Customer Service: 317.635.3344
Monday – Friday: 7 a.m. – 7 p.m.
Saturday: 9 a.m. – Noon

Download IndyGo's full Title VI Complaint Procedure. (En Español)

TITLE VI WEBSITE SCREENSHOT

www.indygo.net/about-indygo/title-vi/

IndyGo

Bus Routes | Fares | Contact Us | Projects | How to Ride

Title VI

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Mail
1501 W. Washington St.
Indianapolis, IN 46222

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317.635.3344

Monday – Friday: 7 a.m. – 7 p.m.

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Download IndyGo's Title VI Program

About IndyGo

- Employment
- Staff
- Board of Directors
- Transit Planning
- Transit Amenities
- Financial Information
- Advertising
- **Title VI**
- Terms of Use and Privacy Policy
- Developer Content
- Holiday Hours

IndyGo

FULL SYSTEM MAP

- 2 East 34th Street
- 3 Michigan Street
- 4 Fort Harrison
- 5 East 25th Street
- 6 Harding Street
- 8 Washington
- 10 10th Street
- 11 East 16th Street
- 12 Minnesota
- 13 Raymond
- 14 Prospect
- 15 West 34th Street
- 16 Beech Grove
- 17 College
- 18 Nora
- 19 Castleton
- 21 East 21st Street
- 22 Shelby
- 24 Mars Hill
- 25 West 16th Street
- 26 Keystone Crosstown
- 28 St. Vincent
- 30 30th Street Crosstown
- 31 Madison
- 34 Dr. MLK/Michigan
- 37 Park 100
- 38 West 38th Street
- 39 East 38th Street
- 55 English
- 86 86th Street Crosstown

FARE PRICES

Pass Type	Full Fare	Half Fare
Single Ride*	$1.75	$.85
Day Pass*	$4.00	$2.00
10-Trip	$17.50	$8.50
7-Day Pass	$20.00	$10.00
31-Day Pass	$60.00	$30.00
Open Door	$3.50	na
Summer Youth Pass (June-Aug.)	$30.00	na
College S-Pass**	$30.00	na

Children age 5 and under ride for free with paying passenger (limit two).

IndyGo offers half fare pricing to persons 65 and older, youth 18 and younger and persons with disabilities. In order to ride IndyGo using a half fare pass or to pay half fare on-board, individuals must show a valid form of ID to prove eligibility: IndyGo Half Fare ID Card (cost is $2 and an application must be completed and submitted at the Customer Service Retail Center), K-12 Student ID, or government-issued Medicare Card.

PURCHASING OPTIONS

1. By calling the IndyGo Customer Service Call Center 317.635.3344 (Relay Indiana: 711)
2. Online at www.IndyGo.net
3. At the IndyGo Customer Service Retail Center 201 East Washington Street
4. On board an IndyGo bus*
5. At partner locations: IUPUI Campus Center, DNR Customer Service Center, Indiana Government Center South, PLS Check Cashers***

* On board, only exact change can be used and you may only purchase single rides & day passes. Operators do not carry change. IndyGo fareboxes do not make change. Use the IndyGo Retail Center to purchase any pass type, except S-Passes.

** S-Passes are only available through participating colleges or universities. In order to use an S-Pass, a valid college student ID card is required upon boarding.

*** Partner locations may not carry all pass types. Contact IndyGo Customer Service Call Center.

REAL-TIME ARRIVAL

As riders wait at a stop, they will be able to call, email, or text for estimated real-time bus arrival information.

Text:

i. Text 25370

ii. In the message, type Arrivals and the stop ID # (Example: Arrivals 99999).

Email:

i. Email arrivals@indygo.net.

ii. In the subject line, type the stop ID # (Example: 99999).

Call:

i. Call 317-635-3344.

ii. Select the first menu option.

iii. Enter the stop ID #.

OBSERVED HOLIDAYS

IndyGo routes operate 365 days a year. On observed holidays, please refer to Sunday schedules unless otherwise indicated. Routes without Sunday service will not operate on observed holidays. Customer Service may be closed or operate on a shortened schedule for holidays.

- New Year's Day
- Martin Luther King, Jr. Day (Saturday Schedule)
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Day

BUS SERVICES

IndyGo's Fixed Routes primarily serve Marion County, using a hub-and-spoke system that brings most routes to the Julia M. Carson Transit Center. The Route 8 serves the Indianapolis International Airport every 30 minutes, seven days a week.

INDYGO RULES

Passengers are not allowed to "joyride" or stay on the bus for multiple trips. You may only make one complete round trip. If you exit the bus, you may be asked to pay an additional fare or swipe your pass to re-enter.

Passengers must refrain from disruptive behavior including talking loudly on cell phones, shouting profanity or rude insults, solicitation of services or favors, threatening or hostile remarks and listening to loud music with or without earphones. Throwing objects from the bus, sticking anything out of the bus windows or leaving anything on the bus when you depart is strictly prohibited.

Passengers must wear a shirt and shoes to be allowed on board. Strollers must be empty and collapsed before boarding the bus. Rollerblades and skates must be removed and carried onto the bus. Bicycles are not allowed on board, they must be stored on the bike racks on the front of the bus.

The following items are not permitted on IndyGo buses: explosives, knives (cutting tools required for work are permitted), car batteries, compressed gas bottles and fuel storage containers. Smoking is prohibited in IndyGo bus shelters and on buses. Food and drinks are not allowed on IndyGo buses unless they are sealed.

Animals are only allowed on an IndyGo bus if they are in a leak-proof carrier or are service animals. Under the Americans with Disabilities Act of 1990, a service animal is defined as "any guide dog, signal dog, or other animal that is individually trained to do work or perform tasks for an individual with a disability." 49 CFR 37.3

IndyGo Supervisors or any responding Law Enforcement Agency may remove passengers for not adhering to IndyGo procedures or policies. Riding privileges may also be revoked.

SAFETY

All IndyGo vehicles are equipped with audio and video surveillance equipment. IndyGo also contracts full-time, dedicated police officers to help ensure the safety of all passengers.

LOST & FOUND

IndyGo assumes no responsibility for items that are left on board. When items are found, they are typically available the next business day at the IndyGo Retail Center, located at 201 East Washington Street. Customer Service does not contact bus operators regarding lost items; you must wait for them to be taken to the Retail Center. To claim your property, you must appear in person between 11:30 a.m. and 5:30 p.m., provide an accurate description of the item, show your photo ID and sign a property claim tag with your name, address and phone number. Found items will not be held indefinitely. Please visit the Retail Center within a week of losing your item.

DETOURS

Detours are common due to special events and construction. General detour information can be found on-board, on yellow service alert cards located near the roof of the bus. More detailed information about detours can be found at IndyGo.net or by calling 635.3344 closer to the event date.

CUSTOMER COMPLAINTS AND TITLE VI

IndyGo welcomes feedback from passengers and the community.

If you have comments or complaints, please call our Customer Service Center at 317.635.3344 or fill out the online comment form at IndyGo.net.

Your comment will be entered into a database and investigated by the appropriate IndyGo department. For all comments, if a response is requested, staff will follow up within 10 business days.

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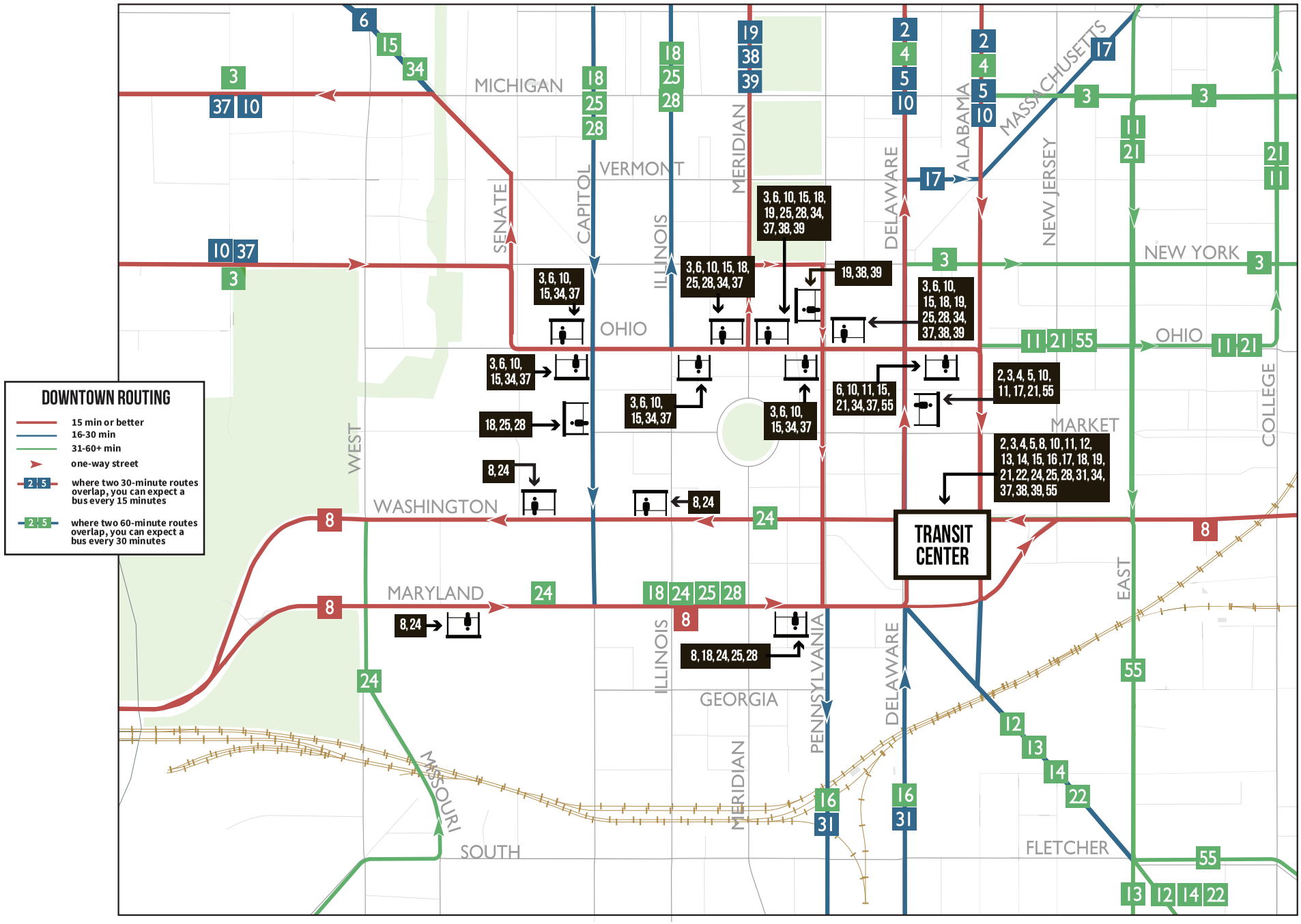
DOWNTOWN ROUTING
15 min or better
16-30 min
31-60+ min
one-way street
where two 30-minute routes overlap, you can expect a bus every 15 minutes
where two 60-minute routes overlap, you can expect a bus every 30 minutes
MICHIGAN
VERMONT
OHIO
WASHINGTON
MARYLAND
GEORGIA
SOUTH
FLETCHER
NEW YORK
MARKET
EAST
WEST
COLLEGE
SENATE
CAPITOL
ILLINOIS
MERIDIAN
DELAWARE
ALABAMA
MASSACHUSETTS
NEW JERSEY
PENNSYLVANIA
MISSOURI
TRANSIT CENTER
3, 6, 10, 15, 34, 37
3, 6, 10, 15, 18, 25, 28, 34, 37
3, 6, 10, 15, 18, 19, 25, 28, 34, 37, 38, 39
19, 38, 39
6, 10, 11, 15, 21, 34, 37, 55
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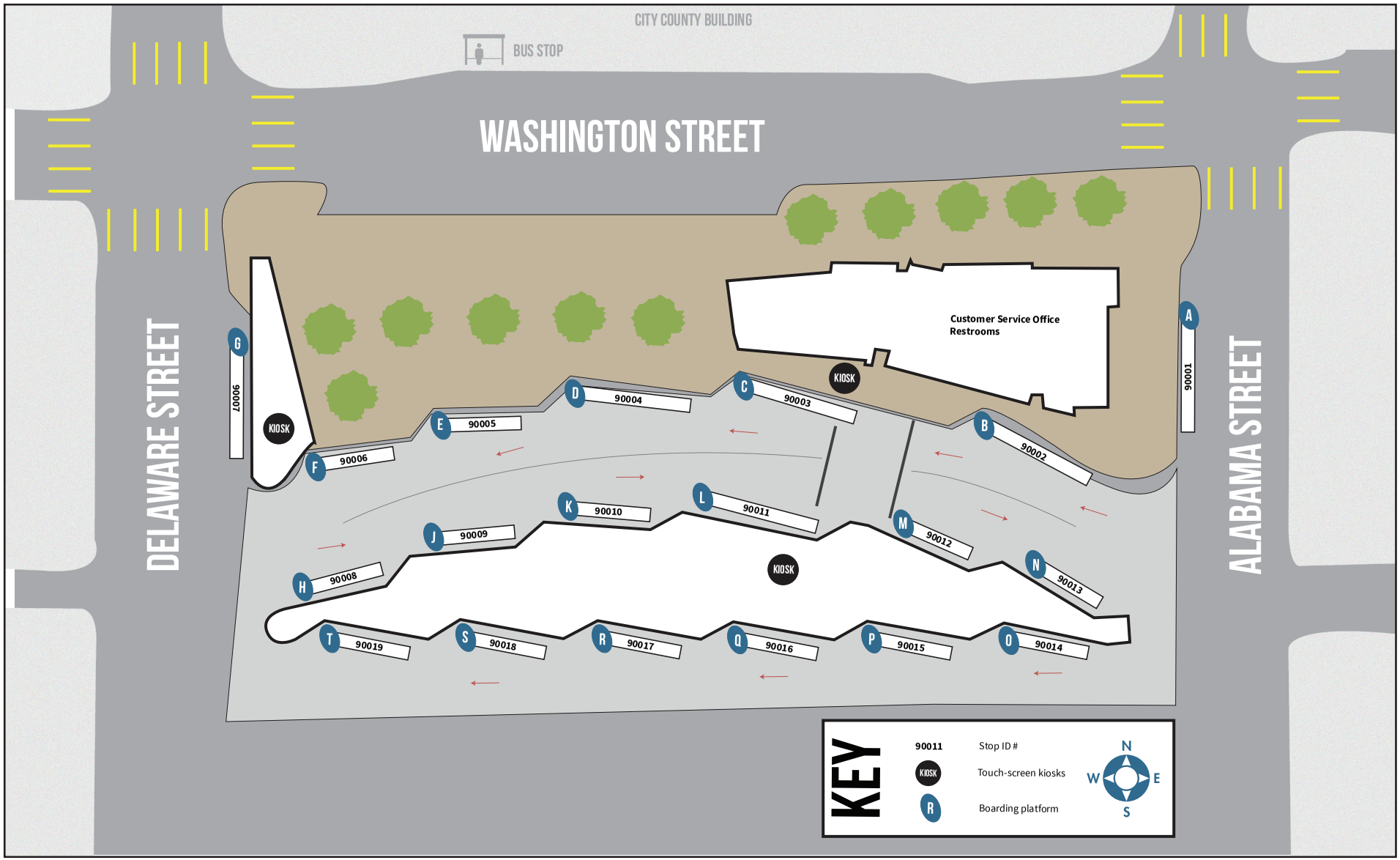
CITY COUNTY BUILDING
BUS STOP
WASHINGTON STREET
DELAWARE STREET
ALABAMA STREET
Customer Service Office
Restrooms
KIOSK
KIOSK
KIOSK
G
90007
A
90001
F
90006
E
90005
D
90004
C
90003
B
90002
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90011
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90019
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90018
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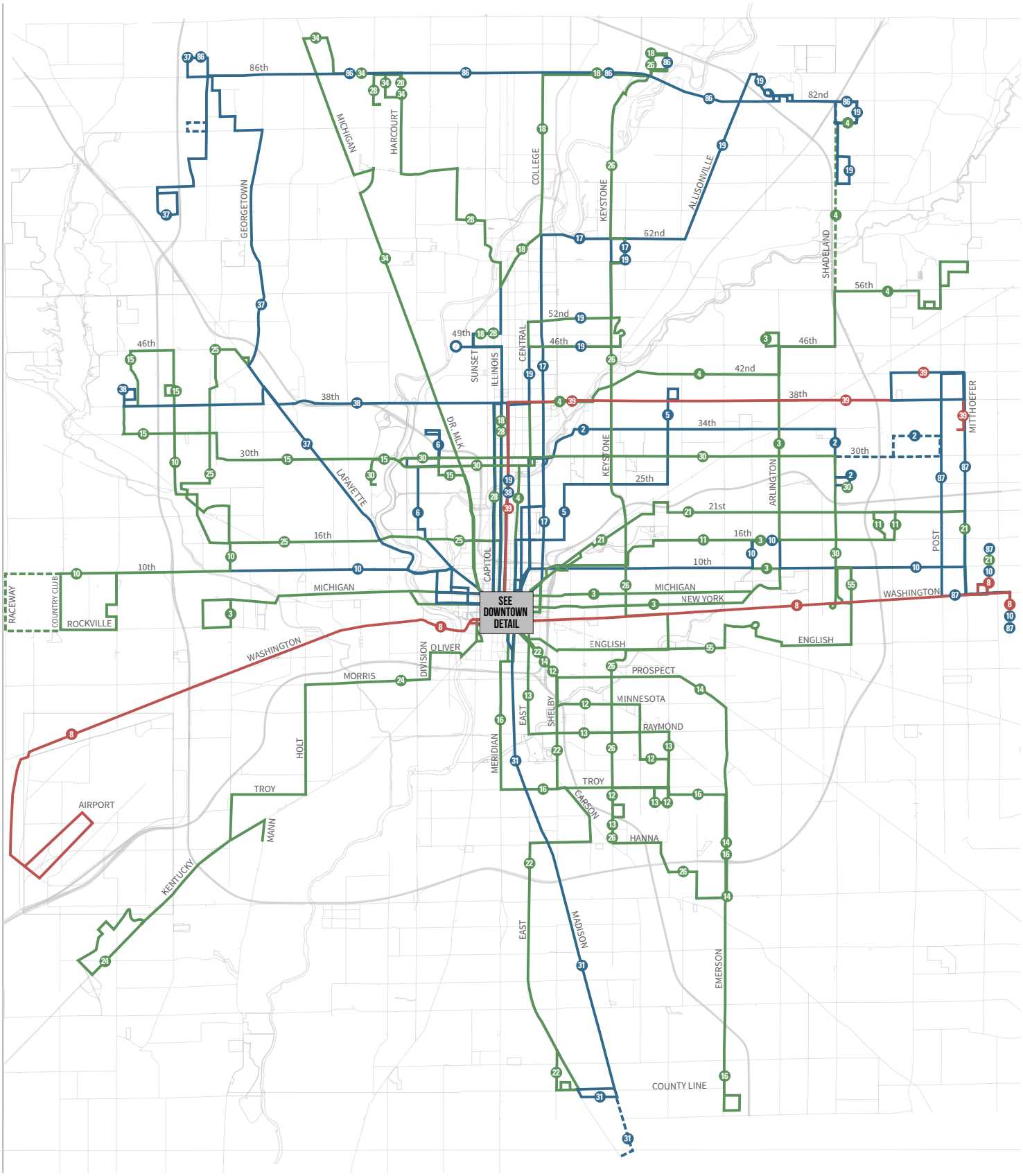
Q
90016
P
90015
O
90014
KEY
90011
Stop ID #
KIOSK
Touch-screen kiosks
R
Boarding platform
N
W
E
S


86th
82nd
62nd
56th
52nd
49th
46th
42nd
38th
34th
30th
25th
21st
16th
10th
MICHIGAN
HARCOURT
COLLEGE
KEYSTONE
ALLISONVILLE
SHADELAND
GEORGETOWN
SUNSET
ILLINOIS
CENTRAL
DR. MLK
LAFAYETTE
CAPITOL
ARLINGTON
POST
MITTHOEFFER
NEW YORK
WASHINGTON
ENGLISH
PROSPECT
MINNESOTA
RAYMOND
TROY
HANNA
COUNTY LINE
OLIVER
DIVISION
MORRIS
HOLT
MANN
KENTUCKY
AIRPORT
RACEWAY
COUNTRY CLUB
ROCKVILLE
SHELBY
EAST
MERIDIAN
CARSON
MADISON
EMERSON
SEE DOWNTOWN DETAIL

15 MINUTES OR LESS

8 - Washington Street
39 - East 38th Street

16 - 30 MINUTES

2 - East 34th Street
5 - East 25th Street
6 - Harding Street
10 - 10th Street
17 - College
19 - Castleton
31 - Madison
37 - Park 100
38 - West 38th Street
86 - 86th Street Crosstown
87 - Eastside Circulator

31 - 60+ MINUTES

3 - Michigan Street
4 - Fort Harrison
11 - East 16th Street
12 - Minnesota
13 - Raymond
14 - Prospect
15 - West 34th Street
16 - Beech Grove
18 - Nora
21 - East 21st Street
22 - Shelby
24 - Mars Hill
25 - West 16th Street
26 - Keystone Crosstown
28 - St. Vincent
30 - 30th Street Crosstown
34 - Dr. MLK/Michigan
55 - English

Appendix B

- Title VI Complaint Procedure
- Complaint Summary Table

TITLE VI COMPLAINT PROCEDURE

Any person who believes she or he has been discriminated against on the basis of race, color or national origin by the **Indianapolis Public Transportation Corporation (IPTC)** may file a Title VI complaint by completing and submitting the corporation's Title VI Complaint Form by mail or fax to the attention of the Director of Compliance and Civil Rights. IPTC investigates complaints received no more than 180 days after the alleged incident. IPTC will only process complaints that are complete. Complaint forms may be found on the IPTC website or by calling the IndyGo Customer Service Call Center.

Once the complaint is received, IPTC will review it to determine if our office has jurisdiction. The complainant will receive an acknowledgement letter informing her/him whether the complaint will be investigated by our office.

IPTC has 60 days to investigate the complaint. If more information is needed to resolve the case, IPTC may contact the complainant. The complainant has 10 business days from the date of the request letter to send the information to the Director of Compliance and Civil Rights. If the Director of Compliance and Civil Rights is not contacted by the complainant or does not receive the additional information within 10 business days, IPTC can administratively close the case. A case may also be administratively closed if the complainant no longer wishes to pursue his or her case.

After the Director of Compliance and Civil Rights reviews the complaint, she/he will issue one of two letters to the complainant: a closure letter or a letter of finding (LOF). A closure letter summarizes the allegations and states that there was not a Title VI violation and that the case will be closed. An LOF summarizes the allegations and interviews regarding the alleged incident, and explains whether any disciplinary action, additional training of the staff member or other action will occur. If the complainant wishes to appeal the decision, she/he has 15 days after the date of the closure letter or LOF to do so.

A person may also file a complaint directly with the Federal Transit Administration (FTA):

FTA Office of Civil Rights
Attn: Title VI Program Coordinator
East Building
1200 New Jersey Avenue SE
Washington, DC 20590.

If information is needed in another language, call the IndyGo Customer Service Call Center at 317-635-3344.

Si se necesita información en otro idioma, llame al 317-635-3344.

IndyGo Title VI Complaint Form

Name of Complainant	**Home Telephone**
Home Address **Street** **City, State**	**Work Telephone**
Email Address	
Person discriminated against (if other than Complainant)	**Home Telephone**
Home Address **Street** **City, State** **Zip**	**Work Telephone**

1. **Specific basis of discrimination (Check appropriate box(es)):**

❒**Race** ❒**Color** ❒**National Origin**

2. **Date of alleged discriminatory act(s)** _____

3. **Respondent (Name, position and work location of person you believe discriminated against you (if applicable).)**

Name or Operator ID	
Position	**Work Location**

4. **Describe how you believe you were discriminated against. What happened and who was responsible? For more space, attach additional sheets of paper.**

_____

_____

_____

_____

_____

_____

_____

_____

5. **Did you file this complaint with another federal, state or local agency; or with a federal or state court?** ❒**Yes** ❒**No**
If you answered yes, please check each agency with whom the complaint was filed.

❒**Federal Agency** ❒**Federal Court** ❒**State Agency** ❒**State Court** ❒**Local Agency**

Agency Name and Date Filed _____

6. **Provide contact person information for the additional agency or court:**

Name	
Address **Street** **City, State** **Zip**	**Telephone**

Sign complaint in the space below. Attach any supporting documents.

Signature	**Date**

Please fill out this form and mail or fax it to the IndyGo Director of Compliance and Civil Rights. Mail:
1501 W. Washington St. Indianapolis, IN 46222
Fax: 317.634.6585

IndyGo Formulario de Quejas del Título VI

Nombre de la persona que presenta la queja	**Teléfono de la casa**
Domicilio particular **Calle** **Ciudad, Estado** **Código postal**	**Teléfono del trabajo**
Dirección de correo electrónico	
Persona discriminada (si no es la misma que presenta la queja)	**Teléfono de la casa**
Domicilio particular **Calle** **Ciudad, Estado** **Código postal**	**Teléfono del trabajo**

1. **Fundamento específico de la discriminación (Marque los casilleros que correspondan):**

❑ **Raza** ❑ **Color** ❑ **Nacionalidad**

2. **Fecha del presunto acto o actos de discriminación** _____

3. **Demandado (Nombre, cargo y el trabajo de ubicación de la persona que belive discriminó (si corresponde).)**

Nombre	
Puesto de trabajo	**Lugar de trabajo**

4. **Describa cómo usted cree que fue discriminado. ¿Qué pasó y quién fue el responsable? Para obtener más espacio, adjunte hojas adicionales.**

_____

_____

_____

_____

_____

_____

_____

5. **¿Presentó esta demanda ante otra agencia local, estatal o federal, o ante un tribunal estatal o federal?** ❑ **Sí** ❑ **No**
Si la respuesta es sí, marque los organismos ante los cuales presentó la demanda:

❑ **Agencia federal** ❑ **Tribunal federal** ❑ **Agencia estatal** ❑ **Tribunal estatal** ❑ **Agencia local**

❑ **Nombre de la agencia y fecha de presentación**_____

6. **Proporcione información de contacto de un representante del organismo adicional (agencia o tribunal) ante el cual presentó la demanda:**

Nombre	
Domicilio **Calle** **Ciudad, Estado** **Código postal**	**Teléfono**

Firme esta demanda en el espacio que figura a continuación. Adjunte todo documento de respaldo.

Firma	**Fecha**

Por favor, rellene este formulario y envíelo por correo, fax o por correo electrónico a la Directora IndyGo de Cumplimiento y Derechos Civiles.
Correo: 1501 W. Washington St. Indianapolis, IN 46222
Fax: 317.634.6585

Complaintant	Date (Month, Day, Year)	Summary	Actions Taken	Current Status and Findings	Date Closure Letter or LOF Sent (if applicable)
Edward Bigot	2/21/14	Complaintant alleged discrimination for being "skipped in line repeatedly" and believed he was "subjected to different terms and conditions due to his disability and national origin (Haitian).	Answer to complaint hand delivered to ICRC on 3/20/14.	Awaiting determination by ICRC as of 3/20/14.	N/A
Robert Reichardt	6/23/14	Complainant (white male) alleged that he was told to sit down by the operator while an African American woman was permitted to stand. Also alleged that upon his exit from the coach, the operator called him white trash.	Initial investigation completed and security footage viewed by IPTC Service Quality Specialist. Operator interviewed by JB and Dave Perkins on 7-11-14.	Closed. No Title VI violation validated.	Closure letter drafted and sent to complainant by JB on 7-14-14.
Craig Hubbard	3/15/16	Complainant (white male) alleged discrimination on the part of an African-American Open Door operator and IPTC's Director of Flexible and Contracted Services (also African-American) relative to an Open Door trip where complainant nearly ran out of oxygen, alleged speeding on the part of the operator, and alleged that he was communicated with poorly by both the operator (at the time of the trip) and the Director of Flexible and Contracted Services (when he called in to complain) because he was not African-American.	Investigation completed. Trip records obtained. Operator and Director Flexible and Contracted Services interviewed. No security footage available for viewing. Complainant spoke with several IPTC staff. Email summaries of conversations obtained and reviewed.	Closed. No Title VI violation validated.	Closure letter drafted and sent to complainant by JB on 3/29/16.

Walter Bagwell	8/24/16	Complaintant (white male) alleged that the African-American bus operator asked him to show his half fare ID, but other riders were not asked to show ID.	Initial investigation completed and security footage viewed by IPTC Service Quality Specialist and M. Sadler.	Closed. No Title VI violation validated.	Closure letter drafted and sent to complainant by M. Sadler on 9/1/16.
Jacob Dennis	9/6/16	Complainant left a bag on the coach. Complaintant (white male) went to the Downtown Transit Center to see if his bag had been turned in. Complainant alleged that an African-American customer service supervisor and a police officer at the Downtown Transit Center were rude to him because of his race.	M. Sadler spoke with complaintant on 9/6/16 and attempted to investigate allegations. Complainant was unable to provide names or badge numbers for the supervisor or the police officer.	Closed. No Title VI violation validated.	Closure letter drafted and sent to complainant on 9/9/16 by M. Sadler.
Roseanne Torzewski	9/12/16	Complainant (white female) alleged discrimination based on race because the coach operator (African-American female) refused to let her board the coach at a stop light. Complainant also alleged that coach operator subsequently waited for an African-American rider to reach the bus stop.	Initiated investigation but no security footage was available for viewing. Obtained written statement from coach operator.	Closed. No Title VI violation validated.	Closure letter drafted and sent by M. Sadler on 9/30/16.

Appendix C

- Language Assistance Plan
- Public Outreach Efforts

IndyGo Language Assistance Plan

The purpose of this Language Assistance Plan (LAP) is to provide guidance on the strategies used to provide language assistance to IndyGo Customers who are not proficient in the English language. While the majority of the population within the IndyGo service area speaks English as their primary language, there are still many who struggle with language barriers preventing them from fully utilizing the transportation services that are available to them.

This LAP has been completed to meet the requirements of Title VI of the Civil Rights Act of 1964, which states that recipients of Federal financial assistance may not discriminate with regard to race, color, or national origin. Additionally, Executive Order 13166, "Improving Access to Service for Person with Limited English Proficiency" requires recipients of Federal financial assistance to "examine the services it provides and develop and implement a system by which LEP persons can meaningfully access those services consistent with, and without unduly burdening, the fundamental mission of the agency."

» Four Factor Analysis

The four factor analysis is a process set by the Department of Justice to ensure that recipients of Federal financial assistance are ensuring meaningful access to programs and activities for Limited English Proficiency (LEP) populations. This assessment helps a recipient to determine if they are communicating effectively with LEP populations based on the following four criteria: 1) The number or proportion of LEP persons eligible to be served or likely to be encountered by the program or recipient; 2) The frequency with which LEP persons come into contact with the program; 3) The nature and importance of the program, activity, or service provided by the program to people's lives; and 4) The resources available to the recipient for LEP outreach, as well as the costs associated with that outreach. Each of these factors is addressed below.

1) The number or proportion of LEP persons eligible to be served or likely to be encountered by the program or recipient.

The 2015 American Community Survey (ACS) provided information on language use in the service area. Of the 856,679 Marion County residents aged 5 years and older, 88 percent, or 749,680 of them speak only English at home. About 6 percent of the population speaks a language other than English at home and state an ability to speak English less than "very well". This group is considered to have Limited English Proficiency. Among the population with LEP, 71 percent speak Spanish, 6 percent speak Chinese, 3 percent speak Arabic, and 2 percent speak French.

IndyGo conducted an on-board passenger survey in 2016. About 8 percent of its 27,500 weekday passengers said that they spoke a language other than English at home. Of these individuals who spoke another language, 62 percent spoke Spanish, 9 percent spoke French, and 3 percent spoke Arabic.

2) The frequency with which LEP persons come into contact with the program.

Based on the passenger survey, LEP persons come into contact with the program on a daily basis. About 8 percent of its weekday ridership is made up of passengers who speak a language other than English at home.

The agency also tracks data from its IndyGo Call Center Language Line, which provides language assistance to customers in more than 150 languages. The IndyGo Call Center staffs at least one English-Spanish bilingual representative at either full- or part-time status. In 2015, the Language Line provided assistance to 62 customers in Spanish and 1 customer in Mandarin. In 2016, the Language Line provided assistance to 38 customers in Spanish, 2 in customer in Japanese, and 1 customer in Vietnamese.

3) The nature and importance of the program, activity, or service provided by the program to people's lives.

Many LEP persons rely on public transportation for their

mobility needs. According to U.S. Department of Transportation LEP guidance, "providing public transportation access to LEP persons is crucial. An LEP person's inability to utilize effectively public transportation may adversely affect his or her ability to obtain health care, education, or access to employment."

According to data from the American Community Survey, of the population within the IndyGo service area who use public transportation to commute to work, approximately 10 percent are classified as LEP persons.

4) The resources available to the recipient for LEP outreach, as well as the costs associated with that outreach.

The principal resources available to IndyGo for LEP outreach are the IndyGo website and the customer service phone line. Customers visiting the website are provided with Spanish translations of vital documents, including the online comment form and the Title VI complaint procedures and complaint form. Customers contacting IndyGo through the customer service phone line have the option to have information provided in Spanish.

The IndyGo call center has access to a language line providing interpretation services in more than 150 languages.

IndyGo also has partnerships with Exodus Refugees and Catholic Charities. IndyGo provides travel training at each organization to both clients and case workers. When the clients are LEP, the organizations assist by providing interpreters to help with the training sessions.

» Language Assistance Strategies

Based on the four-factor analysis above, the most predominant language spoken by LEP persons is Spanish. Because of this, IndyGo focuses the majority of its language assistance on Spanish-speaking customers. Language assistance for other languages is typically provided on an as-needed basis.

IndyGo employs a variety of strategies to provide language assistance to LEP persons:

- IndyGo monitors staff interaction with LEP persons in order to identify potential areas of need for language assistance.
- IndyGo's call center consistently staffs at least one bilingual (Spanish/English) representative to give information and take complaints and comments. Additionally, LEP customers who call into IndyGo customer service are given access to the Language Line, which provides important information in more than 150 languages.
- Spanish translations of key rider materials such as route and system maps, rider guidelines, and schedules are provided to customers.
- Before public meetings and hearings, IndyGo posts advertisements in both English and Spanish to encourage LEP participation. Advertisements are also placed in a local Spanish-language publication, La Voz de Indiana.
- IndyGo provides a Spanish translation of its website, including a translation of the online comment form.
- IndyGo service and schedule information is available on Google Transit, which supports the translation of information into many non-English languages. Additionally, IndyGo also provides Spanish instructions on how to use Google Transit.
- IndyGo will provide translations of all public documents and meeting materials upon request. These translations are available in more than 50 languages.
- Special on-board audio and print announcements are utilized to alert customers of upcoming service changes, important safety messages and opportunities for public input. Announcements are recorded in both English and Spanish.

» LEP Outreach

IndyGo employs multiple measures for ensuring that LEP persons are made aware that language assistance services are available.

The principal resources available to IndyGo for LEP outreach are the IndyGo website and the customer service phone line. Customers visiting the website have the option of translating key parts of the website, including the online comment form, into Spanish.

Customers contacting IndyGo through the customer ser-

vice phone line have the option to have information provided in Spanish. The IndyGo call center has access to a language line providing interpretation services in more than 150 languages.

IndyGo advertises in a bi-weekly local Spanish-language publication, La Voz de Indiana. Also, in advance of public meetings, IndyGo provides Spanish bus announcements and displays Spanish translations of the meeting announcements on transit vehicles.

» Employee Training

According to LEP guidance provided by the USDOT, "Staff members should know their obligations to provide meaningful access to information and services for LEP persons, and all employees in public contact positions should be properly trained."

For IndyGo employees who are likely to encounter LEP persons during the course of their work, education about IndyGo's LEP policies are included as part of their new employee orientation. All employees are made aware of the LAP document and their responsibilities to ensuring that the requirements set forth in this plan are met. Employees are also encouraged to review the FTA PowerPoint presentation titled, "Providing Language Access to Persons with Limited English Proficiency and Low Literacy." Additional LEP training is given to employees on a case-by-case basis based on employee, supervisor, and customer feedback.

» Safe Harbor Provision

The Safe Harbor Provision is a concept which the DOT has adopted from the Department of Justice (DOJ). It states that, "if a recipient provides written translation of vital documents for each eligible LEP language group that constitutes five percent (5%) or 1,000 persons, whichever is less, of the total population of persons eligible to be served or likely to be affected or encountered, then such action will be considered strong evidence of compliance with the recipient's written translation obligations."

Table 1 below summarizes the language groups meeting these criteria for all population within the IndyGo service area based on information from the American Community Survey. None of the language groups account for more than 5 percent of the service area population, but a few meet the 1,000 person minimum. Two additional language groups, "Other Asian" and "African language", have LEP populations of 3,112 and 1,541, respectively. More detailed data is not available for these individual languages. However, since these are a combination of several languages, it is unclear whether a single language in either of these groups meet the 1,000 person threshold. While this tabulation shows the total population within the IndyGo service area, it is not representative of the population that is likely to be encountered. According to American Community Survey data, the total number of persons who speak English less than "very well" and use

TABLE 1: LANGUAGE SPOKEN AT HOME AND ABILITY TO SPEAK ENGLISH FOR SELECT LANGUAGES

	Total Population	Speak English "Very Well"	Speak English Less Than "Very Well"	Percent of Total Population that Speak English Less Than "Very Well"
Spanish or Spanish Creole	71,370	35,270	36,100	4.2%
Chinese	3,981	1,042	2,939	0.3%
French (incl. Patois, Cajun)	3,172	2,207	965	0.1%
Total Population	856,679	806,119	50,560	5.9%

public transportation as their means of transportation to work is estimated to be 857residents. Because of this, IndyGo has determined that the translation of vital documents into Chinese and French is not as effective for providing language assistance as other strategies previously mentioned.

As noted in the four-factor analysis and shown in the table above, Spanish is the predominant language spoken by LEP persons. IndyGo will continue to translate vital documents into Spanish to the encourage participation of LEP persons.

» Monitoring and Updating the Language Assistance Plan

IndyGo conducts ongoing internal monitoring of its language assistance practices to ensure that the strategies employed remain effective. This is accomplished partially through feedback from customers and IndyGo staff who are in frequent contact with LEP persons. If any aspects of the current plan are found to be ineffective, they will be revised or replaced with more suitable strategies.

Additionally, as additional technologies and strategies for language assistance become available, IndyGo will assess the viability and cost-effectiveness of implementing such measures.

PUBLIC OUTREACH EFFORTS

Date	Outreach Event	Contact Name	Email	Est. Attend	Transit Line or Project	Notes
2014						
1/9/2014	BRAG	Dan Boots	dboots@bgdlega	5	Green	Brag folks presented on success their area has had in development and their interest in a station and the station area plannign done by Schnieder Engineering. Sean and Jeremy presented about how the station fares compared to other stations on TOD metrics.
1/13/2014	Presentation to	Mayor Ballard			All	
1/14/2014	TOD Information	Planning/Engineering staffs			TOD	Staffs from Cumberland, Beech Grove, Southport were also invited. Greenwood plans to create a walkable zoning district in the near future. Coordinate.
1/15/2014	TOD Information	Planning/Engineering staffs			TOD	Staffs from Carmel and Lawrence were also invited. Discussion amongst Hamilton County communities about creating their equivalent of a COA.
1/17/2014	Presentation to E	Vera Adams	vera.ann.adams@gmail.com		All	MPO will assist the class as necessary.
1/23/2014	Update IndyGo E	Mike Terry			All	
2/4/2014	Mark Zwoyer	Mark Zwoyer			All	Talked about coordination of bike facilities and rapid transit.
2/6/2014	Town of Fishers	Tom Dickey, Ra	dickeyt@fishers.in.us		Green	Discussion of Green Line stations at 96th, 116th and 146th. They like the park and ride aspects of 96th and 146th. They do have concerns about parking at 116th St where they are starting to see development. They are entering a deal to replace the train station building with a new larger structure that will also include station space fronting on the existing train platform.
2/6/2014	Town of Nobles	Christy Langley,	clangley@noblesville.in.us		Green	We discussed the station in downtown Noblesville at Maple Street in the most detail. They asked for simulated timing of the signal required at Maple Street for the transit vehicle to make the turn. They said that the foudnary at Gerald Street had a new owner and that they still thought there was plenty of room for a station but it's no longer their top priority station. At 146th Street
2/7/2014	IUPUI Class pre	Wendy Voight			All	Ethnography class. Plans to interview transit riders for semester project
2/10/2014	HHPA Board me	Rhonda Klopfen	rhondask@frontier.com		Green	Jeremy presented the history and current alternatives of the Green Line DEIS. The board members had lots of questions but were not of a consensus opinion on wether BRT or LRT was best. They did acknowledge that the study about the use of the corridor for transit is in line with thier vision for the corridor. Fishers was asking for them to deed a peice of land to them for deve
2/12/2014	City of Indianap	Brad Beaubien	brad.beaubien@indy.gov		All	Brad commented that we should meet with neighborhood associations and not rely on umbrella organizations to speak for everyone. His example was the old northside and king park. He also wanted us to watch the ammount of land that we take off the tax rolls with stations and parking. The City is only funding CBDG grants for projects within 1/2 mile of the proposed rapid tra
2/12/2014	Indianapolis Airp	Suzan Zellars			Blue	We discussed the resolution of the Blue Line project and made sure she ahd a copy of the executive summary. We discussed nearby stations not being large park and rides competing with their parking lots, how the stop at the terminal would be designed in later phase and also express bus serving the airport. For the Green Line we discussed the 96th Street station. Susan sai
2/12/2014	Mayor of Indiana	Adam Theis			All	Toured the Red Line from Greenwood to Carmel. Presented to the Mayor on the reasons for the Red Line. Team will revise handouts and package for Mayor to use on his next trip to DC.
2/12/2014	Will Marquez	Will	design@wpurpose.com		Purple	Discuss possible participants for Purple Line advisory committee
2/13/2014	Emerson Catholi	Tom Boganhertz	317-356-4184		All	Blue Line BRT ppt
2/15/2014	Near Eastside N	Kelly Wensing	kellywensing@gi	100	All	Request for another meeting, opinion that transit should pay for itself, opinion that transit should be completely subsidized, opinion that line should connect to Zionsville
2/21/2014	Southsiders	Jeff Mader	jeff@maderdesignllc.com		Red	Jen presented a summary of the TOD Strategic Plan document. Questions were about timing, next steps, whether they should continue to pursue their district branding with bus stops (yes, keep the momentum), and how to be involved going forward. The group was promised that the Indy Connect team would keep them involved through the next stage of the TOD planning effo
2/25/2014	Carmel Lions Cl	Jeff Jackson	jjackson@cirta.us		Red	Provided a brief over view of Indy Connect Plan
2/26/2014	Martindale Brigh	Monty Hulse	lamonthulse@sbcglobal.net		Green	Despite the all-star line up of attendees I only directly spoke with about five residents as the town hall was set up with a group presentation about their QOL plan and then two periods where the group broke up to talk about different topics like Crime and safety, health and education. I did hear that the Commuter Express connectors need to run at more times of the day to attrac
2/27/2014	NE Corridor QOI	Ben Harris	bharris@kpadc.org		Green	Provided the group with an update that we are working on the Green Line and about to embark on Purple Line Planning and the COA in the context of their neighborhood plan.
3/4/2014	Fairfield Sylvan I	Joe Goeller			Green	This was a small meeting with staff and Joe Goeller. He said that the 62nd street station was laid our conecputally how he had imagined it and didn't have any changes to give us. He believes that we should pay attention to landscaping and the 62nd street trail. He told us to talk with Tom Sturmer or Steve Furguson with GACC. For the 71st Street station he has some preferenc
3/4/2014	BRAG	Cas Vargo			Green	General overview of the Green line presented. Larry Wriggle was confirmed as the CAC representative. Ehren explained a little about the transit bill. They said Cas said that having sufficient parking is important. Several members refered to Steinmeier station as their 3rd choice. They showed preference for the station on the north side of 71st right up by the street but suggeste
3/5/2014	Hamilton County	Christine Altman	Christine.altman@hamiltoncounty		Green	Discussion about Noblesville Stations. Showed Christine the station concepts for downtown Noblesville and talked about it in conjunction with the expansion of the County Building and possible parking structure south of US 32. She said that we are on the right track with the concepts and to work with her on it. If we can't make somethign work in the downtown, she accepts the
3/6/2014	Mapleton Fall Cr	Leigh Evans	leigh@mfcdc.org		Green	30th Street Station Discussion. Leigh's reaction to potential maintenance facilities is that she doesnt want a junkyard and we should minimize impacts. She likes the potential to create jobs. Pay attention to the Destination Fall Creek Plan for the trailhead at 38th Street where we are proposing a station.
3/7/2014	St. Joseph Neig	Gary Chilluffo			Green	Gary was concerned about physical impact on Ft. Wayne. He wanted to make sure that they still ahd access for cars and pedestrians to cross the street. He also mentions that the limited ammount of parking they have on Ft. Wayne is important to keep cars from parking on the side streets, which is a neighborhood problem. He understands that there ar emore challenges with
3/10/2014	Forest Manor Mu	Regina Marsh	rmarsh@fmmsc.org		Green	Regina prefers the rail option. She see's it as higher quality. We need to teach people how to use transit because people don't know. She would like to see that we include "urban" people in the work done for the construction and operation of this transit.
3/10/2014	Martindale Brigh	Josephine Roge	jrogers@mbcdc.org		Green	Josephine and Amy prefer the station at 25th and did not seem to mind if there was not a station at 25th. They invited us to additional meetings to get opinions from more community leaders and residents. Amy said she prefers rail vehicles because they sound more comfortable. She also prefers Mass Ave downtown.
3/11/2014	Erin Hannon (IU	Erin Hannon	erinhannon11@gmail.com		All	Erin is taking a class at IUPUI and she has a focus on Route 8 / the Blue Line. She interviewed Jeremy and Jen on Indy Connect, the studies, funding, expectations, etc.
3/12/2014	FTA	Reggie Arkell	reginald.arkell@dot.gov		All	General discussion about Indy Connect projects. We discussed the transit bill some and its potential effects. Jeremy provided an update on the Green Line DEIS. The FTA folks spoke a little about TIGER availability. Sean and Anna talked about the Red Line and possibility of it moving forward into NEPA and preliminary engineering, E-BRT concept and Mayor Ballard proposin
3/14/2014	IndyGo DTC Public Meeting (x2)				All	The intent was to present plans and gain feedback from the public on the DTC. Jen and Jeremy were present to answer questions from the public on Indy Connect.
3/17/2014	LISC	Ted Grain	tgrain@lisc.org		Green	Discussion on the Green Line primarily outside of downtown Indianapolis. Ties with NE Corridor QOL plan by LISC. Ted said he had contact information for us for Gary Hobbs (38th Street station site).
3/17/2014	Martindale Brigh	Josephine Roge	jrogers@mbcdc.org		Green	Discussion about how to integrate green line information in the One Voice QOL process, meetings set with the One Voice Board and to attend action team meetings for the MB QOL plan.
3/18/2014	Purple Line Advi	Multiple			Purple	Introduction to the Purple Line study, process, timeline. Committee members gave comments based on their perspectives. Jen has created a more detailed set of notes on this meeting.
3/24/2014	State Fairground	Samantha Cross			Green	Update on the Green Line progress, COA, and Purple Line planning. We spoke about the 38th Street Green Line station and connections to the fairgrounds campus. Crossing Binford is a sinificant issue along with making sure access is available to minimize walk distances.
3/24/2014	Riley Area Devel	Eric Strickland	strickland@rileyarea.org		Green	Discussion about the transit center, display at the hall, upcoming COA, refinement of downtown Green Line alternatives using the traffic model
3/25/2014	King Park Area I	Paul Duprez			Green	KPADC cares a lot about 16th Street. They want that stop to be nice and have a connection to Clarion. They were interested in the legislation, how crossings will be treated. They see 30th as a pretty logical connection. If the transit could attract some type of anchor then it's a great choice. They pointed out that 25th street has some usefulness as it is next to the only bank, 37 F
3/25/2014	Fishers Train St	Rachel Johnson	johnsonr@fisher	95	Green	Several members of the public stated their preference for BRT or light rail and there was no concensus. Some asked "what's in this transit deal for Fisher's residents". only one said he wasn't for transit at all. Several people were concerened about the Fair Train going away. ITM did have a table at the open house so it isn't fully understood if that is general Fisher's resident's op
4/4/2014	East Village Bus	Tobie Kniess	Tobie.Kniess@gmail.com		All	All were concerned about pedestrian crossings for Washington Street. In particular at Willard Park, crossing for stops, etc. Tobie mentioned that there needs to be more north-south routes between I-70/65 and Arlington. There are plenty of east-west routes, but more north-south connections, especially to the Blue Line, are needed. Tonya noted a concern for possible loss of on
4/14/2014	One Voice Boar	Amy Harwell		8	Green	Full Indy Connect presentation, Partners, Vision, DTC, COA, Green Line, legislation and opportunities in Martindale Brightwood. The board agreed to work with me to adapt the plan to the needs of the neighborhood. Further engagement required. I discussed the 25th street station on the Green Line with them and they did not demand to have the station. I wasn't given the go
4/14/2014	Hoosier Heritag	Rhonda Klopfenstein			Green	Anna attended this meeting to keep in contact with HHPA and to keep track of relevant activity on their end. ITM is trying to arrange a contract with HHPA to operate in the corridor.
4/16/2014	Downtown Advisory Committee				All	Only two DAC members attended. Presenters began with an overall plan review, and discussion on the downtown transit center and COA update. Attendees both appreciated the work that has been put forth to filter options. They were in favor of eliminating the Mass Ave Green Line alternative, based on the data presented. For the Red Line, they leaned toward the Meridian St
4/17/2014	Red Line Meridian Street Study - Stakeholder Meeting				Red	meeting summary in the project file
4/17/2014	One Voice Actio	Amy Harwell			Green	Opportunity to speak in front of Martindale brightwood community members. I let them know that I was there to talk with them about transit in their neighborhood, Indy Connect, legislation and the DTC. Claudia Merchant expressed an attitude that I had done all of the planning work and there was no reason for me to be there. Work on messaging. I spoke with Merv Moore and A
4/21/2014	Oakhill Civic Ass	Merv Moore		30	Green	This is a regular neighborhood meeting of the Oakhill C.A. The first part of the meeting was on CPTED. I was able to inform residents about the Indy Connect transit vision, authorizing legislation for a referenda and the downtown transit center. I let people know that I will be working with the Martindale Brightwood One-Voice action team and that is a great opportunity for them t
4/22/2014	Indy Representatives				All	The group discussed how to maintain emphasis and cross conversations on all of the transit projects and land use regulation projects currently underway.
4/24/2014	Red Line Meridian Street Study - Update Leadership				Red	Discussed TIGER grant. Discussed Red Line study results. Adam wants to make sure that we are considering development opportunities for Purple, as well as minimizing alignment jogs. The group agreed to eliminate the Illinois/Capitol one-way pair from further evaluation and concentrate on Meridian or Illinois St. for transit use.
4/25/2014	Red Line Meridian Street Study - Update Stakeholder				Red	Jen updated Adam on the same information that was given at the April 17th stakeholder meeting and the April 24 leadership update. Afterwards, Adam spoke to other IU Health representatives and determined that their preference for transit, from IU Health's perspective, would be first the one-way pair, then Illinois 2-way service, then Meridian Street. They believe that an 18th
4/25/2014	Martindale Brightwood				Green	
5/1/2014	Purple Line CAC				Purple	The intent of this meeting was to give the CAC a preview of the public input presentation and exhibits. The CAC provided very good feedback that was integrated into the open houses
5/13/2014	Greater Allisonville (GACC)				Green	
5/13/2014	Purple Line Workshop				Purple	Meetings summarized, posted online.
5/13/2014	Riley Area Development Corporation				Green	
5/14/2014	Purple Line Workshop				Purple	Meetings summarized, posted online.
5/15/2014	Purple Line Workshop				Purple	Meetings summarized, posted online.
5/19/2014	Red Line Study (	Chris Reading	chris.reading@ci	15	Red	Jen updated the organization on the Red Line, and remaining alternatives in the Fountain Square area. Feedback was not definitive enough to guide alternative selection.
5/27/2014	Jamison Hutchin	Jamison			All	summary in 2014 Indy Connect folder. No large revelations. Jeremy will work with Jamison on Green Line alternatives downtown. Might be possible (someday) to remove bike lanes from on- to off-street along Madison to increase potential for dedicated transit.
6/3/2014	International Mai	Mary Clark	mclark@imcoalit	35	Purple	Jen gave Purple Line intro presentation. No questions during presentation. Afterwards, a few people asked for follow-up information or for IndyConnect to be presented at a future engagement.
6/11/2014	Green Line CAC				Green	
6/19/2014	Dump the Pump Day				All	
6/24/2014	Adam Winay (sti	Adam Winay			All	Interview for an article he's writing for school.
6/27/2014	Indy Connect Pr	Alex Miser		50	All	the presentation was recorded for Indianapolis Channel 16
7/3/2014	International Mai	Richard May		15	Purple	-- Comment suggesting that rapid transit stations be secured to keep people from riding without paying -- Questions about integrating rapid transit stations into development (TOD) -- Recommendation to include artists in the conversation when we begin discussing the design for stations, etc.
7/3/2014	Carmel Fest	Sean White			All	July 3rd and 4th. Red
7/9/2014	Mayor of Indiana	Amy Waggoner	sean.northup@indy.gov		All	Conversation about the CITTF proposal Red
7/10/2014	MKNA Board	Mary Owens	mtierneyo@aol.c	15	Red	Jen gave a general update of the Red Line, Purple Purple
7/15/2014	Martindale Brigh	Josephine Roge	jrogers@mbcdc.(	3	Green	In depth discussion about impacts of the Green Rapid Transit Line on the neighborhood. Particularly about potential street closures, maintenance facilities and stations. We discussed public outreach opportunities within MB.
7/16/2014	Indiana CICM	Rob Lukemeyer	luke3@baselinecommercial.com		All	High level, basic, 30 minute briefing on Indy Connect
7/19/2014	Indiana Black Expo			1000+ (48 surveye	All	
7/22/2014	Arts Council	Julia Muney Moc	jmoore@indyarts.org		All	Discussing integrating an artist into the NEPA and engineering tasks to integrate art into transit.
8/11/2014	Green Line Impa	Anna Carter			Green	The meeting was to discuss the Green Rapid Transit Line and impacts to the neighborhood. The current Green Line proposal includes three street closing for safety in the Hillside Neighborhood. The neighborhood and Councillor Simpson oppose this proposal very much.
8/18/2014	Green Line Impa	Anna Carter			Green	This meeting was to discus impacts of the Green Line. Attendance was very low. This resident had not intended to be at the meeting but we asked if he wanted to learn more about the proposal and said yes. His response to the proposal was that it sounded reasonable.
8/18/2014	Purple Line CAC meeting			12	Purple	Update on study. Presented remaining options for feedback and recommendations. No significant input from committee on recommendations. Committee supportive of study recommendations so far.
8/18/2014	Carmel / Westfie	Mike Hollighaugh			Red	Staff members gave good feedback on initial draft scope for Westfield extension of the Red Line. Scope will be revised and communities will review before contracts are sig
8/18/2014	INDOT	Gerry Montgome	gerrymontgomery@indot.IN.gov		Purple	Discussed Purple Line alternatives with INDOT representatives. INDOT concerned about using Pendleton Pike because of widenings tha thave happened to-date, and concern for losing capacity. Will Tolbert will model the capacity with transit and report back.
8/19/2014	Green Line Impa	Marvel Moore		25	Green	Discussed Indy Connect, IndyGo Forward and the Impacts of the Green Line. The neighborhood opposed the proposed street closings.
8/20/2014	Lawrence	Bruce Northern			Purple	Discussed Purple Line options with Bruce, and briefly with Mayor Jessup. Either option is acceptible for Lawrence, and will fit into redevelopment plans. Some residential housing has been closed at 46th and Post Road
8/20/2014	Purple Line Public Meeting			15	Purple	The recommendations so far were presented to the public. Response overall was positive. Some people want the Purple Line to go further east on 38th Street, to Mitthoeffer.
8/21/2014	Purple Line Webinar			15	Purple	The recommendations so far were presented to the public. Participants were encouraged to ask questions and presenters answered them after the presentation.
8/21/2014	Purple Line Public Meeting			1	Purple	Turnout was very low for this meeting. The principal of the school attended and was very interested in the study.
9/4/2014	Children's Muse	Anthony Bridgeman			Red	TCM is starting to think about how they can capture Purple
9/8/2014	Green Line Impa	Anna Carter			Green	The presentation to this group was about the Indy Connect vision, IndyGo forward process and goals and the Green Line (specifically impacts to the neighborhood). The Green Line proposes to close threee streets in Hillside to allo transit vehicles to pass through without conflict to vehicles. The Hillside Neighborhood Association opposes this proposal. They also desire a static
9/25/2014	CAC meeting			10	Purple	This meeting was to update the CAC on the final Purple Line recommendations. An independent meeting summary was created.
9/25/2014	Webinar				Purple	This meeting was to update the public on the final Purple Line recommendations. The webinar was posted online.
9/25/2014	Public Meeting			8	Purple	This meeting was to update the public on the final Purple Line recommendations.
9/25/2014	Midtown Schools	Michael McKillip			All	Jen brought handouts and other materials to this school fair, where parent come to talk with representatives from various schools from throughout the Midtown area. Jen spoke directly with representatives from several high schools, who were interested in it because it provides more transportation options for students, and because of general student interest.
10/8/2014	Old Southside N	Judith Essex	judithessex@icloud.com		Red	Old Southside Neighborhood Association 1133 Church Street Indianapolis, IN 46225
10/29/2014	Carmel High Sc	Matt Klineman	mjklineman@gmail.com		All	
11/10/2014	Children's Muse	Anthony Bridgeman			Red	Anthony asked if there had been any further analysis on the Red Line, with regard to two-way transit service on Illinois Street. Jen and Sean said that Illinois Street would require too much improvement to acccommodate that, which would increase project costs and possibly jepordarize the DCE designation from the FTA for the environmental study. Anthony asked for a follow-u
11/13/2014	Blue Indy	Nate Cooper & E	nate@energysystemsnetwork.com		All	Discussed potential station locations for Blue Indy and their compatibility or conflict with the proposed Indy Connect rapid transit corridors. Blue Indy was very open to trying to accommodate the transit service in areas that are proposed for dedicated transit lanes. Jen agreed to send Nate a google map of the lines and station intersections that are currently proposed. Discussion
12/8/2014	Children's Muse	Anthony Bridgeman			Red	Representatives of the Children's Museum and Ivy Tech asked for more detail on a study that notes the benefits and drawbacks of two-way transit on Illinois Street, as well as northbound transit on Illinois Street paired with southbound transit on Meridian Street. A detailed summary of the discussion is in the notes.
2015						

Date	Outreach Event	Contact Name	Email	Est. Attend	Transit Line or Project	Notes
1/21/2015	Eastside Stakeh	Tom Crouch		25	Purple	Jen gave a brief update within the context of the larger meeting. Councillor La Keisha Jackson (District 18) invited Jennifer to attend an IndyGo public outreach meeting on February 19th to discuss the Purple Line further.
1/23/2015	Children's Muse	Anthony Bridgeman			Red	Justin presented justification for choosing Meridian Street as the preferred corridor for two-way Red Line transit operation. TCM and IT appreciated the thought and detail and are eager to work with the team on possibly customizing their station during the design tasks of 2015. A detailed summary of the discussion is in the notes.
1/23/2015	City of Westfield	Ken Alexander			Red	We met to discuss the results of the Red Line connection study. From the study, it seems feasible to extend the Red Line to Grand Park. The entire corridor up to Grand Park will be studied during environmental analysis and design engineering.
1/28/2015	WFYI	Jill Sheridan	jsheridan@wfyi.org		Purple	Jill interviewed Jen for WFYI about the Purple Line study and for an Indy Connect update. The segment aired on the radio in early February 2015.
2/27/2015	Ball State Stude	Paige			Monon	
3/3/2015	Don Perin (stude	Don Perin	dperin@butler.edu		All	Don is a butler student in Journalism who requested a meeting to discuss Indy Connect.
3/16/2015	City of Westfield	Jennifer Miller			Red	Meeting notes are saved.
3/18/2015	City of Carmel	Mike Hollighbaugh			Red	
3/23/2015	Indy DPW	Nathan Sheets			Red	
4/13/2016	Blue Indy	Bob Briggs			Red	
5/1/2015	Ivy Tech	Kathleen Lee, Ju	klee@ivytech.edu ; krbrooks@ivy		Red	Discussed options for station at either Fall Creek or a block north, and potential resulting traffic restricted movements. Ivy Tech reps agreed that Fall Creek was better and presents them an opportunity to create an entrance to the campus.
5/1/2015	Blue Indy	Nate Cooper	nate@energysystemsnetwork.con		Red	To discuss coordinating rapid and carshare stations on College.
5/11/2015	Near North Deve	Nick Stubbs	nick@nearnorthconnect.org		Red	discussed presentation for later in May to business owners forum
5/15/2015	Midtown	Michael McKillip			Red	discussed Red Line through midtown and forthcoming public engagement
5/18/2015	University of Ind	Dr. David Wantz			Red	discussed placement of and needs for potential terminus at University of Indianapolis
5/26/2015	Near North DC E	Michael Osborn			Red	Gave overview presentation
5/26/2015	HCTF Finance M	Cindy Benedict	cbenedict@noblesville.in.us		Other	Financial model and governance walk through. Will send this group the financial model after Justin makes edits. Need to follow up with financial people to verify model.
5/27/2015	DMD - Current P	Maury Plambeck	Maury.Plambeck@indy.gov		TOD	Overview presentation, Red Line key points, TOD Strategic Plan... they asked that we don't comment on petitions until Indy Rezone passes (next month?), and recommended looking at rezoning moritorium on the Red Line
5/29/2015	Midtown Public F	Michael McKillip			Red	Presentation
5/29/2015	Update Indianap	Sherry			Red	
6/2/2015	IU Health / Meth	Alan Holley	aholley@IUHealth.org		Red	Discussion. Meeting summary in basecamp.
6/4/2015	Midtown Momentum Luncheon				All	attendance
6/10/2015	Friends of Capit	Brian Sullivan	Bsullivan@shielsexton.com		Red	presentation
6/11/2015	African Americar	Tony Mason	tmason@indplsul.org		Red, COA, Other	
6/15/2015	Midtown - MKNA	Michael McKillip			Red	
6/22/2015	BRVA	Booke Klejnot			Red	
6/24/2015	Midtown / Great	Michael McKillip			Red	
6/30/2015	Dump the Pump	Day				
7/8/2015	Monument Circl	Sherry Siewert			Red	
7/9/2015	Urban League				Red	
7/10/2015	Downtown/Near	Sherry Siewert			Red	
7/10/2015	City of Indianapc	Adam Thies			Red	Updated City staff on transit planning activities.
7/13/2015	Hamilton County	Cindy Benedict			HCTF	Updated them on the HCTF governance recommendations, Red Line timing
7/14/2015	South Side Stak	Jim Walker?			Red	
7/15/2015	Indy Metropolitar	MPO			Red	
7/16/2015	Hamilton County	Cindy Benedict			Indy Connect	Update on transit planning activities, HCTF draft
7/16/2015	U Indy	Dr. Wantz			Red	
7/17/2015	Transit Advocate	Kim Irwin			Red	They asked for an update on transit planning activities.
7/21/2015	BRVA	Brooke Klejnot			Red	
7/22/2015	Monument Circl	Sherry Siewert			Red	Justin presented the alternative signal treatment on Washington to preserve right turn onto Meridian, and they were ok with it.
7/23/2015	ULI Breakfast Se	Jennifer Milliken			Red	Transit was a major component in Adam's final "State of the City" presentation to ULI
7/27/2015	Realtors	Chris Pryor			Red	
8/3/2015	CICF	Brian Payne			Red	Coordination of Shelby St protected bike lane and Red Line
8/3/2015	Beech Grove Cit	Mayor Buckley			Red	Well received. Answered questions about timeline and BRT.
8/5/2015	Indy Metropolitar	Brad Beaubien			Red	Teed up Red Line TIF discussion
8/6/2015	Westfield	Matt Skelton				
8/6/2015	Carmel	Mike Hollibaugh				
8/6/2015	ULI Presentation	Brad Beaubien /	Jennifer Milliken		Red	Presentation on Denver's TOD program, Indy's plans around the Red Line
8/7/2015	Appraisers	Erick Landeen	epl@in.erzo.com		Red	
8/25/2015	CIRTA Board				Red Line	Justin gave an update on the Red Line
8/25/2015	IEDC				Red Line	Bus tour of Red Line with IEDC delegation and some local leadershi
9/1/2015	Milhaus				Red Line	Sean met with Dave Leazenby to talk about TOD Strategic plan and land use process around Red Line.
9/2/2015	Meridian Kessler				Red Line	Public meeting focused on The Link development proposal at College and Kessler. Main focus wasn't the Red Line, but Justin did speak. Few residents spoke about Red Line, those who did were split between support and oppose. Justin atte
9/4/2015	FHWA					Anna and Sean updated Rick Marquee on progress.
9/8/2015	Meridian Kessler					Meeting between Midtown and MKNA leadership and neighbors upset about The Link. Topics were development process, neighborhood planning process, and TIF. Red Line was mentioned and some questions were asked, but it again wasn't the focus. Sean attended.
9/10/2015	Greater Southside Business Alliance				Red Line	Sean, Lance, and Justin met with their land use committee. They're the group that will be Red Line South stakeholders. Very interested in staying engaged in the environmental process. Connected them with Rick about the township option (the easiest way for them to get service is for Greenwood to come in too).
9/14/2015	HC Mayors and Commissioners					Fadness, Ditslear, Altman, Hairbrandt, and Dillenger at Noblesville City Hall. Updated them on 2016 legislative activities and planning efforts. More follow-up needed.
9/14/2015	IUPUI				Red Line	Sean and Justin met with Adam Thies to talk about Red Line connections to IUPUI.
9/15/2015	Meridian Kessler				Red Line	Format was open house, many IndyGo, MPO, CVR staff in attendence, very good turnout. Most in favor of Red Line but concerned about traffic on side streets. Some very negative on the project as a whole.
10/1/2015	OneZone Board	Dan Canan				Update on Indy Connect in general, changes to township options, that they might be asked to support referendum, then answered questions. No follow-up items, just go to them again when we know more.
10/1/2015	Pete Yost	Mike Hollibaugh				He has a good relationship with Ron Connor, who encouraged us to meet with him.
11/18/2015	Fall Creek Place	Chris Corr		20		Justin talks about Meridian St. Corridor
11/19/2015	Flanner House -	LaShawnda Stor	lcrowestorm@fla	60	Red Line	Bryan gave an update on the Red Line, attendees had basic questions about when it will run, how it is funding, and how much parking will be lost. There were also questions about minority contractors and if they will be used.
11/23/2015	IBJ Editorial Board			8		In attendance: Lesley Wedenbener, Hayleigh Colombo, Greg Andrews, Greg Morris, Bryan, Justin
11/30/2015	Red Line and Bil	Ben Hunter	bdhunter@butler.edu		Red Line	At Butler, a meeting with Councilor Hunter on Red Line and Bikes. Justin and Bryan spoke about the Red Line
12/1/2015	Biz Forum #1 : 54th and College (at Moe + Johnny'			10	Red Line	Red Line presentation to business owners in 54th and College area
12/2/2015	Easter Seals: Red Line Public Outreach				Red Line	Sara Croft their Media Relations and Marketing Manager and Scott Fogo, the VP of Clinical Services in attendance. Bryan presented on Red Line status
12/2/2015	United Northeas	Amandula Ander	aanderson@une	13	Red Line	IndyGo staff presented detailed update on Red Line
12/7/2015	Councilor Osili				Red Line	Update Councilor Osili on transit planning (Red Line and IndyGo Forward). Arranged by Cassie Stockcamp.
12/8/2015	Biz Forum #2: 52nd and College (at Delicia)			12	Red Line	Red Line presentation to business owners in 52nd and College area
12/9/2015	Greenwood Red Line Stakeholder			12	Red Line	IndyGo staff presented to Greenwood stakeholders and business leaders, members of Redevelopment Commission and Chamber about the Red Line process and began draft station placement and alignment input conversations
12/10/2015	Southern Marion County Stakeholders: Southside Business Initiative					We have invited not only UIndy, but University Heights Rep, Homecroft, City of Southport as well as our Madison Ave Redevelopment Committee (MARC) to participate.
12/10/2015	Indy Star Editorial Board			7		They appreciated our attendance and had questions about the effect to commuters but overall gave the impression that they were supportive
12/10/2015	NNDC Board Meeting			30		Gave a quick presentation that was well received, there weren't many questions
12/11/2015	Westfield Red Line Stakeholder Meeting				Red Line	Red Line outreach in Hamilton County: Westfield
12/12/2015	Concerned Clergy			28		There was concerna bout minority hiring on jobsites. They have asked that IndyGo come back with information about hiring.
12/15/2015	Carmel Red Line Stakeholder Meeting				Red Line	Red Line outreach in Hamilton County: Carmel
12/16/2015	Councilor Colleen Fanning				Red Line	Meeting to share more detailed information on IndyGo and specifica project. Mike Terry, Justin Stuehrenberg and Bryan Luellen
	2016					
1/7/2016	NAACP Meeting			15	Red Line	Red Line + Indy Connect plan presentation
1/8/2016	Indianapolis Recorder Editorial Board				Red Line	Red Line + Indy Connect plan presentation
1/11/2016	Forest Hills			70	Red Line	Presentation re: IndyGo Forward + Indy Connect strategy and plan, timeline with Red Line, overall objectives. Focus on Red Line along College Cooridor.
1/12/2016	Riley Area CDC			15	Red Line	Red Line + Indy Connect plan presentation
1/9/2016	100 Black Men				Red Line	Presentation re: IndyGo Forward + Indy Connect strategy and plan, timeline with Red Line, overall objectives and need for transit investment
1/19/2016	Greenwood Park Mall Leadership			6	Red Line	Leadership group to discuss detailed Red Line route and Indy Connect overall strategy
2/1/2016	Williams Creek T					
2/3/2016	Mid North Shephard's Center					
2/5/2016	MCTP Open House @ Central Library			40	MCTP	MCTP Presentation/ Red Line Update
2/10/2016	Indy Hub :: Dinner Series: Irvington			20		Discussed the MCTP and gathered feedback on why people think transit is important
2/11/2016	Transit Day at th	Addison Pollock				Booth in the lobby, presentation occurred mid-way through the event, wrapped up around noon.
2/13/2016	MCTP Open House @ Haughville Library			30	MCTP	MCTP Presentation/ Red Line Update
2/15/2016	MCTP Open House @ CAFE				MCTP	MCTP Presentation/ Red Line Update
2/15/2016	Town Hall Meeting @ Wayne Tonwnship Library					
2/16/2016	Garfield Park Neighborhood Association Meeting					
2/22/2016	Michigan Rd./ Riviera NA Meeting			15	MCTP	MCTP Presentation/ Red Line Update
2/23/2016	Fountain Square Merchant's Assoc. Red Line Pres			40	Red Line	Quick Update on the Red Line in Fountain Squre
2/26/2016	MARION COUNTY TRANSIT PLAN, PUBLIC EDU			50	MCTP	MCTP Presentation/ Red Line Update/Education Plan for MCTP and IndyConnect
2/27/2016	MCTP Open House @ Central Library			85	MCTP	MCTP Presentation/Red Line Update

Date	Outreach Event	Contact Name	Email	Est. Attend	Transit Line or Project	Notes
2/27/2016	Southside Envisiong Summit			150	Red Line	Participated in discussions about how the Red Line will effect the Shelby Street Corridor
3/2/2016	Dowtown YMCA Top 10 Coalition	MCTP Presentat		40	MCTP	MCTP Presentation/Red Line Update
3/8/2016	Carraige House Apartments			5	MCTP	MCTP Presentation/Red Line Update
3/9/2016	Indy Hub :: Dinner Series	Nora		20	MCTP	Discussed the MCTP and gathered feedback on why people think transit is important
3/9/2016	Electric Leage of Indiana Expo Panel			18		Overview of transit & questions
3/9/2016	IMPD Community Conversation			50	MCTP, Red Line	Tabled at event and answered questions concerning the DTC, MCTP and Red Line
3/10/2016	Connexion Event hosted by Indy Chamber			150	MCTP, Red Line	Tabled at event and answered questions concerning the DTC, MCTP and Red Line
3/10/2016	Warfleigh Annual Meeting			80	MCTP	MCTP Presentation/Red Line Update
3/14/2016	MCTP Open House @ Nora			30	MCTP	MCTP Presentation/Red Line Update
3/16/2016	tech + fashion + transit + urban			60		Panel discussion about the role transit will play in the future of Indianapolis
3/17/2016	Next Stop Opportunity			65		Panel discussion about the role transit will play in the future of Indianapolis, specifically concerning low income populations
3/21/2016	MCTP Open House @ City of Lawrence			8	MCTP	MCTP Presentation/Red Line Update
3/23/2016	MCTP Open House @ Speedway			14	MCTP	MCTP Presentation/Red Line Update
3/24/2016	State of Downtown w/Downtown Indy			100	MCTP, Red Line	Tabled at event and answered questions concerning the DTC, MCTP and Red Line
3/24/2016	CAFÉ Town Hall			40	MCTP, Red Line	Tabled at event and answered questions concerning the DTC, MCTP and Red Line
3/30/2016	MCTP Open House @ E. 38th St.			11	MCTP, Red Line	MCTP Presentation/Red Line Update
3/31/2016	MCTP Open House @ Indianapolis Urban League			60	MCTP, Red Line	MCTP Presentation/Red Line Update
4/4/2016	Metropolitan & Economic Development Committee			100		(informational and discussion purposes only)
4/5/2016	MCTP Open House @ Perry Township			35	MCTP, Red Line	MCTP Presentation/Red Line Update
4/7/2016	Congressman Carson's Youth Summit			300	MCTP, Red Line	Tabled at event and answered questions concerning the DTC, MCTP and Red Line, Promoted Summer Youth Pass
4/11/2016	IndyGo Travel Training @ Lawrence North H.S.			15		Travel Training Presentation
4/13/2016	Municipal Corporations Committee (MCTP)			20		(informational and discussion purposes only)
4/14/2016	CAFÉ Transportation Committee Meeting			10	MCTP	MCTP Update
4/13/2016	Indy Hub :: Dinner Series @ Sun King			20	MCTP	Discussed the MCTP and gathered feedback on why people think transit is important
4/19/2016	Indy Green Victory Party			50	MCTP	MCTP Update
4/19/2016	MCTP Presentation @ Irvington Historical Society			20	MCTP	MCTP Presentation
4/27/2016	Indianapolis Consortium of Arts Administrators			20	MCTP	MCTP Update
4/28/2016	Cummins IndyGo Travel Training			20		
4/28/2016	MCTP Open House @ Lynhurst Baptist Church			25		
5/4/2016	Connexion Event hosted by Indy Chamber @IMS			200		
5/9/2016	Full City County Council Meeting			100+		
5/10/2016	West Washing Business Alliance			15	MCTP	MCTP Presentation
5/10/2016	Pancakes & Politics @ Faegre Baker Daniels			120	MCTP, Red Line	Red Line and MCTP
5/11/2016	Indy Hub :: Dinner Series @ Speedway			26		
5/18/2016	MCTP Presentation @ ASCE			50+	MCTP	MCTP Presentation
5/21-5/22/2016	Broad Ripple Art Fair			?		Booth
5/23/2016	Johnson County Mayor Myers			20	Red Line	Red Line & referendum discussion
6/2/2016	Town Hall Meeting @ Mount Olive Ministries			100+	MCTP	MCTP Presentation
6/9/2016	IndyVovled			2000		Tabled at Event
6/15/2016	Greater Greenwo	Christian Maslowski		20	Red Line	Red Line & referendum discussion
6/18/2016	ADA Day at Transit Center				DTC	Overview of new Transit Center's accessible features presentation and walk through tour
6/19/2016	Family Dat at Transit Center				DTC	Event for families held at new transit center
6/21/2016	Ribbon Cutting and Declaration Celebration at Transit Center				DTC	Event for public to celebrate the dedication of the transit center; includes food, music, speakers
6/22/2016	Customer Service Center Opening				DTC	The IndyGo Customer Service Center located at 34 N. Delaware St. moved to the Transit Center at 201 E. Washington St. Riders can visit the Customer Service Center to purchase passes and pick up route maps.
6/25/2016	ADA Day at Transit Center			20		Went over accessible features of Transit Center and gathered feedback
6/26 - 7/01 2016	Music and Events at Transit Center				DTC	Through a partnership with the Arts Council of Indianapolis, current and future riders will enjoy performances from local artists to celebrate the opening week of the Transit Center. Performances will take place at the Transit Center as well as various downtown stops.
6/26 - 7/04 2016	Week of Free Rides to public				DTC	IndyGo will offer free rides on all routes from Sunday, June 26 through Monday, July 4 to help riders adjust to the Julia M. Transit Center opening and route changes.
7/6/2016	IndyGo Travel Training @ Cambridge Square Beec			20		
7/8/2016	Visit Indy tour of DTC				DTC	Writer from Philadelphia to write about new transit center - specificially development and design
7/12/2016	Washington Township Transit MCTP update				MCTP	
7/12/2016	Fanning Oliver Transit Forum			20	MCTP, Red Line	
7/12/2016	Bosma Enterprises				MCTP	MCTP update
7/13/2016	Indy Hub :: Dinner Series @ Highland Park			20	MCTP	Discussed MCTP and gathered feedback on why people think transit is important. 1100 E New York St, Indianapolis, 46202
7/20/2016	Red Line Public Meeting @ Central Library				Red Line	
7/20/2016	Red Line Public Meeting @ Central Library				Red Line	
7/21/2016	Red Line Public Meeting @ College Ave. Library				Red Line	
7/25/2016	Red Line Public Meeting @ Big Car Tube Factory				Red Line	
7/28/2016	Red Line Presentation @ Encore Realty			8	Red Line	Red Line Presentation and MCTP Update
8/7/2016	UUI Church Brei	Jamie Hinson-R	jamie@uui.org		MCTP	IndyCAN and we will be asking members to get involved in educating our community on the benefits of the proposed transit plan. I would like to have someone from IndyGO speak at our church on August 7 to help educate the congregation on the new transit plan and answer questions. The program would be from noon to 1:15 or so and include lunch. Then we'll break int
8/9/2016	Red Line Presentation @ FENA (Far East Neighborhood Associatio				Red Line	Red Line presentation & BRT Update
8/10/2016	Indy Hub :: Dinner Series @ International Marketpl			20	MCTP	Discussed MCTP and gathered feedback on why people think transit is important. 3610 Guion Road, Indianapolis, 46222
8/24/2016	SalesForce MCTP Update				MCTP	
8/29/2016	Councilor Oliver Mid-north public meeting on transit				MCTP	
9/1/2016	BYD Bus @ Hob Nob				MCTP	Discussed MCTP & showcased BYD demo bus
9/7/2016	Indianapolis Ambassadors Monthly meeting			45	MCTP	
9/13/2016	BYD Bus @ AARP Movie Night + MCTP Presentation				MCTP, Red Line	Discussed MCTP & showcased BYD demo bus
9/13/2016	Community Heighs Neighborhood Organization			25	MCTP	
9/14/2016	Indy Hub :: Dinner Series @ Kennedy King			18	MCTP	Discussed MCTP and gathered feedback on why people think transit is important. IndyHub HQ to Kountry Kitchen, 1831 N College Ave, Indianapolis, 46221
9/14/2016	Library Lunch n' Learn - Beech Grove Branch				MCTP	
9/14/2016	Library Lunch 'n Learn - Fountain Square Branch			3	MCTP	
9/15/2016	Nora Community Meeting			25	MCTP	
9/20/2016	BYD bus in service - Blue Line				Red Line, MCTP	
9/21/2016	BYD bus in service - Purple Line				Red Line, MCTP	
9/21/2016	Health & Hospital Presentation @ Easter Seals Crossroads					
9/22/2016	BYD Bus @ Car Free Day				Red Line, MCTP	
9/22/2016	Urban League MCTP Presentation				MCTP	
9/22/2016	Development on Tap: Transit @ The Platform				Red Line	
9/25/2016	IUPUI SPEA Congress to Campu			10	MCTP	
10/1/2016	Touch a Bus @ Glendale Library					
10/1/2016	Touch a Bus @ Haughville Public Library					
10/4/2016	Rainmakers Young Professionals				MCTP	
10/4/2016	Special Presentation @ International Marketplace				MCTP	
10/6/2016	Booth @ Connexion				MCTP	
10/7/2016	Booth @ IN Latino Expo				MCTP	
10/8/2016	Touch a Bus @ Lawrence Branch Public Library					
10/9/2016	Kheprw Institute Presentation				MCTP	
10/19/2016	North United Methodist Church				MCTP	
10/20/2016	Real Talk: Transit is on the Ballot @ E. 38th St				MCTP	
10/20/2016	Flanner House				MCTP	
10/20/2016	ULI Breakfast - MCTP Update				MCTP	
10/20/2016	IPL Staff educati	Carol Simpson	317-261-8299		MCTP	
10/21/2016	Tech & Transit Round table Discussion with Jarrett Walker				MCTP	
10/22/2016	Instameet @ Transit Center				MCTP	
10/24/2016	Connect Think: Lunch and Learn				MCTP	
10/24/2016	NACTO Accelerator: East Michigan Conversion Concepts					
10/25/2016	IPL Staff educati	Carla Short	317-261-8683		MCTP	
10/26/2016	Forest Manor Multi Service Center				MCTP	
10/27/2016	IPL Staff educati	Carla Short	317-261-8683		MCTP	

Date	Outreach Event	Contact Name	Email	Est. Attend	Transit Line or Project	Notes
10/28/2016	Kheprew Institute				MCTP	
11/1/2016	AARP IN Tele Town Hall				MCTP	
11/1/2016	Councilor McHenry's Quarterly Town Hall				MCTP	
11/2/2016	BUSt a Move AARP IN				MCTP	
11/16/2016	Red Line Stakeholder meeting			40	Red Line	

Appendix D

- Subrecipient Title VI Compliance Review Data
- Sample Letter

Subrecipient Title VI Compliance Review Data

Name of Subrecipient	Notice of Review Sent	Title VI Program	Board Approval	Notices and Complaint Instructions	List of Complaints, Investigations, and Lawsuits	LAP/LEP	Advisory Boards, etc.	Service Standards & Policies	Other Requirements for 50 or More Vehicles
Access Johnson County	1/17/2017								
Catholic Charities	1/18/2017								
Janus Dev. Srv.	1/18/2017								
Tangram	1/18/2017								
Exodus Refugee	1/18/2017								
CICOA	1/18/2017								
Noble of IN	1/18/2017								
Bosma Enter.	1/18/2017								

Indianapolis Public Transportation Corporation
dba IndyGo
1501 W. Washington Street
Indianapolis, IN 46222
www.IndyGo.net

January 18, 2017

Arvetta Jideonwo
Bosma Enterprises
8020 Zionsville Road
Indianapolis, IN 46268

RE: TITLE VI SUBRECIPIENT COMPLIANCE REVIEW

Dear Arvetta,

49CFR 21.9(B) and FTA Circular C4702.1B require Indianapolis Public Transportation Corporation (dba IndyGo) to monitor subrecipient compliance with Title VI of the Civil Rights Act of 1964 at least once every three (3) years. The Circular requires IndyGo to take the following steps:

1. Collect Title VI programs and review programs for compliance.
2. Document that the Title VI program has been approved by the board of directors or the appropriate governing body.
3. Review a copy of the subrecipient's Title VI notice to the public (posted on website, locations where the notice is posted, etc.).
4. Review a copy of the subrecipient's instructions on how to file a Title VI complaint including a copy of the complaint form.
5. Obtain a list of Title VI complaints, investigations, or lawsuits filed.
6. Obtain documentation of a public participation plan (LAP) that includes outreach to engage minority and limited English proficient populations. This includes a summary of outreach efforts made.
7. A copy of the subrecipient's plan for providing language assistance (LAP) to persons with limited English proficiency, based on the DOT LEP Guidance.
8. Documentation if the subrecipient has a transit-related, non-elected planning board, advisory council, or committee, the membership of which is selected by the subrecipient, which includes a table depicting the racial breakdown of the membership of those committees, and a

SAMPLE LETTER

description of efforts made to encourage the participation of minorities on such committees or councils.

9. An equity analysis conducted during the planning stage if the subrecipient has constructed a facility.

10. **Fixed route service providers must provide all of the above, plus:**

    a. Service standards such as vehicle load for each mode; vehicle headway of each mode; on time performance for each mode; and service availability for each mode.

    b. Service policies including transit amenities for each mode; and vehicle assignment for each mode.

11. **Transit providers that operate 50 or more fixed route vehicles in peak service and are located in an Urbanized Area (UZA) of 200,000 or more people must also submit:**

    a. Demographic and service profile maps and charts.

    b. Demographic ridership and travel patterns, collected by surveys.

    c. Results of their monitoring program and report, including evidence that the board or other governing entity or official(s) considered, was aware of the results, and approved the analysis.

    d. A description of the public engagement process for setting the "major service change policy," disparate impact policy, and the disproportionate burden policy.

    e. Results of service and/or fare equity analyses conducted since the last Title VI Program submission, including evidence that the board or other governing entity or official(s) considered, was aware of, and approved the results of the analysis.

Please provide the requested documentation on or before, Friday, February 24, 2017. You may provide the documentation electronically (preferred) or submit the information in a hard-copy format.

I have attached a checklist to use to ensure that all required information is submitted. Please call/email me if you have questions.

Indianapolis Public Transportation Corporation
dba IndyGo
1501 W. Washington Street
Indianapolis, IN 46222
www.IndyGo.net

Thanks in advance for your cooperation.

Sincerely,

Marilyn Sadler
Director of Compliance and Civil Rights
Indianapolis Public Transportation Corporation (IndyGo)
1501 W. Washington Street
Indianapolis, IN 46222
msadler@indygo.net
(317) 614-9272

Cc: Paula Haskin

Appendix E

- Service Monitoring Report
- Service Monitoring Action Item

Evaluation of Equitable Compliance with System-Wide Standards and Policies

» Introduction

In order to comply with Federal Transit Administration (FTA) Title VI guidelines, federal funding recipients are required to adopt system-wide standards and policies to guard against discriminatory service design and operations decisions. The FTA requires transit providers to monitor service standards at least once every three years. The purpose of the Title VI Service Monitoring Evaluation is to compare the services provided to minority and low-income populations to the services provided to non-minority and non-low-income populations, and to identify any potential disparate impacts or disproportionate burdens.

The FTA requires agencies to adopt service standards and policies for six specific areas: vehicle load, vehicle headway, on-time performance, service availability, distribution of transit amenities, and vehicle assignment. This review compares the rate of compliance with these service measures between minority routes and non-minority routes, and between low-income routes and non-low-income routes.

» Title VI and Environmental Justice

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs receiving federal financial assistance. Title VI states that "no person in the United States shall, on the ground of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

In 1994, President Clinton issued Executive Order 12898, which states that each federal agency "shall make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The FTA issued Circular 4702.1B on October 1, 2012, which replaced Circular 4702.1A, issued in 2007. This document outlines Title VI and Environmental Justice compliance procedures for recipients of FTA-administered transit program funds. Specifically, the FTA requires recipients, including the Indianapolis Public Transportation Corporation (IndyGo), to "monitor the performance of their transit system relative to their system-wide service standards and service policies no less than every three years." The Service Monitoring Evaluation fulfills this requirement as part of IndyGo's 2016 Title VI Program Submittal.

» Title VI Principles and Definitions

Disparate Impact and Disproportionate Burden

Under FTA guidelines, transit providers are required to define their own thresholds to determine when disparate impacts and disproportionate burdens exist as a result of a major service change. "Disparate impact" refers to a facially neutral policy or practice that disproportionately impacts members or a group identified by race, color, or national origin. "Disproportionate burden" refers to a neutral policy or practice that disproportionately impacts low-income populations compared to non-low-income populations.

IndyGo defines the Disparate Impact and Disproportionate Burden thresholds below:

Disparate Impact Policy:

- Disparate Impact (DI): "A facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin."
- Disparate Impact (DI) Policy: "A determination of disparate impact shall be made if the effects of a major service change borne by the minority population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-minority population."

Disproportionate Burden Policy:

- Disproportionate Burden (DB): "A neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations."
- Disproportionate Burden (DB) Policy: "A determination of disproportionate burden shall be made if the effects of a major service change borne by

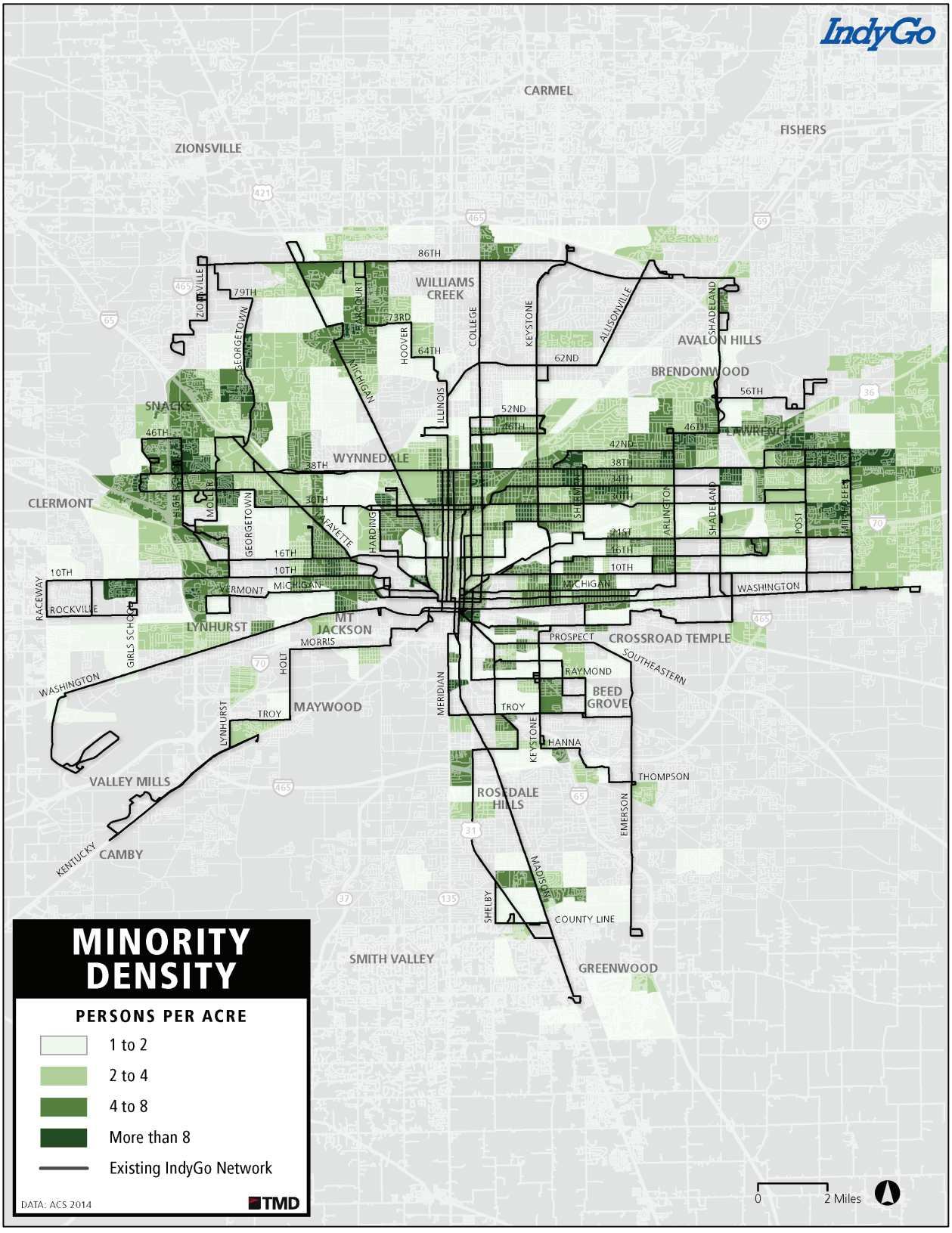
the low-income population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-low-income population."

In this evaluation, if the quantitative results indicate that the minority route compliance with the service standards and policies is not within 20 percent of the compliance for non-minority routes, there may be evidence of disparate impacts. Similarly, if the quantitative results indicate that the low-income route compliance with the service standards and policies is not within 20 percent of the compliance for non-low-income routes, there may be evidence of disproportionate burdens.

» Minority

The FTA defines a minority person as one who self-identifies as American Indian/Alaska Native, Asian, Black, or African American, Hispanic or Latino, and/or Native Hawaiian/Pacific Islander. For the purposes of this evaluation, minority persons are defined as those who self-identify as non-White/Caucasian and/or Hispanic. The distribution of minority and non-minority populations within the IndyGo service area is shown in Figure 1.

FIGURE 1: DISTRIBUTION OF MINORITY POPULATIONS



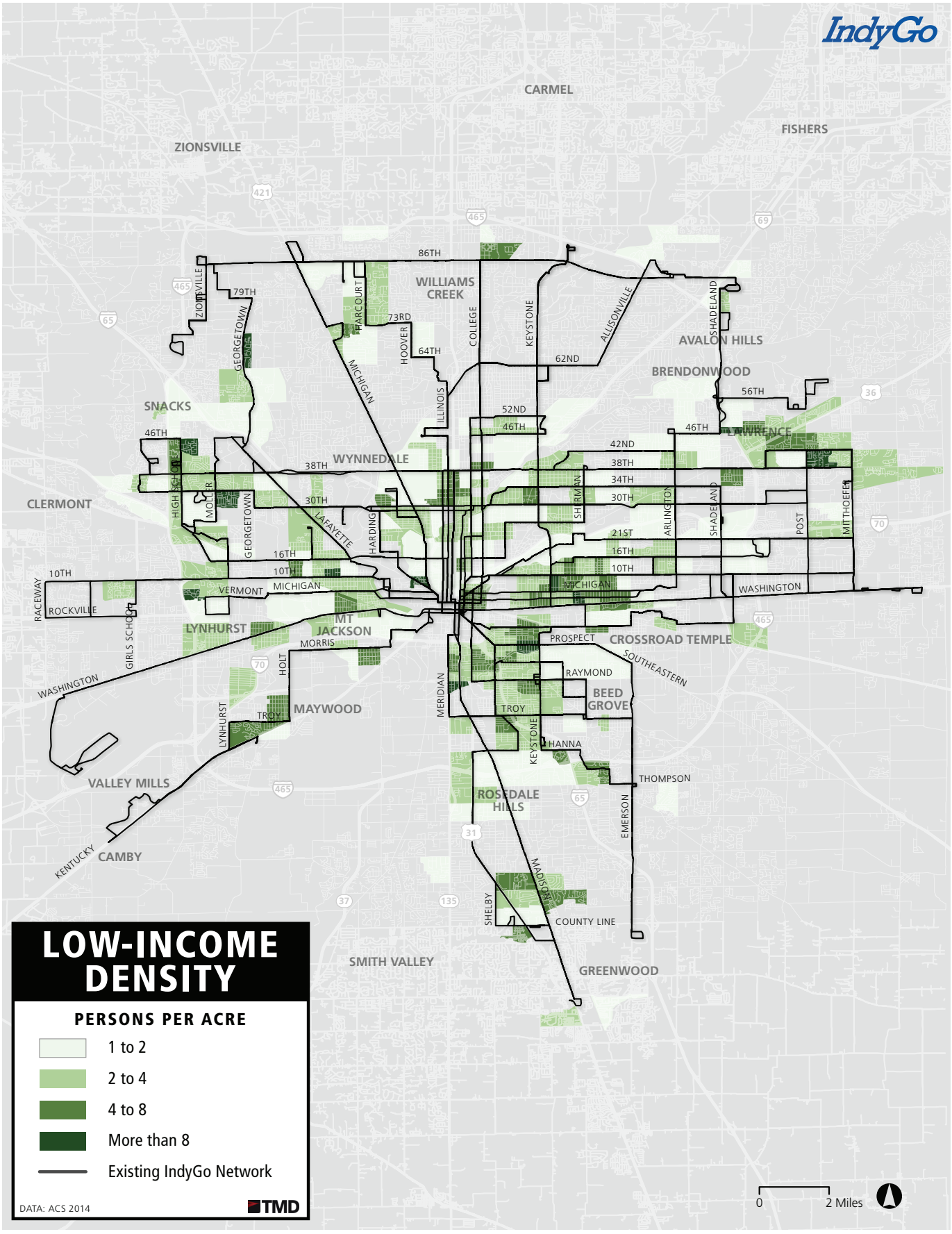
» Low-Income

While low-income populations are not an explicitly protected class under Title VI, the FTA recognizes the inherent overlap between Title VI and Environmental Justice principles. Subsequently, it requires transit providers to evaluate the impact of service and fare changes to low-income populations, and to identify any disproportionate burden placed on those populations by the proposed changes. The FTA defines a low-income person as one whose annual household income is at or below the poverty guidelines set by the Department of Health and Human Services (DHHS). DHHS poverty thresholds are based on household size and the number of related children less than 18 years of age. The 2014 poverty thresholds used for the data in this evaluation are summarized in Table 1. The distribution of low-income and non-low-income populations within the service area is shown in Figure 2.

TABLE 1: 2014 DHHS POVERTY THRESHOLDS

Persons in Family	Poverty Threshold for 48 Contiguous States and District of Columbia
1	$11,670
2	$15,730
3	$19,790
4	$23,850
5	$27,910
6	$31,970
7	$36,030
8	$40,090
For each additional person, add	$4,060

FIGURE 2: DISTRIBUTION OF LOW-INCOME POPULATIONS



» Minority and Low-Income Route Designation

A route was classified as a minority route if it served a higher concentration of minority residents than the system average. The concentration of minority residents served was calculated by dividing the total number of minority residents in census block groups that were within a quarter-mile of a route by the total number of residents within the same area. This approach was also utilized to calculate concentrations of low-income residents served: the total number of low-income residents in census block groups within a quarter-mile of a route divided by the total number of residents within the same area.

There are a total of 760,467 people within one-quarter mile of IndyGo services, 44.7 percent of whom are minority residents and 22.4 percent of whom are low-income residents. IndyGo routes are defined as Minority, non-minority, low-income, and non-low-income Routes in Table 2. Minority and non-minority routes are shown in Figure 3 and low-income and non-low-income routes are shown in Figure 4.

Route	Minority Route Designation	Low-Income Route Designation
2	Minority Route	Low-Income Route
3	Minority Route	Low-Income Route
4	Minority Route	Low-Income Route
5	Minority Route	Low-Income Route
6	Minority Route	Low-Income Route
8	Non-Minority Route	Low-Income Route
10	Non-Minority Route	Non-Low-Income Route
11	Non-Minority Route	Low-Income Route
12	Non-Minority Route	Low-Income Route
13	Non-Minority Route	Low-Income Route
14	Non-Minority Route	Low-Income Route
15	Minority Route	Low-Income Route
16	Non-Minority Route	Non-Low-Income Route
17	Non-Minority Route	Non-Low-Income Route
18	Non-Minority Route	Non-Low-Income Route
19	Non-Minority Route	Non-Low-Income Route
21	Minority Route	Low-Income Route
22	Non-Minority Route	Low-Income Route
24	Non-Minority Route	Low-Income Route
25	Minority Route	Low-Income Route
26	Non-Minority Route	Low-Income Route
28	Minority Route	Non-Low-Income Route
30	Minority Route	Low-Income Route
31	Non-Minority Route	Low-Income Route
34	Minority Route	Non-Low-Income Route
37	Minority Route	Low-Income Route
38	Minority Route	Low-Income Route
39	Minority Route	Low-Income Route
55	Non-Minority Route	Low-Income Route
86	Non-Minority Route	Non-Low-Income Route
87	Minority Route	Low-Income Route
26N	Non-Minority Route	Non-Low-Income Route

FIGURE 3: MINORITY AND NON-MINORITY ROUTES

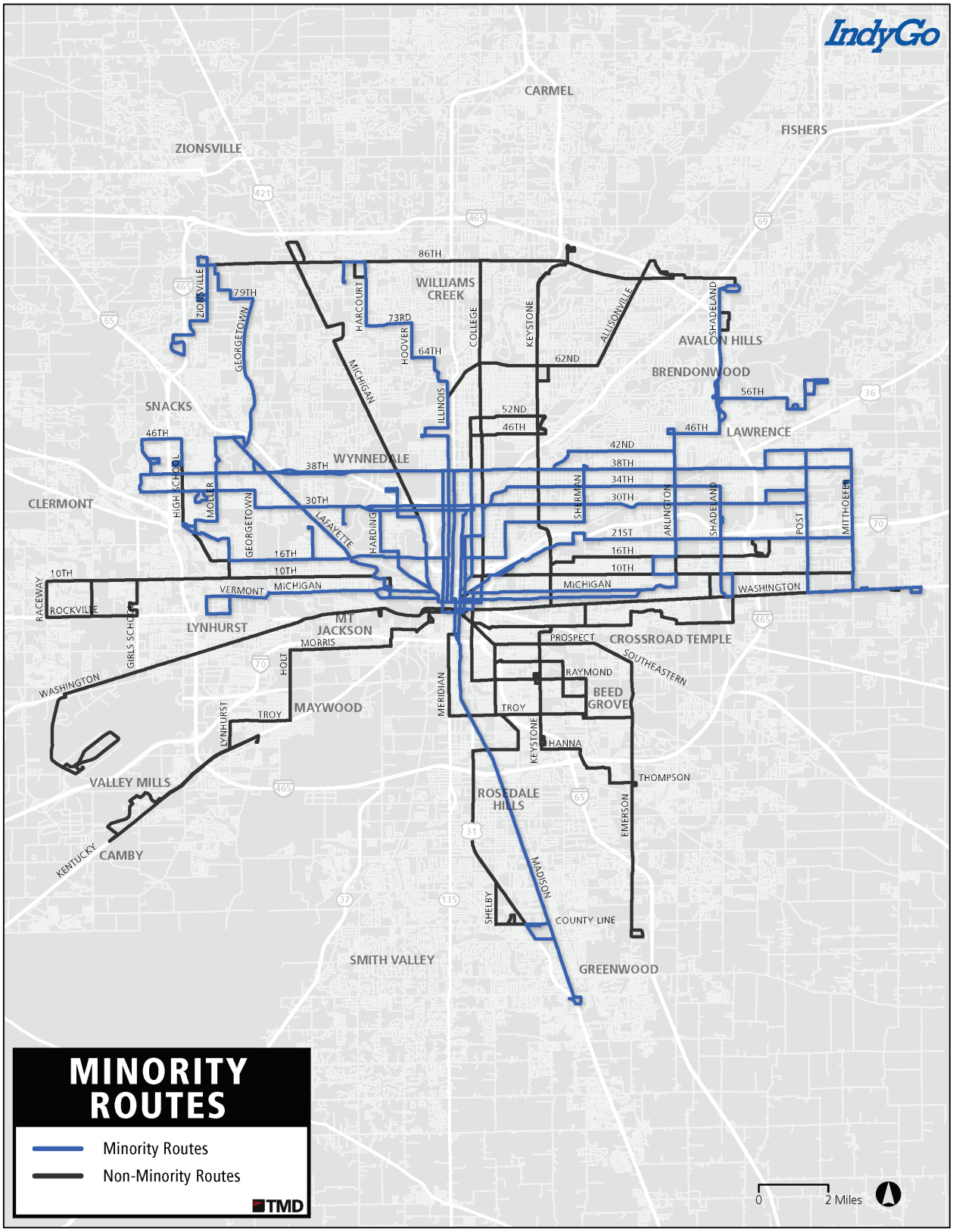
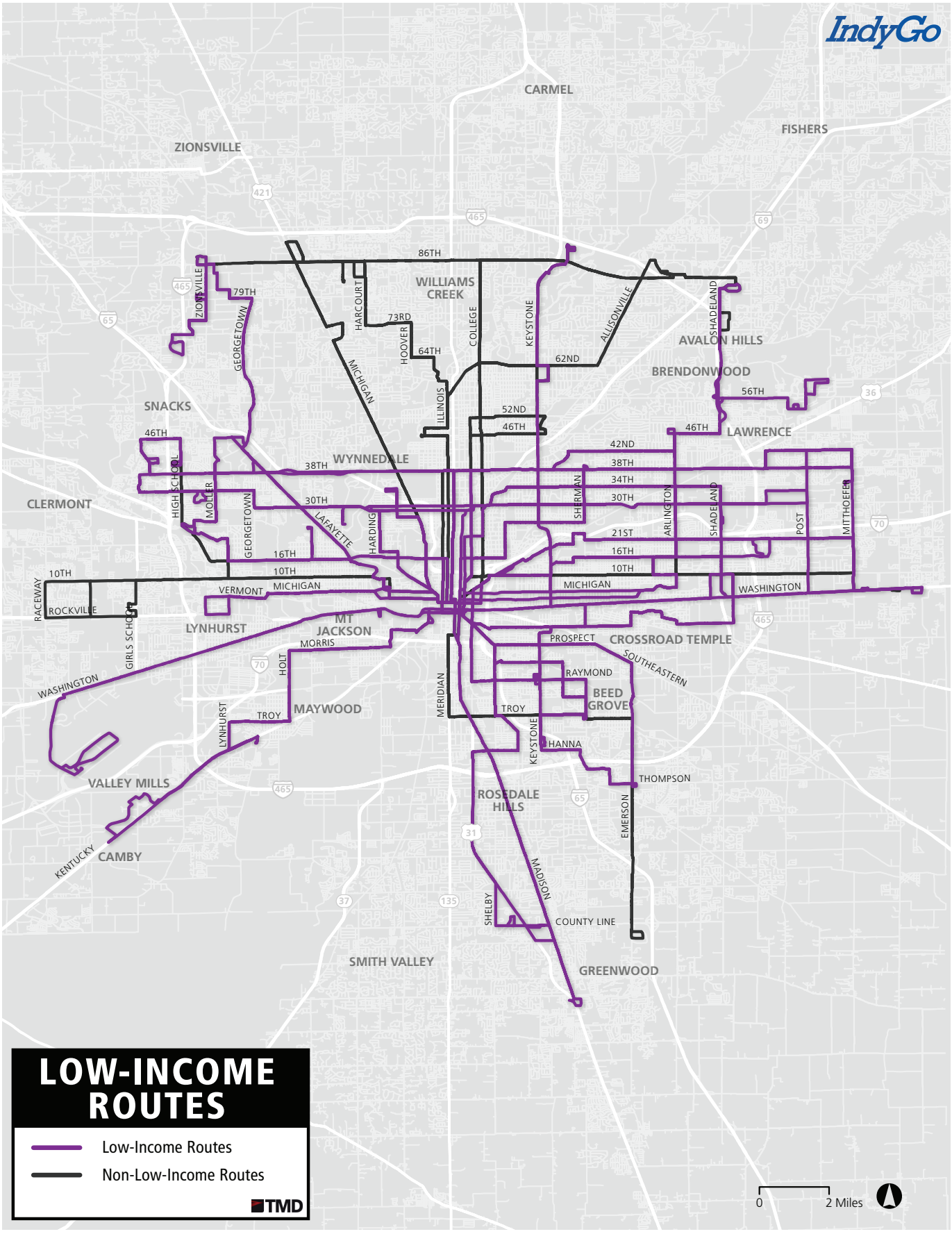


FIGURE 4: LOW-INCOME AND NON-LOW-INCOME ROUTES



» Service Monitoring Analysis

IndyGo monitors several standards and policies to measure how service is distributed across the system and to ensure that service design and operating practices do not result in discrimination on the basis of race, color, or national origin. These standards and policies evaluate vehicle load, vehicle headway, on-time performance, service availability, distribution of transit amenities, and vehicle assignment.

» Vehicle Load Factor

The vehicle load factor is calculated by dividing the number of passengers on the bus by the number of seats available. IndyGo's service standard for vehicle load is a maximum peak load factor of 1.25 and a maximum off-peak load factor of 1.00. Peak periods are defined as weekdays between 6:00am and 9:00am and between 3:00pm and 6:00pm.

The monitoring report analyzed load factors for trips between June 26, 2016 and October 8, 2016. On average, 94 percent of all IndyGo service trips met the vehicle load standards. This ratio held for minority routes, non-minority routes, and low-income routes. About 95 percent of trips for non-low-income routes met the vehicle load standards. This data summarized in Table 3.

TABLE 3: VEHICLE LOAD COMPLIANCE

The percent of both minority and low-income trips were within the acceptable range for vehicle load standards. **Thus,**

Route Type	Percent of Trips Meeting Vehicle Load Standard	IndyGo Acceptable Range
Minority Route	94%	75% - 100%
Non-Minority Route	94%	
Low-Income Route	94%	76% - 100%
Non-Low-Income Route	95%	
System Average	**94%**	

the vehicle load analysis found no disparate impacts to minority populations and no disproportionate burden to low-income populations.

» Vehicle Headway

IndyGo's standard for vehicle headway is 30 minutes or less during peak periods and 60 minutes or less during off-peak periods. This analysis used the Fall 2016 IndyGo route schedules to calculate the average time between bus arrivals at each stop. To eliminate skewing from stops that did not warrant consistent service throughout the day, vehicle headways in excess of 120 minutes were excluded from the analysis. The IndyGo vehicle headway distribution is summarized in Table 4.

TABLE 4: VEHICLE HEADWAY DISTRIBUTION

The average peak and off-peak headway for the entire system was 36.4 minutes and 46.8 minutes, respectively. Minority routes averaged peak headways of 32.2 minutes and off-peak headways of 44.4 minutes. This peak headway was 8.4 minutes less than the peak headway for non-minority routes and 0.3 minutes out of the acceptable range. However, the headways for non-minority routes were impacted by services such as Routes 11, 12, and 13 which were infrequent, low-demand services that averaged less than 200 passengers per day . Without these services, the difference in peak headway between minority and non-minority routes would be within the acceptable range. The average off-peak headway for minority routes was 4.7 minutes less than the off-peak headway for non-minority routes. **This difference was within the acceptable range. The headway analysis found no disparate impacts to minority populations.**

Route Type	Average Peak Headway	IndyGo Acceptable Range	Average Off-Peak Headway	IndyGo Acceptable Range
Minority Route	32.2	32.5 – 48.7	44.4	39.3 – 58.9
Non-Minority Route	40.6		49.1	
Low-Income Route	37.4	27.0 – 40.4	47.7	35.4 – 53.2
Non-Low-Income Route	33.7		44.3	
System Average	**36.4**		**46.8**	

The average peak and off-peak headway for low-income routes was 37.4 minutes and 49.1 minutes. Routes 11, 12, and 13 were also low-income routes. These routes increased the headway averages for low-income services. However, both peak and off-peak averages still fell within the IndyGo acceptable range as non-low-income routes averaged headways of 33.7 and 44.3 minutes during the two time periods. **The headway analysis found no disproportionate burden to low-income residents.**

» On-Time Performance

IndyGo measures on-time performance using arrival times at established timepoints. A bus is considered to be on time if

it is no more than one minute early and five minutes late. To meet their set service standard for on-time performance, 90 percent of IndyGo buses must arrive on time.

This analysis reviewed all-day scheduled bus trips between June 2016 and October 2016. Automatic Vehicle Locator (AVL) data was used to calculate the average percentage of early, late, and on-time bus arrivals for each route in the system. IndyGo on-time performance is summarized in Table 5.

TABLE 5: ON-TIME PERFORMANCE

At the system level, IndyGo had an on-time performance of 77.6 percent. Trips on minority routes were on time 77.3 percent of the time, while trips on non-minority routes were on time 77.9 percent of the time. **This difference of less than one percentage point was within the acceptable range, resulting in no disparate impacts to minority populations.**

Route Type	Early Trips (%)	Late Trips (%)	On-Time Trips (%)	IndyGo Acceptable Range
Minority Route	5.32%	17.42%	77.25%	62.34% - 93.5%
Non-Minority Route	3.77%	18.31%	77.92%	
Low-Income Route	4.92%	16.40%	78.67%	60.23% - 90.35%
Non-Low-Income Route	3.64%	21.08%	75.29%	
System Average	**4.51%**	**17.89%**	**77.60%**	

Trips for low-income routes had an on-time performance of 78.7 percent, while trips on non-low-income services had an on-time performance of 75.3 percent. **This difference of 3.4 percentage points was within the acceptable range. The on-time performance analysis found no disproportionate burden to low-income residents.**

» Service Availability

In its service standards, IndyGo establishes a goal that 80 percent of the service area population should be within three-quarters of a mile of transit service. For the purposes of this analysis, the IndyGo service area was defined as Marion County.

Using ArcGIS software, a three-quarter mile buffer was generated around the Fall 2016 configuration of IndyGo routes. All Marion County block groups with a centroid within this buffer were considered to have access to transit service. The most recent ACS demographic data (2014) was used for this analysis and is summarized in Table 6.

TABLE 6: SERVICE AVAILABILITY

In Marion County, 74.5 percent of the population had access to IndyGo transit service. About 83.0 percent of minority

residents had access to transit, compared to 68.5 percent of non-minority residents. This difference of 14.5 percentage points was outside of the acceptable range. This pattern also held for access by income. Among low-income residents,

Demographics	Marion County Population	Population with Access to Transit (3/4 mile buffer)	% With Access to Transit	Acceptable Range
Minority	380,737	316,026	83.0%	
Non-Minority	538,599	369,093	68.5%	54.8% – 82.2%
Low Income	189,127	166,648	88.1%	
Non-Low Income	730,209	518,471	71.0%	56.8% – 85.2%
Total Population	**919,336**	**685,119**	**74.5%**	

88.1 percent had access to transit. About 71.0 percent of non-low-income residents had access to transit. This difference of 17.1 percentage points was also outside of the acceptable range.

These differences exceeded the acceptable range as defined by a strict application of the disparate impact and disproportionate burden policies. However, this was a result of IndyGo's stated focus on providing transit to the urban core and to high-density, arterial corridors which typically had higher proportions of minority and low-income populations. **As a result, this analysis of service availability found no disparate impact to minority populations, nor did it find disproportionate burden to low-income populations.**

» Distribution of Transit Amenities

IndyGo aims to distribute transit amenities equitably across its service area. Transit amenities include shelters, benches, informational displays, and trash cans. IndyGo's current policy states that the ridership threshold for shelters is 20 passenger boardings per day, standard benches is 10 boardings per day, and Simmie Seat two-person benches is 5 boardings per day. IndyGo does not have a threshold for trash receptacles. Trash receptacles are provided at each shelter location. Additionally, stops that do not have a trash receptacle can have one placed if the stop is adopted by a citizen/group/business that has agreed to fully accept responsibility to empty trash on a weekly basis.

This report analyzed the distribution of amenities at the bus stop level. A bus stop was classified as a minority or non-minority stop based on the type of route(s) that served the stop. However, a bus stop could be both a minority and non-minority bus stop if it was served by minority and non-minority routes. This methodology was also used for classifying low-income and non-low-income bus stops. Tables 7 through 11 summarize the distribution of transit amenities for each type of bus stop. The full distribution of transit stop amenities is shown in Figure 5.

TABLE 7: DISTRIBUTION OF BUS SHELTERS

Minority bus stops and non-minority bus stops each had shelters at a 7.0 percent rate.

About 6.8 percent of low-income bus stops had shelters, while 8.1 percent of non-low-income stops had shelters. This difference of 1.3 percentage points was still within the acceptable range.

Stop Type	Stops with Shelter	Stops with No Shelter	Total Stops	Percent of Stops with Shelter	IndyGo Acceptable Range
Both Minority and Non-Minority Stop	39	259	298		
Minority Stop	84	1,495	1,579	7.01%	5.57% - 8.36%
Non-Minority Stop	95	1,664	1,759	6.97%	
Both Low-Income and Non-Low-Income Stop	46	255	301		
Low-Income Stop	128	2,304	2,432	6.80%	6.46% - 9.69%
Non-Low-Income Stop	44	859	903	8.08%	

TABLE 8: DISTRIBUTION OF BUS STOP BENCHES

About 3.9 percent of minority bus stops had benches, compared to 2.9 percent for non-minority bus stops. This difference of 1 percentage point was outside of the acceptable range. These results were skewed by a high number of benches

along West 38th Street. More than 20 percent of stops with benches were on this corridor. The stops on 38th Street were low-income and minority stops. Without these stops, the rate of benches for minority stops would be within the accept-

Stop Type	Stops with Bench	Stops with No Bench	Total Stops	Percent of Stops with Bench	IndyGo Acceptable Range
Both Minority and Non-Minority Stop	14	284	298		
Minority Stop	56	1,523	1,579	3.87%	2.32% - 3.48%
Non-Minority Stop	44	1,715	1,759	2.90%	
Both Low-Income and Non-Low-Income Stop	14	287	301		
Low-Income Stop	75	2,357	2,432	3.37%	2.68% - 4.02%
Non-Low-Income Stop	25	878	903	3.35%	

able range.

Low-income and non-low-income stops both had benches at rates of 3.4 percent.

TABLE 9: DISTRIBUTION OF BUS STOP INFORMATION DISPLAYS

There were only 9 stops with information displays in the IndyGo system. The displays were strategically placed at high

ridership, high transfer stops in downtown Indianapolis; the average weekday ridership at these locations was 181 passengers per day. These 9 stops all served minority, non-minority, low-income, and non-low-income routes.

Stop Type	Information Display	No Information Display	Total Stops	Percent with Information Displays	IndyGo Acceptable Range
Both Minority and Non-Minority Stop	9	289	298		
Minority Stop	0	1,579	1,579	0.48%	0.35% - 0.53%
Non-Minority Stop	0	1,759	1,759	0.44%	
Both Low-Income and Non-Low-Income Stop	9	292	301		
Low-Income Stop	0	2,432	2,432	0.33%	0.60% - 0.90%
Non-Low-Income Stop	0	903	903	0.75%	

The rates of information displays were 0.48 percent for minority stops and 0.44 percent for non-minority stops. This was within the acceptable range.

The difference for low-income stops was not within the acceptable range. Low-income stops had information displays at a rate of 0.33 percent while non-low-income stops had displays at a rate of 0.75 percent. However, this discrepancy was a result of the fact that the 9 stops with displays served both low-income and non-low-income routes. As a result, the percentages would be better for the stop type with the fewer number of stops. Low-income stops outnumbered non-low-income stops by more than double.

TABLE 10: DISTRIBUTION OF BUS STOP TRASH CANS

Nearly 7.8 percent of minority stops had trash cans. This was 1 percentage point higher than non-minority stops, which had trash cans at a rate of 6.8 percent. This difference was within the acceptable range.

Stop Type	Trash Can	No Trash Can	Total Stops	Percent with Trash Cans	IndyGo Acceptable Range
Both Minority and Non-Minority Stop	22	276	298		
Minority Stop	113	1,466	1,579	7.75%	5.40% - 8.10%
Non-Minority Stop	108	1,651	1,759	6.75%	
Both Low-Income and Non-Low-Income Stop	30	271	301		
Low-Income Stop	132	2,300	2,432	6.30%	8.12% - 12.19%
Non-Low-Income Stop	81	822	903	10.16%	

About 6.3 percent of low-income stops had trash cans. Non-low-income stops had trash cans at a higher rate of 10.2 percent. This difference of 3.9 percentage points was not within the acceptable range. As previously stated, IndyGo does not have a threshold for trash cans. Trash receptacles are provided at each shelter location. Additionally, stops that do not have a trash receptacle can have one placed if the stop is adopted by a citizen/group/business that has agreed to fully accept responsibility to empty trash on a weekly basis.

TABLE 11: AVERAGE WEEKDAY RIDERSHIP OF STOPS WITH TRASH CANS

However, on average, trash cans were located at stops with more utilization. Low-income and non-low-income stops with trash cans both averaged 16 passengers per weekday. Among stops without trash cans, non-low-income stops had higher average ridership. There were a number of low-income stops with significantly low passenger utilization. More than 1,000

Stop Type	Stop with Trash Can	Stop with No Trash Can	Total Number of Stops
Low-Income	16	10	2,733
Non-Low-Income	16	13	1,204

low-income stops averaged less than 10 boardings per weekday. Targeting amenities towards these stops would be inefficient.Moving forward, IndyGo will explore opportunities to target more trash cans towards higher ridership, low-income stops. There may be opportunities along corridors such as 38th Street and Washington Street.

This section evaluated the distribution of amenities such as shelters, benches, information displays, and trash cans. The analysis found no disparate impacts to minority populations, nor did it find disproportionate burden to low-income populations.

» Vehicle Assignments

As per IndyGo service standards, transit vehicles must be assigned equitably between all route types based on vehicle age. The vehicle assignment evaluation reviewed trip records between June 26, 2016 and October 8, 2016. A summary of vehicle assignments and ages is detailed in Table 12.

TABLE 12: VEHICLE ASSIGNMENTS

The average age of vehicles on all trips was 8.7 years. The average age of vehicles on minority and non-minority trips was 8.5 years and 8.9 years, respectively. This difference of 0.4 years was within the acceptable range. **This analysis of vehicle assignments found no disparate impacts to minority populations.**

Route Type	Average Age of Assigned Vehicle (Years)	IndyGo Acceptable Range
Minority Route	8.5	7.1 – 10.7
Non-Minority Route	8.9	
Low-Income Route	8.8	6.8 – 10.2
Non-Low-Income Route	8.5	
System Average	**8.7**	

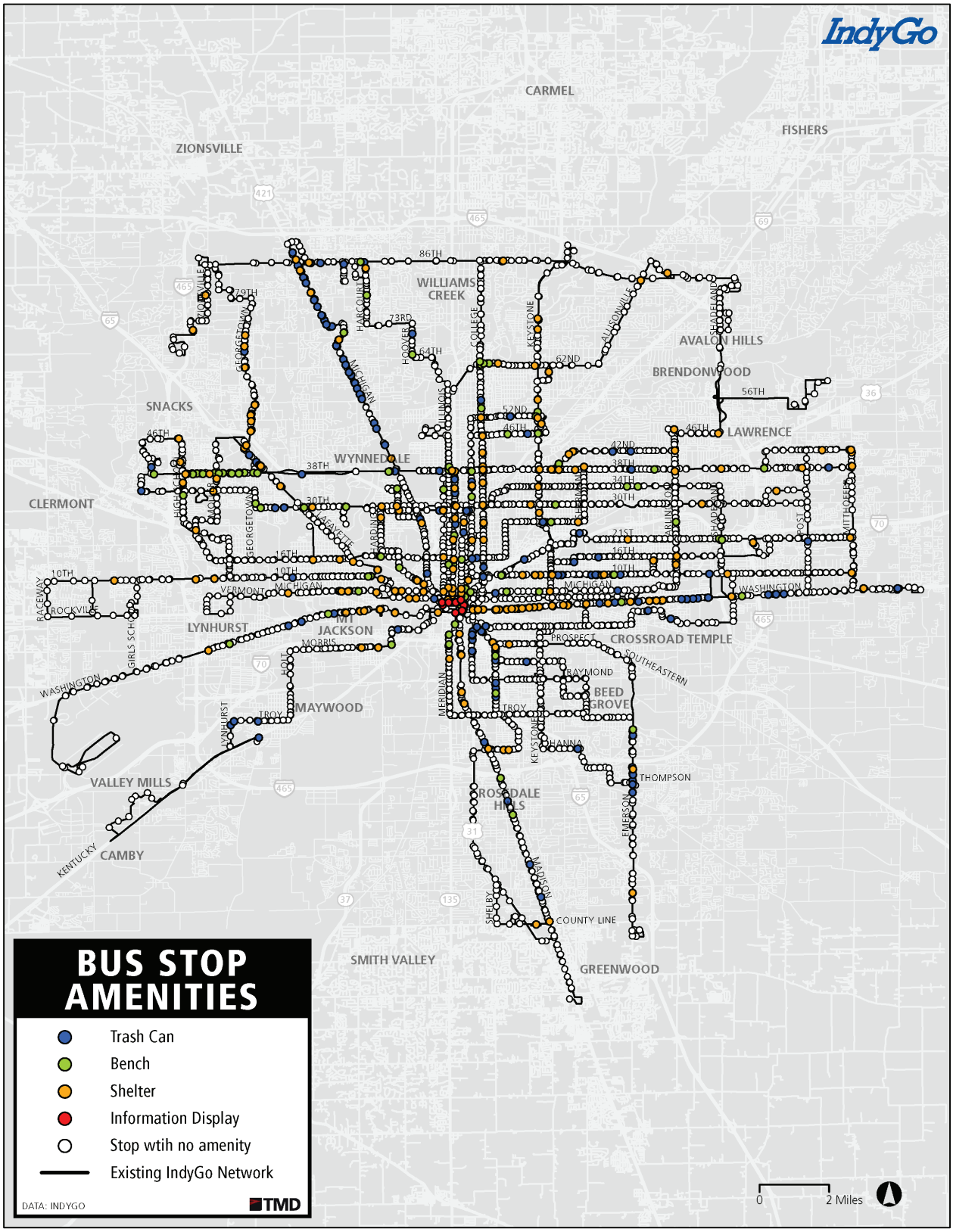
The average age of vehicles on low-income and non-low-income routes was 8.8 years and 8.5 years, respectively. This difference of 0.3 years was within the acceptable range. **This analysis of vehicle assignments found no disproportionate burdens to low-income populations.**

» Summary

Following FTA Circular 4702.1B, transit agencies must monitor their service performance against their standards and policies for vehicle load, vehicle headway, on-time performance, service availability, distribution of transit amenities, and vehicle assignments. Agencies must compare compliance to these service measures for minority routes and non-minority routes as well as low-income routes and non-low-income routes.

This report used IndyGo's disparate impact and disproportionate burden policies to evaluate compliance with its established service standards and policies. This report found no disparate impacts to minority populations, nor did it find disproportionate burdens to low-income populations, for any of the IndyGo service standards and policies.

FIGURE 5: DISTRIBUTION OF TRANSIT STOP AMENITIES



IPTC Agenda
01-26-17
Item No. A - 4

TO: Chair and Board of Directors

FROM: Annette Darrow
Director of Planning

REQUEST FOR ADOPTION OF TITLE VI POLICIES AND PROGRAM – RESOLUTION 2017-01

Background: Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs receiving federal financial assistance. To provide guidance on this issue, the Federal Transit Administration (FTA) issued Circular 4702.1B in October 2012 which outlines Title VI compliance procedures for recipients of FTA-administered transit program funds. As a recipient of FTA-administered federal funding, IndyGo must meet the requirements established in this document.

An updated IndyGo Title VI Program is due to the FTA on February 1, 2017. Under the FTA guidelines, IndyGo is required to seek review and approval of key components of its Title VI program by the IndyGo Board of Directors. This includes

- **Approval of the 2016 Service Improvements Service Equity Analysis:** The service improvements implemented by IndyGo in 2016 for the opening of the Julia M. Carson Transit Center meet the criteria for a "major service change." A Service Equity Analysis was completed to ensure a fair and equitable distribution of service changes throughout the IndyGo service area. The analysis found no disparate impacts to minority populations and no disproportionate burdens to low-income populations as a result of the 2016 service improvements. This restructuring plan and analysis was formally adopted by the board at the April 23, 2015 meeting.

The Title VI Program follows and has no appendices attach, but the full report is on file and available to the public at the IndyGo Administrative Office and on-line at www.IndyGo.net.

If approved IndyGo will submit the final board adopted program and policies to the Federal Transit Administration by February 1, 2017.

Recommendation: Adopt the IndyGo 2017 Title VI Program.

Annette Darrow
Director of Planning

SERVICE MONITORING ACTION ITEM

2017 Title VI Program Update
for Adoption by
The IndyGo Board of Directors

Resolution 2017-01

The following is a The Title VI Program and has no appendicies attached, but the full report is available to the public at IndyGo Administrative Offices and on-line at www.IndyGo.net. Approval by the IndyGo Board of Directors will be noted as Appendix G of the Title VI report that will be submitted to the Federal Transit administration no later than February 1, 2017.

This program was adopted by the I.P.T.C. Board of Directors **Resolution No. 2017-01**. Board approval date January 26, 2017.

FOR:	AGAINST:

ATTEST: _____

Appendix F

- Survey Analysis Report
- Passenger Survey

» Introduction

In 2016, ETC Institute conducted an on-board passenger survey on behalf of Indianapolis Public Transportation Corporation (IndyGo). A total of 4,189 passenger surveys were collected between September 1, 2016 and November 22, 2016. The surveys were collected and analyzed to determine demographic characteristics and travel patterns of IndyGo riders. A summary of the analysis and findings from the passenger survey are detailed in this report.

» Key Findings from Passenger Survey

Analysis of the passenger survey attempted to identify key travel patterns among IndyGo transit riders, determine the demographic characteristics of a typical IndyGo rider, and compare findings to general population trends within the IndyGo service area. Key findings from the on-board passenger survey are as follows:

» Demographics

- 54 percent of riders are female and 46 percent are male.
- More than 40 percent of riders are between the age of 19 and 34.
- 70 percent of riders could not use a vehicle in lieu of their transit trip.
- The majority of riders, about 75 percent, are employed either full-time or part-time.
- More than 50 percent of riders have a household income that is less than $25,000. About 90 percent of riders have household incomes less than $60,000. Less than 2 percent of transit riders have household incomes greater than $100,000.

» Travel Patterns

- Home and work are the most common origin and destination points.
  - 50 percent of trips originate at the rider's home while 38 percent end at their home.
  - 24 percent of trips originate at work and 26 percent end at work.
- Walking is the primary mode of first and last mile mobility.
  - 93 percent of riders walk to the bus stop to access transit.
  - 95 percent of riders walk the last mile of their trips.
- In the absence of IndyGo transit services, 26 percent of riders would not have made their trip, highlighting the importance of transit. Without transit, the remaining passengers would have turned to the following alternatives:
  - 32 percent would have ridden with someone else;
  - 13 percent would have walked to their destination;
  - 12 percent would have taken a taxi, Uber, or Lyft;
  - 6 percent would have driven themselves;
  - 6 percent would have bicycled;
  - The remaining 6 percent would have used car share, taken a shuttle, taken transit to a different location, or found some other form of transportation.

» Fares

- The most popular method of fare types are: 1 trip (cash on bus), 1 day pass, and monthly pass. These three fare types account for 85 percent of trips.
- Nearly 85 percent of passengers pay full fare. About 9 percent pay the disabled fare and 3 percent pay the senior rate.

» Typical Rider

In 2016, IndyGo's typical weekday passenger is a Black/African American between the ages of 19 and 49. The typical passenger is employed with a household income under $60,000 per year. The current IndyGo rider is transit dependent with limited access to a vehicle. The rider uses transit to travel to and from home and work. They start their transit trip by walking to their stop, and end their trip by walking to their destination. If IndyGo services are not available, the rider completes their journey by riding with a friend, walking, or skipping the trip.

In 2009, the typical IndyGo rider was a Black/African American female between the ages of 35 and 49, who used the bus to travel to and from home and work. She earned less than $15,000 annually and did not have access to a vehicle, relying on transit for mobility within Indianapolis. If transit was not available, she would either ride

with a friend or skip the trip.

» Demographic Comparison

The following tables compare minority riders with non-minority riders and low-income riders with non-low-income riders.

» Indianapolis Demographics

According to the 2015 American Community Survey estimates, Indianapolis has a population of 841,449 people within its city limits. In 2015, about 52 percent of the population was female and 48 percent was male. About 24 percent of the population was between the ages of 20 and 34 with a median age of 34.

The American Community Survey reported a total of 332,199 households in 2015. The median household income in 2015 was $41,987, which was a $1,655 decrease from 2008. Just over 57 percent of households earned less than $50,000 in 2015, with 17 percent earning fewer than $15,000 that year. About 21 percent of the Indianapolis residents and 17 percent of the families were below the poverty level.

Around 58 percent of Indianapolis residents are white, 27 percent are Black or African American, 10 percent are Hispanic or Latino, two percent are Asian, and the remaining three percent of residents are American Indian, Pacific Islander, or two or more races.

	Minority Rider	Non-Minority Rider
Income	77% with household incomes under $35k	73% with household incomes under $35k
Employment	78% employed, 53% full-time	73% employed, 52% full-time
Trip Purpose	27% destined for work	25% destined for work
Fare Type	65% use 1-trip cash or day pass	61% use 1-trip cash or day pass
Vehicle Access	71% had no access to a vehicle during their trip	67% had no access to a vehicle during their trip
Without Transit	25% would have not made trip without transit	29% would not have made trip without transit
Accessing Transit	94% walked to transit	91% walked to transit

	Low-Income Rider	Non-Low-Income Rider
Employment	72% employed, 49% full-time	87% employed, 65% full-time
Trip Purpose	24% destined for work	29% destined for work
Fare Type	65% use 1-trip cash or day pass	62% use 1-trip cash or day pass
Vehicle Access	77% had no access to a vehicle during their trip	65% had no access to a vehicle during their trip
Without Transit	31% would have not made trip without transit	18% would not have made trip without transit
Accessing Transit	93% walked to transit	92% walked to transit
Language	7% speak a language other than English at home	10% speak a language other than English at home

IndyGo

IndyGo 2016 On-Board Ridership Survey

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

What is your HOME ADDRESS (please be specific, ex: 123 W. Main St):
(*If you are visiting the Indianapolis area, please list the **hotel name** or address where you are staying*)

_____ _____ _____ _____
Street Address **City** **State** **Zip Code**

COMING FROM?

1. What type of place are you COMING FROM NOW?
(the starting place for your one-way trip)

- O Work or Work Related
- O College / University (students only)
- O School K-12 (students only)
- O Doctor / Clinic / Hospital (non-work)
- O Shopping
- O Social / Religious / Personal Business
- O Airport (passengers only)
- O Your **HOME** → *Go to Question #4*
- O Other: _____

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

_____

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

_____

City: _____ **State:** _____ **Zip:** _____

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

- O Walk / Wheelchair
- O Bike
- O Was dropped off by someone (answer 4a)
- O Drove alone and parked (answer 4a)
- O Drove or rode with others and parked (answer 4a)
- O Car share (e.g. BlueIndy, etc.) (answer 4a)
- O Taxi, Uber, Lyft, etc. (answer 4a)
- O Other_____

4a. Where did you board the FIRST bus you used for this one-way trip
(Nearest intersection):

_____

5. Where did you get ON this bus? Please provide the nearest intersection:

_____

GOING TO?

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

- O Work or Work Related
- O College / University (students only)
- O School K-12 (students only)
- O Doctor / Clinic / Hospital (non-work)
- O Shopping
- O Social / Religious / Personal Business
- O Airport (passengers only)
- O Your **HOME** → *Go to Question #9*
- O Other: _____

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

_____

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

_____

City: _____ **State:** _____ **Zip:** _____

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

- O Walk / Wheelchair
- O Bike
- O Be picked up by someone (answer 9a)
- O Get in a parked vehicle & drive alone (answer 9a)
- O Get in a parked vehicle & drive/ride w/others (answer 9a)
- O Car share (e.g. BlueIndy, etc.) (answer 9a)
- O Taxi, Uber, Lyft, etc. (answer 9a)
- O Other_____

9a. Where will you get off the LAST bus you are using for this one-way trip (Nearest intersection):

_____

10. Where will you get OFF this bus? Please provide the nearest intersection:

_____

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

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

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

START → [ ] → [ ] → [ ] → [ ] → **END**

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

Continue

PASSENGER SURVEY

OTHER INFORMATION ABOUT THIS TRIP

12. What time did you BOARD this bus? _____ : _____ **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. What fare payment methods were used for this one-way trip? ***(select all that apply)***
O 1 Trip (Cash on bus) O 1 Day Pass O 7 Day Pass O 31 Day Pass (Monthly)
O 1 Trip Ticket O 10 Trip Pass O S Pass (If S Pass skip to Q16) O Other_____

15. What type of fare was this?
O Youth (6-18) O Regular O Senior (65 and older) O Disabled

16. On this round trip (between the time you left home and will return home) will you or did you *(check all that apply)*
O No other trip O Go to work O Go to school O Go shopping
O Buy a meal/beverage O Visit friend/relative or attend a religious/social event O Other errands
O Other (please specify):_____

17. If bus services were not available, how would you have made this trip?
O Would have walked O Would have driven myself O Car Share (e.g. Blue Indy, etc.)
O Would have bicycled O Would have taken a taxi, Uber, Lyft, etc. O Would not have made this trip
O Would have ridden with someone else

18. How many days a week do you usually make this trip?
O 6-7 days a week O Twice a month O First time riding
O 3-5 days a week O Once a month
O 1-2 days a week O Less than once a month

ABOUT YOU AND YOUR HOUSEHOLD

19. Are you a visitor to the Indianapolis region? ONo O Yes (if YES, please skip to Q25)

20. How many vehicles (cars, trucks, or motorcycles) are available to your household? _____ vehicles
20a. [If #20 is more than NONE] Could you have used one of these vehicles for this trip? OYes ONo

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

22. Including YOU, how many people (over age 15) in your household are employed full/part-time?____ people

23. What is your employment status? (check the one response that BEST describes you)
O Employed full-time (more than 30 hours per week) O Not employed O Part time temporarily employee
O Employed part-time (less than 30 hours per week) O Full time temporarily employee O Retired

24. What is your student status? (check the one response that BEST describes you)
O Not a student O Yes – College/University/Community College O Yes – K - 12th grade
O Yes – Vocational / Technical / Trade school O Other_____

25. Do you have a valid driver's license? OYes ONo

26. What is your AGE? O Under 16 O 16-18 O 19-24 O 25-34
O 35-49 O 50-64 O 65 and over

27. What is your race / ethnicity? *(check all that apply)*
O American Indian/Alaska Native O Asian O Black/African/African American O Hispanic/Latino
O Native Hawaiian/Pacific Islander O White O Other: _____

28. What is your gender? O Male O Female

29. Which of the following BEST describes your TOTAL ANNUAL HOUSEHOLD INCOME in 2015 before taxes?
O Less than $15,000 O $25,000 - $34,999 O $60,000 - $99,999 O $150,000 - $199,999
O $15,000 - $24,999 O $35,000 - $59,999 O $100,000 – $149,999 O $200,000 or more

30. Do you speak a language other than English at home? O No OYes - **Which language?** _____
30a. [If #30 is Yes] How well do you speak English? O Very Well O Well O Less than well O Not at all

31. Do you have any of the following: *(check all that apply)*
O Smart phone O Checking account O Debit card O Credit card

REGISTER TO WIN $100

Please provide your name and phone number in case we have any questions about your responses.

Your Name: _____

Phone Number: (_____) _____

Thank you for your help!

Appendix G

» Adoption of Policies

IPTC Agenda
08-26-13
Item No. A - 4

TO: Chair and Board of Directors

FROM: Annette Darrow
Director of Planning

REQUEST FOR ADOPTION OF TITLE VI POLICIES AND PROGRAM - RESOLUTIONS 2013-03 AND 2013-04

Background: Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs receiving federal financial assistance. To provide guidance on this issue, the Federal Transit Administration (FTA) issued Circular 4702.1B in October 2012 which outlines Title VI compliance procedures for recipients of FTA-administered transit program funds. As a recipient of FTA-administered federal funding, IndyGo must meet the requirements established in this document.

An updated IndyGo Title VI Program is due to the FTA on October 1, 2013. Under the FTA guidelines, IndyGo is required to seek review and approval of key components of its Title VI program by the IndyGo Board of Directors. This includes the following:

- **Approval of the "Major Service Change" and "Disparate Impact" policies:** Under the new FTA requirements, IndyGo is required to establish a threshold for determining when a service change is considered "major," thus requiring a Service Equity Analysis before implementation. The setting of these policies included public engagement meetings to educate the public on Title VI and solicit feedback on the proposed policies.

- **Approval of the Service Monitoring Evaluation:** IndyGo is required to set system-wide service standards and policies for vehicle load, vehicle headway, on-time performance, service availability, distribution of transit amenities, and vehicle assignment. The Service Monitoring Evaluation is an assessment of how closely IndyGo is meeting those standards for minority, non-minority, low-income, and non-low-income populations. The evaluation found that the rates of compliance with IndyGo's standards and policies for each population group are within acceptable ranges.

- **Approval of the 2013 Service Improvements Service Equity Analysis:** The two phases of service improvements implemented by IndyGo in 2013 meet the criteria for a "major service change." A Service Equity Analysis was completed

to ensure a fair and equitable distribution of service changes throughout the IndyGo service area. The analysis found no disparate impacts to minority populations and no disproportionate burdens to low-income populations as a result of the 2013 service improvements.

The Title VI Program follows and has no appendicies attached, but the full report is on file at IndyGo.

If approved IndyGo will submit the final board adopted program and policies to the Federal Transit Administration by October 1, 2013.

Recommendation: Adopt policies and program for IndyGo 2013 Title VI Program.

Annette Darrow
Director of Planning

Title VI Policies for Adoption
By
The IndyGo Board of Directors

Resolution 2013-03

The following policies are included in the IndyGo 2013 Title VI Program Update.

Major Service Change Policy

A major service change shall be defined as any proposed change that meets one or more of the following criteria:

1. An increase or decrease in fare.
2. A service change that will impact 25 percent or more of the transit route miles on an existing route.
3. A service change that will impact 25 percent or more of the total passengers on an existing route.
4. An implementation of a new route.

Disparate Impact Policy

Disparate Impact:
"A facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin."

Policy - A determination of disparate impact shall be made if the effects of a major service change borne by the minority population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-minority population.

Disproportionate Burden Policy

Disproportionate Burden:
"A neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations."

A determination of disproportionate burden shall be made if the effects of a major service change borne by the low-income population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-low-income population.

These policies were adopted by the I.P.T.C. Board of Directors **Resolution No. 2013-03**. Board approval date 08-26-2013

FOR: AGAINST:

ATTEST:

2013 Title VI Program Update
for Adoption by
The IndyGo Board of Directors

Resolution 2013-04

The following attachment is a The Title VI Program and has no appendicies attached, but the full report is on file at IndyGo. Approval by the IndyGo Board of Directors will be noted as Appendix G of the Title VI report that will be submitted to the Federal Transit administration no later than October 1, 2013.

This program was adopted by the I.P.T.C. Board of Directors **Resolution No. 2013-04**. Board approval date 08-26-2013

FOR: AGAINST:

ATTEST:

Appendix H

- 2016 Title VI Service Restructuring
- Service Restructuring Minutes
- Service Restructuring Action Item

Title VI Service Equity Analysis
2016 Service Restructuring

Prepared in April 2015 by:

Introduction:

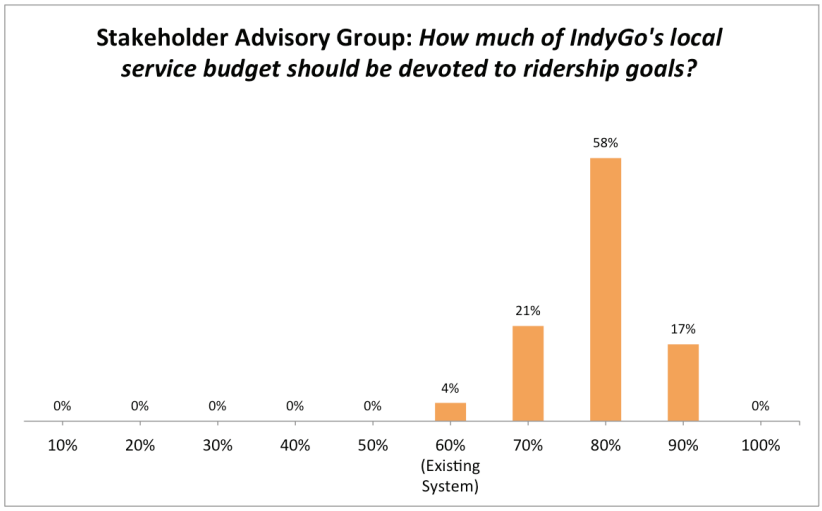
In early 2014, the Indianapolis Metropolitan Planning Organization, in cooperation with the Indianapolis Public Transportation Corporation (IndyGo) began a Comprehensive Operational Analysis (COA) for the IndyGo Transit system. Called IndyGo Forward, the planning process was intended to:

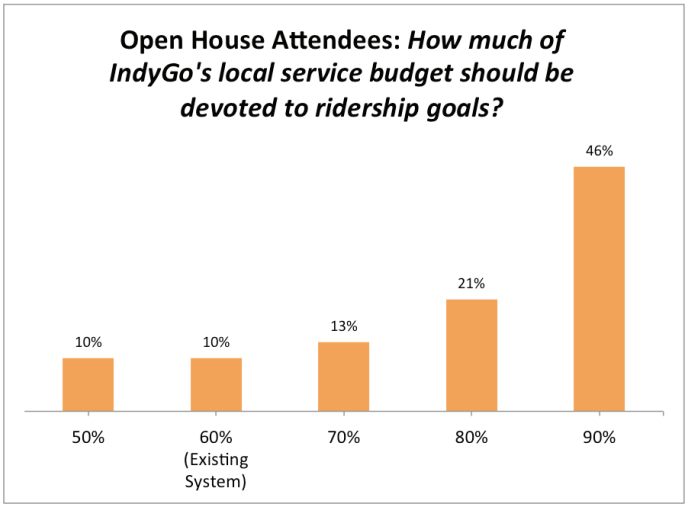
- Better-align the goals and design of the IndyGo transit network with community values for transit;
- Redesign transit routes in and around downtown to take advantage of the new downtown transit center that would open in 2016; and
- Plan future local transit networks around anticipated IndyConnect Rapid lines.

Using the IndyGo's Public Participation Plan as a guide, the consultant team and staff engaged the public through a series of workshops and open houses, intended to better understand the transit values held by the community. Over the course of six months in 2014 and 2015, IndyGo hosted three meetings of a Stakeholder Advisory Group and eight public open houses; attended 19 community meetings and events to solicit input there; and heard from the public through an online portal, phone comments and emailed comments.

In order to reach riders who could not have attended the public open houses or used the website, IndyGo created a brochure for use on-board buses, at the transit center, at the IndyGo Customer Service Retail Center and at 26 community centers throughout Marion County. In total, about 450 people were engaged in person, 182 individual comments were received, and a total of 1,245 people answered questions about balancing ridership and coverage through IndyGo Forward public outreach.

Service design and routing in the Proposed 2016 Network, as well as in more distant future networks, was informed by the input of stakeholders and the public. The highest level question about IndyGo's goals that was posed by the consultant team and staff was how much of its resources IndyGo should spend maximizing ridership, and how much it should spend providing lifeline coverage services regardless of ridership.





The Stakeholder Advisory Group and the public consistently expressed a desire for a shift towards more useful services, rather than a shift towards reaching more places with the same amount of service. While the members of the public who commented on the proposal may have been skewed towards riders of the existing system, the Stakeholder Advisory Group was made of mostly of people who do not have experience riding transit in Indianapolis.

The public and stakeholders were also asked more specific questions about service and network design, questions that relate to the larger choice between a high-ridership network and a high-coverage network. The mix of answers reflected a desire among most people to move towards a higher-ridership system. The answers indicated that a majority of respondents want higher frequency on existing routes, support wider route spacing than exists today, are willing to transfer during their trip, and don't mind walking to more frequent service. All of these preferences are consistent with a transit system that focuses on maximizing ridership, rather than providing broad coverage. For example, reinforcing the high-level guidance that IndyGo shift towards higher ridership, a survey of IndyGo riders found that:

- Their top three concerns about using IndyGo were:
    - 64% - The buses do not run frequently enough
    - 51% - The buses do not run late enough
    - 35% - It takes too long to get from point A to point B
- 62% would prefer that routes be spaced every 1/2 mile, and another 20% would prefer every 3/4 mile. (Today many existing IndyGo routes run within blocks of one another.)
- When asked about walking to and from a transit stop, 52% said that they were willing to walk 3 blocks, and another 31% were willing to walk 5 or more blocks.
- 64% said they would be willing to make one transfer, and 21% would make two transfers.

IndyGo asked about people's willingness to walk to transit because of a concern about the new Downtown Transit Center. The Transit Center will obviate a loop that all IndyGo routes currently make around downtown. However, today some people will stay on their bus as it makes its way around the loop, until it reaches their stop. Once the Transit Center has opened, they will find that their bus route terminates at the Transit Center, and they must either transfer to another route to reach their destination, or walk a short distance. (An inset of the maps comparing Existing 2014 and Proposed 2016 downtown routing is shown on the follow page. The full map is included in Appendix B.)

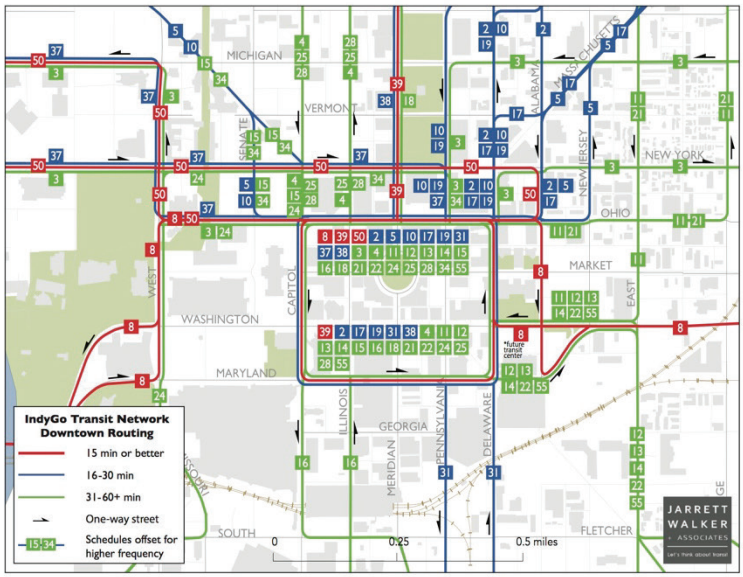
When asked about walking to and from a transit stop, 52% of respondents said that they would be willing to walk 3 blocks, and another 31% would be willing to walk 5 or more blocks. This offers reassurance that most people will be comfortable using transit downtown without the loop.

As a result, a preliminary set of recommendations for 2016 is being considered and is the subject of this Service Equity Analysis. The recommendations include:

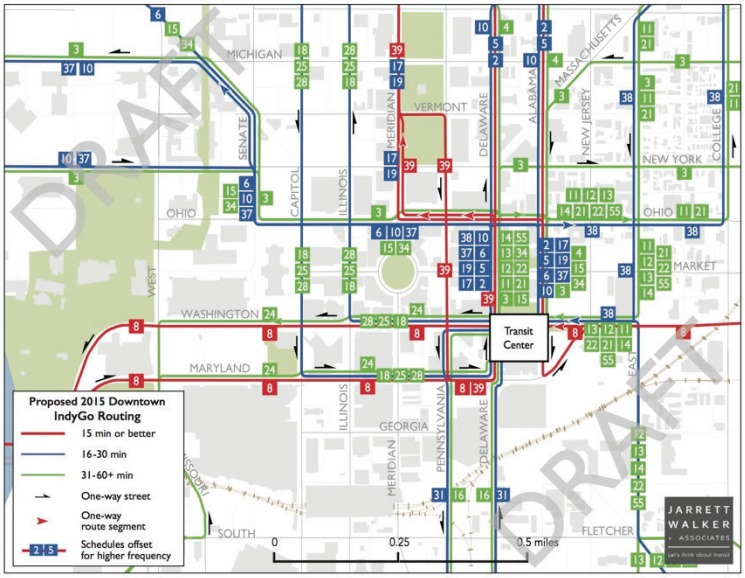
- Higher frequency on a smaller set of streets approaching downtown
- Simpler and more direct downtown routing

- The elimination of some branches and deviations in favor of more frequent and reliable service

Existing Network



Draft 2015



Project Description

The service recommendations that are being analyzed include system-wide service design and frequency changes aimed at improving the usefulness of IndyGo services and thereby increasing ridership. These proposals for 2016 were developed in in reference to maps showing current boardings, overall density of jobs and residents, and density of low-income and minority residents in particular.

While the consultant team and staff were attuned to opportunities to get service close to census blocks where large numbers of low-income and minority people reside, they also kept in mind that low-income and minority people are extremely busy, perhaps busier than the population at large. They therefore stand to benefit from service changes that result in higher frequency, better reliability and a more legible network, despite certain cases in which individual routes would not pass as close to low-income or minority census blocks as they do today.

Maps of the proposed changes are included in Appendix B, as are the maps used for reference during service planning.

Table 1, below, details the proposed route changes that are the subject of this equity analysis. These changes form the basis of the analysis detailed in this report. Detailed maps for each change are included in Appendix B and are also on the IndyGo Forward website.[1]

Table 1: Proposed Route Changes

Route	New Inbound/Eastbound Transit Center Routing	New Outbound/Westbound Transit Center Routing	Other Route Changes
2	Alabama -> DTC	DTC -> Delaware -> North -> Alabama	Eliminate select trips to 33rd and Downey. Reduce number of trips to Crossroads Service extended to Western Select for all weekday trips (new end of line).
3	New York -> Senate -> Ohio -> Alabama -> DTC -> Delaware -> New York	Michigan -> Alabama -> DTC -> Delaware -> Ohio -> Senate -> Michigan	
4	38th -> Central -> Ft. Wayne -> Alabama -> DTC	DTC -> Delaware -> Washington -> 29th -> Central -> 38th	Eliminate trips 4A via 38th Street. All trips will travel normal route to 56th/Shadeland.

[1] http://www.indygo.net/news/indygo-forward/

5	Central -> Ft. Wayne -> Alabama -> DTC	DTC -> Delaware -> 16th	Split west side service to create new Route 6-Harding.
6	Ohio -> Alabama -> DTC	DTC -> Delaware -> Ohio	This route will travel the same path as current Route 5 trips from downtown to 36th/Totem.
8	Washington -> Maryland -> Delaware -> DTC -> Alabama -> Maryland -> Washington	Washington -> Alabama -> DTC -> Delaware -> Washington	
10	10th -> Eskenazi -> New York -> Senate -> Ohio -> Alabama -> DTC -> Delaware -> North -> Alabama	Fort Wayne -> Alabama -> DTC -> Delaware -> Ohio -> Senate -> Michigan -> Eskenazi -> 10th	

Route	New Inbound/Eastbound Transit Center Routing	New Outbound/Westbound Transit Center Routing	Other Route Changes
11	East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> College	Eliminated trips to Crossroads and Western Select. All trips will terminate at Noble of Indiana (new of end line).
12	East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> East	Eliminate Van Buren -> Wagner -> Raymond. New service on Perkings between Van Buren and Raymond
13	East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> East	
14	East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> East	Eliminate Worcester -> Terrace -> Emerson. New service on Southeastern between Worchester and Emerson
15	Senate -> Ohio -> Alabama -> DTC	DTC -> Delaware -> Ohio	
16	Meridian -> McCarty -> Delaware -> DTC	DTC -> Alabama -> Washington -> Pennsylvania -> McCarty -> Meridian	
17	Meridian -> Ohio -> Alabama -> DTC	DTC -> Delaware -> Ohio -> Meridian	Eliminate 17A trips via Kessler. All trips will travel via Broad Ripple. Realign service south of 38th from College to Meridian

18	Capitol -> Maryland -> Delaware -> DTC	DTC -> Alabama -> Washington -> Delaware -> Ohio -> Illinois	Eliminate select trips to 91st/Meridian. All trips terminate at Keystone at The Crossing (new end of line). New Service to Butler University via 46th->Sunset->49thRealign service to Illinois & Capital south of 38th St. from Meridian
19	Meridian -> Ohio -> Alabama -> DTC	DTC -> Delaware -> Ohio -> Meridian	Realign service south of 38th from Central to Meridian.
21	East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> College	Realign service at 21st/Wellesley to remain on 21st. Eliminate service to Walmart. All trips will terminate at Washington Square Mall
22	Shelby ->Virginia -> East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> East -> Virginia -> Shelby	Eliminate South -> Fletcher -> Shelby -> Woodlawn
24	Missouri -> Maryland -> Delaware -> DTC	DTC -> Alabama -> Washington -> West	
Route	**New Inbound/Eastbound Transit Center Routing**	**New Outbound/Westbound Transit Center Routing**	**Other Route Changes**
25	Capitol -> Maryland -> Delaware -> DTC	DTC -> Alabama -> Washington -> Delware -> Ohio -> Illinois	Eliminate select trips to Walmart at 46th/Lafayette. All trips terminate at Renn/Moller (new end of line). Eliminate select trips to Speedway Shopping Center via 25th
28	Capitol -> Maryland -> Delaware -> DTC	DTC -> Alabama -> Washington -> Delware -> Ohio -> Illinois	Eliminate segments on Spring Mill Road and Hoover -> 79th -> Ditch.New service on Westlane between Ditch and Hoover.New service to Butler University via 46th->Sunset->49th
31	Delaware -> DTC	DTC -> Alabama -> Washington -> Pennsylvania	

34	Indiana -> Senate -> Ohio -> Alabama -> DTC	DTC -> Delware -> Ohio -> Senate -> Indiana	
37	White River -> 10th -> St Margaret -> Eskenazi -> New York -> Senate -> Ohio -> Alabama -> DTC	DTC -> Delaware -> Ohio -> Senate -> Michigan -> St Margaret -> 10th -> White River	
38	38th -> College -> Mass Ave -> East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> College -> 38th	Eliminate service to Lafayette Place via Lafayette Road and Commercial Drive. Realign service on Meridian to College
39	Meridian -> Ohio -> Alabama -> DTC	DTC -> Delaware -> Ohio -> Meridian	
50			Eliminate route.
55	East -> Washington -> Alabama -> DTC	DTC -> Delaware -> Ohio -> East	Eliminate select trips to Redcats. Eliminate select trips to English Village.

Title VI Background

Title VI of the Civil Rights Act of 1964, Section 601 states: *"No persons in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

It is IndyGo's responsibility to ensure that transit service and access to its facilities are equitably distributed and provided without regard to race, color, or national origin. According to the U.S. Department of Transportation, equity in the provision of transit service means *"providing equal levels of service to minority and non-minority residents of the urbanized area. Levels of service, in turn, are defined in terms of capital allocation and accessibility."*[2]

In October 2012, the Federal Transit Administration issued Circular 4702.1B, providing guidance and instructions on compliance with Title VI regulations. Combined with Executive 12898, which requires agencies to develop and implement an integrated approach to achieving Environmental Justice for minority and low-income populations, the Circular outlined requirements for transit operators to evaluate service and fare changes to determine potentially discriminatory impacts. Facially neutral policies or practices that result in discriminatory effects or disparate impacts violate the U.S. D.O.T.'s Title VI regulations, unless the recipient can show the policies or practices are substantially justified and there is no less-discriminatory alternative.

Per C4702.1B, all transit operators with 50 or more fixed route vehicles in peak service must develop written procedures to conduct an Equity Analysis through which they evaluate, prior to implementation, any and all service changes that exceed the transit provider's major service change threshold, and to determine whether those changes would have a discriminatory impact based on race, color, or national origin. Such operators are also required to establish thresholds above which a service change is considered "major," and when a major service change is considered to have a "Disparate Impact" on these protected classes of people.

Low-income people, however, are not specifically a protected class under Title VI, though there is general recognition of ample overlap between minority and low-income populations. Consequently, FTA requires transit providers to also evaluate proposed service and fare changes to determine whether low-income populations will bear a "Disproportionate Burden" of the changes. Under this requirement, transit providers must also establish the threshold for determining when a change has caused a "Disproportionate Burden" as a result of a major service change.

In order to comply with the new guidance, IndyGo adopted a Major Service Change Policy (Resolution 2013-03) that defines a major service change as one that meets one or more of the following criteria:

1) An increase or decrease in fare.

[2] Transit Cooperative Research Program, Legal Research Digest: "The Impact of Civil Rights Litigation Under Title VI and Related Laws on Transit Decision Making", TCRP Project J-5, Washington, D.C. June 1997

2) A service change that will impact 25 percent or more of the transit route miles on an existing route.
3) A service change that will impact 25 percent or more of the total passengers on an existing route.
4) An implementation of a new route.

In addition, Resolution 2013-03 included both a Disparate Impact policy (DI) and a Disproportionate Burden policy (DB), quoted below:

Disparate Impact Policy

> **Disparate Impact (DI):** *"A facially neutral policy or practice that disproportionately affects member of a group identified by race, color, or national origin."*
>
> **Disparate Impact (DI) Policy**: "A determination of disparate impact shall be made if the effects of a major service change borne by the minority population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-minority population."

Disproportionate Burden Policy

> **Disproportionate Burden (DB)**: *"A neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations."*
>
> **Disproportionate Burden (DB) Policy:** "A determination of disproportionate burden shall be made if the effects of a major service change borne by the low income population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-low-income population."

This IndyGo Forward 2016 Service Equity Analysis is based on the definitions and thresholds established by these policies: the Major Service Change Policy, the Disparate Impact Policy and the Disproportionate Burden Policy. This will help ensure that any discriminatory impacts are assessed and mitigated, and/or determine that the changes reflect the least discriminatory action that still meets the agency's established business needs.

The IndyGo DI/DB threshold is defined as *"not within 20 percent of the effects borne by the non-minority [or non-poverty] population."* Taken literally, this would mean that if there were a 0% change to the non-minority population, the change to the minority population would also have to be 0% (because 20% of zero is zero); it could not be -0.01%, nor +0.1%, as both would be beyond a 20% threshold. We could therefore only conclude that the intent of the policy was to set the threshold as within 20 *percentage points,* not 20 percent, and IndyGo staff confirmed our interpretation.

With a 20 percentage point threshold, if the non-minority population experienced a +5% change in service, the acceptable range for minority populations would be from between -5% and +15%.

Additionally, the Major Service Change policy does not specify whether system-wide service changes should be reviewed in totality, or at the individual route level. Individual routing changes have been documented and their affects measured. However, because the changes would alter the usefulness of the entire network, this Service Equity Analysis analyzes the cumulative changes associated with the 2016 network.

Service Equity Analysis Background

Based on IndyGo's approved policies, an analysis should be conducted that uses data and other information to:

- Determine benefits to and potential negative impacts on minority people and low-income people from proposed investments or actions.
- Quantify expected effects (total, positive and negative) and disproportionate burdens or impacts on minority people and low-income people.
- Determine the appropriate course of action, whether avoidance, minimization, or mitigation of impacts, if disproportionate burdens or impacts are found.

Data and Definitions

The data sources and the data definitions that were used in the analysis are described below.

Data regarding ethnicity and race are provided by the U.S. Census Bureau at the block level. Census blocks are the smallest geographic unit used by the United States Census Bureau and are bounded by roadways or water features in urban areas. They do not contain equal residential population.

However, data on income are only made available at the larger census block group level. A census block group is composed of a cluster of blocks with an estimated population of between 600 and 3,000 people. In an urban area, block groups can be fairly small where densities are high, and larger where densities are low in suburban areas.

Because census data does not include block-level data for income, and because blocks are a more appropriate size for analyzing access to transit, we interpolated block group data to individual blocks. In the IndyGo Forward Equity Analysis, we made the deliberate assumption that low-income people are homogenously distributed across each block group, and assigned them to blocks based on that assumption.

To avoid ascribing service access to census blocks where no people live, we eliminated from the analyzed set of census blocks those blocks, and portions of blocks, that are currently uninhabitable under Indianapolis/Marion County zoning code (for example, cemeteries, parks and industrial areas). The remaining set included all habitable blocks, and habitable portions of blocks, in the county.

Definitions:

The following definitions and descriptions were used in the IndyGo Forward Equity Analysis:

Minority: For the purposes of this evaluation, minority persons are defined as those who self-identify as non-White or non-Caucasian.

Poverty: Using the FTA definition, low-income households are those whose household income is at or below the poverty guidelines set by the Department of Health and Human Services (DHHS). In 2012, the federal poverty level was set at $23,050 in income for a family of four. Federal Poverty levels are shown in Appendix A.

High Minority or High Poverty Census Blocks: These census blocks are those whose percentage of minority residents or residents in poverty is equal to or greater than the percent of Marion County residents who are minority or in poverty.

Total Transit Vehicle Trips to Blocks: This is the number of transit vehicle trips that occur within one week, that pass within 1/4 mile of any part of the census blocks in question.

Existing 2014 and Proposed 2016 trips to blocks were estimated using GTFS (General Transit Feed Specification) data, exported from HASTUS by IndyGo. For each route, weekday trips were multiplied by 5, and Saturday and/or Sunday services were added, to get the weekly total. Those trips were then multiplied by the number of designated blocks they passed.

For example, if 100 trips pass by 10 blocks, this equals 1,000 Transit Vehicle Trips to Blocks. This accounts for all trips that may be realized for all blocks served, and represents how much access to transit is provided to how many habitable census blocks.

Average Transit Vehicle Trips per Block: This measure is based on Transit Vehicle Trips to Blocks, but the number of weekly transit trips is averaged over the number of blocks past which the trips were made. This reduces a distortion in the analysis that suggests more service is being provided to people of interest when in fact service may simply be passing more census blocks.

Transit Vehicle Trips x Population: This measure further reduces the distortion described above. In this measure, weekly transit trips on a route are weighted not by the number of census blocks passed, but by the estimated population of interest within each census block.

For example, if 100 trips pass by a block that has 10 people living in it, that would equal 1,000 trips X population; if the next census block it passes has 50 people living in it, that would equal 5,000 trips X population, obviously representing more access to service by more people.

This measure takes into account that census blocks are not home to equal numbers of people, and estimates the level of service access provided to *people* rather than to geographic zones.

Service Area: IndyGo defines its service area as Marion County, although a couple of existing routes extend beyond Marion County borders, and a few enclosed areas do not contribute to IndyGo funding.

Service Buffer: The service buffer established for this analysis was 1/2 mile wide, i.e. 1/4 mile on each side of a route. The buffer was not defined by individual transit stops, but rather by the line. The assumption that anyone in a census block that is touched by the buffer can access transit is obviously not true, nor is it the case that anyone in a census block outside that buffer *can't* access transit.

Appendix D presents the identification numbers for the high-minority, high-poverty, non-minority and non-poverty census block groups that were established in this Equity Analysis.

American Community Survey

The American Community Survey (ACS) is an ongoing statistical survey by the U.S. Census Bureau. It regularly gathers information previously contained only in the long form of the decennial census and provides the most accurate data available for the income and minority status of IndyGo service area at the census block group level. T

he data is provided in one-year, three-year and five-year estimate. The five-year estimates represent the largest sample, which increases the statistical validity of the data.

For purposes of the IndyGo Forward Equity Analysis, we used the following data:

- ACS Summarized Data 2008-2012 5-year summary file by block group
- Table B01003 Total Population
- Table B02001 Race
- Table B17021 Poverty Status of Individuals in the Past 12 Months by Living Arrangement
- Route design and trip totals from HASTUS-exported GTFS shapefiles for IndyGo's Existing 2014 and Proposed 2016 routes

Service Equity Analysis Methodology

For the IndyGo Forward Service Equity Analysis we used a Geographic Information System (GIS)-based approach to compare the distribution of impacts and benefits to all residents and to minority people and people in poverty. The analysis involved the following steps:

1. Develop map with current and proposed service routes and numbers of trips.
2. Allocate current and proposed transit trips to census blocks based on whether any part of each census block falls within the service buffer.

3. Determine the difference between the two scenarios for each census block and for the system in terms of: Total Transit Vehicle Trips to Blocks, Average Transit Vehicle Trips per Block, and Transit Vehicles Trips x Population.
4. Sum the degree of change that would be experienced under the Proposed 2016 scenario, by those three measures, for each route for each census block.
5. Using an Excel Pivot table, sum the trips provided by all routes, to each block. Join that data to the original block shapefiles containing census data. (The result is one shapefile set that contains census data, the Existing 2014 network's service access data, and the Proposed 2016 network's service access data.)
6. Compare degrees of change experienced by each group to the thresholds established in the Disparate Impact and Disproportionate Burden policies to determine if the proposed changes would result in discriminatory impacts.

The basis of this analysis, common to all three service-access measures used, is the number of weekly trips made by each route. Changes to transit frequency or span are captured in this way; in fact, even the addition or subtraction of one single vehicle trip on a route is captured by this method.

Total Transit Vehicle Trips To Blocks

We analyzed whether the change in Total Transit Vehicle Trips to Blocks for minority and poverty populations would be within ± 10% points of the change for non-minority and non-poverty populations. The formula can be expressed as:

$$\%\ \text{Change in Transit Vehicle Trips to Blocks for a population of interest, if } n \text{ is the number of blocks in the service area} =$$

$$\frac{\text{Total Proposed 2016 Transit Vehicle Trips to Blocks} - \text{Total Existing 2014 Transit Vehicle Trips to Blocks}}{\text{Total Existing 2014 Transit Vehicle Trips to Blocks}} =$$

$$\frac{\sum_{i=1}^{n}(\text{Proposed 2016 Transit Vehicle Trips to Block } i) - \sum_{i=1}^{n}(\text{Existing 2014 Transit Vehicle Trips to Block } i)}{\sum_{i=1}^{n}(\text{Existing 2014 Transit Vehicle Trips to Block } i)}$$

We also looked at two other metrics in an attempt to capture the most comprehensive view of the data; one that averages the trips per census block and the other than weights the data by population density within the blocks.

Average Transit Vehicle Trips per Block

The Average Trips per Blocks analysis was used to reduce the positive effect of simply drawing a route to touch more census blocks of unspecified population. The formula can be expressed as:

$$\%\ \text{Change in Average Transit Vehicle Trips per Block for a population of interest} =$$

$$\frac{(\text{Proposed 2016 Avg. Transit Vehicle Trips per Block} - \text{Existing 2014 Avg. Transit Vehicle Trips per Block})}{\text{Existing 2014 Avg. Transit Vehicle Trips per Block}} =$$

$$\frac{\left(\frac{\text{Total Proposed 2016 Transit Vehicle Trips to Blocks}}{\text{Served Blocks in Proposed 2016 Network for pop. of interest}} - \frac{\text{Total Existing 2014 Transit Vehicle Trips to Blocks}}{\text{Served Blocks in Existing 2014 Network for pop. of interest}}\right)}{\frac{\text{Existing 2014 Transit Vehicle Trips to Blocks}}{\text{Served Blocks in Existing 2014 Network for pop. of interest}}}$$

Transit Vehicle Trips Weighted By Population

In this measure, weekly transit trips on a route are weighted not by the number of census blocks passed, but by the estimated population of interest within each census block that is passed. If population were equal across all census blocks, then this addition method would not tell us anything new; but because total population and demographics vary so widely among census blocks, only this measure captures how many *people* can access transit service today and could access it under the Proposed 2016 changes.

This formula can be expressed as:

$$\%\ \text{Change in Weighted Transit Vehicle Trips for a population of interest} =$$

$$\frac{\text{Total Proposed 2016 Weighted Transit Vehicle Trips} - \text{Total Existing 2014 Weighted Transit Vehicle Trips}}{\text{Total Existing 2014 Weighted Transit Vehicle Trips}}$$

$$\frac{\sum_{i=1}^{n}[(\text{residents of Block } i)(\text{Proposed 2016 Transit Vehicle Trips to Block } i - \text{Existing 2014 Transit Vehicle Trips to Block } i)]}{\sum_{i=1}^{n}[(\text{residents of Block } i)(\text{Existing 2014 Transit Vehicle Trips to Block } i)]}$$

Additional Analysis

We also reviewed the added and eliminated segments of routes to determine whether they would occur in predominantly minority or low-income neighborhoods. This included a visual review of mapped changes for each route, as well as a tabular analysis of the service additions and eliminations. This analysis was also used during service planning to ensure that the policies and values behind the service recommendations would not result in overall negative impacts to minority people and people in poverty.

A pair of maps showing the Proposed 2016 network, with existing IndyGo route segments that would be eliminated highlighted, and with high-minority and high-poverty census blocks highlighted in the background, is included in Appendix B.

Also in Appendix B are maps for each individual route showing changes, and the positive and negative access impacts on high-minority and high-poverty census blocks.

Results

As previously described, this Service Equity Analysis includes three different measures of service access that could result from proposed service restructuring. We considered all three measures to ensure that the impacts associated with the restructuring were thoroughly considered, from multiple perspectives. We believe that the Transit Trips x Population method measures the outcome that Indianapolis community members, and the FTA, care about the most: access to service by minority people and people in poverty. However, we have documented the results of using all three measures and methods, below.

Based on the results from the three different measures described above, and IndyGo policies, we find that minority people and people in poverty would not suffer discriminatory impacts as a result of the 2016 proposal.

Overview

While it does not answer the questions posed by IndyGo's DI/DB policy, it is sometimes helpful to look at the total service access provided by different scenarios to populations of interest.
Approximately 6,437,898 Transit Vehicle Trips to Blocks take place in the Existing 2014 network. Of that total, 3,001,038 trips (47%) serve high-minority census blocks, and 3,395,481 (53%) serve high-poverty census blocks. (35.8% of Marion County residents are minority, and 19.0% are in poverty.)

In the 2016 proposal, the total number of Transit Vehicle Trips to Blocks would increase by about 203,000 annual trips. In other words, the realignment of service would bring it closer to more habitable census blocks. The proportion of Transit Vehicle Trips that serve high-minority and high-poverty blocks would remain about the same as in the Existing 2014 network (48% and 51%, respectively).

We also measured the how many of the new transit trips to census blocks under the 2016 Proposal would serve each type of census block, and how many of the eliminated trips would be no longer serving each type of census block. Both additions and eliminations would affect more high-minority and high-poverty blocks than non-minority and non-poverty blocks. In other words, minority and low-income census block residents would experience a greater degree of change - both positive and negative - than others, in a transition to the Proposed 2016 network.

While there is a slight reduction in the proportion of Transit Vehicle Trips to Blocks that are serving high-poverty blocks, it is likely that this is the result of eliminating the Ohio Street loop downtown. While very few people live downtown, the downtown census blocks are mostly non-poverty (though they are also low-population). Concentrating trips onto fewer streets near the Transit Center would bring more transit trips nearer to habitable blocks, and would eliminate the transfer difficulties, reliability challenges and out-of-direction travel of today's Ohio Street loop. However, it would also bring all the regional service past those low-population, non-poverty census blocks. This shows up in this particular methodology as a large increase in service access by those downtown non-poverty blocks.

A table summarizing the addition and elimination of trips to the four categories of census blocks is included in Appendix C of this report.

Tables showing the results for the three measures described below are also in Appendix C.

Transit Vehicle Trips To Blocks

In using Transit Vehicle Trips to Blocks to measure service access, we found that the acceptable range of change for high-minority blocks would be between -9.4% and +10.6%. The Proposed 2016

service changes would result in a 6.1% increase to high-minority blocks, which is within the acceptable range and also higher than the change experienced by non-minority blocks (0.6%).

The acceptable range of change for high-poverty blocks would be between -3.3% and +16.7%. The Proposed 2016 changes would result in a very slight decrease in service access (-0.4%) to high-poverty blocks, which is within the acceptable range. Service access to non-poverty blocks would increase by 7.2%. As described above, much of this increase is caused by the elimination of the downtown loop and its replacement with higher-frequency corridors that go straight to the new Transit Center.

Average Transit Vehicle Trips Per Block

In using Average Transit Vehicle Trips per Block to measure service access, we found that the acceptable range of change for high-minority blocks would be between -7.5% and +12.5%. The Proposed 2016 service changes would result in a 7.6% increase to high-minority blocks, which is within the acceptable range and is also higher than the change experienced by non-minority blocks (+2.5%).

The acceptable range of change for high-poverty blocks would be between +0.5% and +20.5%. The Proposed 2016 changes would result in no measureable change service access (0%) to high-poverty blocks, which is *not* within the acceptable range (it is 0.5 percentage points too low). By this measure, service access would increase for non-poverty blocks but it would stay the same for high-poverty blocks, and the difference between the two impacts would be slightly bigger than is acceptable.

Transit Vehicle Trips Weighted By Population

As described above, if census blocks contained equal numbers of people, and equal numbers of minority people and people in poverty, there would be no benefit to measuring service access for the different populations living in each census block. Unfortunately, census blocks contain very different numbers and types of people. As a result, for example, a route that serves 10 census blocks containing just 10,000 people appears (by the two measures above) to be providing the same amount of service access as a route that serves 10 census blocks containing 20,000 people.

In using Transit Vehicle Trips x Population to measure service access, we found that the acceptable range of change for high-minority blocks would be between -9.6% and +10.4%. The Proposed 2016 service changes would result in a 6.4% increase to high-minority blocks, which is within the acceptable range and is also higher than the change experienced by non-minority blocks (+0.4%).

The acceptable range of change for high-poverty blocks would be between -3.2% and +16.8%. The Proposed 2016 changes would result a 1.2% increase in service access to high-poverty blocks, which is within the acceptable range, though it is less than the increase in service access to people in non-poverty blocks.

Conclusions

Two of the three measures we used indicate that implementing the Proposed 2016 Network would not have disparate impacts on minority residents of Marion County. One of measures suggests that people in poverty would bear a disproportionate burden.

Given the closeness of the third measure (which takes into account census block population) to the values underlying the DI/DB policy and Title VI itself; that this measure found no Disproportionate Burdens or Disparate Impacts; and that one of the other two measures showed the same, we conclude that implementing the Proposed 2016 network would not results in Disparate Impacts or a Disproportionate Burden.

The table below summarizes the results of these three measures.

Measure of Service Access	Acceptable Range (Minority Impacts)	Acceptable Range (Poverty Impacts)
Transit Vehicle Trips to Blocks	Within	Within
Average Transit Vehicle Trips per Block	Within	Not Within
Transit Vehicle Trips to Blocks x Population	Within	Within

Appendix A:

2012 Poverty Guidelines for the
48 Contiguous States and the District of Columbia

Persons in family/Household	Poverty Guideline
1	$11,170
2	$15,130
3	$19,090
4	$23,050
5	$27,010
6	$30,970
7	$34,930
8	$38,890

For families/households with more than 8 persons, add $3,950 for each additional person

Appendix B:

Maps

1. Proposed 2016 Network showing eliminated segments and change in Transit Vehicle Trips to Blocks
2. Proposed 2016 network showing eliminated segments and high-minority census blocks
3. Proposed 2016 network showing eliminated segments and high-poverty census blocks
4. Density of minority people in Marion County
5. Density of people in poverty in Marion County
6. Downtown routing comparison (2014 Existing to 2016 Proposed)
7. Northside routing comparison (2014 Existing to 2016 Proposed)
8. Route-by-route change maps showing impacts to high-minority blocks
9. Route-by-route change maps showing impacts to high-poverty blocks

Appendix C:

Tables

1. Results of Transit Vehicle Trips to Blocks measure
2. Results of Average Transit Vehicles Trips per Block measure
3. Results of Transit Vehicle Trips to Blocks x Population measure
4. Trip Addition and Elimination subtotals

Appendix D:

Census Block Identification Numbers (ACS Summarized Data 2008-2012)

Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups

180973101033	180571111022	180816103001	180571111022
180973210023	180973211003	180973308041	180973203012
180973309004	180973408001	180973425001	180973219003
180973421011	180973551003	180973526004	180973406001
180973525001	180973579002	180973570002	180973571004
180973605022	180973702023	180973608001	180973802002
180973101041	180973901022	180816104011	180571111023
180973211001	180571111023	180973308042	180973203013
180973310001	180973212001	180973425002	180973219004
180973422002	180973408002	180973526005	180973406002
180973526001	180973553001	180973570003	180973575001
180973606023	180973579003	180973609003	180973803001
180973101042	180973702024	180973101042	180571111024
180973211002	180973904042	180973308051	180973203031
180973310002	180571111024	180973425003	180973220001
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Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups

180973527001	180973904052	180973571003	180973579003
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Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups

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Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups

180973103051	180973804031	180973209031	180973101102
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Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups

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Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups

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Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups

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Minority Block Groups	Non Minority Block Groups	Low Income Block Groups	Non Low Income Block Groups
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	180973901021		

INDIANAPOLIS PUBLIC TRANSPORTATION CORPORATION
BOARD OF DIRECTORS BOARD MEETING
MINUTES

Thursday, April 23, 2015

The Board of Directors of Indianapolis Public Transportation Corporation met on Thursday, April 23, 2015, at 5 p.m. at the office of the Corporation. Present were board members Danny Crenshaw, Alan Rowland, Juan Gonzalez, Tommie Jones, Mark Fisher and Greg Bedan. Gregory Hahn was not present.

Also present: Michael A. Terry- President/CEO, Jill Russell- General Counsel, Mike Birch- VP/COO, Nancy Manley, VP of Finance/Controller, Phalease Crichlow- VP of HR, Roscoe Brown- VP of Business Development and other members of staff. Members of the public were also present.

Danny Crenshaw called the April 23, 2015 Indianapolis Public Transportation Corporation Board of Directors' Meeting to order.

RECOGNITIONS –
Mike Birch, VP/COO, presented plaques to the March 2015 IndyGo Roadeo finalists - 3rd place - William Wilson (1-1/2 yr employee), 2nd place - John Redmond (2 year employee) and 1st place - Michael Hale (21 yr. employee). Mr. Hale will represent IndyGo at the National Roadeo Competition in Fort Worth, Texas in May.

Action Items

ACTION ITEM 1: CONSIDERATION OF APPROVAL OF MINUTES FROM THE BOARD MEETING HELD ON MARCH 26, 2015.

Mr. Crenshaw asked if everyone had an opportunity to review the minutes from the February 26th board meeting and if there were any changes or amendments. The motion by Tommie Jones to accept the minutes from the March 26th board meeting was seconded by Juan Gonzalez and carried unanimously.

ACTION ITEM 2: CONSIDERATION AND APPROVAL OF VENDOR CONTRACT FOR SOLAR PROJECT (CONSTRUCTION)
Mike Birch, Vice President/COO, presented the action item.

IndyGo received a State of Good Repair grant that included rehabilitation services for critical infrastructure to the main garage facility. A $2.3 million portion of this grant must be spent on a solar power project and staff identified a roof mounted solar farm as the project that would have the most impact on operating costs. The solar farm will collect solar energy and transfer it into electricity that can then be used to offset electrical costs to the facility.

Telemon designed a roof mounted photovoltaic (PV) system to be placed on the south end of the facility over the bus storage area. The PV system will generate 1,274,000 KwH per year, which will offset a significant amount of energy costs once the system is in operation.

IFB 15-03-196 was released on March 16, 2015 and staff received five (5) bids, three (3) of which were found to be responsive and responsible.

This procurement is funded with a State of Good Repair Grant using 5309 funds with 80% federal and 20% local match.

Board Discussion:
Juan Gonzalez stated that the Finance Committee is in favor of this procurement. When Alan Rowland asked the completion date, Mr. Birch stated September 2015.

When Tommie Jones asked what the savings would be using solar panels, Mr. Birch stated that once it is metered, staff will be able to determine the savings and energy. The Board will be notified as soon as some figures are available.

The motion by Juan Gonzalez to authorize entering into a contract with Ermco, Inc. to provide labor, materials, equipment, and supplies for the roof mounted photovoltaic system for an amount not to exceed $2,200,000.00 was seconded by Tommie Jones and carried unanimously.

ACTION ITEM 3: CONSIDERATION AND APPROVAL OF VENDOR CONTRACT FOR VEHICLE FILTERS

Mike Birch presented the action item.
In 2010, staff decided to consolidate the fleet filters to one vendor. Contracting these filters saved IPTC approximately $75,000 over the past five years.

Staff is seeking to enter into a 2 year contract with 3 one year options. With the contracted volume pricing there is a projected savings of approximately $18,760 per year in comparison to catalog pricing. This equates to a projected savings of $93,800 over the length of the contract.

On March 16, 2015 IPTC released IFB 15-03-197 Vehicle Filters and on April 13, 2015, six bids were received with four (4) found to be responsive and responsible. Two of the vendors were found non-responsive due to inability to provide all the filters as requested.

Board Discussion:
Juan Gonzalez stated that the Finance Committee approves this procurement.

The motion by Alan Rowland to approve entering into a Filters Contract with Muncie Transit Supply for a two-year period, with three (3) one-year renewal options, for a total amount not to exceed $285,000 for the entire length of the contract was seconded by Juan Gonzalez and carried unanimously.

ACTION ITEM 4: CONSIDERATION AND ADOPTION OF ROUTE RESTRUCTURING 2015

Roscoe Brown presented the action item.
In August of 2014, IndyGo updated its last Comprehensive Operational Analysis (COA) and branded as "IndyGo Forward". The planning study itself was covered in many stakeholder meetings, public outreach and open house meetings. The full study is still pending and will be brought to the board at a later date.

With the development of the downtown transit center, the study proposal alters 27 of the 31 routes and identifies opportunities to make the transit network more useful for spontaneous travel by providing more frequent service options, such as consolidating parallel routes onto fewer, main streets and in turn making wait time between buses shorter for passengers on key streets especially in and near the downtown area. The trade-off is that some passengers may have to walk a few blocks further, but will access more frequent service. This proposal was presented at the last board meeting and both committee meetings by Annette Darrow, Director of Planning. In addition, A Title VI Service Equity Analysis was completed, showing that there would be no discrimination of any sort due to the route restructuring.

Board Discussion:
When Danny Crenshaw asked if there was a time frame or lag between the opening of the Downtown Transit Center and the route restructuring, Mr. Brown stated that it would be simultaneous with the opening of the center. Once the restructure is approved, numerous steps will be taken for public notification, employee training, etc.

Mark Fisher commended the staff on the outreach efforts.

Greg Bedan asked if anyone from the MAC Committee or persons of disabilities were involved in the planning of this restructure and Bryan Luellen explained that the Chair of the MAC, Greg Meyer, was involved along with discussing the plans with the community at the public hearings. Mr. Luellen added that staff is coordinating with DPW due to the rerouting, changes in service and varying locations.

Tommie Jones stated that Service Committee discussed that if there were any glitches in the system, changes could be made.

When Mr. Bedan asked if changes or tweaks to the system need to be given to the federal government for approval and Annette Darrow, Director of Planning, stated that it would depend on the degree of the changes. Most adjustments after the fact would be minor and therefore not need to go further for consideration.

The motion by Alan Rowland to adopt the proposed route restructuring to take effect when the IndyGo Downtown Transit Center opens was seconded by Tommie Jones and carried unanimously.

ACTION ITEM 5: CONSIDERATION AND APPROVAL OF 1ST OPTION YEAR WORKERS' COMPENSATION AND GENERAL LIABILITY

Phalease Crichlow, VP of Human Resources, presented the action item.
In accordance with state and federal law, IPTC is committed to providing its employees with a high level of service for work-related injuries/illnesses and providing prompt service for third party claimants for general liability. IPTC is currently self insured for workers' compensation and risk with a Third Party Administrator (TPA) who acts on behalf of IPTC to administer, adjust and adjudicate claims which include work-related injuries and general liability (auto/property and bodily). The majority of IPTC work-related injuries/illnesses (98%) occur with coach operators. The majority of the general liability claims are related to incidents on coaches, damage to coaches and damage to individual's auto/property. These services are currently provided by one TPA firm with one adjuster for each IPTC account.

On February 18, 2013, IPTC released RFP 13-02-127 for Workers' Compensation and General Liability. At the completion of the procurement process a two (2) year contract was approved by the Board and awarded to CorVel.

In the past two (2) years, IPTC has taken strides in partnering with CorVel to contain the cost of claims. With the implementation of electronic First Notice of Loss process, the "light duty" program and the proactive investigation process, IPTC has recognized significant savings over the past two years with CorVel. Currently IPTC's reduction rate in claims is trending downward by 40% in worker's compensation claims with an estimated savings of $350,000 per year.

CorVel and IPTC mutually agreed to reevaluate the billing terms of the option years utilizing the past two years of claim activity. Rather than charging IPTC per claim as well as a different rate per claim type (property damage or personal injury) CorVel has agreed to move to a flat rate fee based on IPTC's fleet size. The potential savings each option year is estimated to be $15,000-$20,000.

Board Discussion:
Danny Crenshaw asked why only one year was requested. Ms. Crichlow responded that under the procurement process, requests can only be one year at a time.

The motion by Juan Gonzalez to enter into an extension of the original agreement to exercise the 1st of three (3) option years of the original contract with CorVel to process Worker's Compensation and General Liability Claims was seconded by Alan Rowland and carried unanimously.

ACTION ITEM 6: RATIFICATION OF THREE YEAR CONTRACT AGREEMENT BETWEEN ATU AND IPTC

Phalease Crichlow, VP of Human Resources presented the action item.
The IPTC staff has been in contract negotiations since December 2014. A tentative agreement was reached February 20, 2015 and members of the Union ratified the tentative agreement on March 29, 2015.

The Collective Bargaining Agreement (CBA) will run January 1, 2015 through December 31, 2017 with three percent (3%) wage increases in 2015, 2016 and 2017.

There were some significant changes in the agreements that both parties agreed upon and staff would be happy to discuss with board members if needed.

Board Discussion:
Mr. Gonzalez thanked the staff for their hard work and diligence in accomplishing this agreement. Ms. Crichlow thanked the negotiation team that included Vicki Learn, Teresa Boone, Mike Birch, Dwight Benjamin, Jill Russell and Tony Overholt.

The motion by Alan Rowland to Ratify a Three Year Contract between ATU and IPTC was seconded by Tommie Jones and carried unanimously.

INFORMATION ITEMS

INFORMATION ITEM 1: CONSIDERATION OF RECEIPT OF THE FINANCE REPORT FOR MARCH 2015

Nancy Manley, Vice President/Controller, delivered the report.
1st Quarter year to day revenue was slightly lower than projected, but there is no cause for concern.

Passenger revenue was under budget in March due to lower ridership and special routes were higher in March due to FTA reimbursement for the Taxi Voucher program.

On the expenditure side, Services are over budget as of the close of March due to a few large contract payments.

1st quarter expenditures were projected to be 25% of the budget and as of the end of March, the expenditures were 24.4%.

Board Discussion:
Juan Gonzalez stated that Finance Committee is very comfortable with the budget position at this time.

The Board accepted the report.

INFORMATION ITEM 2: CONSIDERATION OF RECEIPT OF OPERATIONS REPORT FOR MARCH 2015

Mike Birch, VP/COO delivered the report.

The following Operators were recognized for their extraordinary customer service for March 2015. There were 19 Compliments in March: Ashley Boyle, Rolando Carter, Laniese Coach, Sean Cox, Roy Dishno, Farrell Downey, Harry Fox, Michael Hale, Jessica Hoffman 2x, Derren Luster, Shaun Monroe, Bobby Morgan, Byron Reed, Natasha Sanders, Ail Smith, Tanika Stewart, Michael Waire and Lelia Watts.

For the 90% On-Time Performance club, the winner for March 2015 is Barry Fields. There were 42 operators who qualified for the monthly drawing. The fixed route on-time performance goal is 80%.

Thanks to the diligence of Dwight Benjamin, for the first time in 20 years during the Indy 500, all routes except the route #3 will be able to follow the regular schedule on Race Day in Speedway.

Vehicle Maintenance has completed 33 pre-season air conditioning checks. This brings the total to 90 units. This process will continue through the end of April when all buses will be completed.

Six of the electric buses purchased through a TIGER grant have arrived and operators are being trained how to operate them at this time. US Department of Transportation Secretary Anthony Foxx and Indianapolis Mayor Gregory Ballard rode on the ZEPS bus and staff is very pleased with the performance of the coaches.

A new type of maintenance scheduling called Predictive Maintenance rolled out in February with great success. The Maintenance Department will track the success of each system with work orders and tracking the data on each bus. In March, starters were added to the group of predictive maintenance tasks.

Risk and Safety Manager, Brian Clem and Security Coordinator, Aletra Edison attended the 2015 Indiana Safety and Health Conference and Expo that was held at the Indiana Convention Center. They attended workshops on issues such as Responding to Workplace Violence, Active Shooter, Slips, Trips and Falls and others, which will be useful in training and workplace safety talks.

Operators recognized for safe driving: Jessica Hoffman, Sandra Taylor, Tamara Smith, Roger Barnett and Brandi Matthews – 1 year; Christine McLaughlin – 2 years; Donald Owens and David Madyun – 3 years; Toure Meadows, Jeffery Howard and Vernessa Foster – 5 years; Brenda Evans – 8 years; Efrain Amaya – 12 years, Gerry Poindexter, Sr. – 20 years and Larry Miller – 26 years.

On March 28, 2015 Director of Flexible Services, Paula Haskin, and VP of Business Development, Roscoe Brown, and MAC member John Dickerson were in attendance at Bosma's "Dining in the Dark" program. The event allows guests the experience of what individuals who are blind or visually impaired experience on a daily basis by "Dining in the Dark."

With the purchase of 80 paratransit vehicles over a five (5) year period to begin replacing an aging fleet, the first round of those vehicles will begin to hit the streets in April 2015. These vehicles will provide enough passenger space for eight (8) ambulatory passengers and four (4) passengers who use wheelchairs. These vehicles were purchased with funds from 5339 and 5310 federal grants with an 80/20 match requirement.

Board Discussion:
When Juan Gonzalez asked with the 6 already received, how many more electric buses are expected to arrive, Mike Birch said the total is 21. They are 2000 Series low floor Gillig coaches which have the diesel parts removed and replaced with electric components. The charge is complete after 6 hours and the range is ahead of predictions.

When Alan Rowland asked about the excavation findings at the Downtown Transit Center and Mr. Birch stated that under the property there were some very old buildings dated back to the 1800's. The excavation process is causing a slight slowdown in progress, but staff will keep the board informed.

The Board accepted the report.

INFORMATION ITEM 3: CONSIDERATION OF RECEIPT OF BUSINESS DEVELOPMENT REPORT FOR MARCH 2015
Roscoe Brown, VP of Business Development, introduced Annette Darrow, Director of Planning,
The month of March saw a dip in ridership of 6.4% over the previous year, but just below 2% year to date. Some of the lower ridership figures are due to currently low gas costs. Staff will continue to monitor.

Calls to the call center are increasing along with over 124,000 visits to the website. There are also increases in all the social media avenues.

Of the 134 mentions in media coverage, the two main topics were the manhole explosions downtown and how IndyGo provided extra buses as shelter for residents in the area and the bus accident at 10th & College when a van ran a red light and hit a bus causing 14 people to be transported to the hospital.

During the month of April, IndyGo is offering 10 Trips passes for $10, online only. At $1 per trip, staff is hoping to get current passengers to ride more and new passengers to give transit a try. At this time there were 750 people who took advantage of the promotion compared to a typical total of 475 for a 10 trip pass.

Board Discussion:

The Board accepted the report.

INFORMATION ITEM 4: CONSIDERATION OF RECEIPT OF THE HUMAN RESOURCES REPORT FOR MARCH 2015

Phalease Crichlow, VP of Human Resources,
There are currently 522 active employees.

There were 16 New Hires in March and the Human Resources department received approximately 200 applications for several open positions in the organization.

The first quarter for the Activate Clinic and wellness program continues to report consistent steady growth in acute visits, wellness checkups and goal compliance. The clinic is reporting several significant individual success stories with regards to “improved conditions/health”.

The wellness participation quarter ends with 94% compliance.
Employees are beginning to take charge of their own health by leading their own challenge within IndyGo. One group has taken exercising after work into their own hands by starting “walking away the pounds” campaign. Another group is meeting to support each other in a 30 day challenge of eating clean and exercising at least thirty minutes six days per week.

In the month of March there were 241 days (1928 hours) of lost time for FML, sick and On-the-job-injury (OTJ). This increase in time lost is due to various reasons from available PTO banks to FML recertification. The first quarter of the year has the highest percentage of "time loss".

There were 10 "incidents," 3 were reportable (became worker's compensation claims), 7 were non-reportable. There were a total of 2 temporary total disability (TTD) claimants. There were a total of 79 days (632hours) lost from regular assignments.

Board Discussion:

The Board accepted the report.

INFORMATION ITEM 5: CONSIDERATION OF CEO TOPICS

Michael Terry, President/CEO, delivered the report.
Thanks and recognition to Kim Irwin with Health by Design and from ICAT for her continued legislative work and advocacy in addition to Addison Pollack, member of the MAC and ICAT, who are both in attendance.

US Secretary of Transportation Anthony Foxx was in town and met with various groups to discuss transportation. Using one of the electric buses, there was a tour of the Red Line conducted from the Children's Museum to South Street to show the visitors the economic development opportunities, which falls in line with Secretary Foxx's offer of technical assistance to IndyGo.

Across the country, Stand Up for Transportation Day was April 9th and it included discussion about transit systems and transportation infrastructure.

On April 27, Mr. Terry is going to Washington DC for the Executive Forum on "Measuring Connectivity: Creating Ladders of Opportunity", discussing connectivity, accessibility and environmental justice issues across the country.

Board Discussion:
The Board accepted the report.

Danny Crenshaw adjourned the meeting.

_____

Jill D. Russell
General Counsel

IndyGo Agenda
April 23, 2015
Item No. A – 4

TO: Chair and Board of Directors

FROM: Roscoe Brown, Vice President of Business Development

SUBJECT: **Route Restructuring 2015**

BACKGROUND:

IndyGo began an update of its last Comprehensive Operational Analysis (COA) in August of 2014. The current COA has been branded as "IndyGo Forward", and is a planning study on how our system operates today and how best to plan for the future of transit in Indianapolis. As a result of a competitive process, IndyGo contracted with Jarrett Walker and Associates of Portland Oregon to help facilitate the study. A major part of the study process included public engagement opportunities where the service area community was asked how IndyGo should focus service investments. Stakeholders, riders and the public collectively voiced a desire to see a significant increase in resource allocation towards a higher ridership network. Our current system network invests 60% of service resources in high ridership corridor routes and 40% towards coverage routes.

To facilitate a shift towards ridership and to accommodate route transfers at the new Downtown Transit Center development, the study proposes a 2015 network that alters 27 of the 31 routes and identifies opportunities to make the transit network more useful for spontaneous travel by providing more frequent service options, such as consolidating parallel routes onto fewer, main streets and in turn making wait time between buses shorter for passengers on key streets especially in and near the downtown area. The trade-off is that some passengers may have to walk a few blocks further, but will access more frequent service.

Public Outreach Summary

Over the course of seven months in 2014 and 2015, IndyGo hosted three stakeholder meetings and ten public open houses to discuss proposed changes in the system to accommodate the Downtown Transit Center in 2015 and set an investment strategy for the overall goals of the transit system. In total, approximately 450 people attended stakeholder and public meetings.

In addition to hosting dedicated meetings, IndyGo staff attended dozens of neighborhood and community meetings to engage the public in the decision making process regarding reroutes in 2015. Beyond community outreach, broad-based communication tactics were

used to notify the public of the planning effort known as IndyGo Forward. On-board print and audio announcements were produced in English and Spanish; flyers were posted in the IndyGo retail sales office and more than 25 community centers throughout Marion County; internet, billboard, newspaper, TV and radio advertisements were placed to promote the planning

process; press releases and media pitches generated more than 140 news stories in the Indianapolis media market.

Un-staffed engagement efforts were also deployed to reach even more central Indiana residents. At old city hall, an interactive exhibit was installed to garner feedback from the public regarding the tolerance for increasing walk distance in turn for simplified routing and improved frequency. The exhibit stood for several months and offered opportunities to give feedback on basic questions about walking versus waiting. Additionally, in the summer of 2014 at the Indiana State Fair and the Indiana Black Expo, an iPad survey was used to collect hundreds more responses to gauge the public's tolerance to walk further for more frequent service.

The IndyGo website, social media presence and the IndyGo call center all served as vital 2-way electronic communication tools as proposals for routing to serve the Downtown Transit Center were developed, revised and finalized. Early in the planning process in summer 2014, IndyGo hosted an online town hall. Continually throughout the IndyGo Forward planning project, social media, the call center, and the IndyGo website were leveraged to communicate updates about proposed route changes. Through these virtual channels, dialogue directly with customers has helped shaped the final proposal for route changes to take effect in late 2015 in coordination with the opening of the transit center. IndyGo staff documented more than 246 comments in response to various route change proposals.

Despite the scope of change being proposed in late 2015 in conjunction with the opening of the Downtown Transit Center, negative comments opposed to the changes were very limited. Comments in support of streamlined routing and improved frequency in the downtown area far outweighed specific complaints about route-by-route changes.

Title VI Service Equity Analysis

An analysis of the proposed changes was completed utilizing three different measures of service access. All three measures were determined to ensure that the impacts associated with the restructuring were thoroughly considered from multiple perspectives. Based on the results from the different measures and IndyGo policies, it shows that minority people and people in poverty would not suffer discriminatory impacts as a result of the proposed changes.

RECOMMENDATION:
Adopt the proposed route restructuring to take effect when the IndyGo Downtown Transit Center opens.

Roscoe Brown
Vice President of Business Development

IndyGo On-Board Transit Survey
Final Report

May 15, 2017

Prepared by Lochmueller Group and ETC Institute

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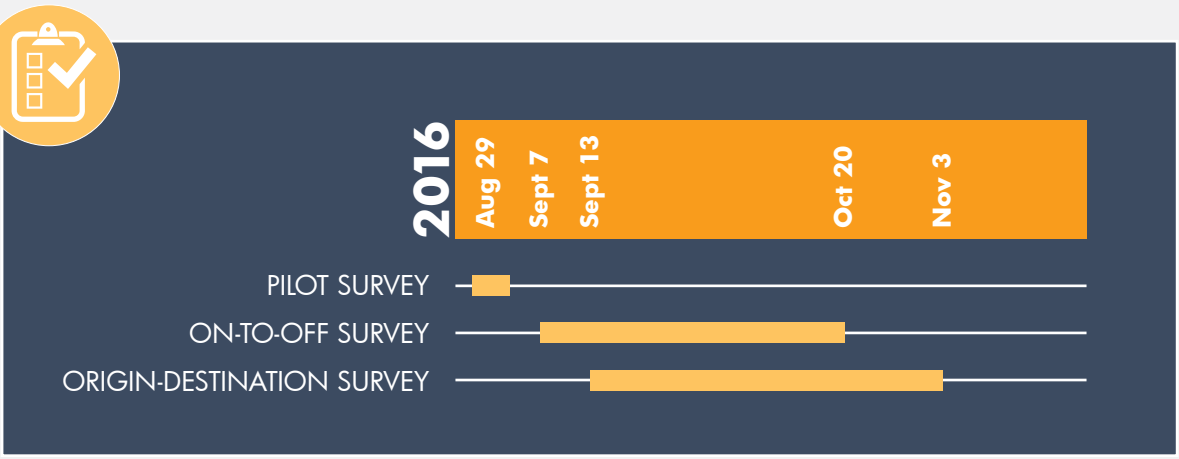
TABLE OF CONTENTS

CHAPTER 1
EXECUTIVE SUMMARY

BACKGROUND

ETC Institute and Lochmueller Group conducted a system-wide on board survey of ridership for the Indianapolis Public Transportation Corporation (IndyGo). The following two surveys were conducted for all IndyGo routes:

1. **Origin-Destination Survey and**
2. **On-to-Off Survey**



In total, **4,189** usable surveys were collected. Key elements of the study include:

- Developing a survey instrument
- Developing sampling goals for each bus route
- Collecting and processing the surveys
- Weighting and expanding the data
- Analyzing survey results and reporting the results

The objective of the survey is to analyze travel patterns, transit use and determine the makeup of IndyGo's ridership. A comparison with demographic data for Marion County was also included where appropriate.

KEY FINDINGS

The analysis conducted was two-fold:

Examine the **travel behavior characteristics** of IndyGo riders.

Examine **demographic characteristics** of IndyGo riders.

The survey data used for this analysis were weighted and expanded to be representative of IndyGo's ridership.

Most of IndyGo's riders can be considered "frequent riders." Nearly half use the service 3-5 days per week.

Nearly half of IndyGo riders reported that there is no vehicle available to their household, while about 20% reported having two or more vehicles available to their household.

of single vehicle households have more than one member.

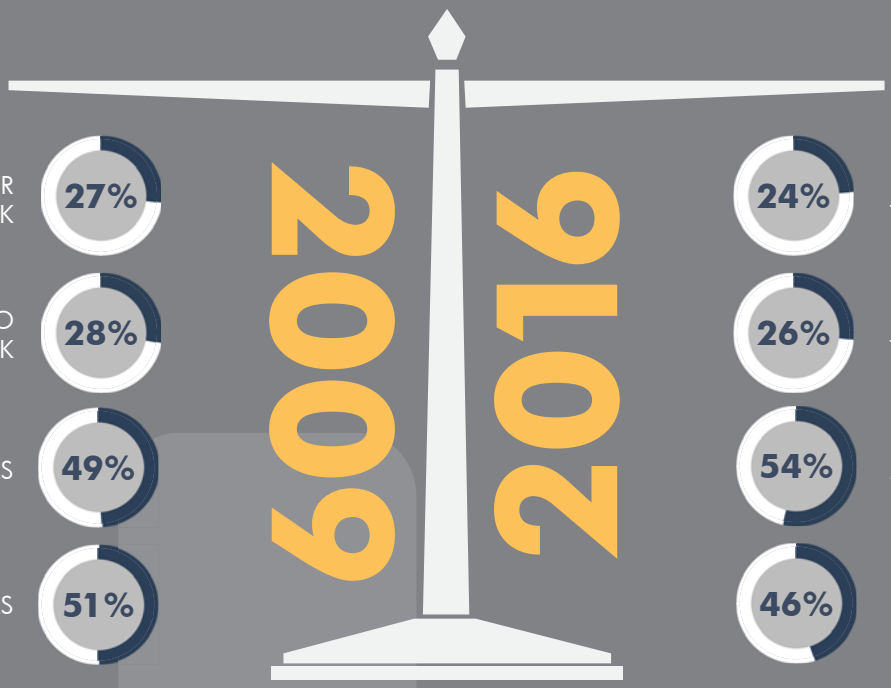
of riders are employed, including 20% that work part-time.

of IndyGo riders are from households that earn less than $35,000 annually. About 1% come from households that earn more than $100,000 annually.

Walking is the dominant access and egress mode for all riders. 93% walk to the bus stop while 95% walk to their final destination.

- Biking is the second most popular access and egress method at about 3%, reflecting trips made daily.

Demographic Profile of
2009 & 2016 RIDERS



2009		2016	
27%	RIDERS BEGAN THEIR TRIP FROM WORK	24%	RIDERS BEGAN THEIR TRIP FROM WORK
28%	RIDERS USED INDYGO TO GO TO WORK	26%	RIDERS USED INDYGO TO GO TO WORK
49%	MALE RIDERS	54%	MALE RIDERS
51%	FEMALE RIDERS	46%	FEMALE RIDERS

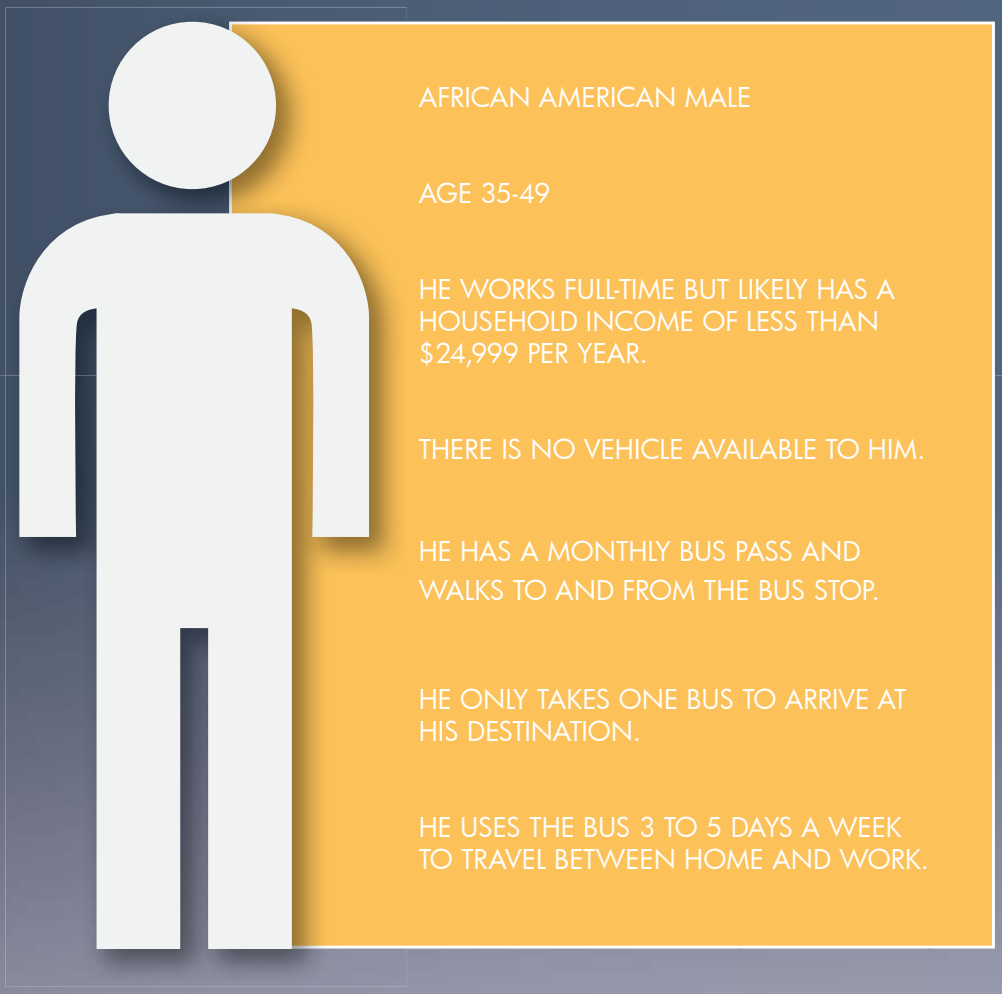
Destination for
TRIPS STARTING AT HOME

- 48% GO TO A WORK RELATED DESTINATION
- 25% GO TO A SOCIAL/ RELIGIOUS/PERSONAL BUSINESS DESTINATION
- 11% GO TO A SHOPPING DESTINATION
- 7% GO TO AN EDUCATION RELATED DESTINATION
- 5% GO TO A DOCTOR/ CLINIC/HOSPITAL

BUS TRANSFERS

- 72% USED ONLY ONE BUS TO COMPLETE A ONE WAY TRIP
- 27% USED TWO OR MORE BUSES
- <1% USED THREE OR MORE BUSES

TYPICAL INDYGO RIDER



AFRICAN AMERICAN MALE

AGE 35-49

HE WORKS FULL-TIME BUT LIKELY HAS A HOUSEHOLD INCOME OF LESS THAN $24,999 PER YEAR.

THERE IS NO VEHICLE AVAILABLE TO HIM.

HE HAS A MONTHLY BUS PASS AND WALKS TO AND FROM THE BUS STOP.

HE ONLY TAKES ONE BUS TO ARRIVE AT HIS DESTINATION.

HE USES THE BUS 3 TO 5 DAYS A WEEK TO TRAVEL BETWEEN HOME AND WORK.

DOWNTOWN TRANSIT CENTER

The Julia M. Carson Transit Center opened on June 26, 2016 and is located on the corner of Washington and Delaware Streets. It was built for IndyGo riders to have a central "hub," making it more convenient to make transfers. It also provided shelter from weather for passengers waiting for buses. The opening of the transit center triggered system-wide route changes. This on board survey was conducted by IndyGo in order to determine new ridership origin and destination travel patterns resulting from the opening of the transit center.

INDYGO OPPORTUNITIES

One area of opportunity for IndyGo to grow its ridership is by increasing bus service. This would include increased bus frequency on all routes leading to decreased waiting time, longer service hours for early morning/late night trips and improved weekend service. Having an enhanced bus network with more direct routes would lead to quicker travel times and attract additional ridership as well. Providing rapid transit lines along high ridership corridors would also allow for much shorter travel times and improved rider experience.

CHAPTER 2
DATA ANALYSIS

2.1 DATA ANALYSIS

This section of the report focuses on the results of the On-Board Survey and presenting them based on various parameters. For the purposes of this analysis, ridership estimates used linked weightage factors. Generally, the results using linked and unlinked weightage factors are comparable. However, the unlinked weightage factors overestimate the number of transfers/buses used and skew the results for that survey question. The total estimated ridership based on the linked weightage factor is about 27,600.

A Microsoft Excel tool that includes data sets listed in this report was provided to IndyGo. It allows the user to run a query for single or cross-tabulated questions asked in the survey. The tool reports results for either linked or unlinked trip weights. The Excel tool allows IndyGo to filter and sort the data electronically for various survey questions.

Typical IndyGo Rider

IndyGo's typical passenger is an African American male between the age of 35 and 49. He uses the bus 3 to 5 times a week to travel between home and work. The typical rider works full-time but likely has a household income of less than $25,000 per year. He does not have a vehicle available to use. Most riders walk to and from the bus stop and only require one bus to reach their destination.

Travel Characteristics

Of the trips that originate from home, about 48% go to a work related location, followed by 28% going to a social/religious/personal business destination. About 11% go to a shopping location, 5% to the doctors/clinic/hospital and 7% go to school (including university). IndyGo riders use the public transit service to go to a wide variety of destinations.

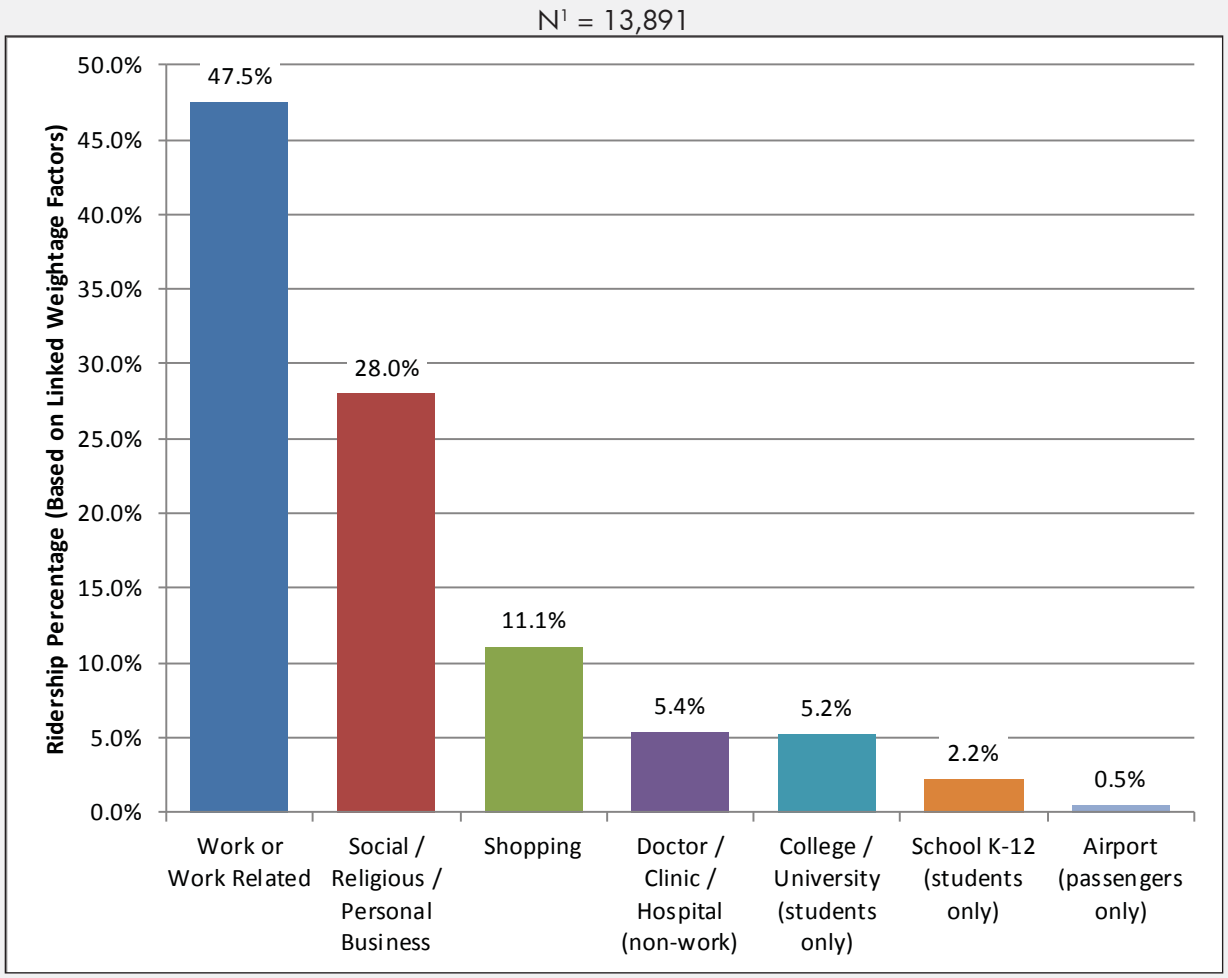


Figure 2-1: Destination Locations for Home originated trips

1 The variable N refers to the total average weekday ridership based on the linked weightage factors used for the graph.

QUESTION 1

Question 1: What type of place are you coming from now?

About half of IndyGo riders begin their trips from home. Nearly 24% of passengers start from work or a work related location. Although the majority of riders begin their trips from home or work, a substantial portion (about 26%) of passengers start from other locations such as the doctor's office, school or shopping. This shows that IndyGo serves a variety of trip origins.

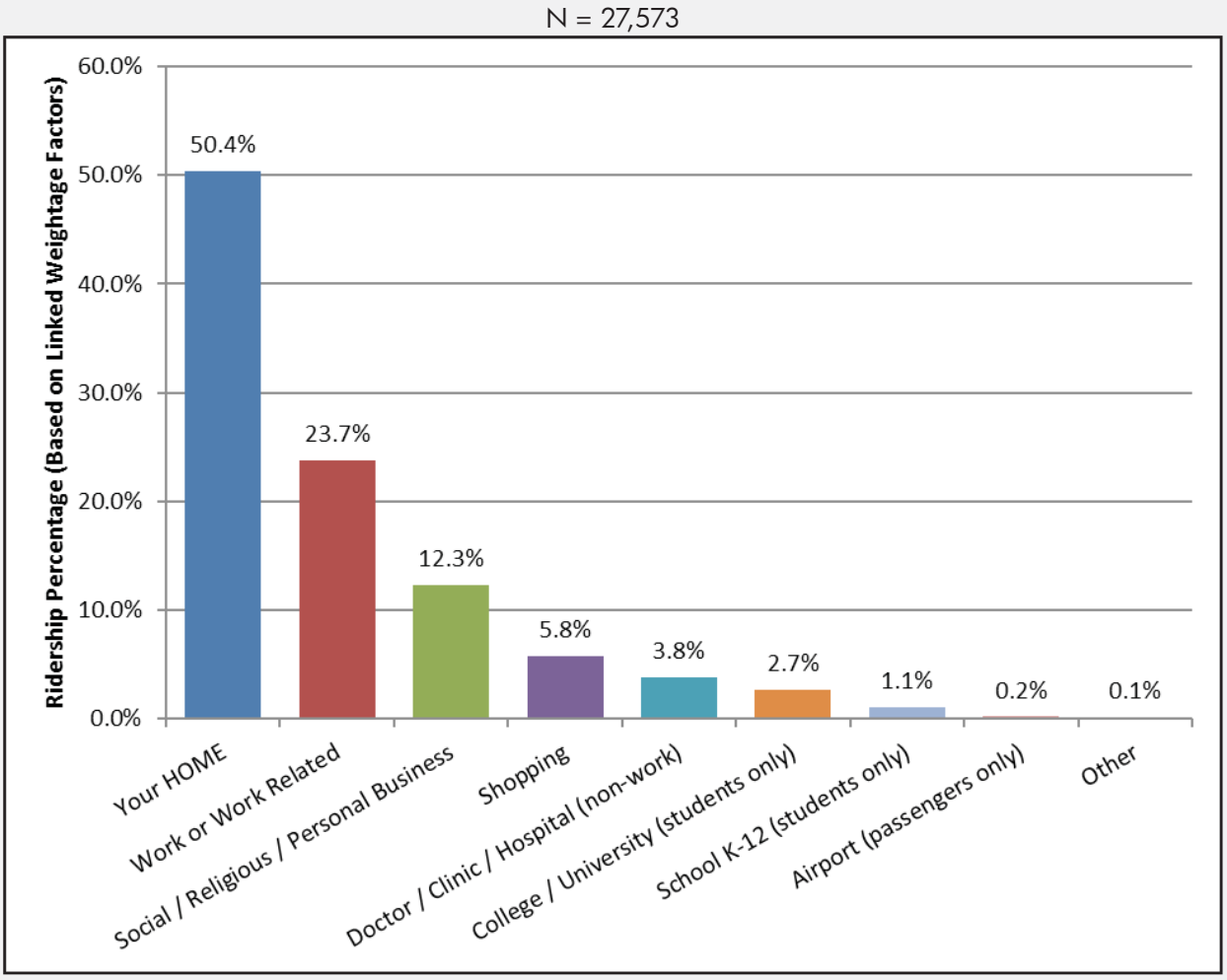


Figure 2-2: What type of places do IndyGo riders begin their trip?

QUESTION 1

The percentage of riders originating from school or college/university is more prevalent among the younger age categories while the older age categories tend to have more trips originating at a doctor/ clinic/hospital. The percentage of riders originating at work increases with the age but then dips for seniors.

N = 27,573

Figure 2-3: What type of places do IndyGo riders begin their trip based on age?

AGE GROUP	YOUR HOME	WORK OR WORK RELATED	SOCIAL/ RELIGIOUS/ PERSONAL BUSINESS	SHOPPING	DOCTOR/ CLINIC/ HOSPITAL	COLLEGE/ UNIVERSITY	SCHOOL K-12	AIRPORT	OTHER
15 & Under	54.3%	1.7%	2.0%	0.0%	0.0%	1.4%	40.5%	0.0%	0.0%
16-18	50.9%	16.1%	14.3%	5.4%	0.0%	4.3%	8.6%	0.4%	0.0%
19-24	54.1%	20.6%	11.1%	4.9%	1.3%	7.4%	0.5%	0.1%	0.0%
25-34	48.2%	26.1%	14.6%	4.5%	3.1%	2.5%	0.2%	0.3%	0.5%
35-49	50.6%	26.5%	12.0%	5.4%	4.5%	0.7%	0.1%	0.2%	0.0%
50-64	47.6%	26.6%	11.8%	7.1%	5.5%	1.1%	0.1%	0.2%	0.0%
65+	55.6%	10.0%	9.3%	13.8%	11.2%	0.1%	0.0%	0.0%	0.0%

Table 2-1: What type of place do IndyGo riders begin their trip based on age?

QUESTION 1

The origin/destination places for senior riders show that, compared to all riders, seniors make fewer trips to/from work and more trips to/from other locations. Seniors use IndyGo to go to a variety of locations, ranging from shopping to their doctor's office. Without IndyGo service, 43% of seniors would not have made these trips.

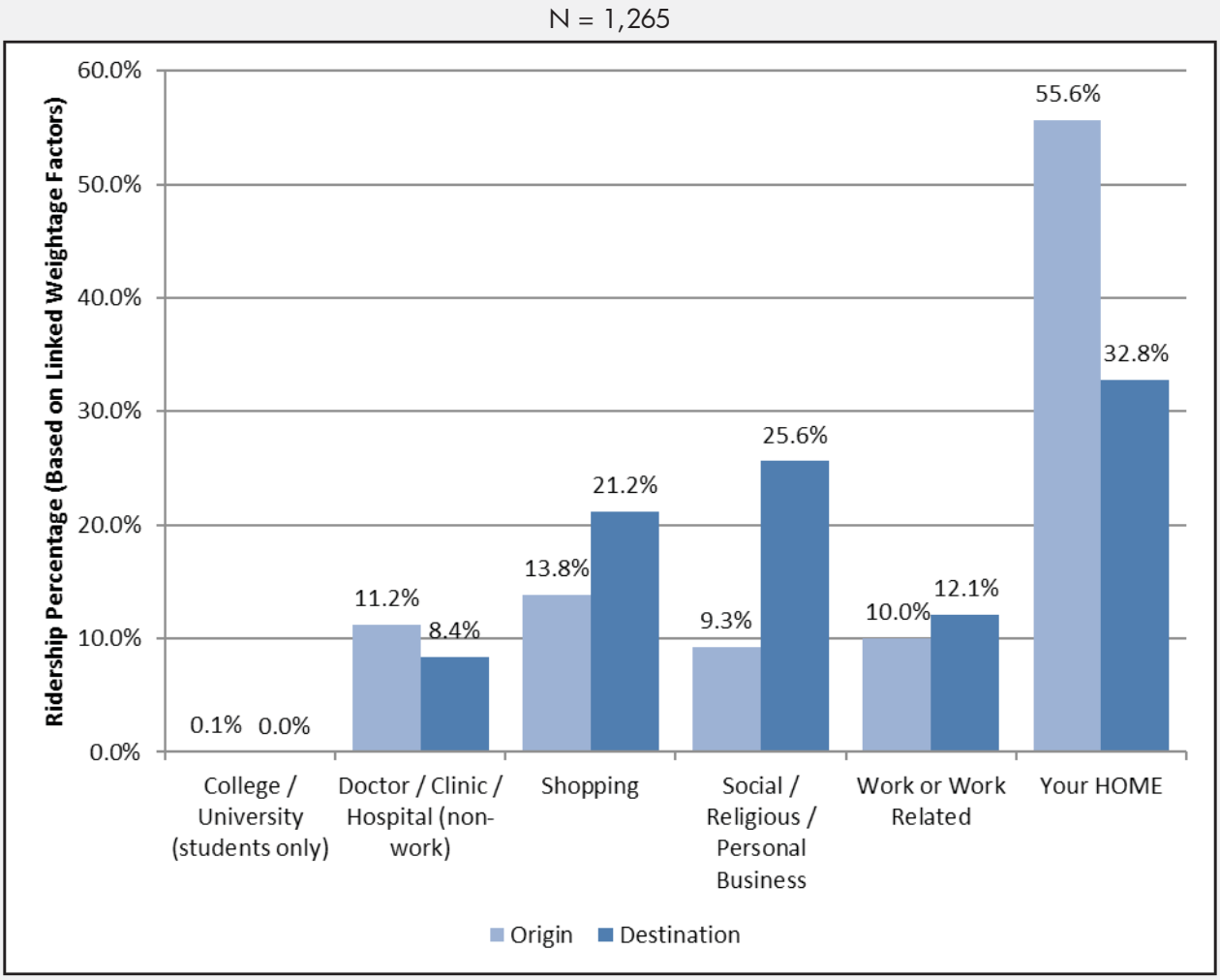


Figure 2-4: What type of places do seniors begin and end their trips?

QUESTION 1

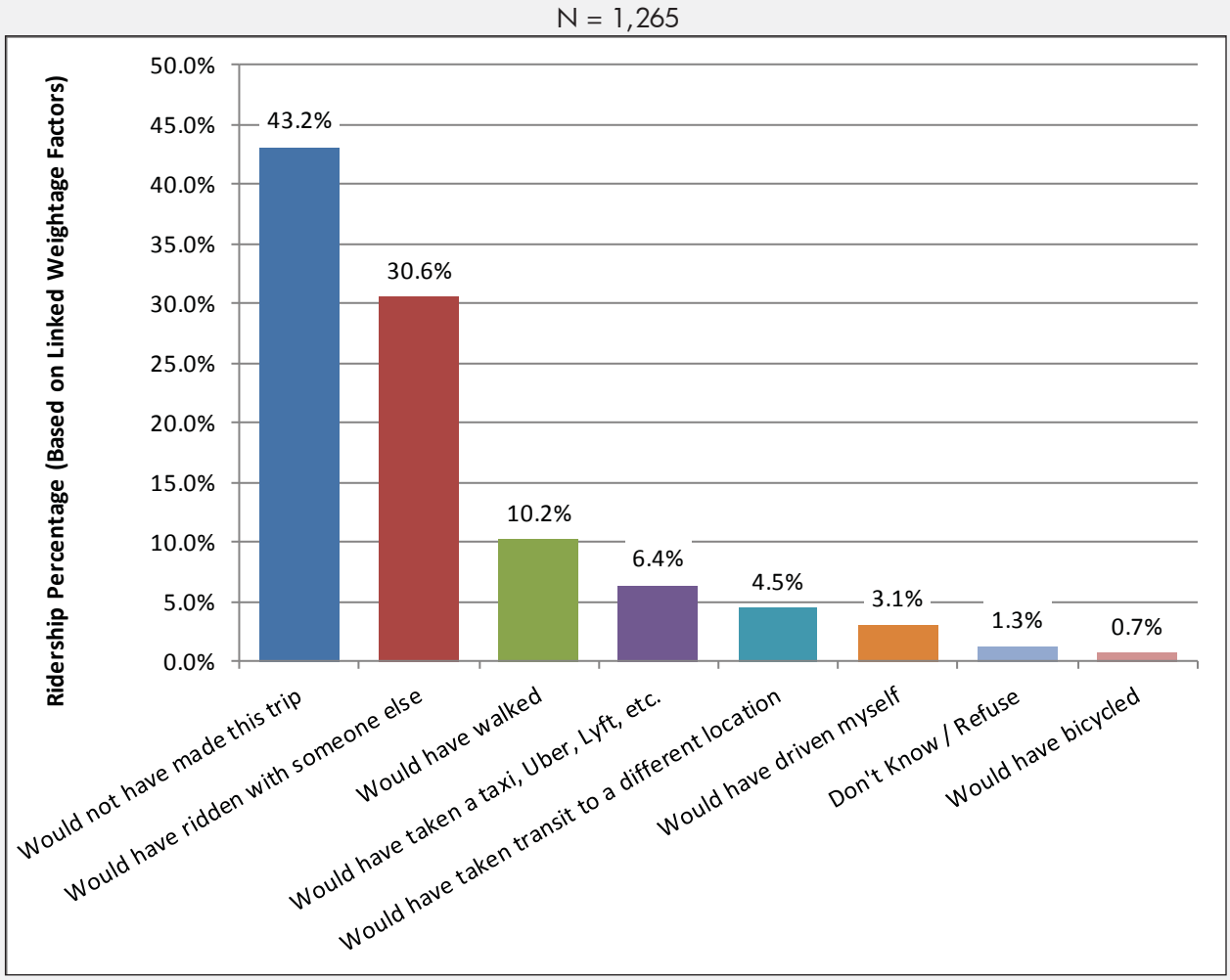


Figure 2-5: How would seniors make a trip if IndyGo service wasn't available?

QUESTIONS 2 & 3

Questions 2 and 3 ask riders to identify the name of the place they are coming from and the address of that place, respectively.

A heat map of the home origin locations is shown below. It can be seen that IndyGo riders begin their trips from a large service area, with the highest concentration being the downtown area.

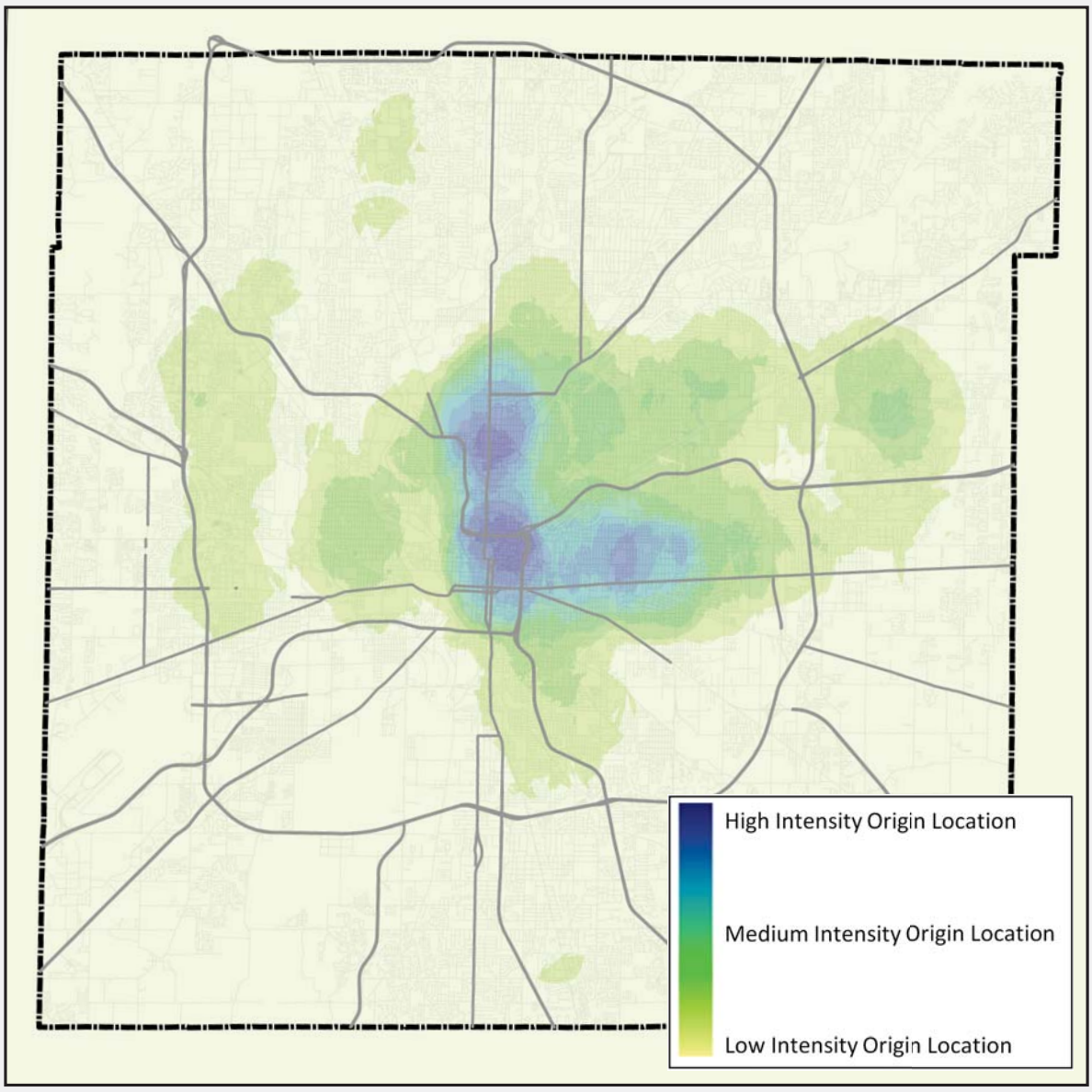


Figure 2-6: Home Origin Locations Heat Map

QUESTION 4

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

The majority of riders walk or use a wheelchair to get to the appropriate bus stop. It's also important to note the number of riders that bike to the bus stop. Although it's a relatively low percentage at 2.9%, it corresponds to 800 one-way trips daily[2].

The riders that use a bike to arrive at their bus stop are typically travelling more distance from their origin or destination location than riders that walk to the bus stop. In fact, every IndyGo bus does have a bike rack that can store two or three bikes[3]. This is satisfying a real passenger need as can be seen by the estimated 800 riders daily that use bikes to arrive at their bus stops.

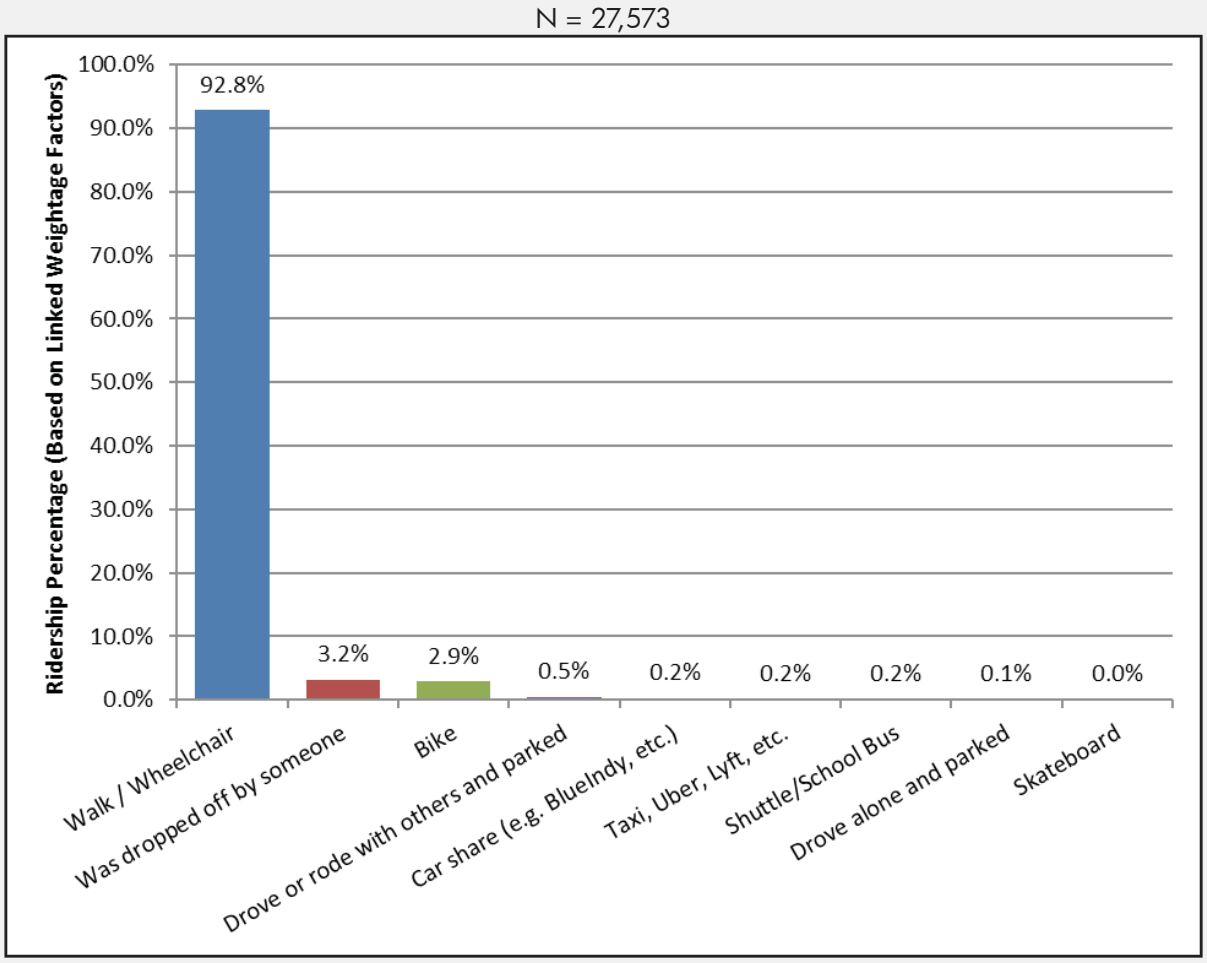


Figure 2-7: How do IndyGo riders get to their final destination once off the bus?

2 This survey was conducted during the fall. Actual daily bicycle usage may vary by weather and season.
3 Information provided on the IndyGo website: https://www.indygo.net/how-to-ride/bike-n-bus/

QUESTION 5

Question 5 asked respondents where they got on the bus to make this trip.

The distance that riders travel from their trip origin to their first bus stop was estimated based on survey responses for this question as well as questions 2 and 3. It can be seen that nearly 48% of passengers travel less than a quarter mile to reach their bus stop with about 25% traveling less than a tenth of a mile. Twenty-two percent of riders travel more than 1 mile to their bus stop.

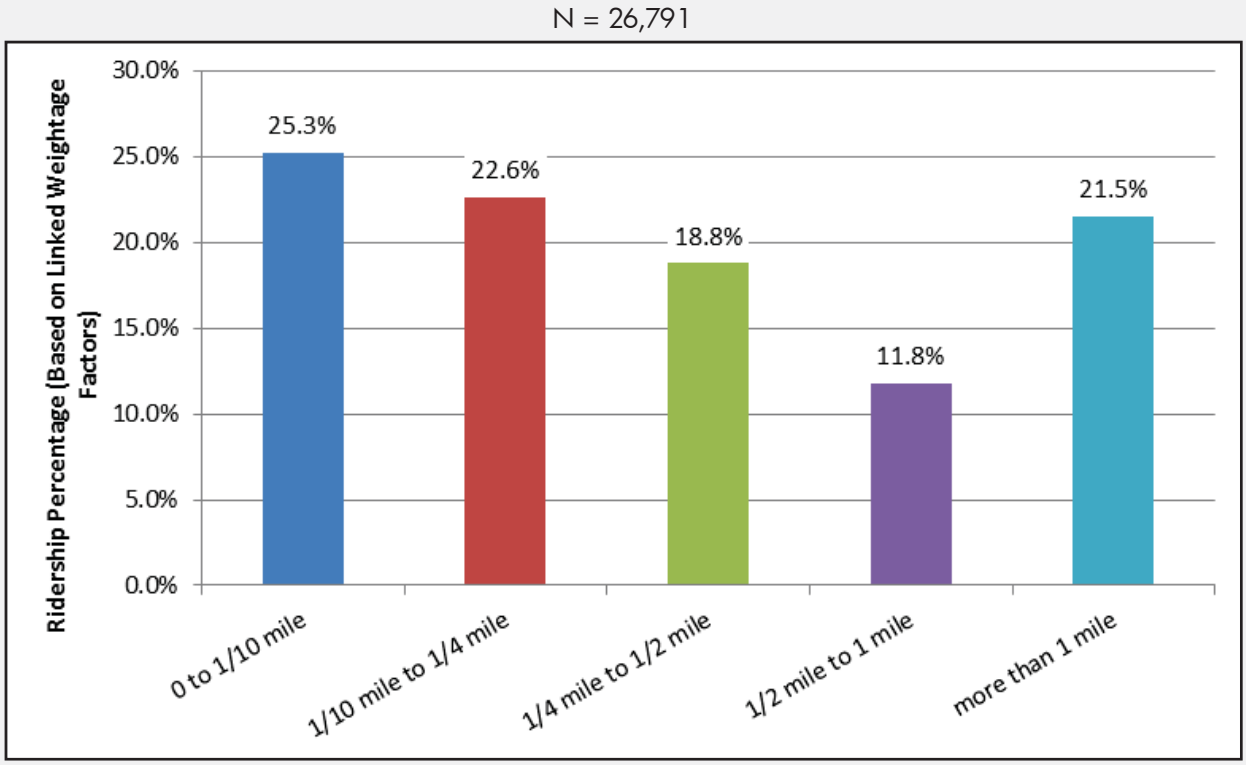


Figure 2-8: Distance IndyGo Riders Travel from Their Origin to Their First Bus Stop

QUESTION 6

Question 6: What type of place are you going to now?

About 38% of passengers end their trips at home, while 26% of riders have work or a work related location as their transit destination place. Even though most riders end their trips at work or home, over a third of passengers end their trips at other locations including religious places, shopping or to obtain medical care. This shows that IndyGo serves a variety of trip destinations.

N = 27,573

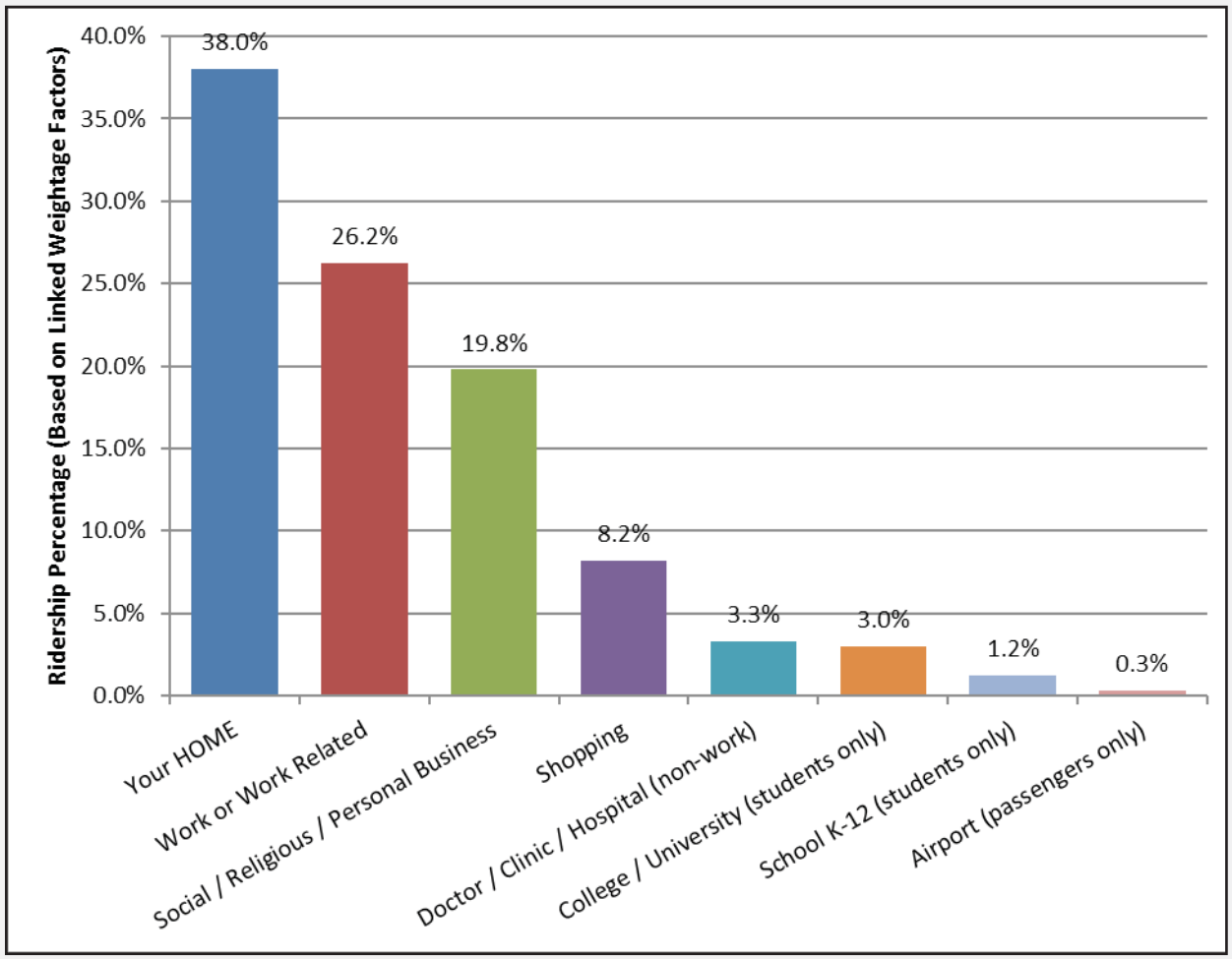


Figure 2-9: What type of places are destinations for IndyGo riders?

QUESTION 6

The survey revealed that the destination location for nearly 10% of 19-24 year olds is college/university. This corresponds to about 500 trips daily. IndyGo's services provide transportation to students, which is an important component of having access to higher education. A few of the larger schools within the IndyGo service area include:

- Indiana University Purdue University Indianapolis (IUPUI)
- University of Indianapolis
- Butler University
- Ivy Tech Community College

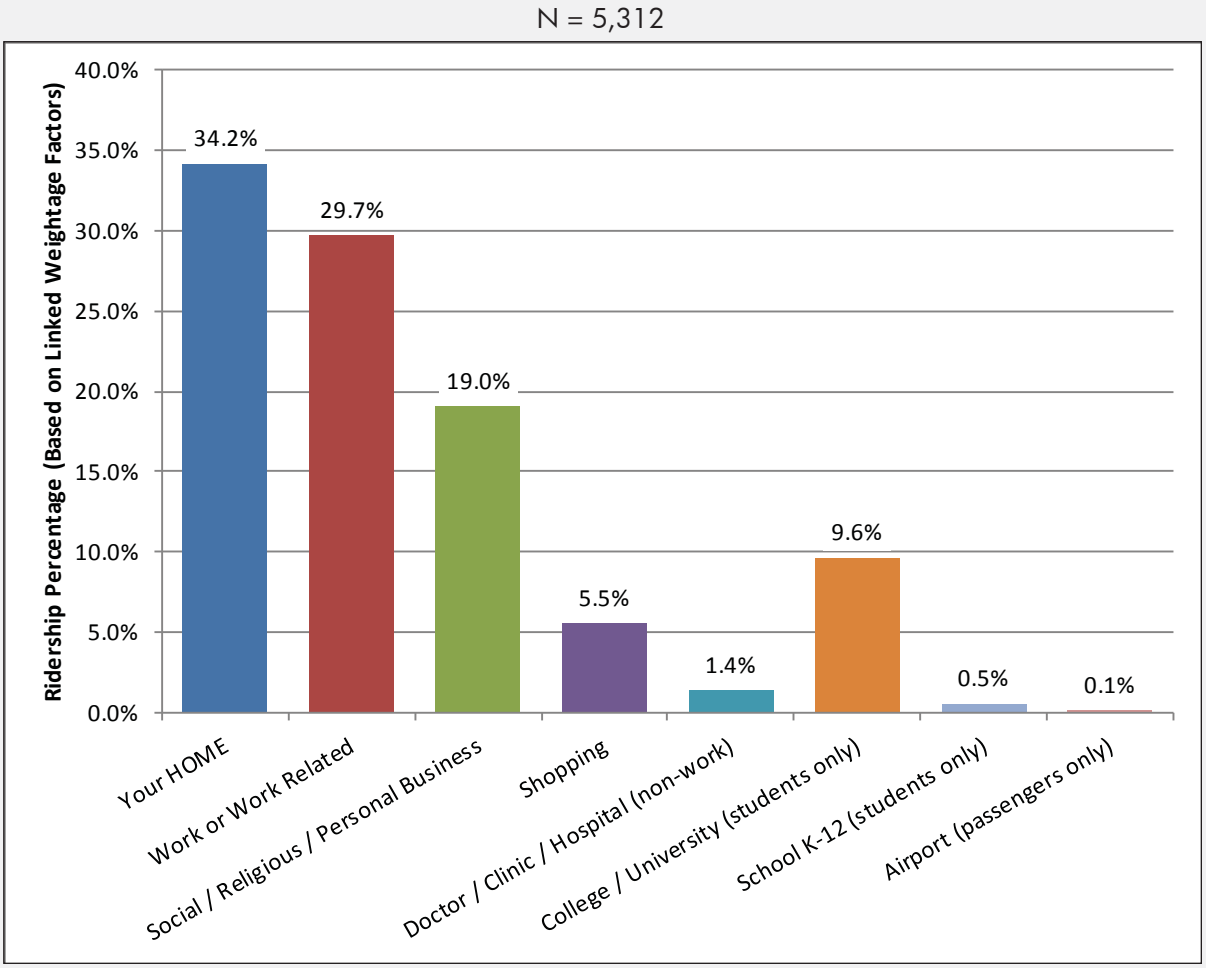


Figure 2-10: What type of places are destinations for 19-24 year old IndyGo riders?

QUESTIONS 7 & 8

Questions 7 and 8 ask riders to identify the name of the place they are going to and the address of that place, respectively.

A heat map of the non-home destination locations is shown below. It can be seen that a high concentration of IndyGo riders end their trips in the downtown area.

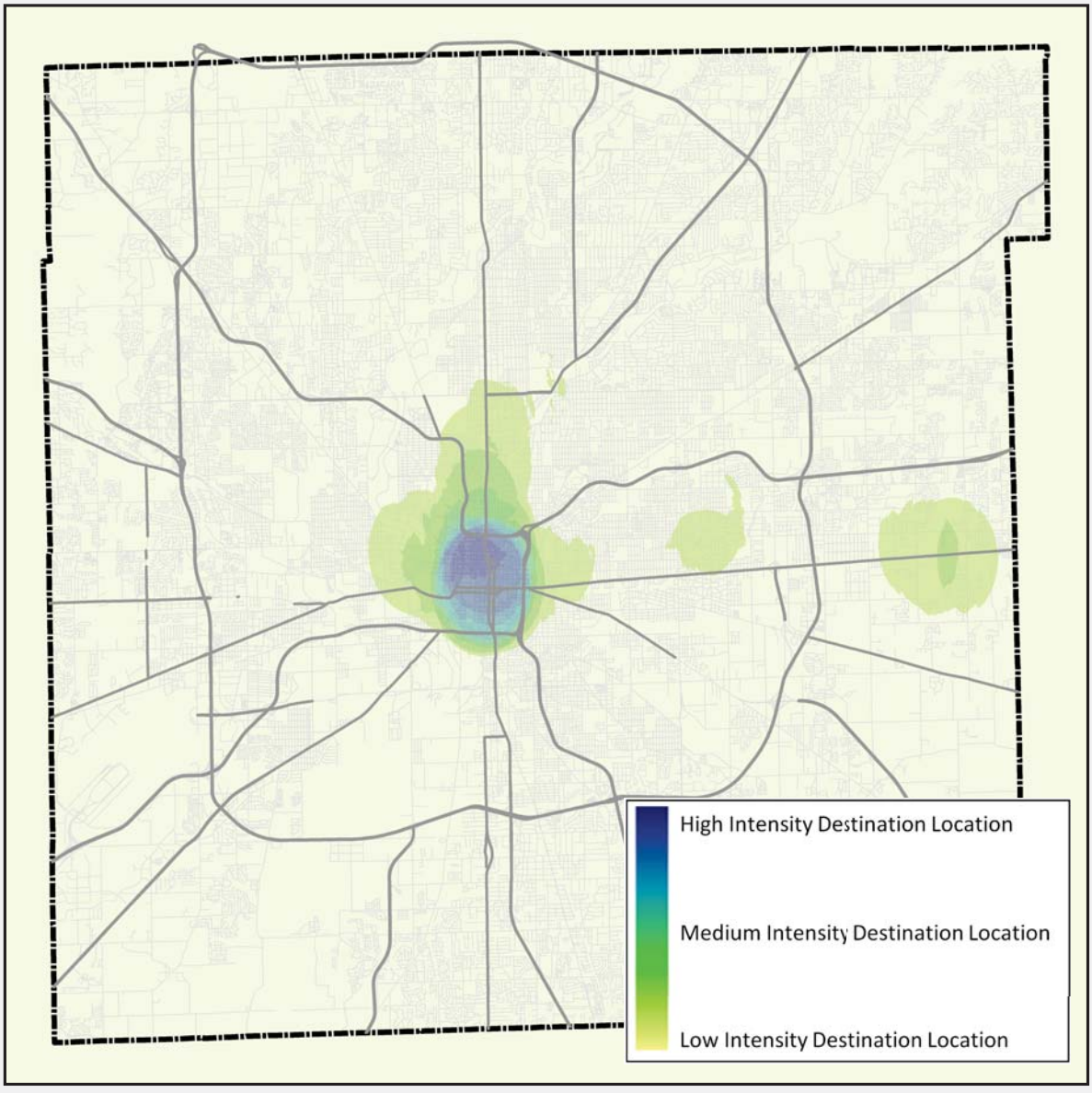


Figure 2-11: Non-Home Destination Locations Heat Map

QUESTION 9

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

Similar to the Access Mode statistics, the majority of riders walk or use a wheelchair to get to their final destination from the bus stop. The percent of passengers that arrive at their final destination location using a bike is very close to the percent of passenger that use a bike to arrive at their bus stop. This indicates that most of the riders using bikes utilize the bike racks on the bus to take their bike with them. This further highlights the importance of bike racks on IndyGo buses.

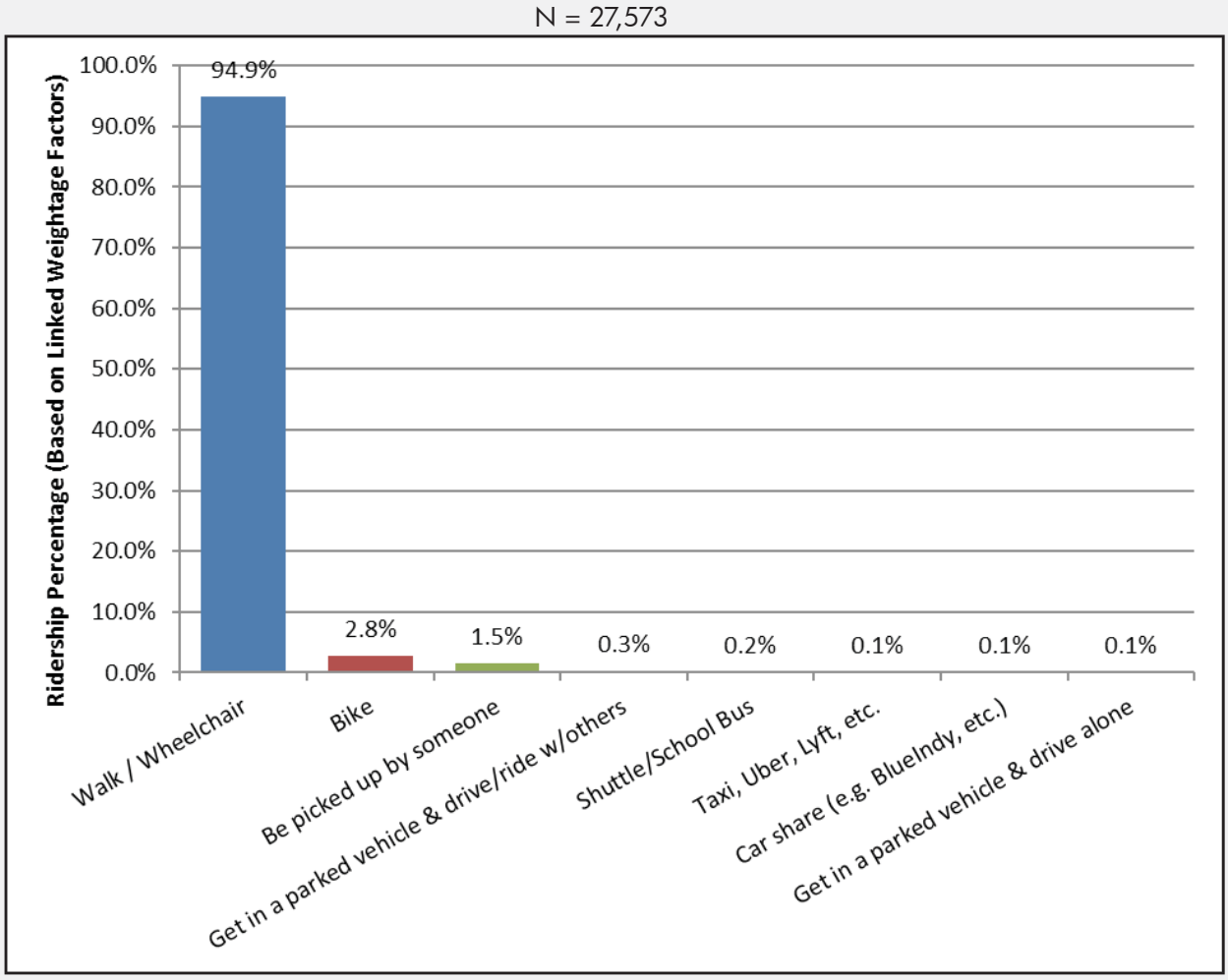


Figure 2-12: How riders get to their final destination after exiting the bus?

QUESTION 10

Question 10 asks for the nearest intersection location where the rider will exit the bus.

The distance IndyGo riders travel from their last bus stop to their trip destination was estimated based on survey responses for this question as well as Questions 7 and 8. More than half (51%) of the passengers travel less than a quarter mile to their bus stop, while about 29% travel less than a tenth of a mile. Nineteen percent of passengers travel more than 1 mile to their bus stop.

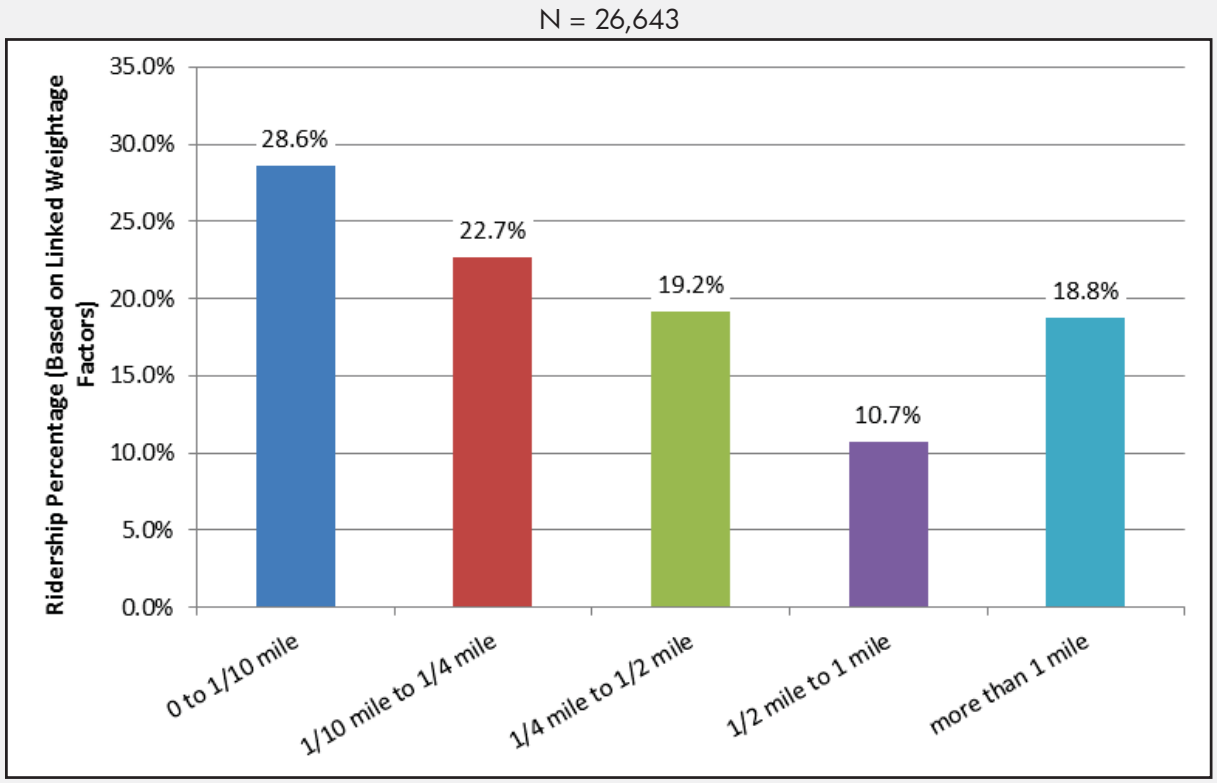


Figure 2-13: Distance IndyGo Riders Travel from Their Last Bus Stop to Their Destination

QUESTION 11

Question 11 has three parts and pertains to how many buses a riders uses to make their one-way trip:

Question 11a: Did you transfer from another bus before getting on this bus?
Question 11b: Will you transfer to another bus after getting off this bus?
Question 11c: Please list the bus routes in the exact order you use them for this one-way trip.

The majority of riders (about 72%) only use one bus to make their one-way trip. Slightly more than a quarter of passengers use two buses, and only about 1% use three or more buses.

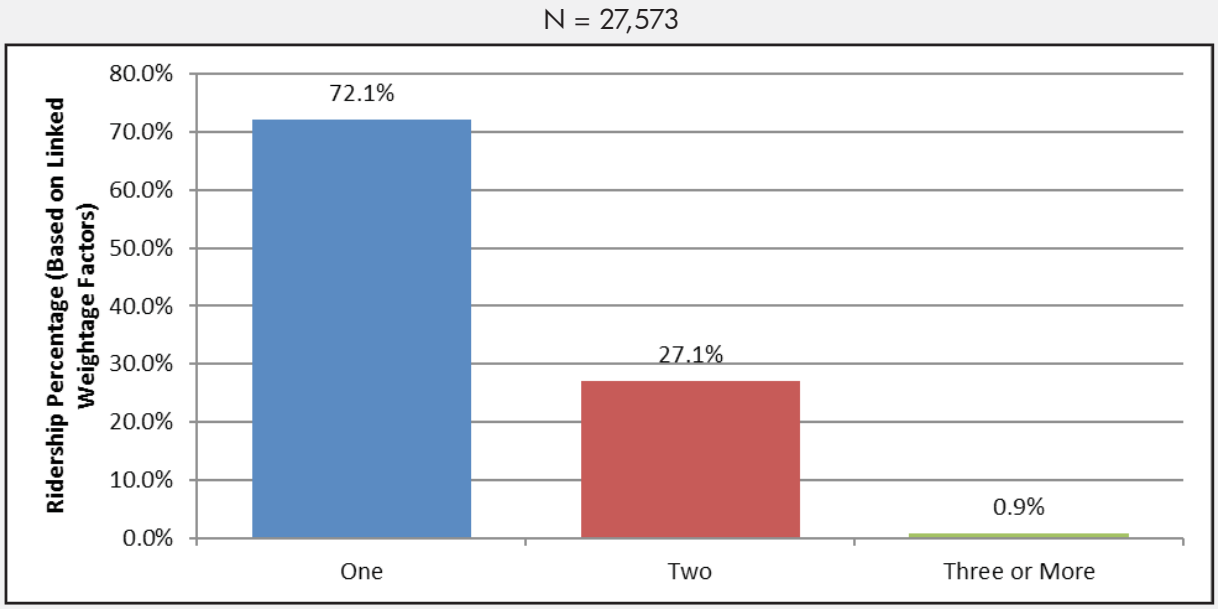


Figure 2-14: How many buses do riders use to make a one-way trip?

QUESTION 12

Question 12 asks what time riders boarded their bus. It was asked to ensure data was collected for different times of day.

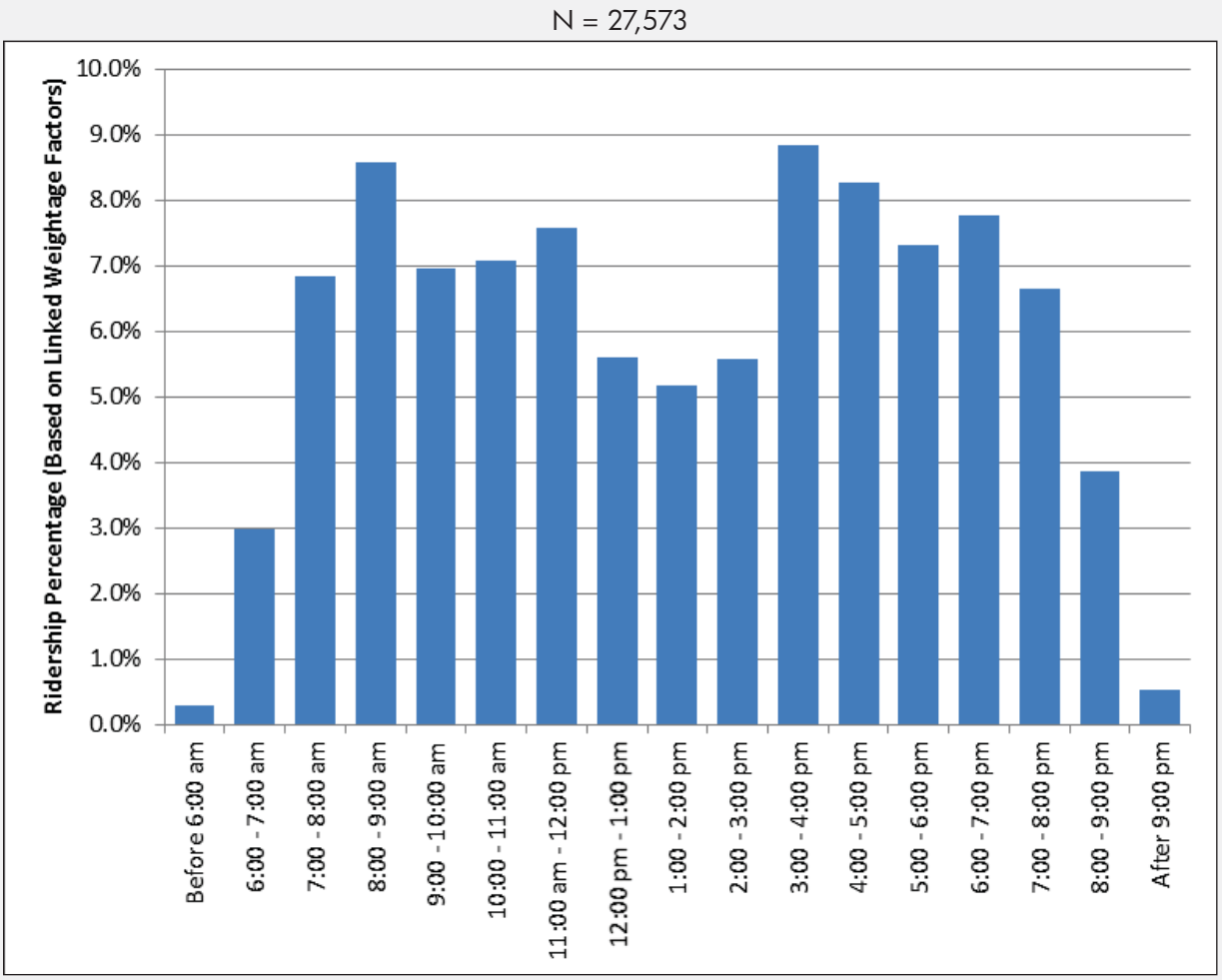


Figure 2-15: What time do riders board their bus?

QUESTION 13

Question 13: Will you (or did you) make this same trip in exactly the opposite direction today?

Nearly 51% of riders reported that they would make an identical trip in the opposite direction the same day. About 49% stated they would not make the same exact trip in the opposite direction on the same day. Many people make different trips in the "from home" and "to home" orientation (e.g., they may travel directly from home to work, but make a stop on the way home to shop, attend a night class, etc.)

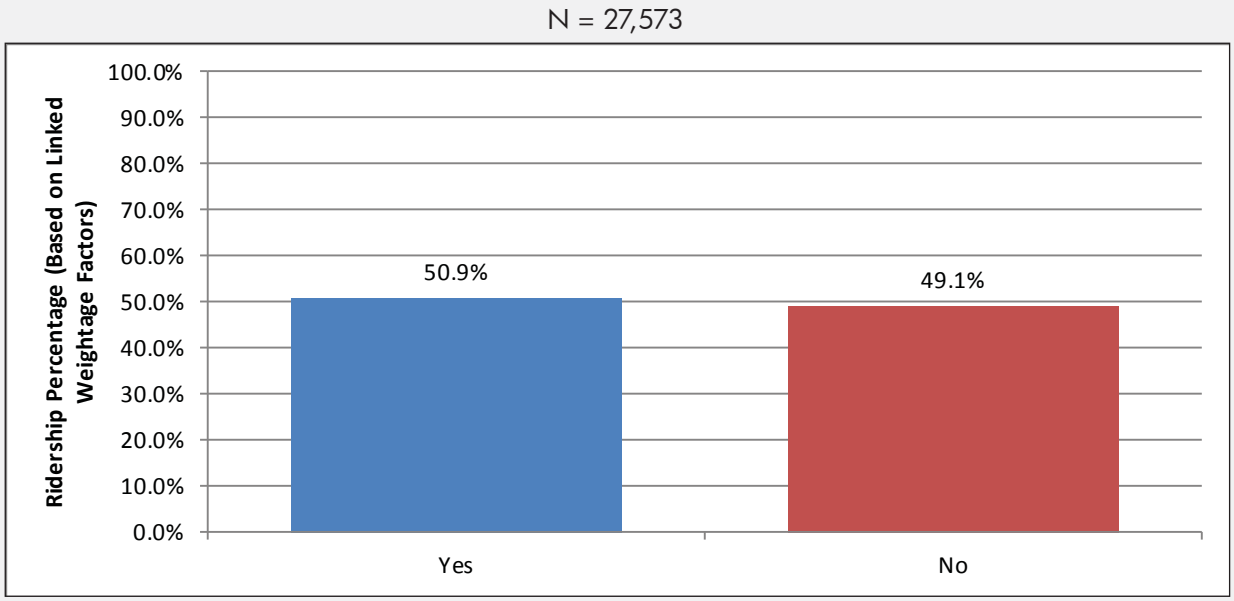


Figure 2-16: Do IndyGo riders make round-trips?

QUESTION 13

The percentage of riders that make round trips based on their out-of-home activity types are shown below[4].

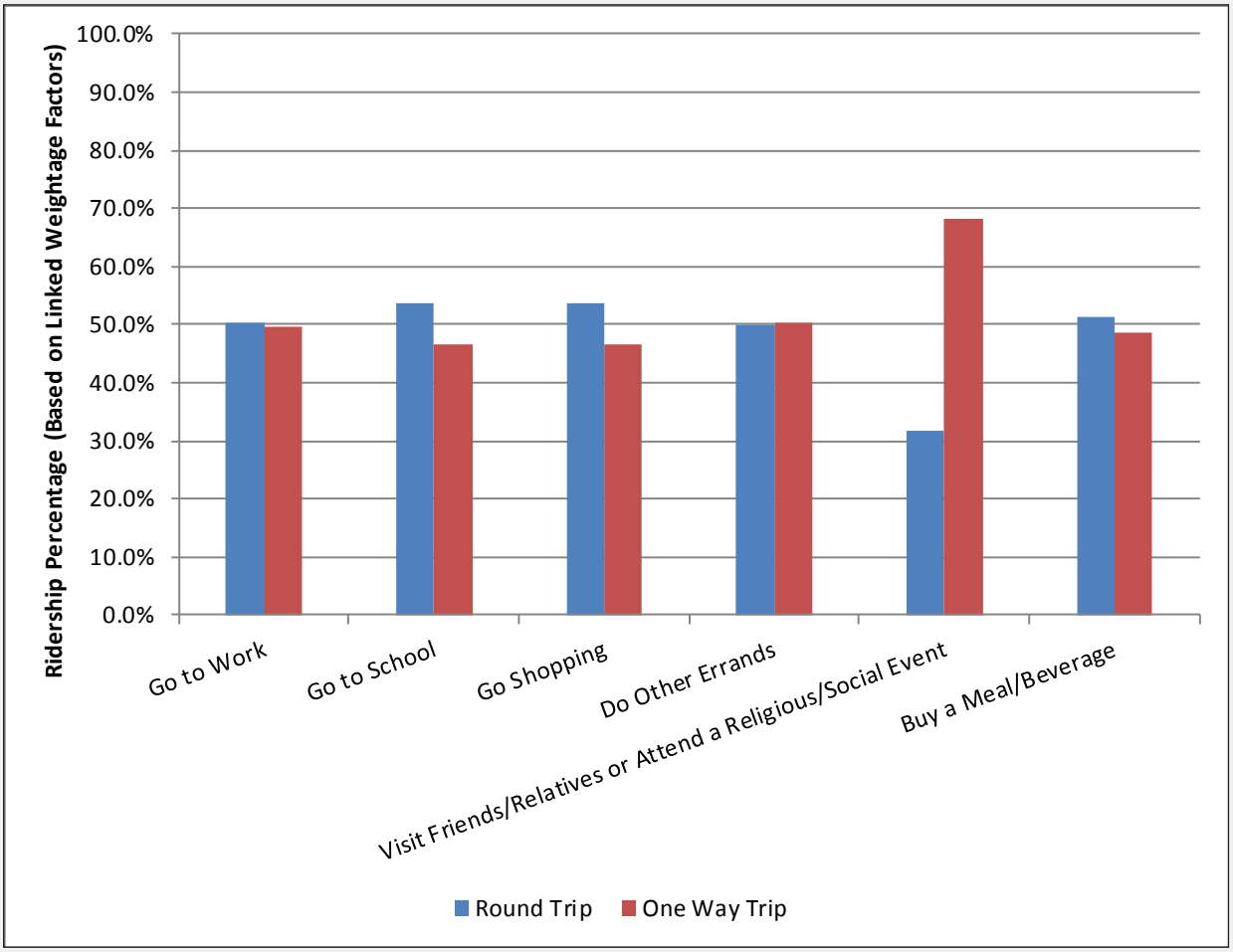


Figure 2-17: Do IndyGo riders make round-trips based on out-of-home activity types?

ACTIVITY TYPE	ROUND TRIP	ONE WAY TRIP
Go to Work	50.3%	49.7%
Go to School	53.6%	46.4%
Go Shopping	53.5%	46.5%
Do Other Errands	49.8%	50.2%
Visit Friends/Relatives or Attend a Religious/Social Event	31.7%	68.3%
Buy a Meal/Beverage	51.4%	48.6%

Table 2-2: Do IndyGo riders make round-trips based on out-of-home activity types?

4 Please refer to Question 16 for more details regarding out-of-home activity types.

QUESTION 14

Question 14: What fare payment methods were used for this one-way trip?

Nearly a third of IndyGo passengers use cash while the remaining two-thirds use various types of passes and other pre-pay options. The 1-Day pass and 31-Day pass are the most utilized pre-pay alternatives at 25% and 22% of the ridership, respectively.

N = 27,573

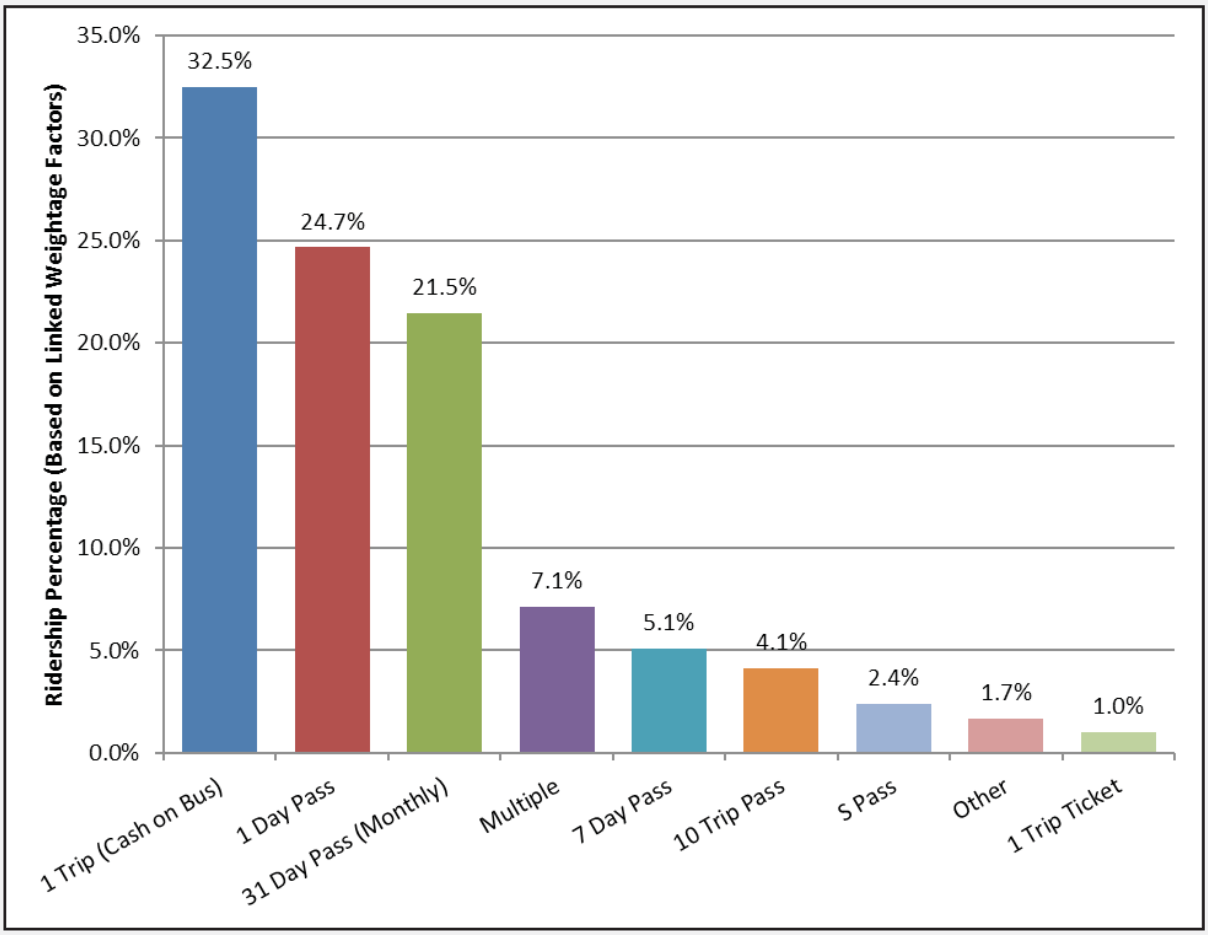


Figure 2-18: How do IndyGo riders pay their fare?

QUESTION 14

As income level increases, the percent of riders paying the cash fare also increases while the percent of riders using the 1-Day pass decreases. The percent of riders using the 31-Day pass remains relatively constant with income level.

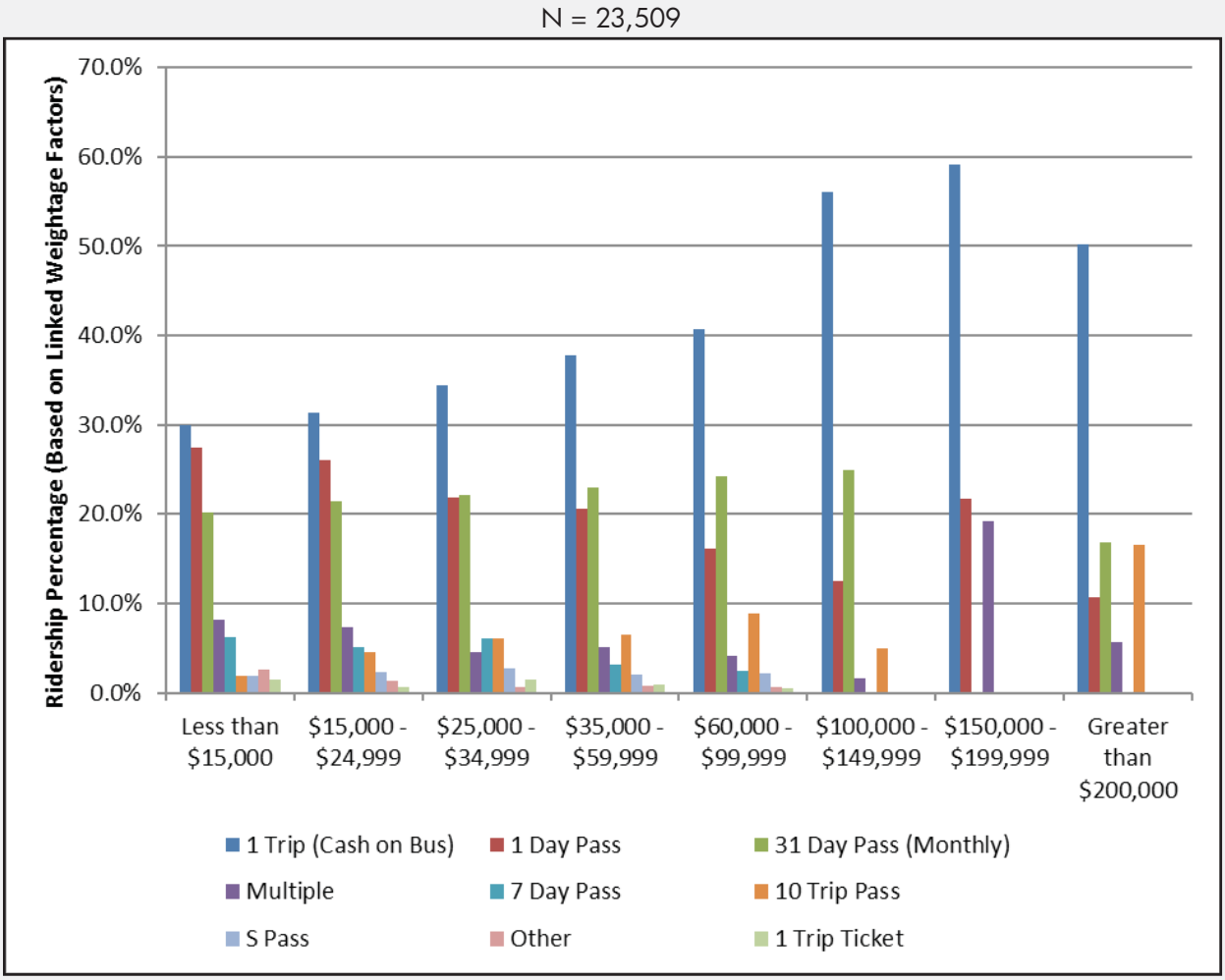


Figure 2-19: How do IndyGo riders pay their fare based on income?

QUESTION 15

Question 15: What type of fare was this?

Most IndyGo passengers are regular fare riders (about 81%). Fourteen percent of riders pay the half fare. Very few passengers use the student fare option.

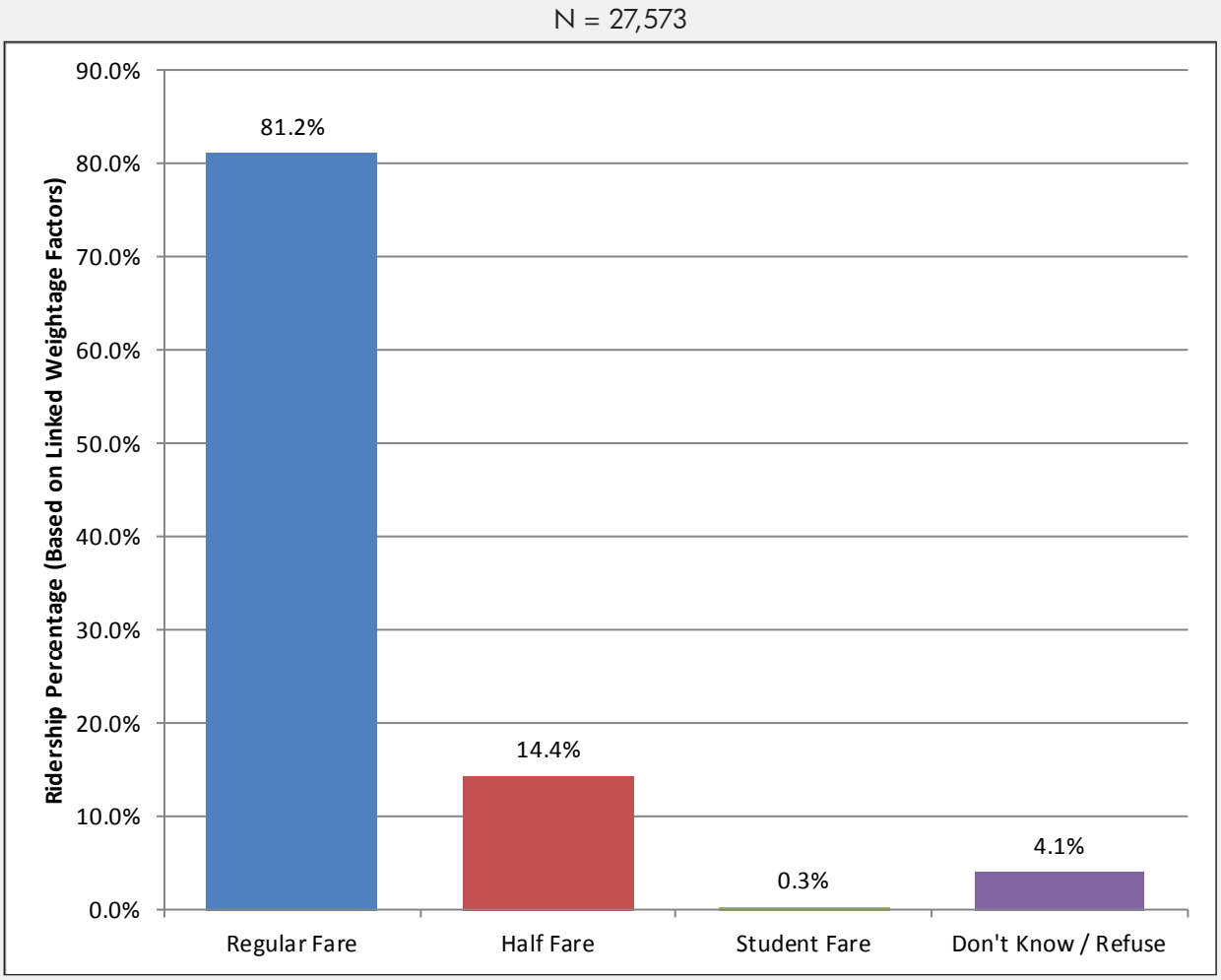


Figure 2-20: What type of fare do IndyGo riders pay?

QUESTION 16

Question 16: On this round trip (between the time you left and will return home) will you or did you (check all that apply)

The advent of tour[5]- or activity-based forecasting methods has created the need to be able to identify the tour purpose as well as the purpose of transit riders' individual point-to-point trips. Traditional on-board ridership surveys asked riders to identify their trip purpose, or activities at their origin and destination. As part of IndyGo's 2009 on-board survey, a new single question was designed to gather information on riders' tours while minimizing respondent burden. The approach was very successful, yielding considerable information on broader travel patterns and contributing to a peer-reviewed journal article, while yielding very low item non-response and negligible impact on overall survey response. The question was repeated in the 2016 survey. Question #16 asked the respondent: "On this round trip (between the time you left home and will return home) will you or did you: (check all that apply) - No other trip - Go to work - Go to school - Go shopping - Buy a meal/beverage - Visit friend/relative or attend a religious/social event - Other errands - Other (please specify)_____." Since multiple responses are possible, these responses add up to more than 100%.

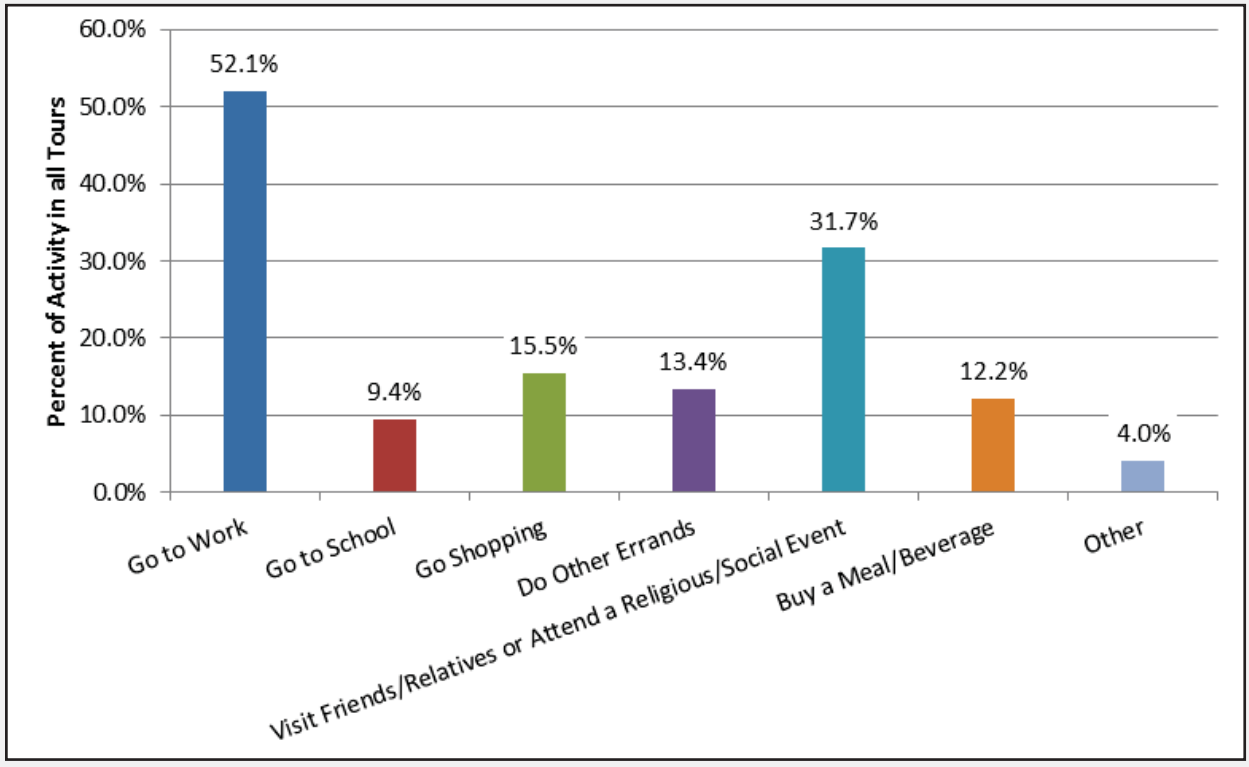


Figure 2-21: Percent of 2016 tours with each out-of-home activity type

The 2016 responses show a generally similar distribution of activities, but slightly fewer activities per transit tour compared to 2009. Two more distinct differences were a higher prevalence of other errands in 2009 and more riders visiting friends/attending a religious or social event in 2016. Although the 2009 results indicate that the question itself does not pose particular respondent burden, the 2016 results may indicate

5 A "tour" is the sequence of trips during the day from the time a person leaves home until returning home. A tour with one primary purpose may include trips not directly related to that purpose; for example, someone absent from home for full-time employment may make leave the workplace to eat lunch, go to the post office, and then return to the workplace. The trip between the restaurant and the post office is part of a "work tour," even though neither its origin nor destination is either the home or workplace.

QUESTION 16

some respondent fatigue perhaps related to the overall survey length. Alternatively, there may have been an actual change in rider behavior with riders engaging in fewer activities per transit tour.

The activity-based question allows the identification of not only the purpose of the trip observed in the survey, but the traveler's broader purpose for their tour from and to home. Comparing the riders responses to the activity-based question to their responses regarding the origin and destination purposes, there are both similarities and differences. While work was the most common out-of-home activity according to either question, only 46.9% of the observed trips had an origin or destination at work, while the activity-based question revealed that 52.1% of riders actually went to work while on their tour. Using the origin/destination questions only without the activity-based question would understate the number of transit trips on work tours. Similarly, only 7.4% of the observed non-home origins and destinations were at school, but the activity-based question revealed that 9.4% of riders went to school while on their tour. Further, while only 11.3% of non-home origins and destinations were visited for shopping, the activity-based question reveals that 15.5% of IndyGo riders went shopping while on their tour. These differences are modest, but still meaningful and helpful for travel model development.

From the information contained in the responses to the origin and destination purpose questions alone, it would be easy to underestimate the amount of activities being served by IndyGo's service or misrepresent their relative importance. For example, as the previous paragraph states, the activity-based question reveals that 16% of IndyGo riders need to make a shopping stop on their tour, even though only 11% of riders use "shopping" to describe the origin or destination of the trip on which they received the survey. Basing the purpose of travel only on the origin/destination could underestimate the amount of shopping served by transit by 50%.

In general, it has sometimes been hypothesized that transit riders may make fewer out-of-home stops on their tours than travelers in general. However, the information from IndyGo's survey calls this assumption into question. The activity-based question reveals that IndyGo riders make at least 1.47 stops on average between leaving home and returning. (Note: this estimate of stops per tour represents a lower bound, since multiple stops with the same purpose, such as shopping, would only be reported once, given the question's wording.) This level of tour complexity is less than that reported in the 2009 on-board survey (which showed 1.74 activities/tour), but a comparable level of complexity to non-transit tours. The most recent household travel survey for the region, the 2009 Central Indiana Travel Survey, showed that non-transit tours averaged 1.56 stops per tour (also calculated using activity-types for consistency). While this is marginally higher than the 2016 IndyGo survey results, it is a relatively small difference, suggesting that transit use is not correlated with significantly lower activity-participation rates. Moreover, it is also important to acknowledge that the seven years intervening between the household survey and current on-board survey probably has impacted out-of-home activity participation in general and not just on transit tours. An increase in e-commerce or the substitution of out-of-home social activities for social media activities has been widely observed, and may account for this difference. We may expect to note lower non-transit tour complexity when the regional household survey is updated. The 2016 transit survey supports the general conclusion that IndyGo riders use the service to engage in many activities and often make more than one stop per outing.

The common assumption that transit tours involve fewer stops may have arisen from the fact that there are fewer non-home-based transit trips than non-home-based auto trips. The results of the IndyGo survey continue to support this assumption. If the number of non-home stops on tours were calculated based simply on the number of non-home-based trips (trips with neither origin nor destination at home) observed in the survey, the result would be 1.11 stops per tour. However, from the activity-based question, it is clear that there are more non-home-based trips on transit riders' tours. The implication is that some non-home-based trips on transit tours are non-transit trips, including walking trips. It is also possible that non-home-based transit trips, which tend to shorter, may have lower response rates since the respondent burden is larger relative to the trip's duration and riders may simply not have time to complete the survey during a brief trip. Ultimately, the activity-based question suggests that as much as 76% of non-home-based trips on transit tours were not otherwise captured in the on-board survey, either because these were walking (or other non-transit) trips or due to the short trip bias.

QUESTION 17

Question 17: If bus service was not available, how would you have made this trip?

About a quarter (26%) of riders reported that if IndyGo service was not available they would not make a trip. Nearly 73% of riders reported they would find another way to make the trip. The most popular alternate mode of transportation is riding with someone else (31%). The next most popular choice is walking (13%), using a car service (11%) or biking / driving myself (6%).

N = 27,573

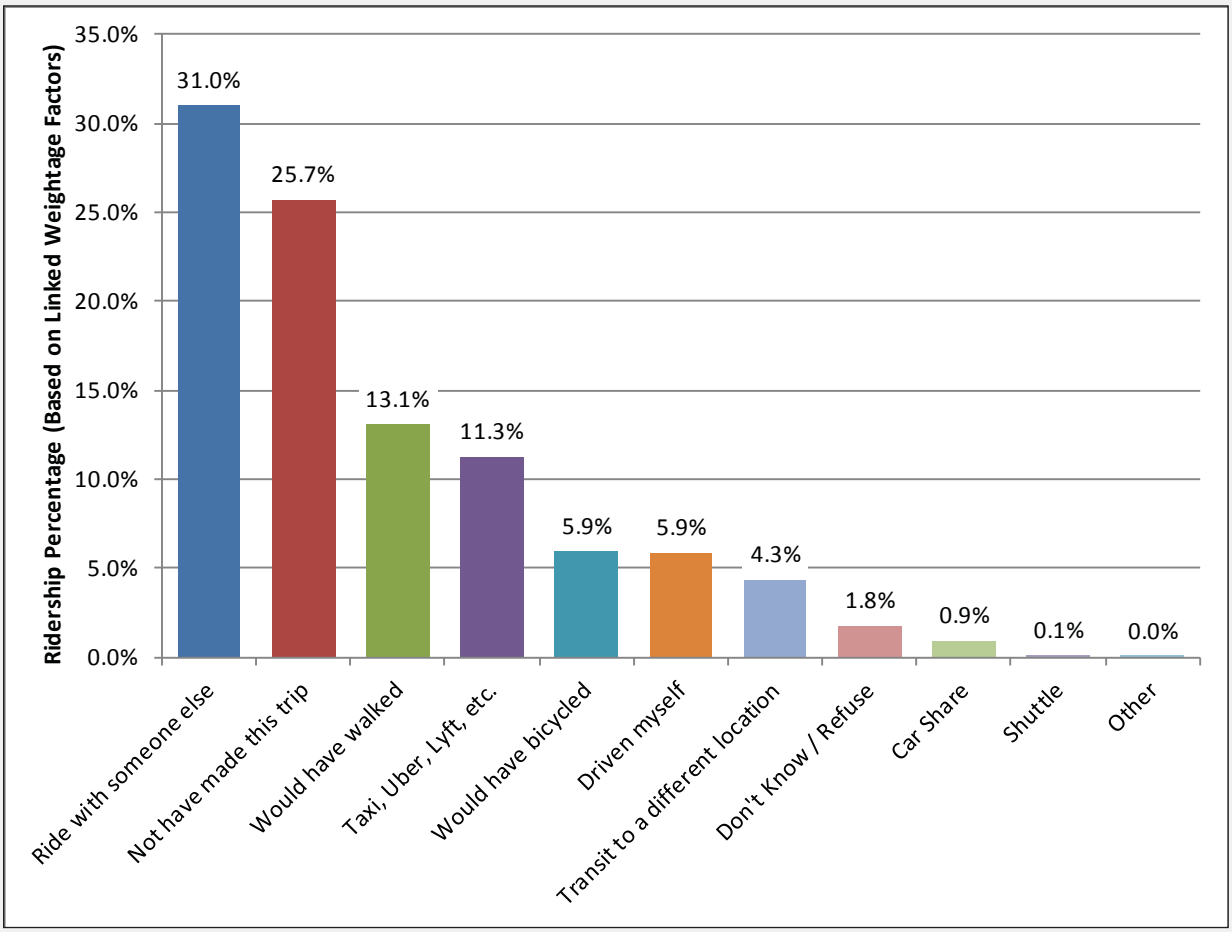


Figure 2-22: How would riders make a trip if IndyGo service wasn't available?

QUESTION 18

Question 18: How many days a week do you usually make this trip?

About 82% of IndyGo riders make their transit trip multiple times a week, with 48% of them making the trip three to five times a week. The 4% of passengers riding IndyGo for the first time is noteworthy; this corresponds to about 1,100 riders using IndyGo's services for the first time. It suggests that recent investments in transit, such as the Downtown Transit Center and route restructuring to emphasize more frequent service in key corridors, may be attracting new and/or occasional ridership.

It's important to note that a small percentage (about 3%) of the riders surveyed didn't answer this question, so the ridership percentages were adjusted accordingly.

N = 26,741

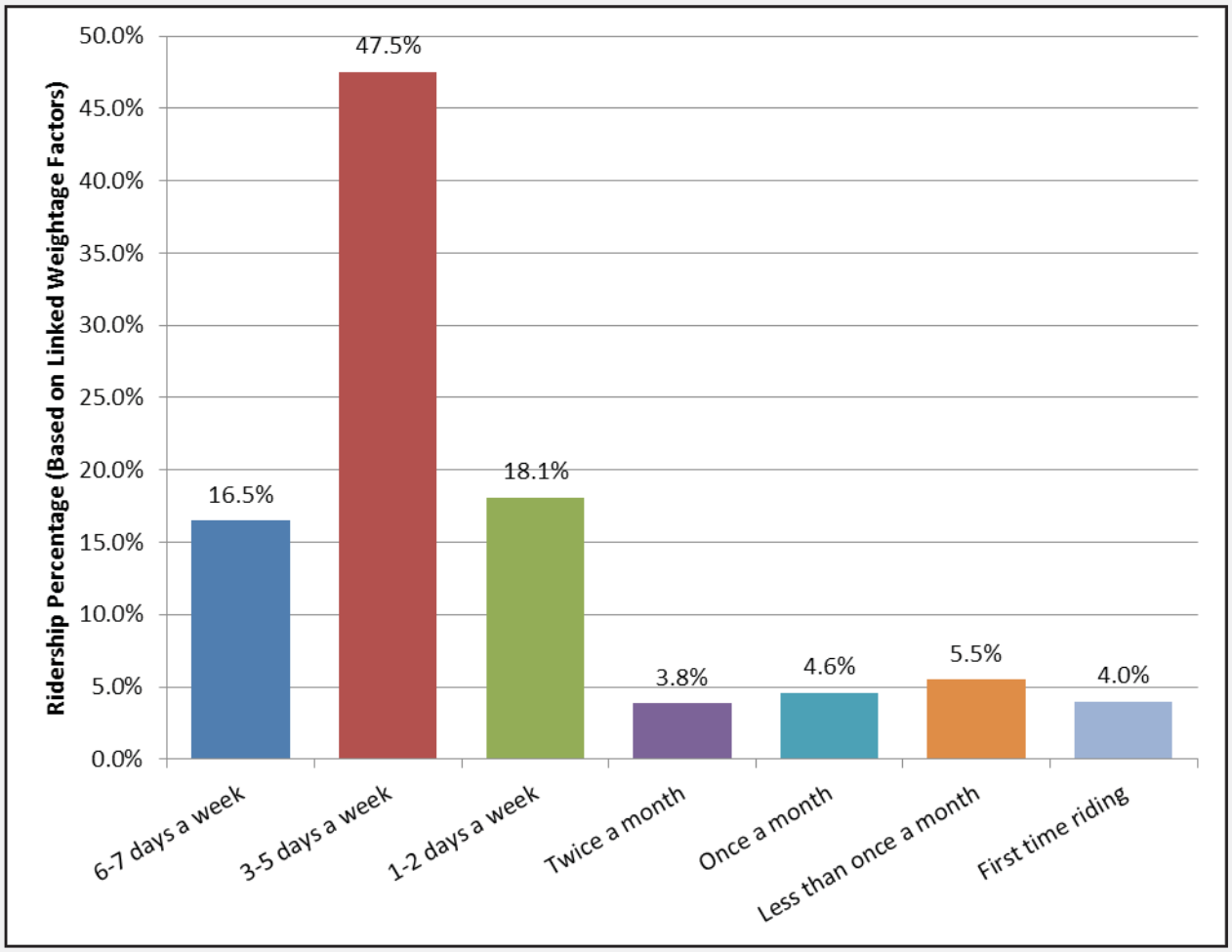


Figure 2-23: How frequently do IndyGo riders make this trip?

QUESTION 18

Comparing the transit frequency of senior riders to the transit frequency of the total ridership population, seniors ride less frequently than the rest of the riders. Nearly 60% of seniors ride 1-2 days a week or less frequently (compared to 36% of the total ridership). It should be noted that the sample size for seniors is smaller.

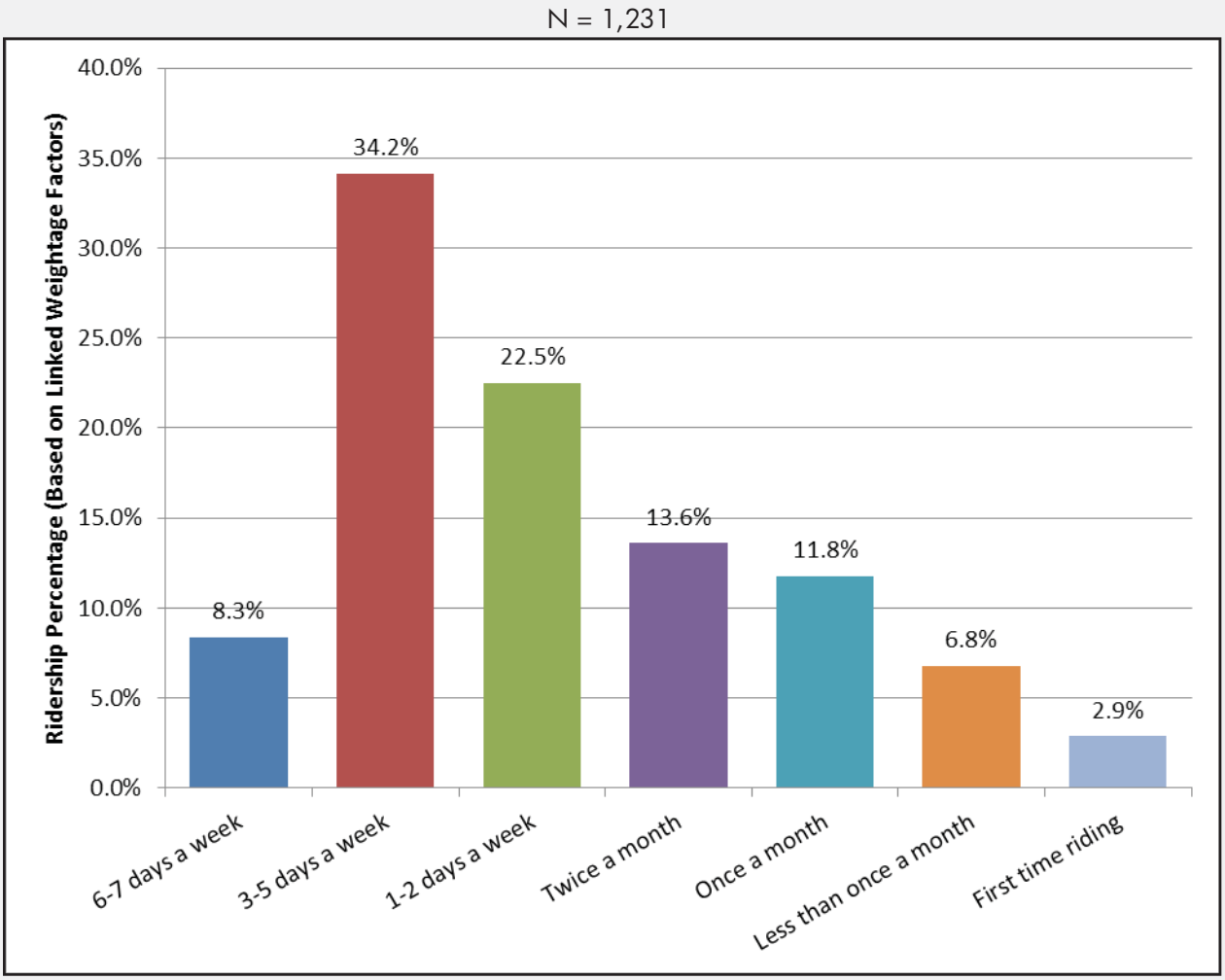


Figure 2-24: How frequently do seniors make this trip?

QUESTION 19

Question 19: Are you a visitor to the Indianapolis region?

While the majority of IndyGo passengers are not visitors (96%), a small but important portion are in fact visitors (nearly 4%). This corresponds to about 1,000 riders daily that are visitors. This suggests that IndyGo is doing a good job of reaching out and marketing its service to visitors, especially considering that many of these visitors may be from other cities which have a higher level of transit availability. It is important to note that the data was collected over a long period of time (several months) to avoid overestimating visitors due holidays or other factors.

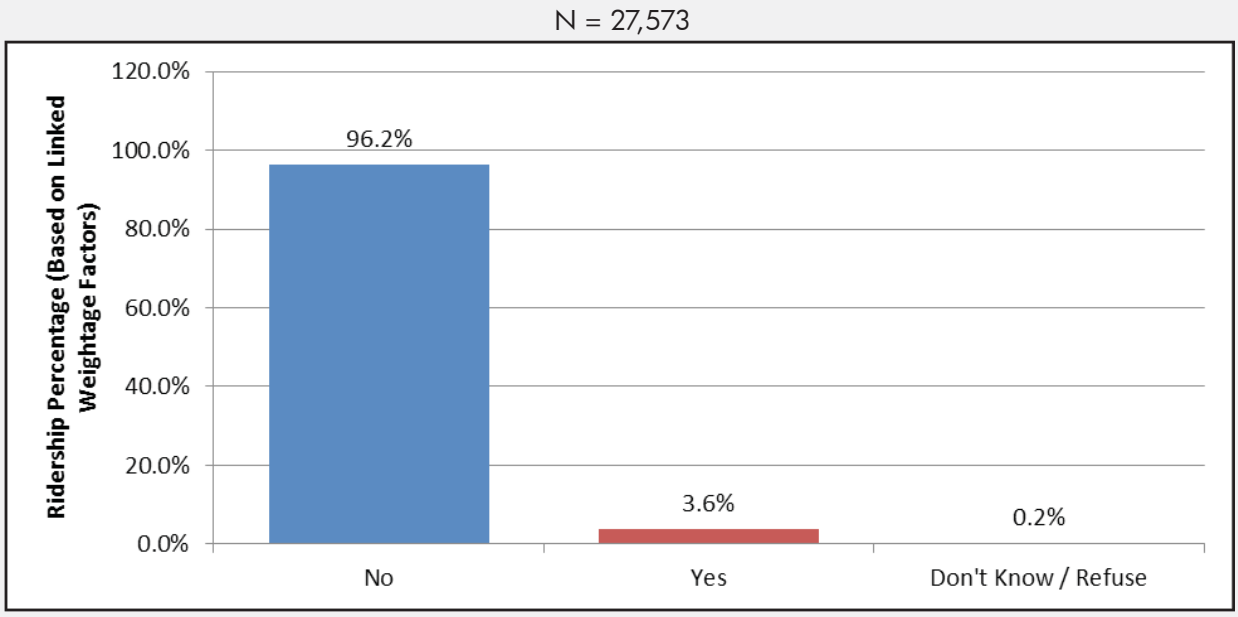


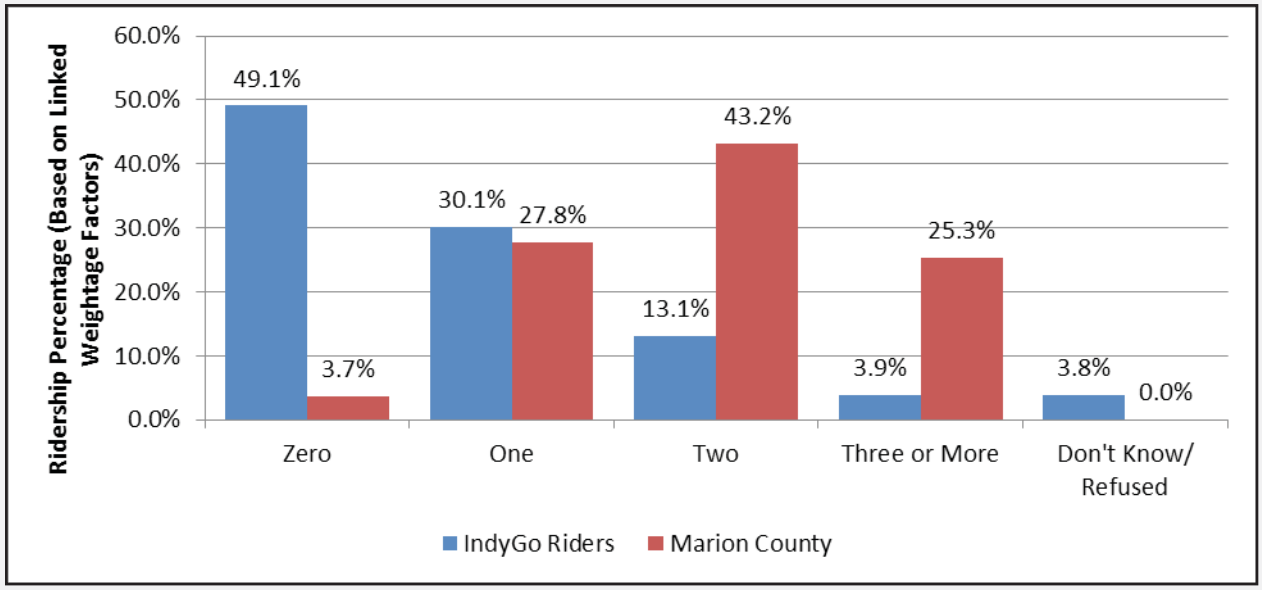
Figure 2-25: What percentage of IndyGo riders are visitors?

QUESTION 20

Question 20: How many vehicles (cars, trucks, or motorcycles) are available to your household?

Nearly half of IndyGo riders reported that there is no vehicle available to their household while only about 20% reported having two or more vehicles available to their household. Comparing this to the vehicles per households for Marion County residents, it can be seen that there is a much lower percentage of households with no vehicles (49% compared to 4%) and a higher percentage of households with two or more vehicles (20% compared to 69%). This indicates a strong relationship between the lack of household vehicle availability and use of IndyGo service.

N = 27,573



Source for Marion County Data: 5 Year ACS Data – 2015 (Table B08141)

Figure 2-26: How many vehicles per household are available to IndyGo riders/Marion County residents?

Nearly 90% of single vehicle households have more than one individual living in the household.

N = 8,295

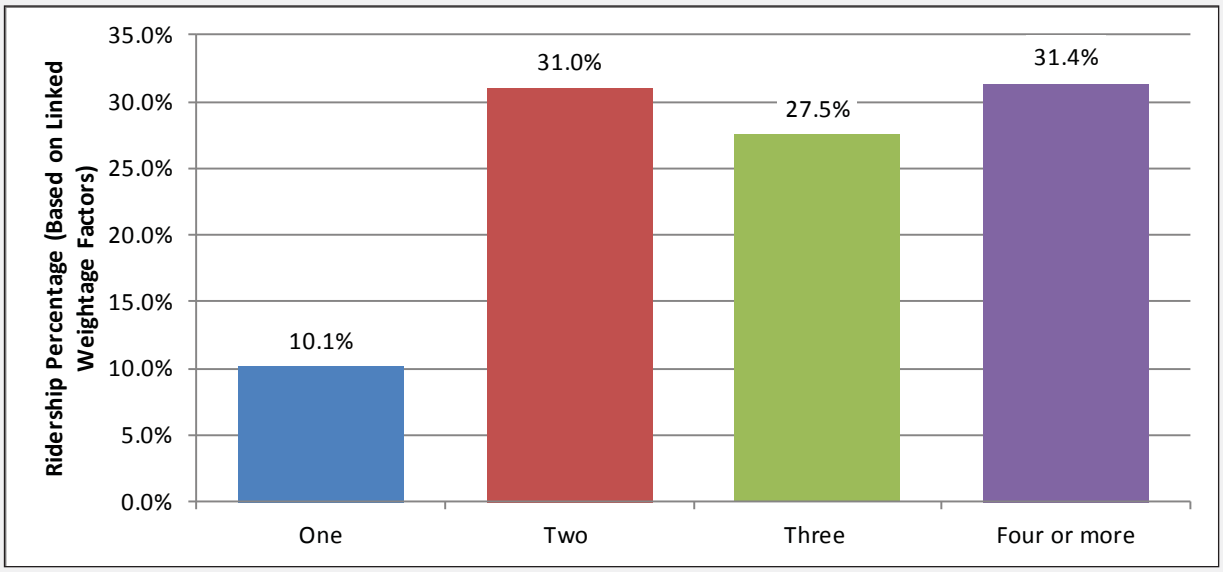


Figure 2-27: How many members do single vehicle households have?

QUESTION 20

The majority (nearly 86%) of IndyGo riders do not have a vehicle available to them while about 14% do in fact have a vehicle available to them. Comparing this to national transit averages[6], it can be seen that there is a smaller percentage of IndyGo riders with a car available to them. Additionally, IndyGo riders average only about 0.26 cars per person.

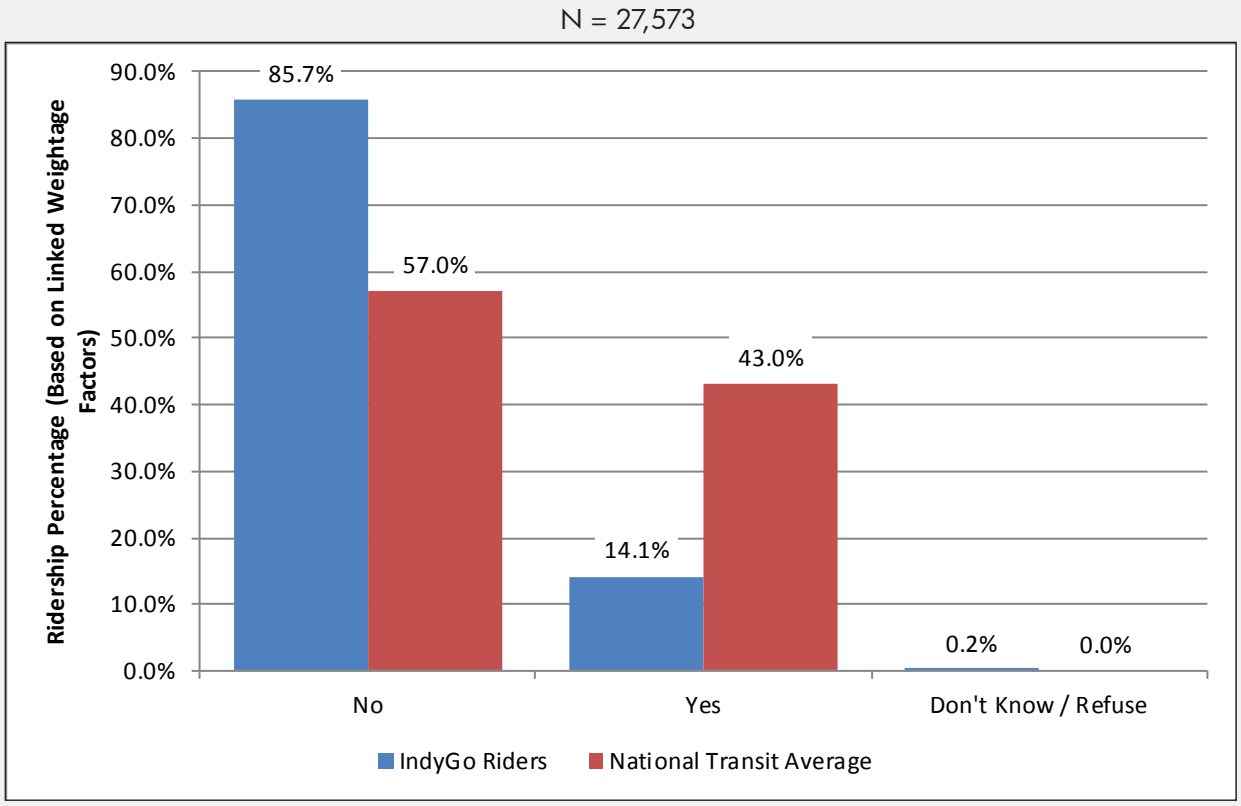


Figure 2-28: Is there a vehicle available to IndyGo riders?

6 Clark, Hugh M. (2017). *Who Rides Public Transportation*, 48.

QUESTION 21

Question 21: Including YOU, home many people live in your household?

A quarter (25%) of IndyGo riders have two individuals in their household. About 22% of riders report one individual per household, followed by about 20% having three people per household. Finally, 15% of riders report having four individuals in their household.

N = 27,573

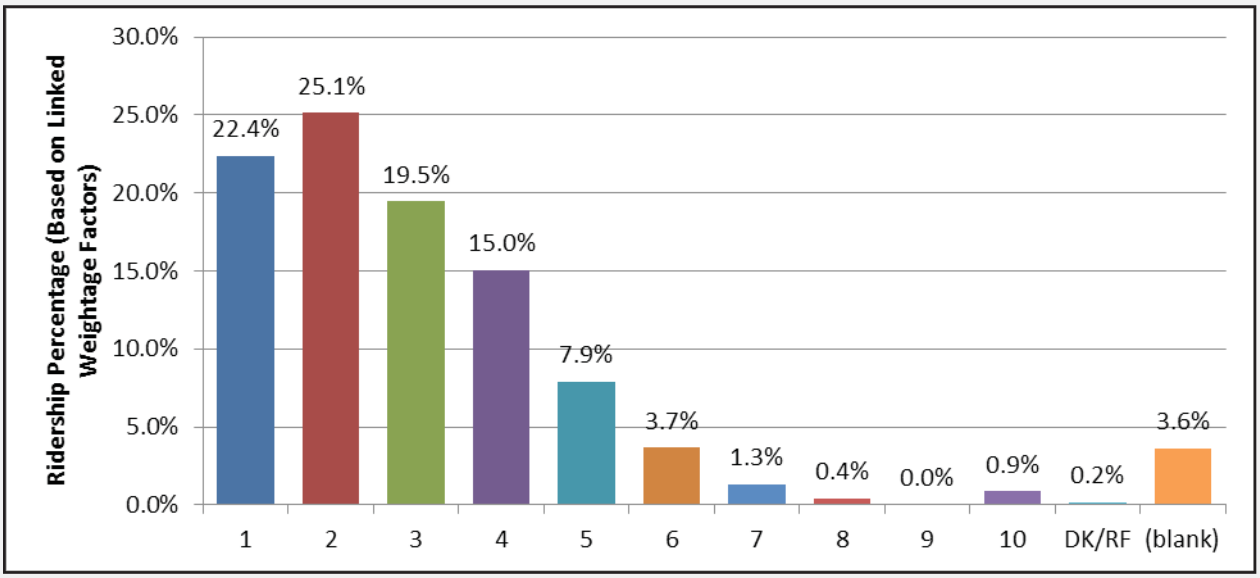


Figure 2-29: How many people live in IndyGo riders' households?

QUESTION 22

Question 22: Including YOU, how many people (over age 15) in your household are employed full/part-time?

About 36% of riders' households have one individual who is employed. Nearly 31% report having two individuals employed in their household. About 13% stated they have three people employed in their household. Finally, 12% report having no employed individuals in their household.

N = 27,573

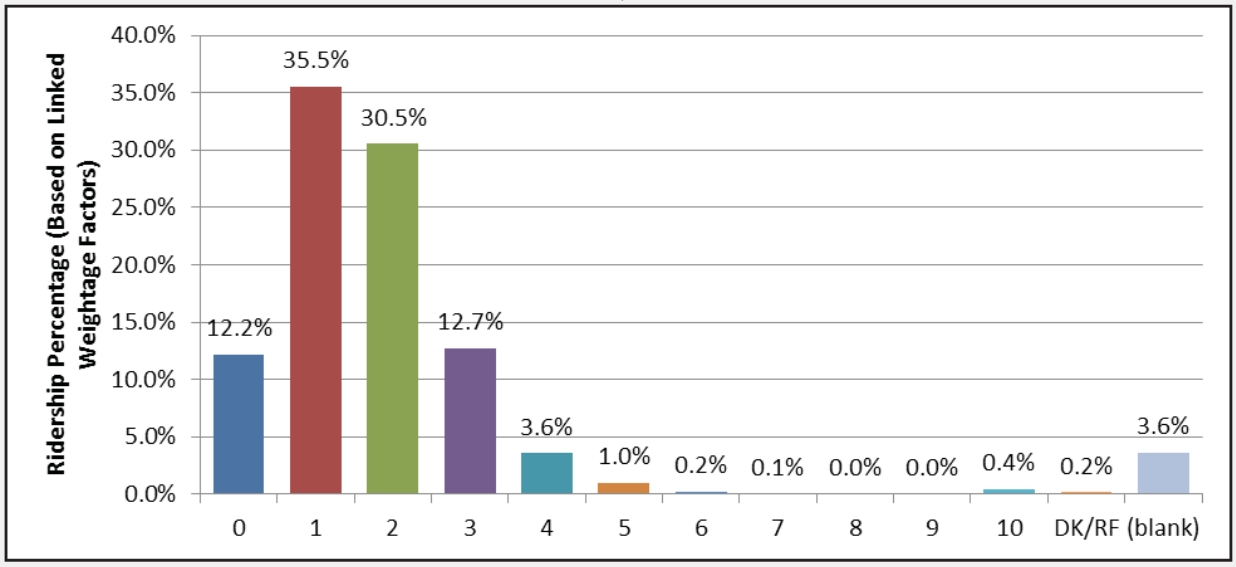


Figure 2-30: How many people in IndyGo riders' households are employed?

QUESTION 23

Question 23: What is your employment status?

The majority of IndyGo passengers are employed, with about 51% working full-time and 20% working part-time. Even though the majority of riders are employed, many of them have a low household income.

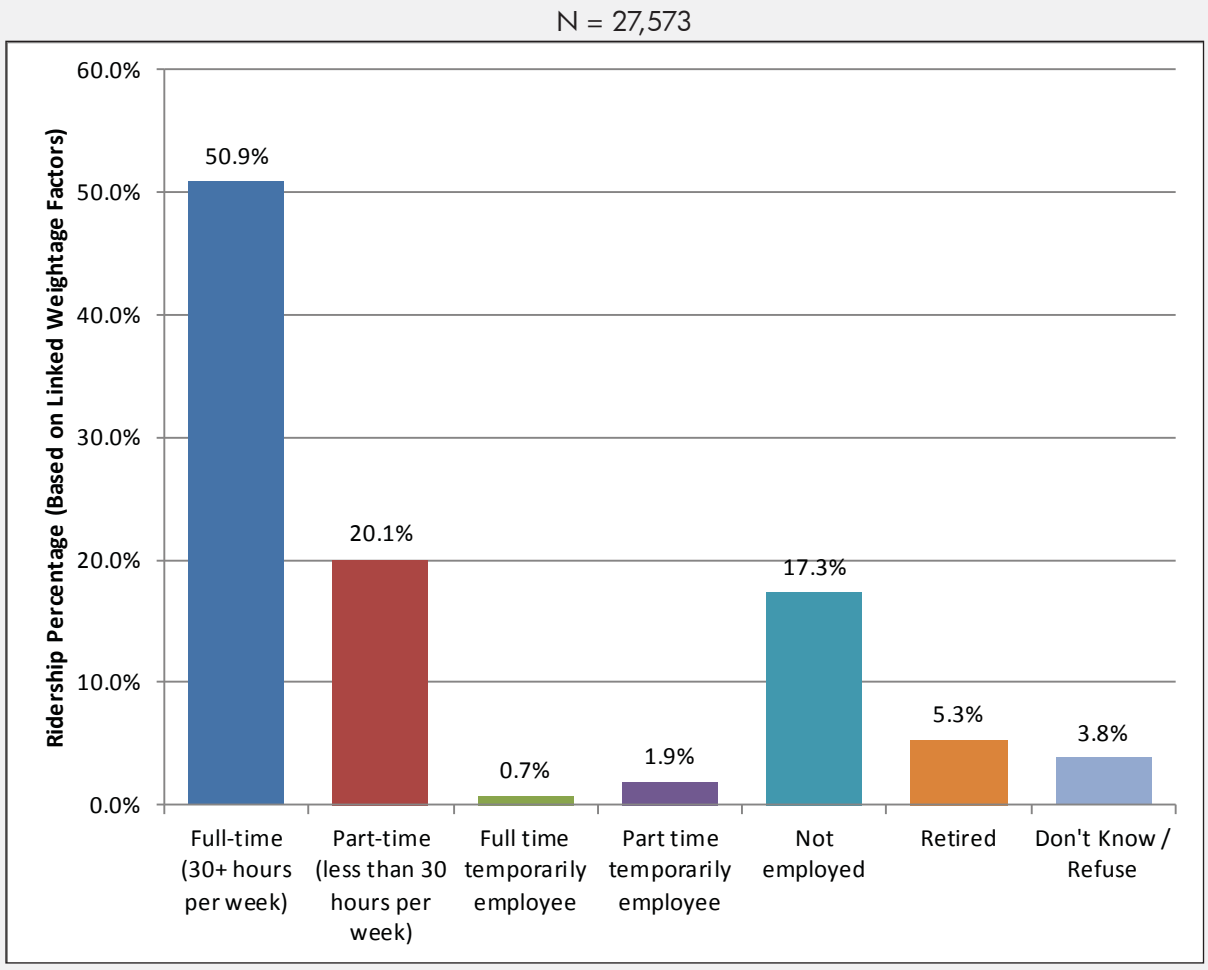


Figure 2-31: What is the employment status of IndyGo riders?

QUESTION 24

Question 24: What is your student status?

About one-fifth (20.1%) of IndyGo riders are students. Of the student population, 66% go to college/university/community college, followed by 20% going to K-12 schools. About 14% go to vocational/technical/trade schools.

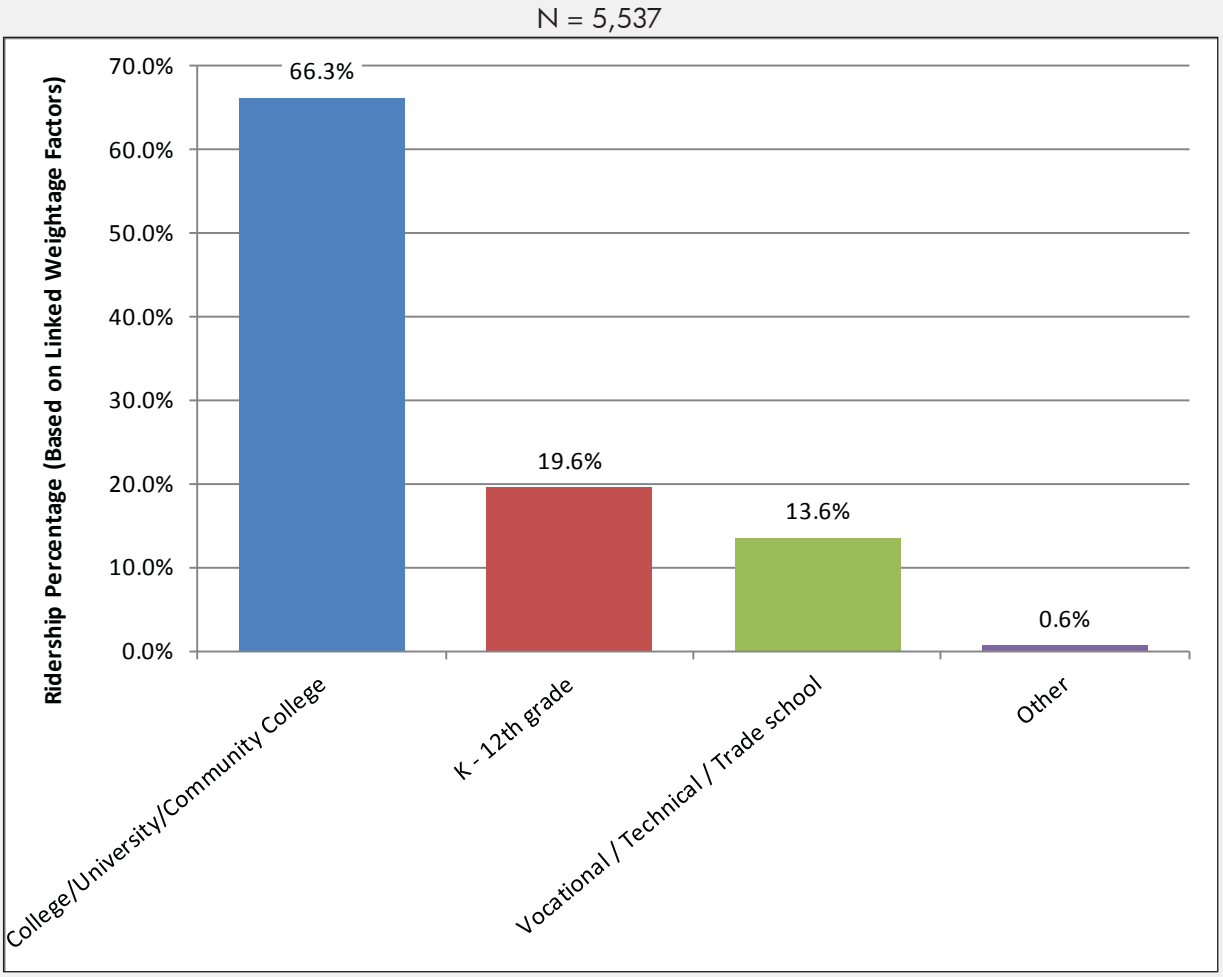


Figure 2-32: What type of educational institutions do IndyGo riders attend?

QUESTION 25

Question 25: Do you have a valid driver's license?

More than half of IndyGo riders do not have a driver's license. Comparing IndyGo's statistics to national transit averages[7], it can be seen that there is a smaller percentage of IndyGo riders with driver's license.

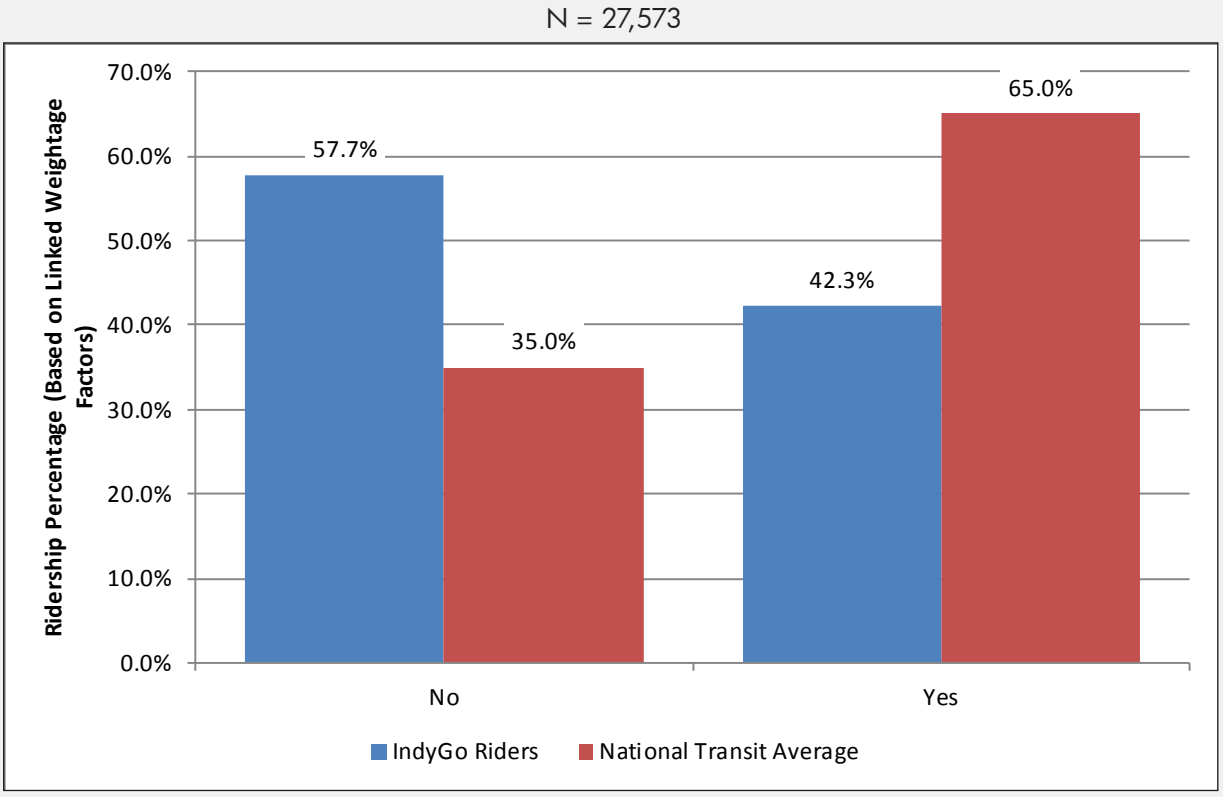


Figure 2-33: Do IndyGo riders have a driver's license?

7 Clark, Hugh M. (2017). *Who Rides Public Transportation*, 48.

QUESTION 26

Question 26: What is your age?

About 89% of IndyGo riders are adults between the ages of 19 and 65. Of the remaining riders, 6% are youths (18 and under) while 5% are seniors (65 and older).

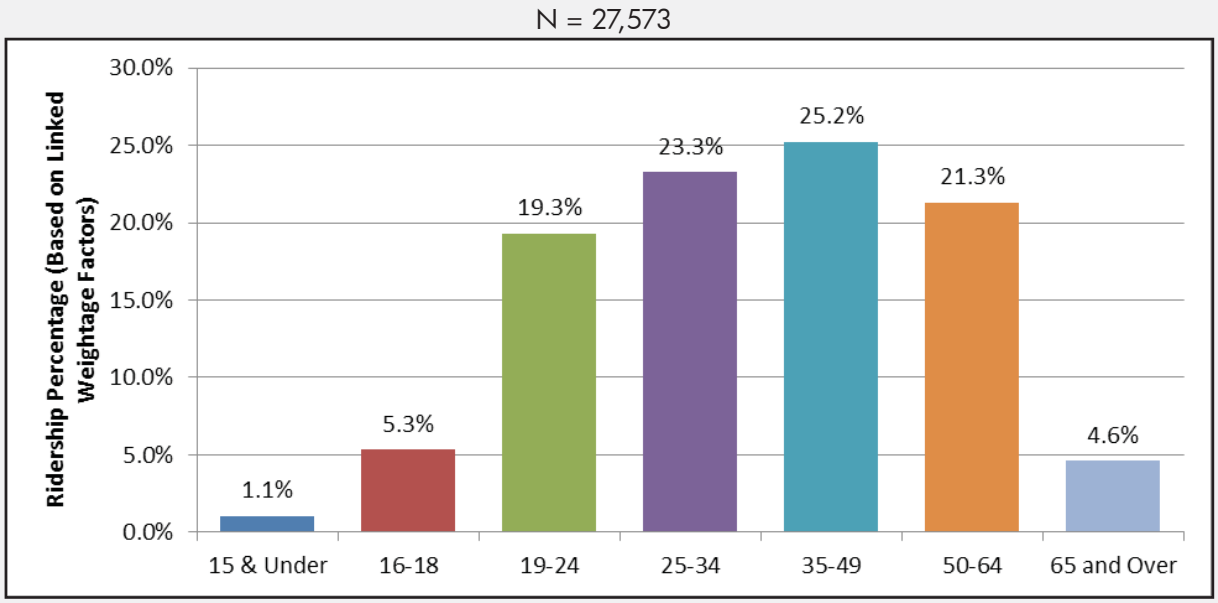


Figure 2-34: How old are IndyGo riders?

QUESTION 27

Question 27: What is your race / ethnicity? [8]

More than half of IndyGo riders are African American and nearly a third are white. About 6% of riders are of mixed ethnicities. Other reported ethnicities include Hispanic/Latino, Asian, American Indian/Alaskan Native and Native Hawaiian/Pacific Islander. It is important to note that Spanish speaking surveyors translated the English version of the survey to help riders who don't know English to complete these surveys.

N = 27,573

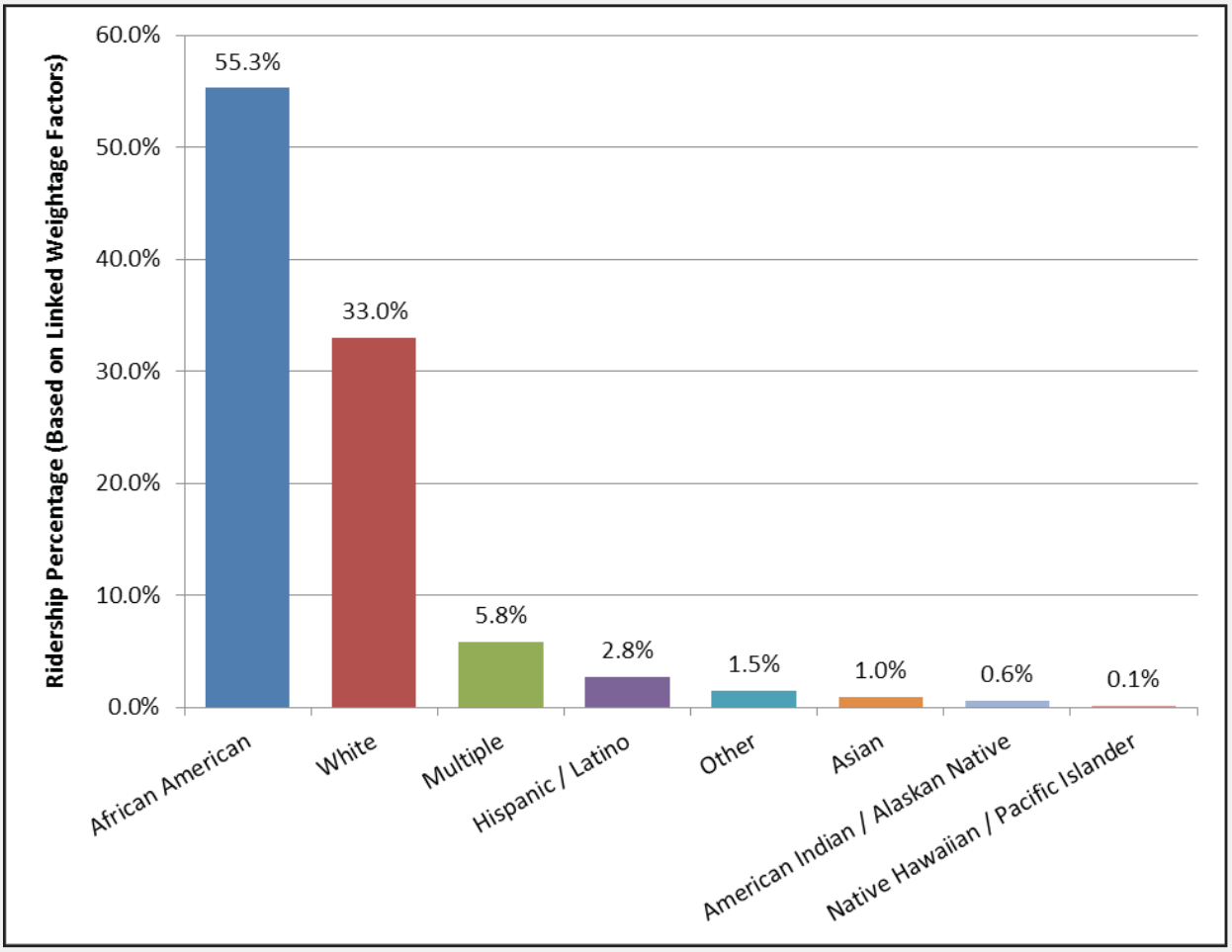
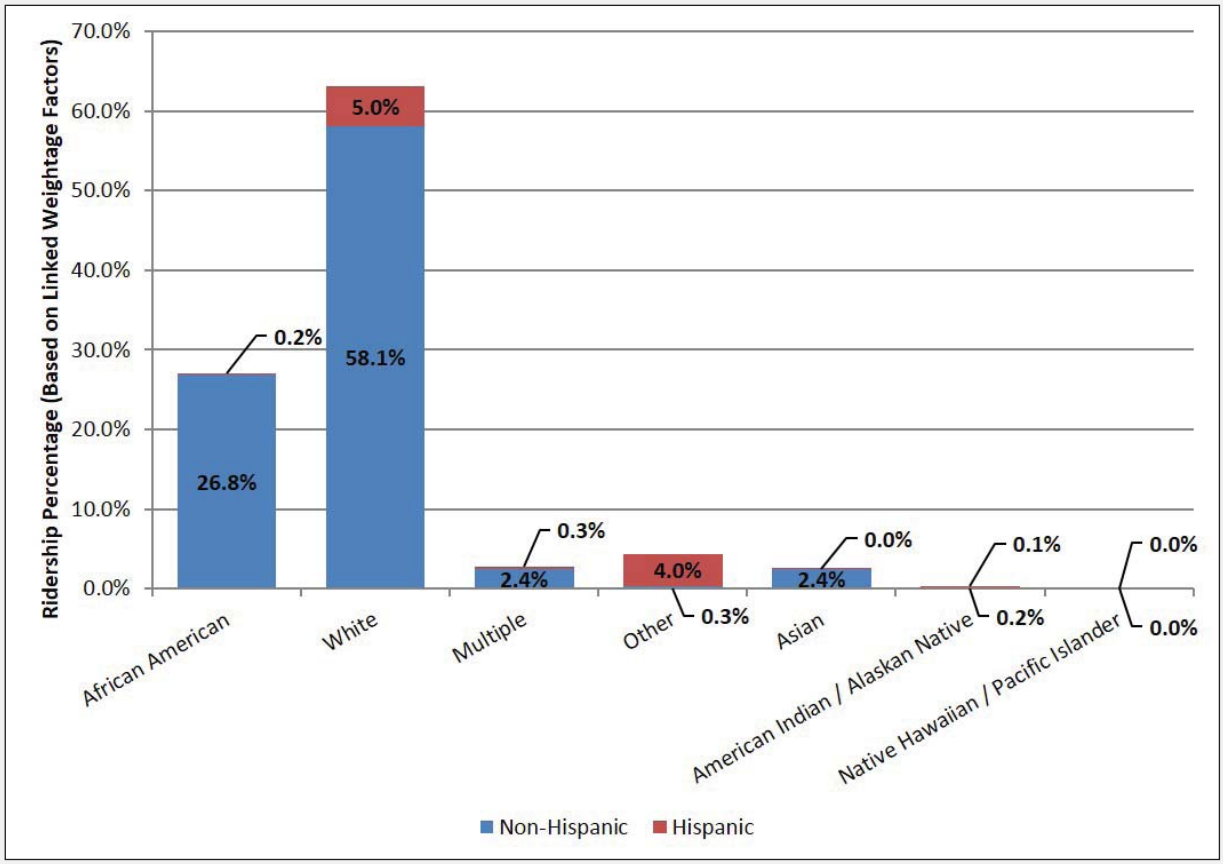


Figure 2-35: What are the ethnicities of IndyGo riders?

8 It is important to note that the survey form included options for both race and ethnicity for this question. Taking this into account, riders were allowed to select multiple responses for the race/ethnicity question, leading to the "Multiple" category in the results.

QUESTION 27

Comparing the racial and ethnic breakdown for the IndyGo riders to that of Marion County residents[9], there is a much lower percentage of African Americans for Marion County residents (27% compared to 55%) and a much higher percentage of White people (58% compared to 33%).



Source: 5 Year ACS Data – 2015 (Table B03002)

Figure 2-36: What are the ethnicities of Marion County residents?

9 It is important to note that ACS data specifies Hispanic/Latino as an ethnicitiy, not a race. To account for this, the Hispanic/Latino population was subtracted from the appropriate races to obtain the non-Hispanic/Latino population for each race. The Hispanic/Latino data shown includes all races.

QUESTION 27

The distribution of ages were generally similar for all ethnic groups with some variation. One variation is that nearly half of Asian riders are between the ages of nineteen and twenty-four.

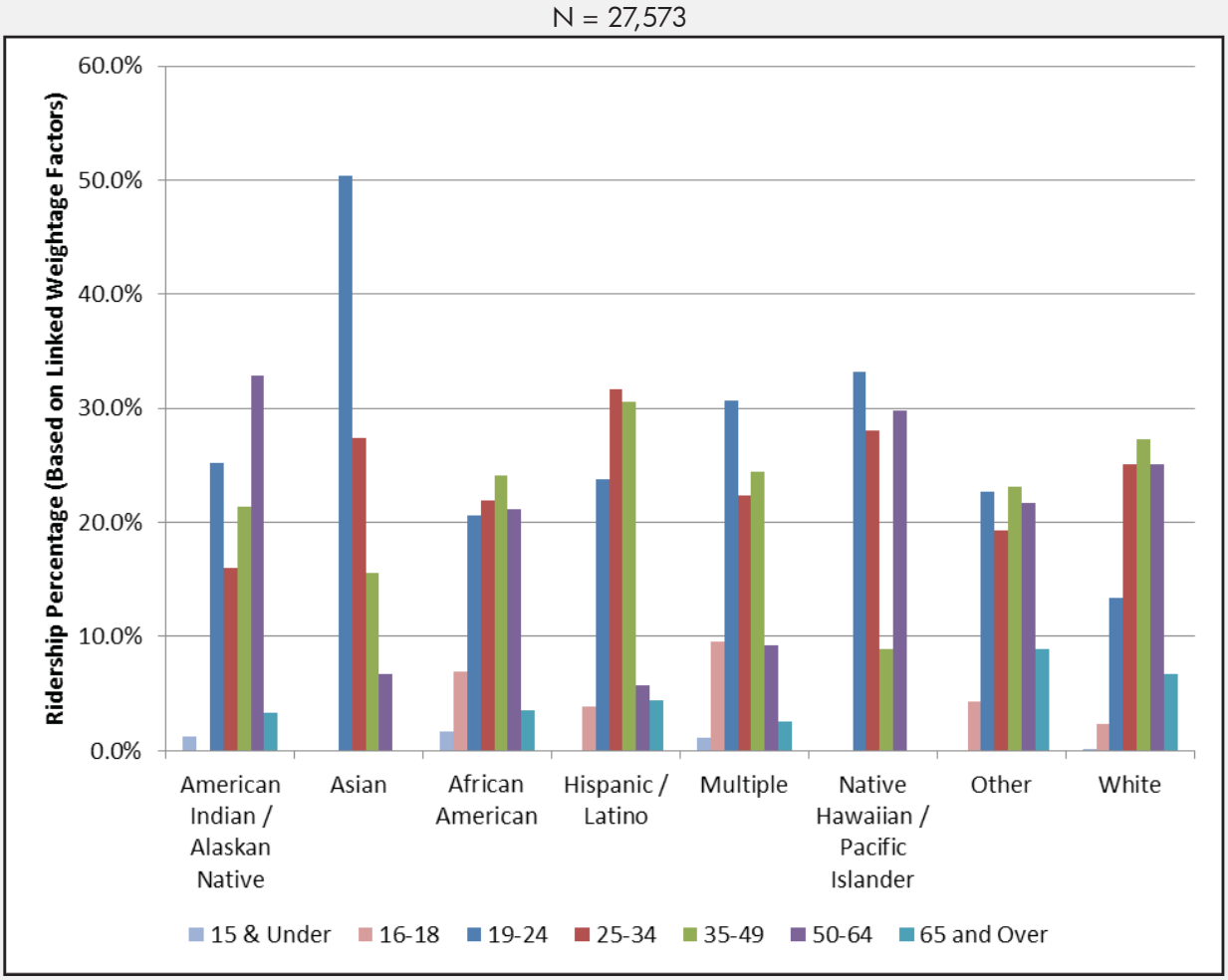


Figure 2-37: How old are IndyGo riders based on their ethnicity?

QUESTION 28

Question 28: What is your gender?

Based on the 2016 survey results, about 54% of IndyGo riders are male and 46% are female. In contrast to this, the 2009 IndyGo survey indicated that more females rode the bus than males.

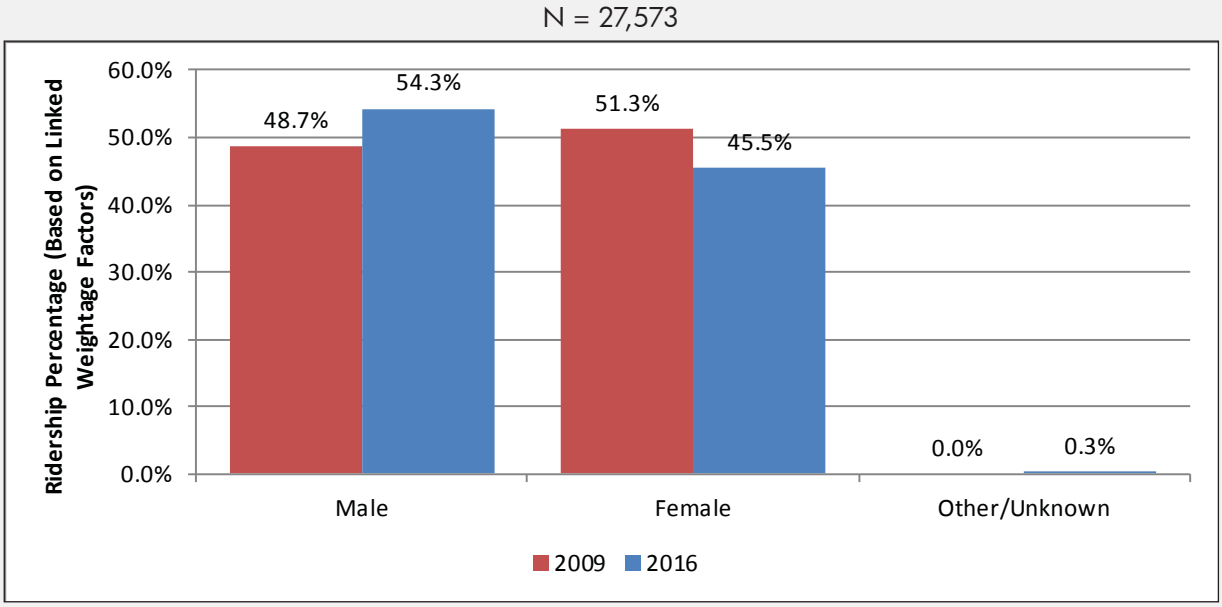


Figure 2-38: What is the gender of IndyGo riders?

QUESTION 28

There is a higher percentage of females in the younger age categories and a higher percentage of males in the older categories.

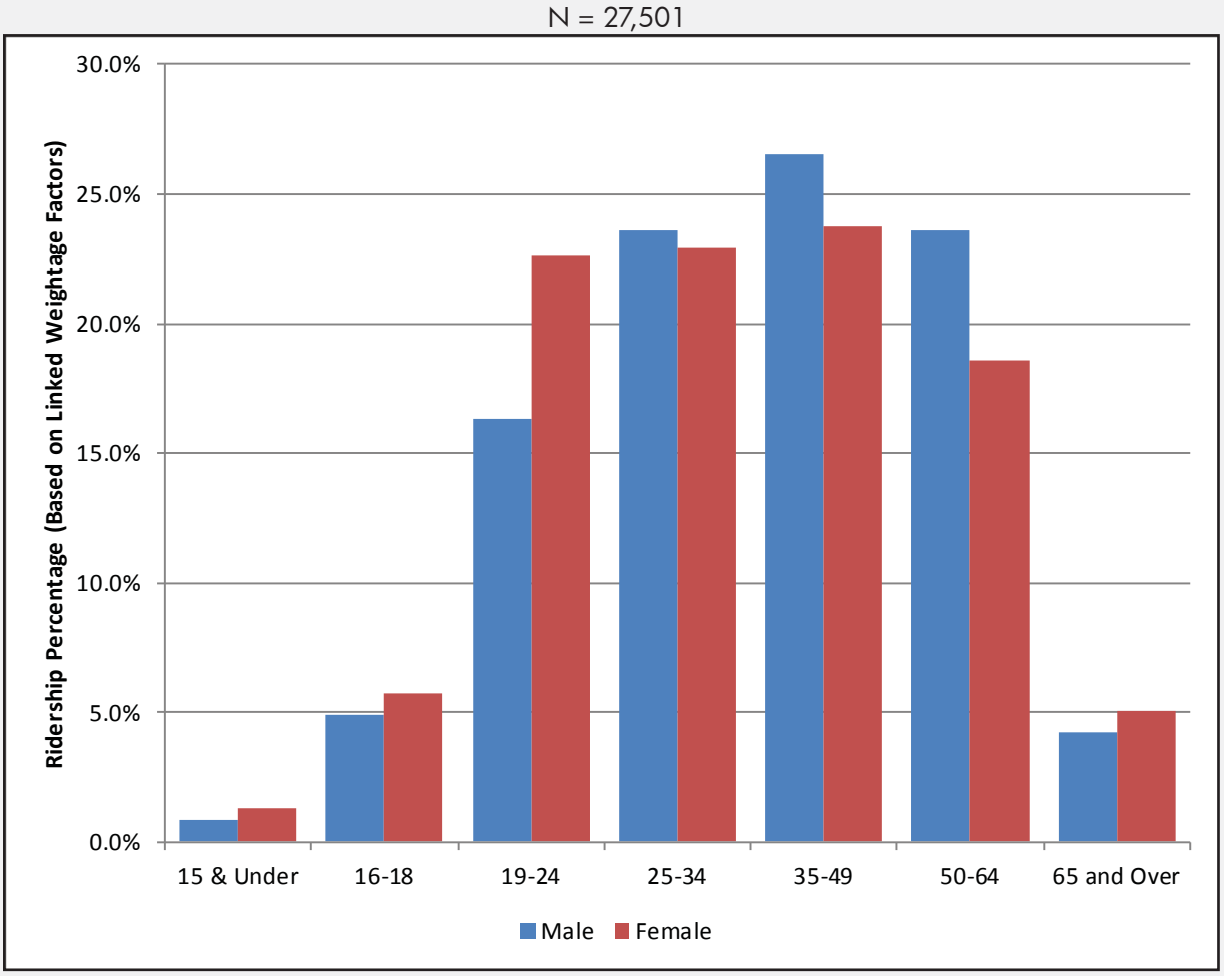


Figure 2-39: What is the gender of IndyGo riders based on age?

QUESTION 29

Question 29: Which of the following best describes your total annual household income in 2015 before taxes?

A large proportion of IndyGo riders are from households with lower incomes. Despite about 50% of passengers being employed full-time, annual household incomes tend to be low with more than half of the riders (about 57.4%) having a household income less than $25,000. Only about 8% have a household income greater than $60,000.

It's important to note that a substantial percentage (about 15%) of the riders surveyed didn't answer this question, so the ridership percentages were adjusted accordingly. Both adjusted and unadjusted graphs are shown below.

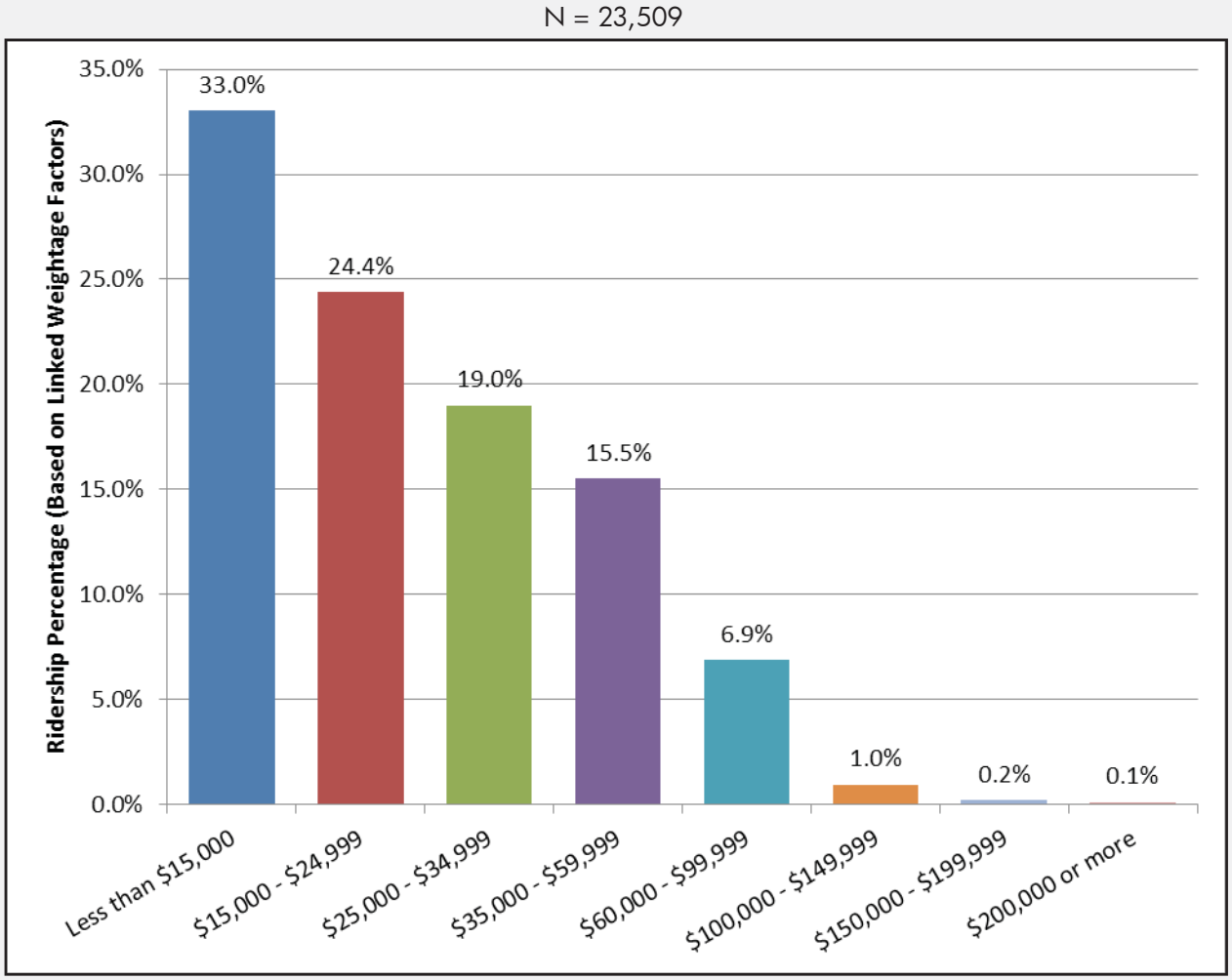


Figure 2-40: What are IndyGo riders' income levels (Adjusted)?

QUESTION 29

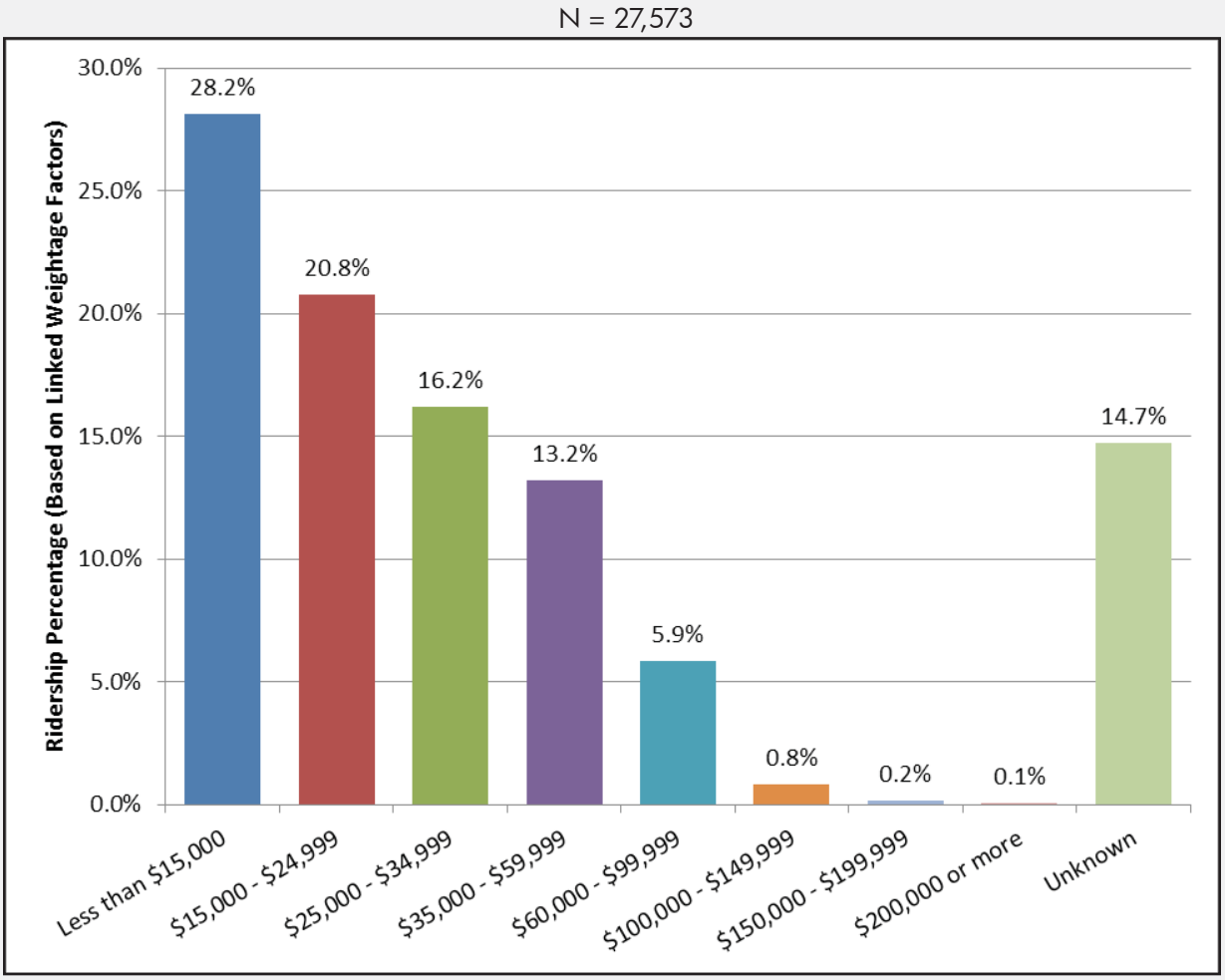
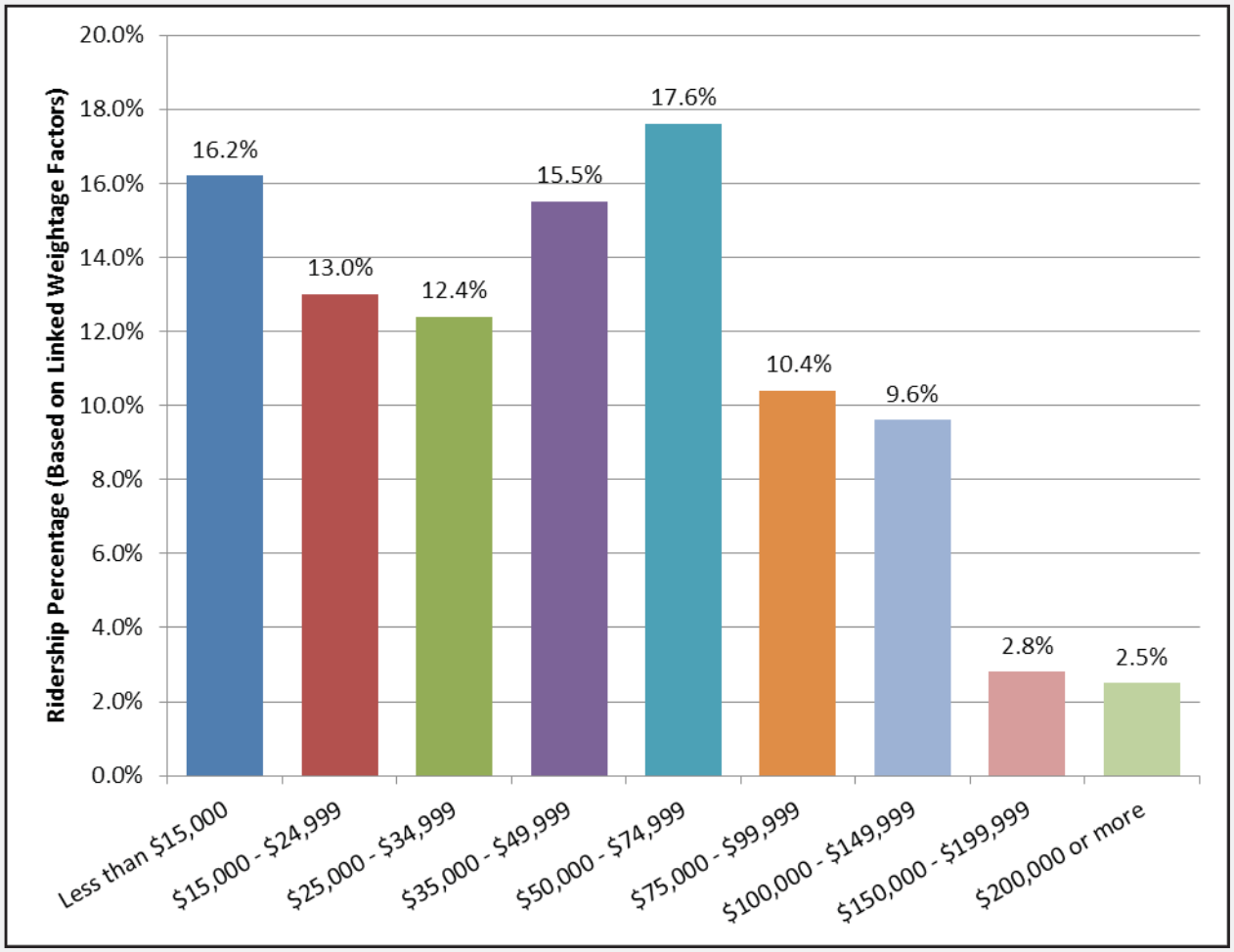


Figure 2-41: What are IndyGo riders' income levels (Unadjusted)?

QUESTION 29

Comparing the household income of IndyGo riders to that of Marion County residents, Marion County has a much lower percentage of households with income less than $25,000 (29.2% compared to 57.4% of IndyGo riders) and a much higher percentage of higher-earning households. About 25% of Marion County households have an annual income greater than $75,000 compared to 8% of households that have an income greater than $60,000 for IndyGo riders.

It is important to note that the category limits between $35,000 and $100,000 do not match up exactly for the IndyGo survey and Marion County's ACS Data.



Source: 5 Year ACS Data – 2015 (Table S1901)

Figure 2-42: What are Marion County residents' income levels?

QUESTION 29

When observing the two predominant ethnicities (African American and White), the general trend is the same: as income increases, transit ridership decreases. These percentages were adjusted to account for those not responding.

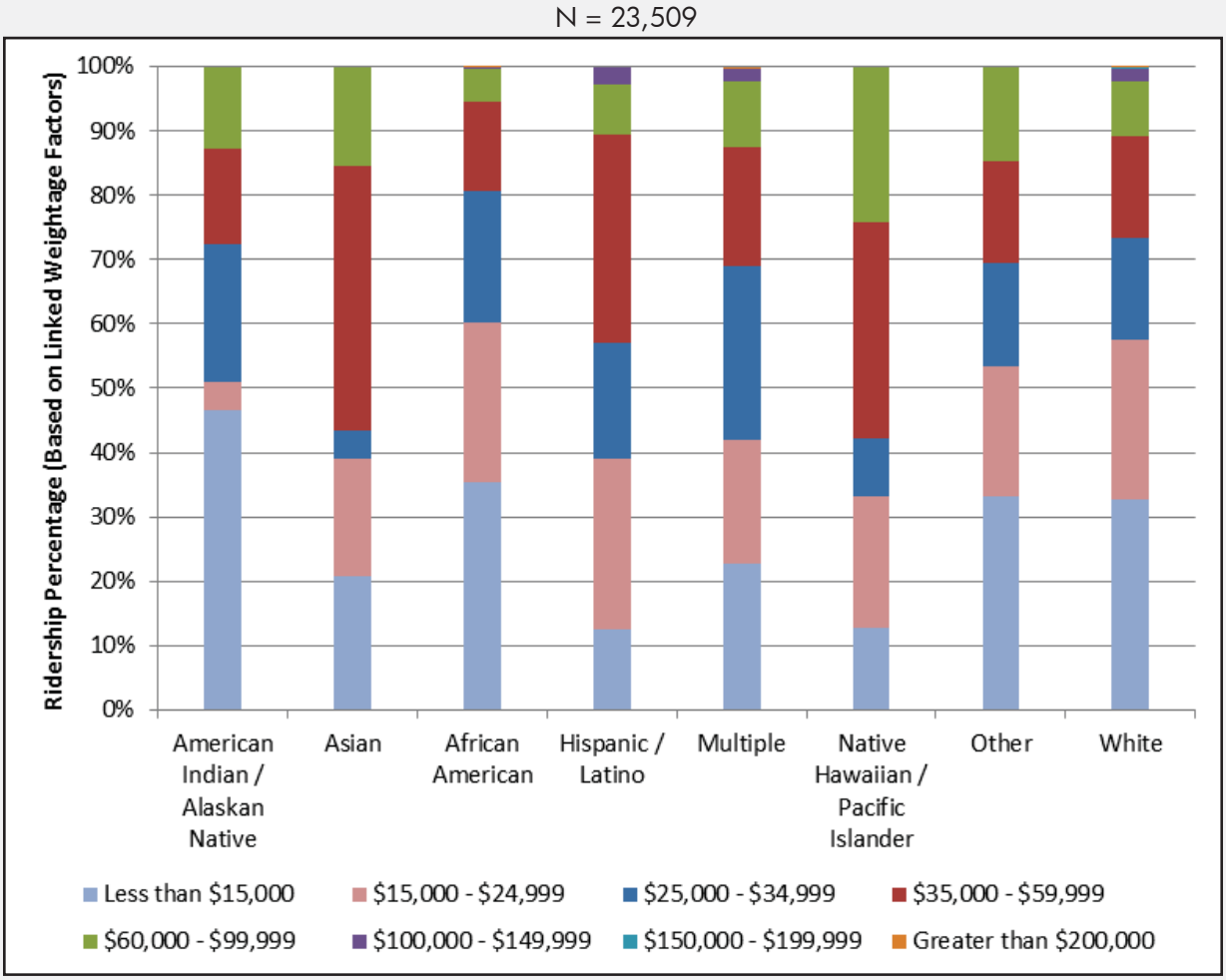
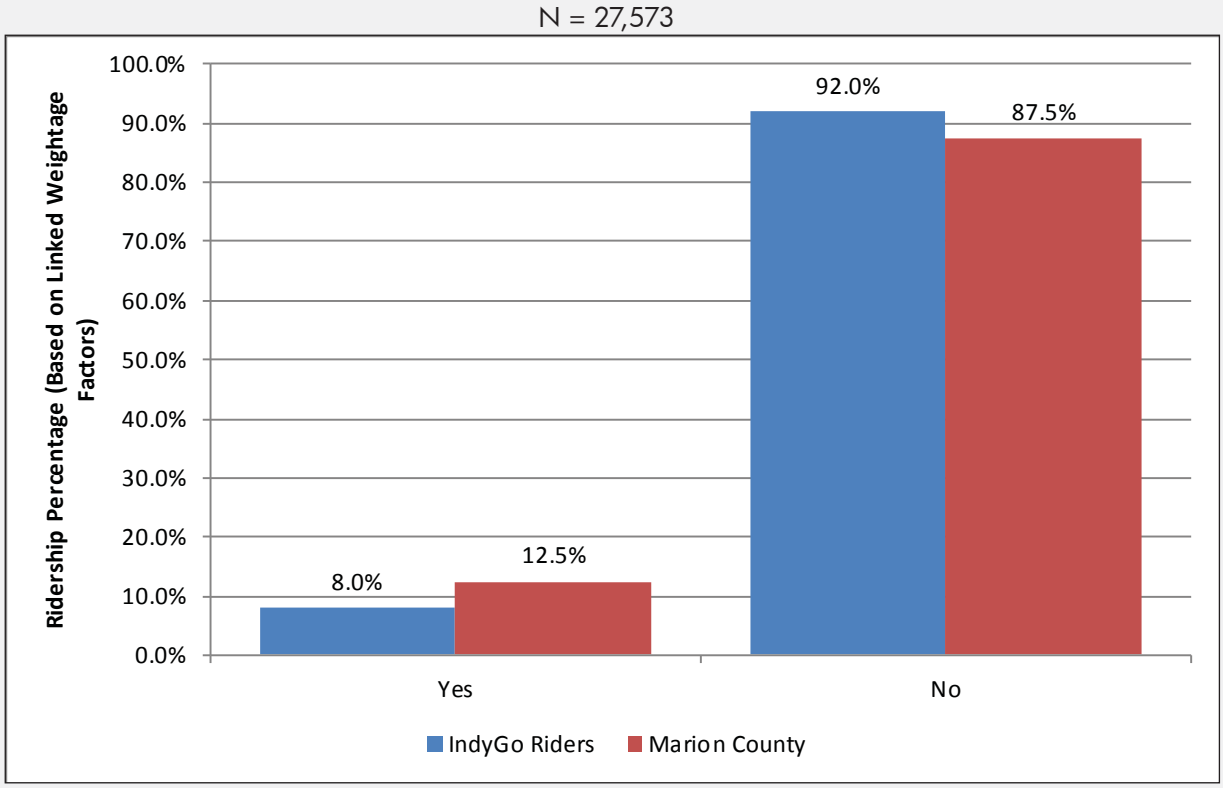


Figure 2-43: What are IndyGo riders' income levels base on ethnicity?

QUESTION 30

Question 30: Do you speak a language other than English at home?

The majority of IndyGo riders (92%) reported speaking English at home while 8% said they spoke a language other than English at home. Comparing this to Marion County, a higher percentage (12.5%) speak a language other than English at home for Marion County as a whole.



Source: 5 Year ACS Data – 2015 (Table S1601)

Figure 2-44: Do IndyGo riders/Marion County residents speak a language other than English at home?

QUESTION 31

Question 31: Do you have any of the following (check all that apply):

Nearly 77% of riders have a smartphone.

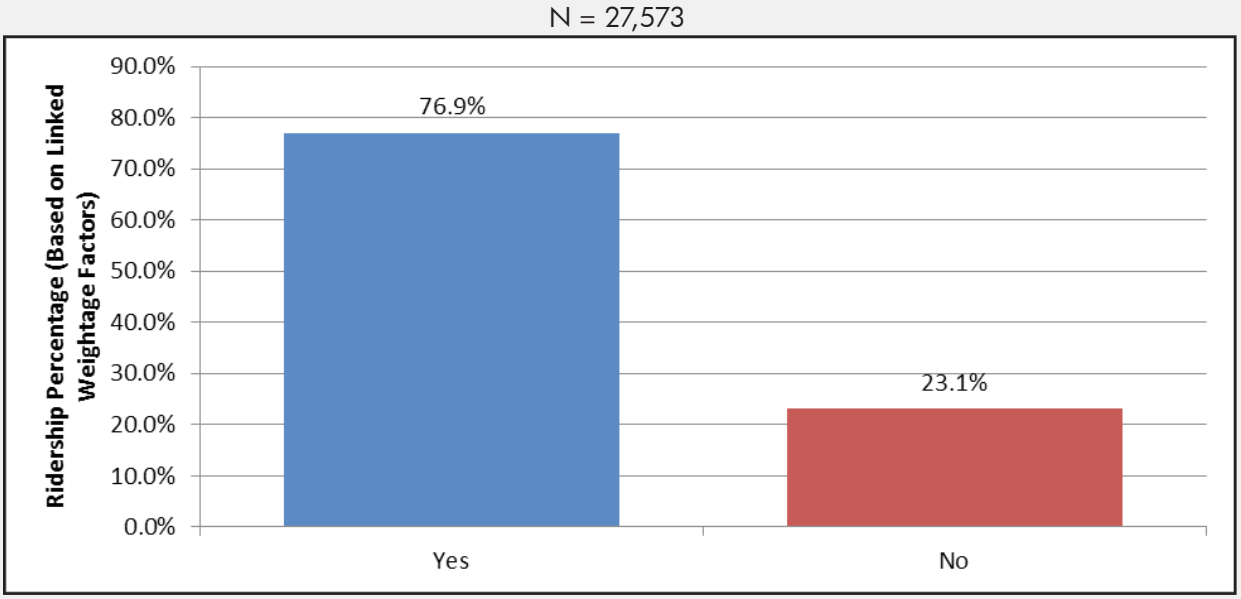


Figure 2-45: Do IndyGo riders have a smart phone?

About half (51%) of riders have a checking account.

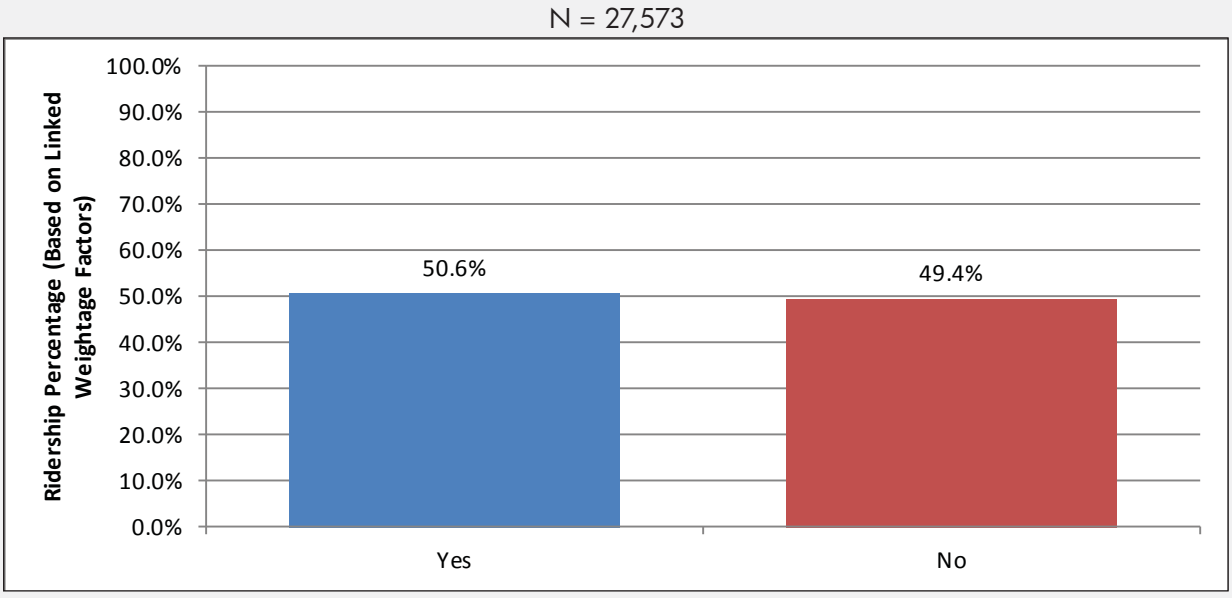


Figure 2-46: Do IndyGo riders have a checking account?

QUESTION 31

About 66% of riders have a debit card. By comparison, only 51% of riders reported having a checking account. Some riders apparently use pre-paid debit cards which are not associated with a checking account.

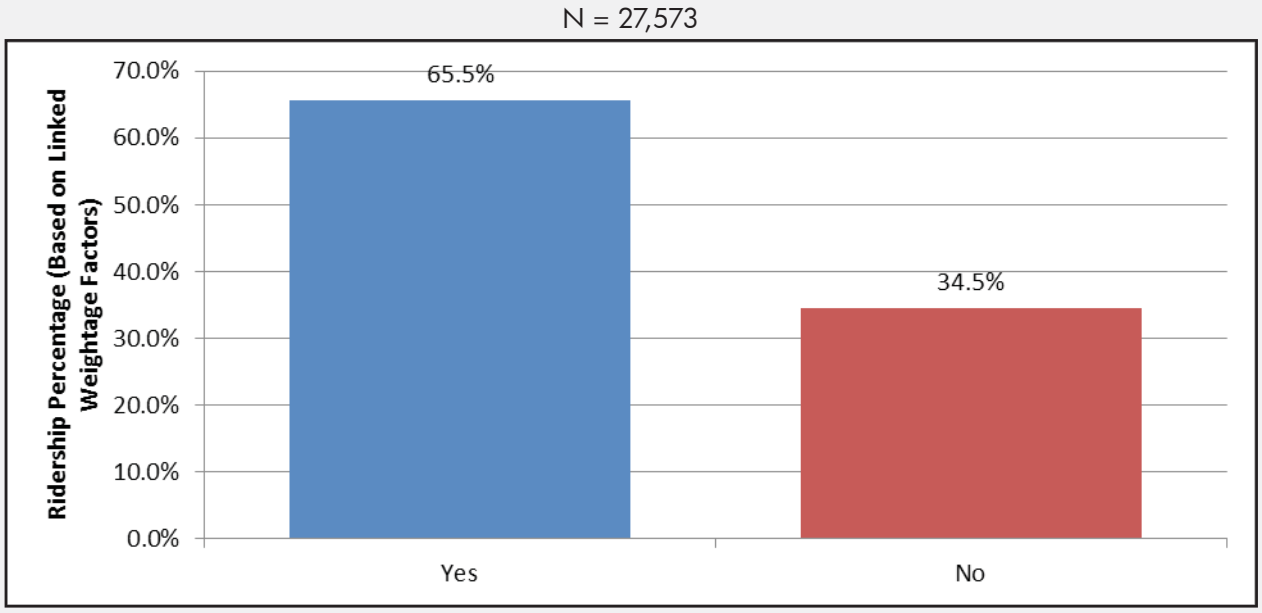


Figure 2-47: Do IndyGo riders have a debit card?

The majority (76%) of riders said they did not have a credit card.

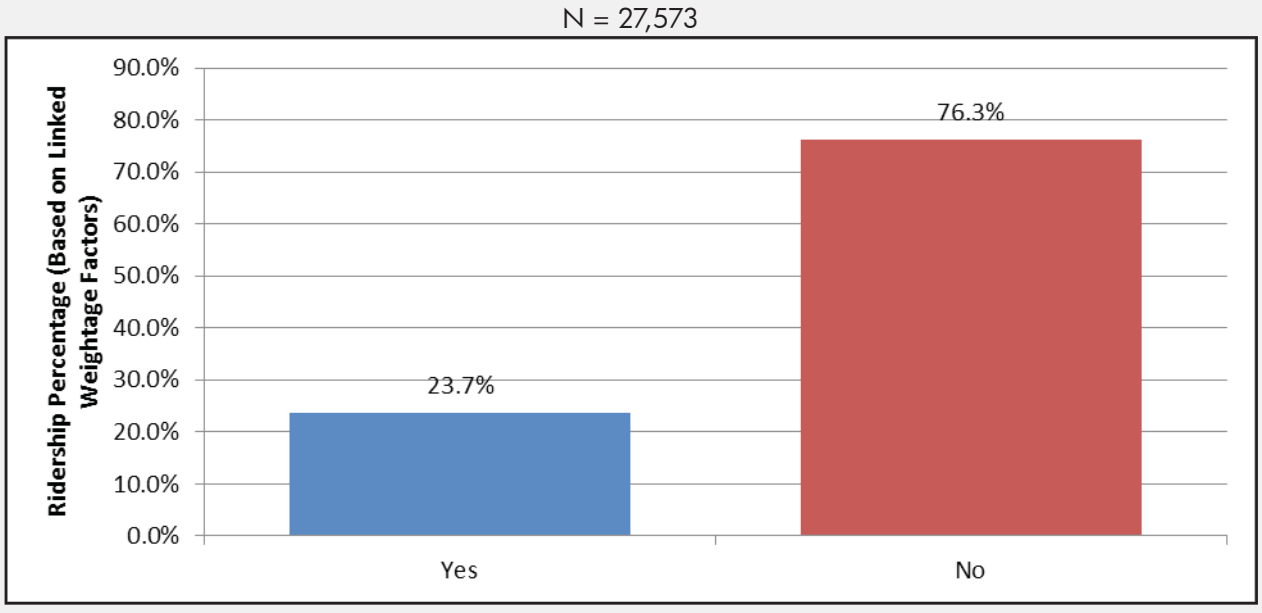


Figure 2-48: Do IndyGo riders have a credit card?

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CHAPTER 3
SAMPLING PLAN

This chapter describes the procedures used for carrying out the sampling of bus riders. Three major areas are addressed by these procedures:

(1) sampling goals,

(2) methods for selecting survey participants, and

(3) other techniques used to manage the sampling process.

3.1 SAMPLING GOALS

In order to ensure that the distribution of completed surveys mirrored the actual distribution of riders, ETC Institute developed a sampling plan that would ensure the completion of the On-to-Off survey with at least 4,015 of the system's riders, and 3,500 surveys of the full Origin Destination (OD) based on Tuesday – Thursday average ridership.

ETC Institute will prepare sampling plans for two separate and sequential surveys. The first survey will be an On-to-Off count that collects passenger boarding and alighting information only. The data obtained in the On-to-Off counts will aid in data expansion. The second survey will be a tablet-based Origin Destination (OD) Survey that focuses on understanding the travel patterns and key characteristics of current riders.

3.1.1 Sampling Goals for On-to-Off Survey

The sampling plan for the On-to-Off survey was designed to obtain completed surveys from a minimum of 20% of the daily ridership on each route operated by IndyGo that has a minimum daily ridership of 1,000, and four routes of interest. In addition, individual cells (route/direction/time of day) that contained high ridership were added to the on-to-off sampling plan. Table 3-1 on page 56 shows the goals and the actual number of completed On-to-Off surveys that were obtained for each bus by Route, Time Period, and Direction. IndyGo provided the estimated weekday ridership and ETC Institute developed the sample goals based on this information.

Table 3-1 shows that ETC collected 1,784 (44%) more responses than the sampling goal. Responses on a per route level ranged from 15% to 94% over the sample goal.

Route #	Route Name	Direction	SAMPLING GOALS					TOTAL SURVEYS	COMPLETED					TOTAL SURVEYS	% of Sampling Goal
			AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total		AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total		
8	Washington	EASTBOUND	78	206	132	36	452	909	136	230	174	102	**642**	1240	136%
		WESTBOUND	101	212	111	34	457		115	289	129	65	**598**		
10	10th Street	EASTBOUND	67	194	114	28	404	811	108	197	119	12	**436**	929	115%
		WESTBOUND	92	191	97	28	407		74	293	98	28	**493**		
17	College	INBOUND	24	36	20	11	91	189	29	39	53	19	**140**	284	151%
		OUTBOUND	15	44	29	9	97		28	46	41	29	**144**		
18	Nora	INBOUND	19	27	20	8	73	148	29	36	25	11	**101**	220	149%
		OUTBOUND	19	27	24	6	75		34	46	27	12	**119**		
19	Castleton	INBOUND	28	47	31	12	117	253	7	86	57	22	**172**	389	154%
		OUTBOUND	30	57	38	10	136		41	88	69	19	**217**		
22	Shelby	INBOUND	13	19	14	4	51	109	20	24	23	7	**74**	169	155%
		OUTBOUND	12	24	20	3	59		24	39	31	1	**95**		
31	Madison	INBOUND	26	42	23	4	95	196	23	53	24	40	**140**	288	147%
		OUTBOUND	18	46	31	6	100		23	53	42	30	**148**		
34	ML King/Michigan Rd	INBOUND	27	36	24	12	99	204	38	50	24	23	**135**	263	129%
		OUTBOUND	20	43	32	11	106		33	52	31	12	**128**		
37	Park 100	INBOUND	38	55	57	17	167	367	24	97	80	153	**354**	714	194%
		OUTBOUND	55	79	43	23	200		111	96	127	26	**360**		
38	West 38th St	INBOUND	15	68	34	30	148	296	17	77	41	43	**178**	408	138%
		OUTBOUND	17	69	35	28	149		17	79	92	42	**230**		
39	East 38th St	INBOUND	71	129	54	23	277	533	69	195	141	68	**473**	895	168%
		OUTBOUND	42	121	74	20	256		71	196	134	21	**422**		
		TOTALS	**826**	**1,771**	**1,056**	**362**	**4,015**	**4,015**	**1,071**	**2,361**	**1,582**	**785**	**5,799**	**5,799**	**144%**

Table 3-1: Bus Sampling Goals and On-to-Off Surveys Completed by Time of Day and Direction

3.1.2 Sampling Goals for OD Survey

ETC Institute developed a sampling plan that would ensure the completion of the full Origin-and-Destination Survey by approximately 3,500 of the system's riders. ETC Institute also set a goal to be within either 10 surveys or 10% of the established survey total goal based on the overall ridership estimate. The time periods for this survey were as follows: "AM Peak" time period (3am-9am), "Midday" time period (9am-3pm), "PM Peak" time period (3pm-6pm), and "Evening" time period (6pm-3am).

Table 3-2 shows the goals and the actual number of completed surveys that were obtained by route, time period, and direction. The sampling plan for the origin-destination survey was designed to obtain completed surveys from a minimum of 10% of the ridership on each of the bus routes operated by IndyGo. The total estimated weekday ridership was provided by IndyGo.

A survey was considered "complete" if all of the contractually required information was collected. A survey was considered "useable" if it met 100% of the quality assurance and quality control tests (see Chapter 5) that were applied to each record. Overall, the total number of "complete and useable surveys" exceeded the sample goal by more than 689 surveys.

Route #	Route Name	Direction	SAMPLING GOALS					TOTAL SURVEYS	COMPLETED					TOTAL SURVEYS
			AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total		AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total	
2	East 34th St	INBOUND	10	12	6	3	31	**65**	10	15	8	10	**43**	**83**
		OUTBOUND	6	13	11	4	34		5	13	10	12	**40**	
3	Michigan Street	EASTBOUND	9	15	17	3	44	**91**	34	31	23	14	**102**	**176**
		WESTBOUND	18	17	10	2	47		11	40	18	5	**74**	
4	Fort Harrison	INBOUND	12	14	10	3	40	**80**	12	14	18	6	**50**	**95**
		OUTBOUND	7	14	14	5	40		9	15	18	3	**45**	
5	East 25th St	INBOUND	9	16	8	4	36	**69**	9	13	8	8	**38**	**76**
		OUTBOUND	4	14	10	4	33		6	16	12	4	**38**	
6	Harding	INBOUND	6	13	6	3	27	**50**	7	15	9	3	**34**	**66**
		OUTBOUND	3	10	7	3	23		5	11	9	7	**32**	
8	Washington	EASTBOUND	39	103	66	18	226	**454**	34	148	65	34	**281**	**574**
		WESTBOUND	50	106	55	17	229		49	148	74	22	**293**	
10	10th Street	EASTBOUND	34	97	57	14	202	**406**	41	128	49	17	**235**	**486**
		WESTBOUND	46	95	49	14	204		36	135	59	21	**251**	
11	East 16th St	INBOUND	4	6	3	0	13	**26**	2	11	3	0	**16**	**33**
		OUTBOUND	3	5	4	1	13		2	9	4	2	**17**	
12	Minnesota	INBOUND	3	4	1	1	9	**18**	3	6	4	4	**17**	**26**
		OUTBOUND	2	4	2	1	10		3	3	2	1	**9**	

Table 3-2: Bus Sampling Goals and OD Surveys Completed by Time of Day and Direction

Route #	Route Name	Direction	SAMPLING GOALS					TOTAL SURVEYS	COMPLETED					TOTAL SURVEYS
			AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total		AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total	
13	Raymond Street	INBOUND	3	2	1	0	6	14	3	6	2	0	11	22
		OUTBOUND	1	4	3	1	8		0	3	4	4	11	
14	Prospect	INBOUND	5	7	5	2	19	42	6	11	6	2	25	49
		OUTBOUND	4	8	8	3	23		4	8	7	5	24	
15	West 34th St	INBOUND	16	17	7	5	44	88	20	26	16	5	67	115
		OUTBOUND	6	15	17	5	43		15	13	15	5	48	
16	Beech Grove	INBOUND	6	9	7	1	23	50	5	12	9	5	31	64
		OUTBOUND	7	11	8	2	28		4	10	18	1	33	
17	College	INBOUND	12	18	10	5	46	94	12	29	14	5	60	117
		OUTBOUND	8	22	15	5	49		5	31	14	7	57	
18	Nora	INBOUND	10	13	10	4	37	74	7	9	12	3	31	75
		OUTBOUND	9	13	12	3	37		10	16	15	3	44	
19	Castleton	INBOUND	14	24	15	6	59	127	8	52	29	14	103	218
		OUTBOUND	15	29	19	5	68		23	44	38	10	115	
21	East 21st St	INBOUND	11	12	8	3	34	69	15	25	8	1	49	107
		OUTBOUND	8	14	12	2	35		18	28	9	3	58	
22	Shelby	INBOUND	7	10	7	2	25	55	10	22	9	2	43	83
		OUTBOUND	6	12	10	1	29		12	17	11	0	40	
24	Mars Hill	INBOUND	5	6	6	1	18	40	5	8	9	6	28	51
		OUTBOUND	7	8	5	2	22		7	7	6	3	23	
25	West 16th St	INBOUND	8	11	6	2	27	59	12	23	11	14	60	123
		OUTBOUND	5	14	11	3	32		9	26	20	8	63	
26	Keystone Crosstown	NORTHBOUND	12	14	10	3	39	69	10	23	7	8	48	84
		SOUTHBOUND	6	11	9	4	30		7	13	9	7	36	
28	St. Vincent	INBOUND	11	10	6	2	28	64	6	20	16	10	52	106
		OUTBOUND	7	12	12	4	36		14	17	12	11	54	
30	30th Street Crosstown	EASTBOUND	6	10	6	2	25	48	0	12	14	5	31	76
		WESTBOUND	6	10	4	2	23		6	23	12	4	45	
31	Madison	INBOUND	13	21	11	2	48	98	14	29	15	5	63	118
		OUTBOUND	9	23	15	3	50		11	26	14	4	55	
34	ML King/Michigan Rd	INBOUND	13	18	12	6	49	102	16	22	18	13	69	134
		OUTBOUND	10	21	16	6	53		12	27	18	8	65	

Table 3-2: Bus Sampling Goals and OD Surveys Completed by Time of Day and Direction (Continued)

Route #	Route Name	Direction	SAMPLING GOALS					TOTAL SURVEYS	COMPLETED					TOTAL SURVEYS
			AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total		AM Peak (3:00am-9:00am)	Midday (9:01am-3:00pm)	PM Peak (3:01-6:00pm)	Night (6:01pm-2:59am)	Total	
37	Park 100	INBOUND	19	27	29	9	83	**184**	27	50	32	17	**126**	**235**
		OUTBOUND	28	39	22	12	100		29	44	25	11	**109**	
38	West 38th St	INBOUND	8	34	17	15	74	**148**	5	35	16	17	**73**	**167**
		OUTBOUND	8	34	17	14	74		12	44	24	14	**94**	
39	East 38th St	INBOUND	36	65	27	12	139	**267**	27	119	48	21	**215**	**410**
		OUTBOUND	21	60	37	10	128		32	102	39	22	**195**	
55	English	INBOUND	4	4	1	1	10	**21**	2	3	8	2	**15**	**36**
		OUTBOUND	2	4	4	1	10		4	7	9	1	**21**	
86	86th St Crosstown	EASTBOUND	6	11	8	3	27	**52**	11	21	14	5	**51**	**97**
		WESTBOUND	5	10	7	3	25		10	20	10	6	**46**	
87	Eastside Circulator	CIRCULAR	11	25	14	6	56	**56**	22	37	15	13	**87**	**87**
		TOTALS	**676**	**1,301**	**821**	**281**	**3,079**	**3,079**	**765**	**1,891**	**1,050**	**483**	**4,189**	**4,189**

Table 3-2: Bus Sampling Goals and OD Surveys Completed by Time of Day and Direction (Continued)

3.2 PROCESS FOR IDENTIFYING COMPLETE RECORDS

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

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

In addition to the required trip data questions, a survey must be marked as complete by the online survey program which occurs only if the interviewer has navigated through every required question on the online survey instrument including demographic questions.

3.3 METHODS FOR SELECTING SURVEY PARTICIPANTS

For the OD survey, a random number generator was used to determine which passengers were asked to participate in the survey after boarding a bus. If four people boarded a bus, the tablet PC randomly generated a number from 1 to 4. If the answer was 2, the second person who boarded the bus was asked to participate in the survey. If the answer was 1, the first person was asked to participate in the survey, and so forth. If only one passenger boards the vehicle, then the tablet selects that individual to be surveyed. The selection was limited to the first six people who boarded a bus at any given stop to ensure the interviewer could keep track of the passengers as they boarded. For the on-to-off counts, every rider was sampled of a sampled trip.

3.3.1 Other Techniques Used to Manage the Sampling Process

Some of the other techniques used to manage the sampling of bus riders are described below:

- **Daily Reviews of Interviewer Performance**
  The survey team evaluated the performance of each interviewer each day. This included a review of the characteristics of the passengers who were interviewed with regard to demographics and trip characteristics. These reviews were completed while the interviewer is on the bus and the findings are discussed with that interviewer when they check in. This allowed the survey team to provide immediate feedback to interviewers to improve their overall performance. It also allowed the survey team to quickly identify and remove interviewers who were not conducting the survey properly.
- **Management of the Sample by Time of Day**
  In addition to managing the total number of surveys that were completed for each route, ETC Institute also managed the number of surveys that were completed during each of the following four time periods:
  - AM Peak
  - Midday
  - PM Peak
  - Evening

  These four time periods correspond to time periods that are used for regional travel demand forecasting. This was done to ensure that the number of completed surveys for each time period would adequately support data expansion requirements for travel demand forecasting. The data expansion process is further described in Chapter 6 of this report.

Figure 3-1 below shows the estimated ridership by time period. Figure 3-2 on page 62 shows the transit service supplied (revenue hours) by time period. Figure 3-3 on page 62 shows number of On-to-Off surveys that were collected by time period, and Figure 3-4 on page 63 shows the number of OD surveys that were collected by time period.

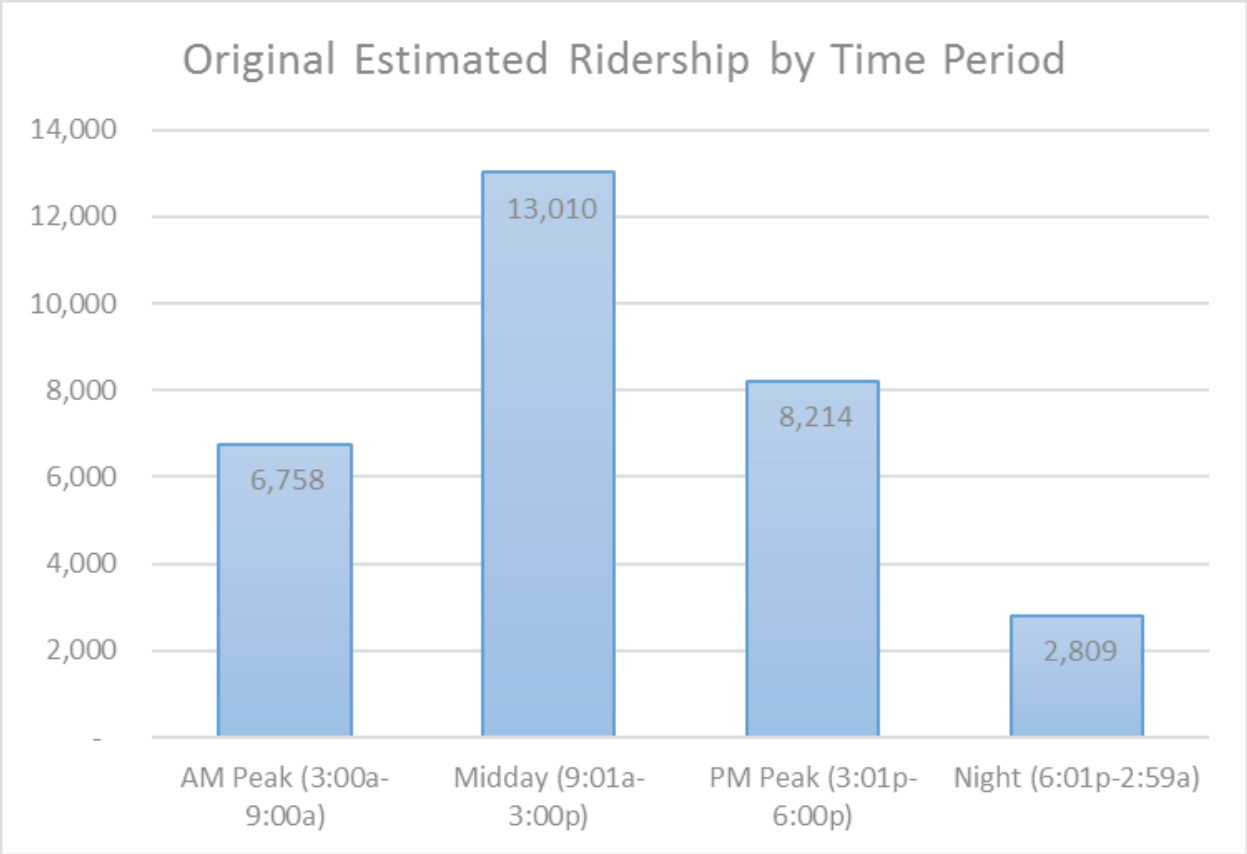

Figure 3-1: Estimated Ridership by Time Period

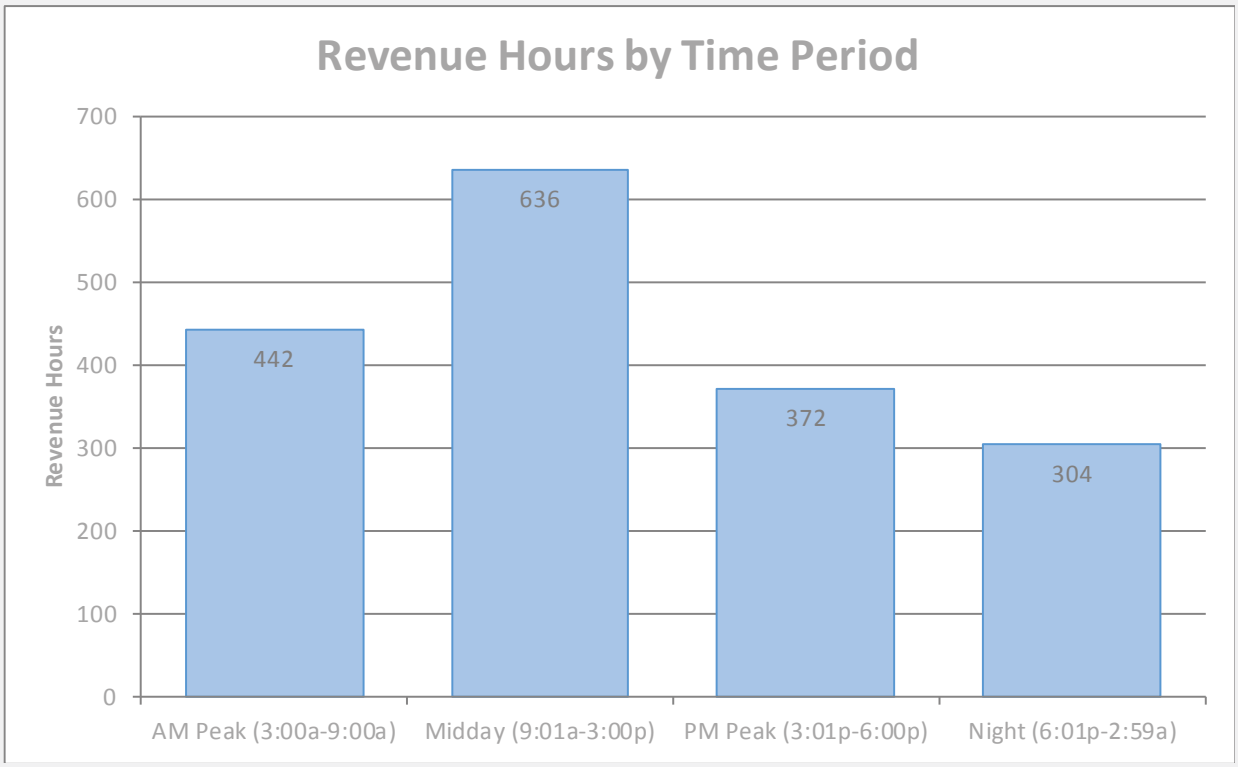

Figure 3-2: Transit Service Supplied by Time Period

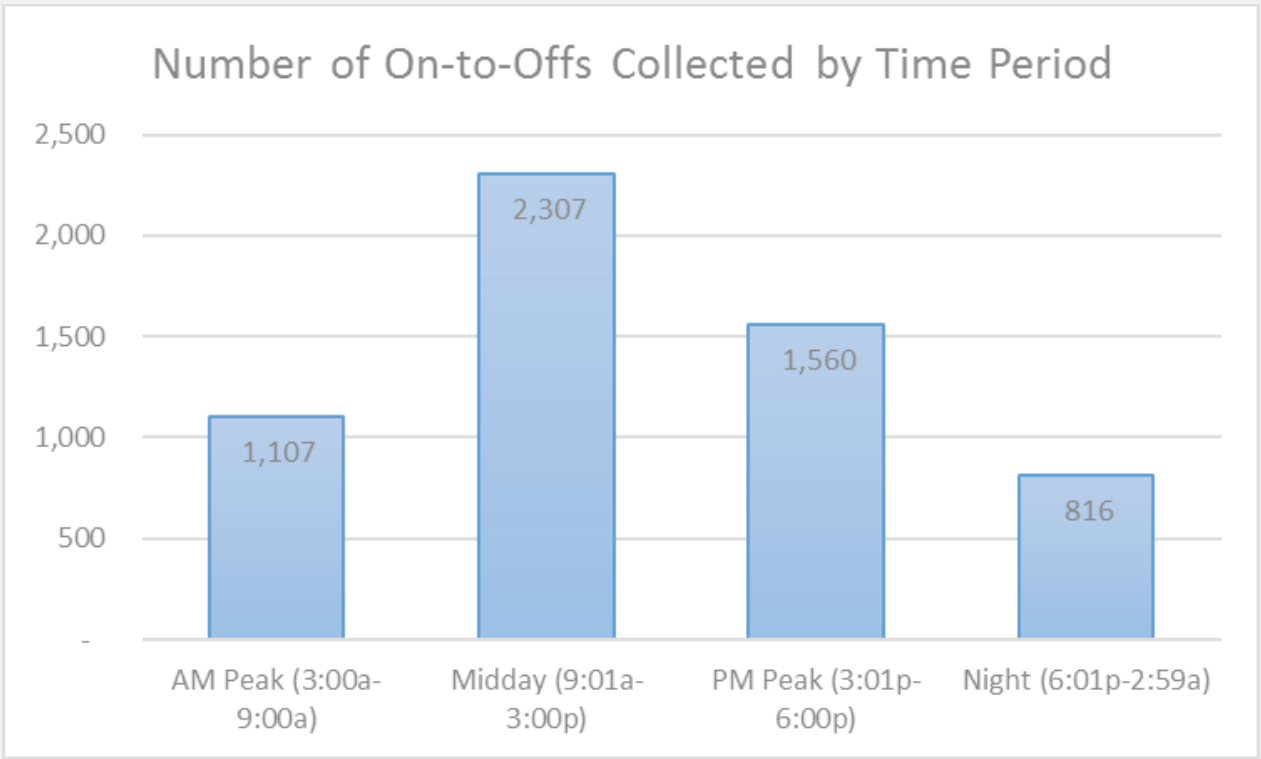

Figure 3-3: Number of On-to-Off Surveys Collected by Time Period

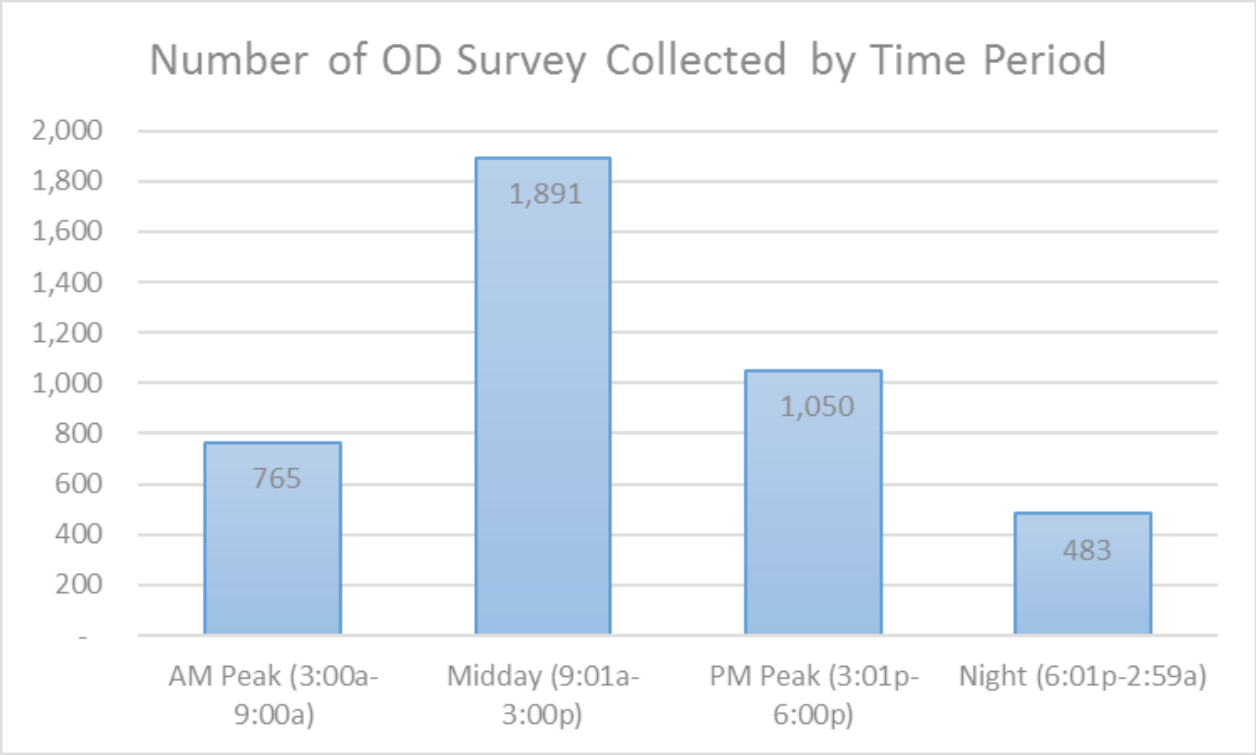

Figure 3-4: Number of OD Surveys Collected by Time Period

Figure 3-5 and Figure 3-6 illustrate IndyGo's service area.

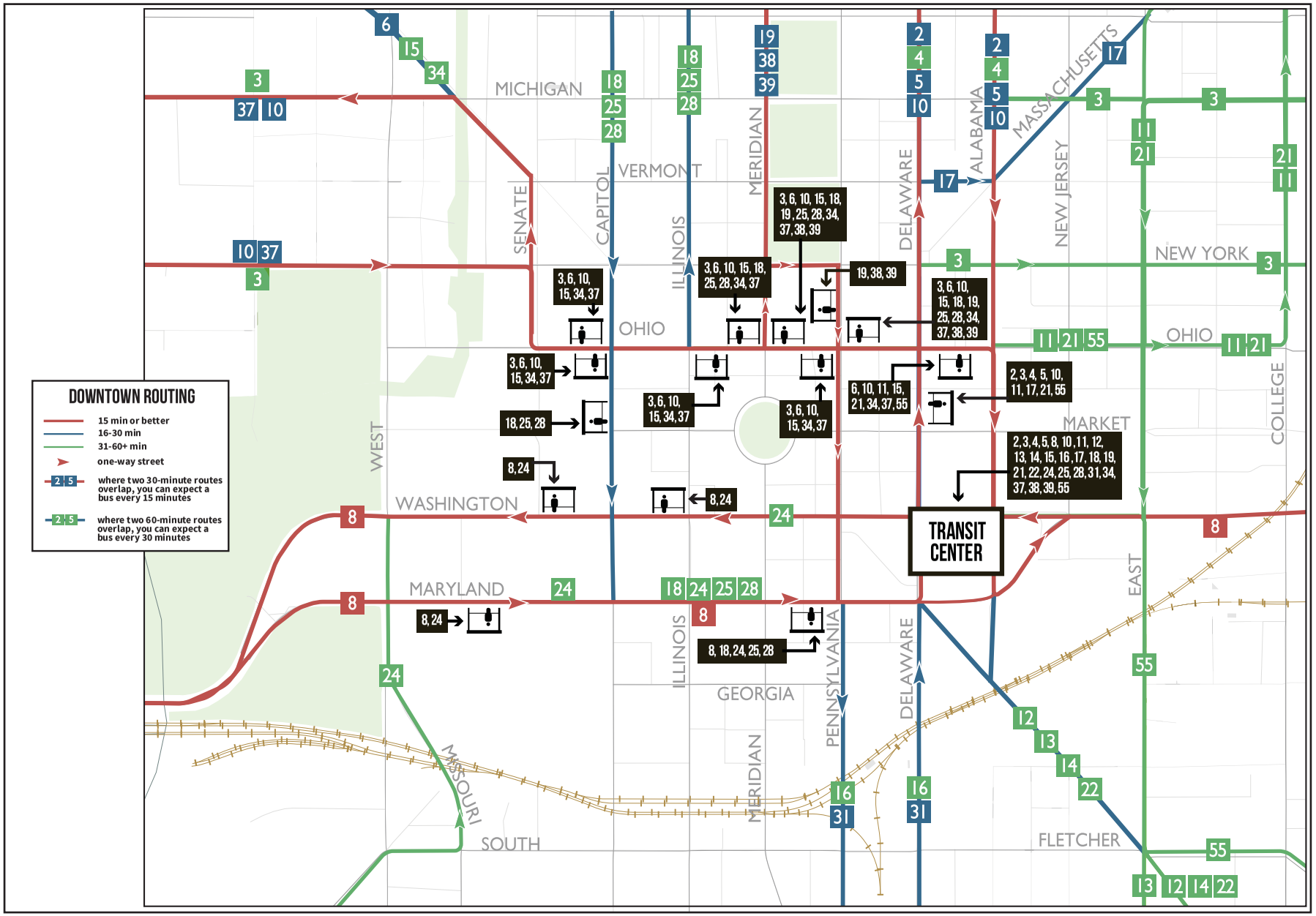

Figure 3-5: : IndyGo Service for the Downtown Area

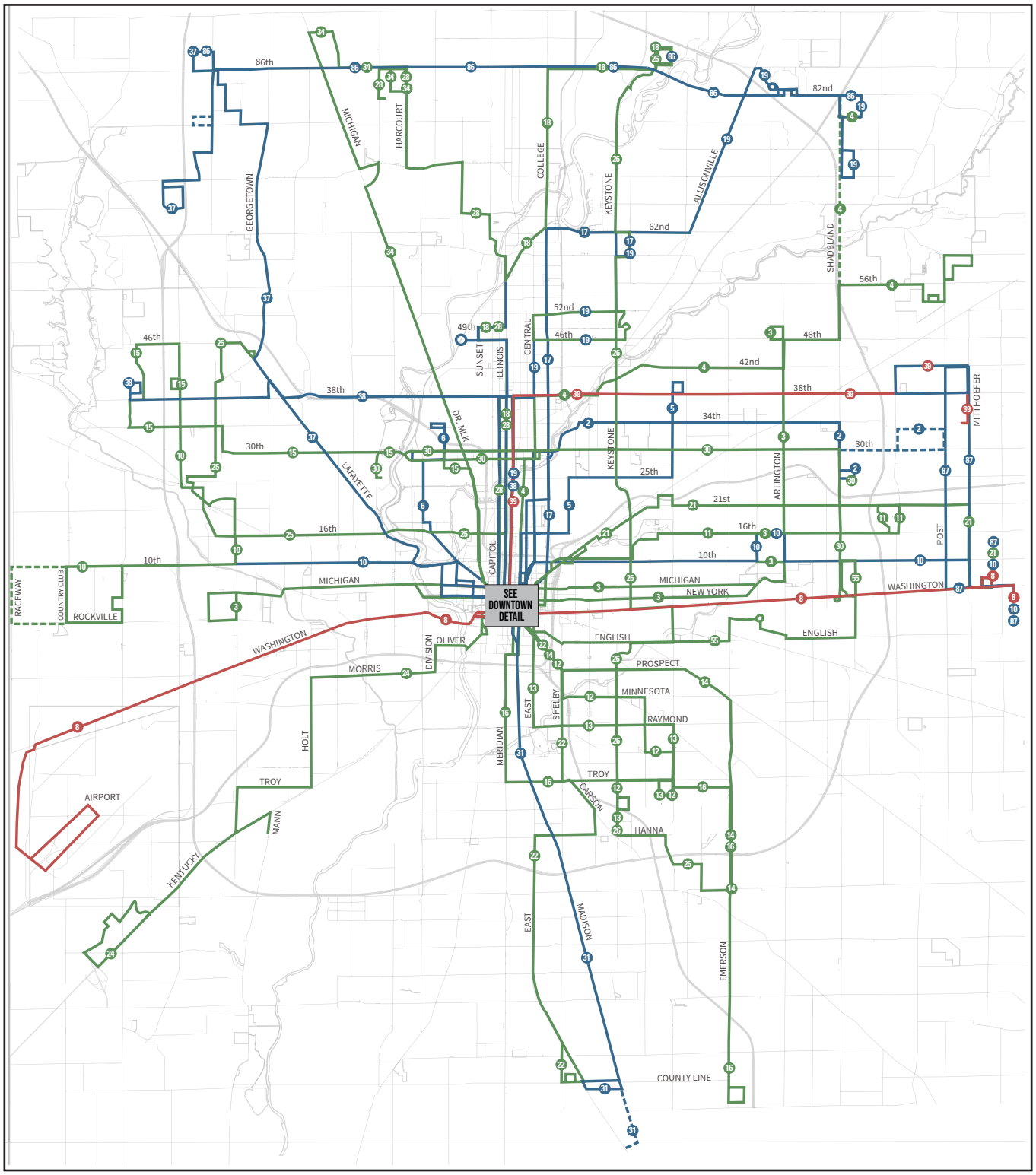

Figure 3-6: IndyGo Service Area

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CHAPTER 4
SURVEY INSTRUMENT

The survey instrument was designed to be administered as a face-to-face interview using tablet PCs. A handful of screenshots from the tablet PC survey are shown below and on the following page. The full survey instrument is available in Appendix B).

Respondents who did not have time to complete the survey during their bus trip were also given the option of providing their phone numbers. Those who provided their phone numbers were then contacted by ETC Institute's call center to complete the survey.

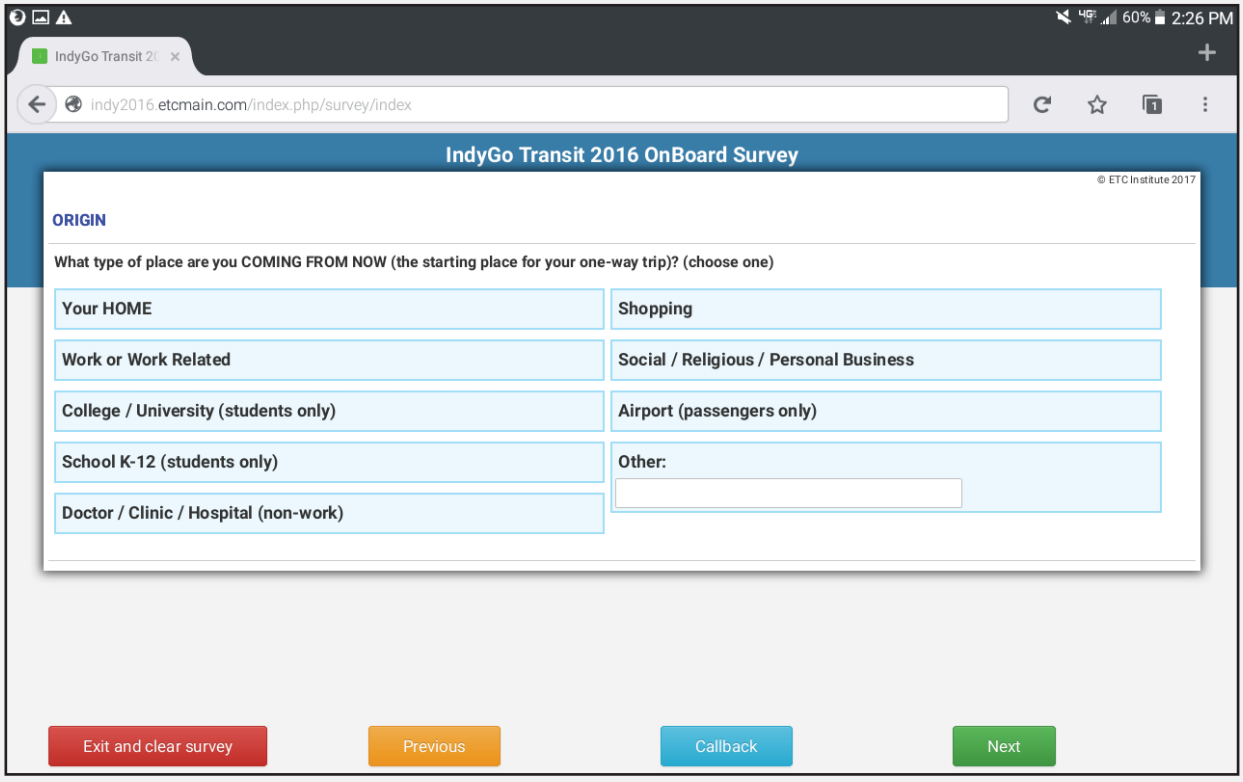

Figure 4-1: Tablet PC screenshot for Question: "What type of place are you COMING FROM NOW?"

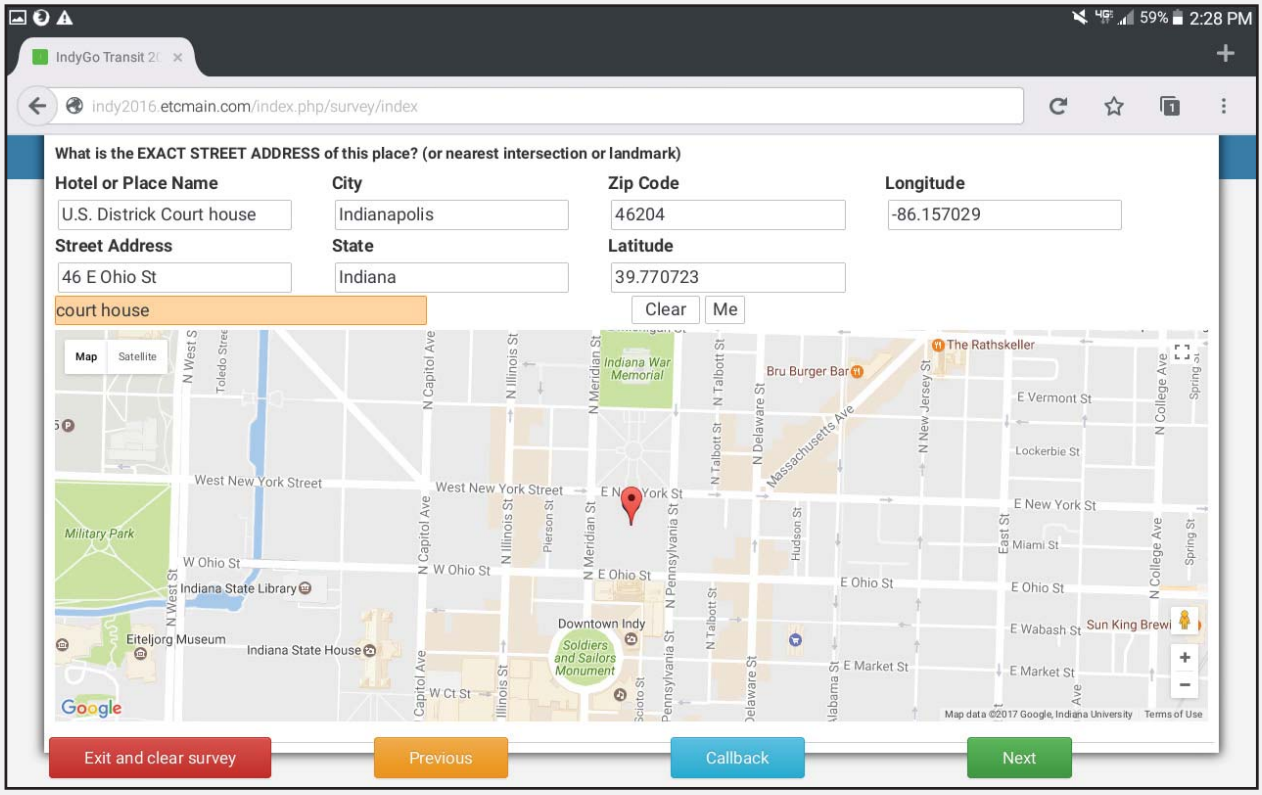

Figure 4-2: Tablet PC screenshot for Question: "What is the EXACT STREET ADDRESS of this place?"

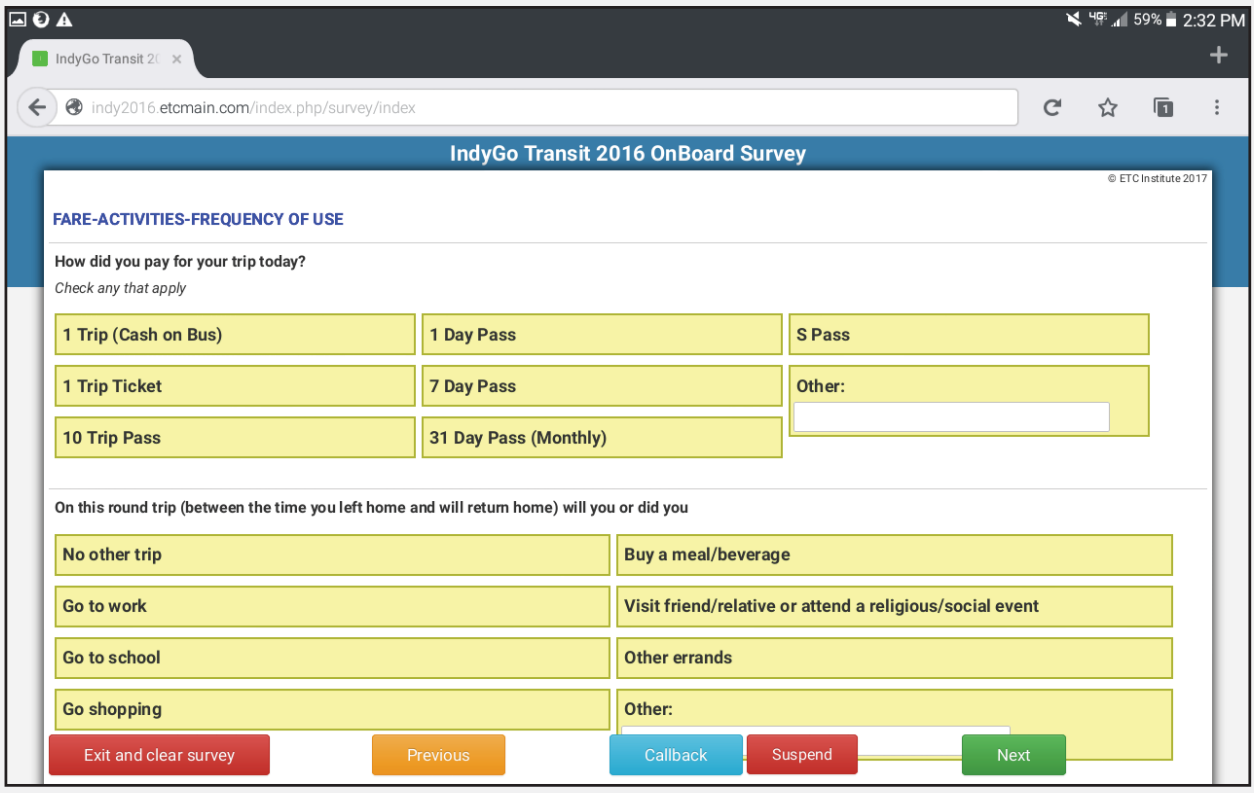

Figure 4-3: Tablet PC screenshot for Question: "How did you pay for your trip today?"

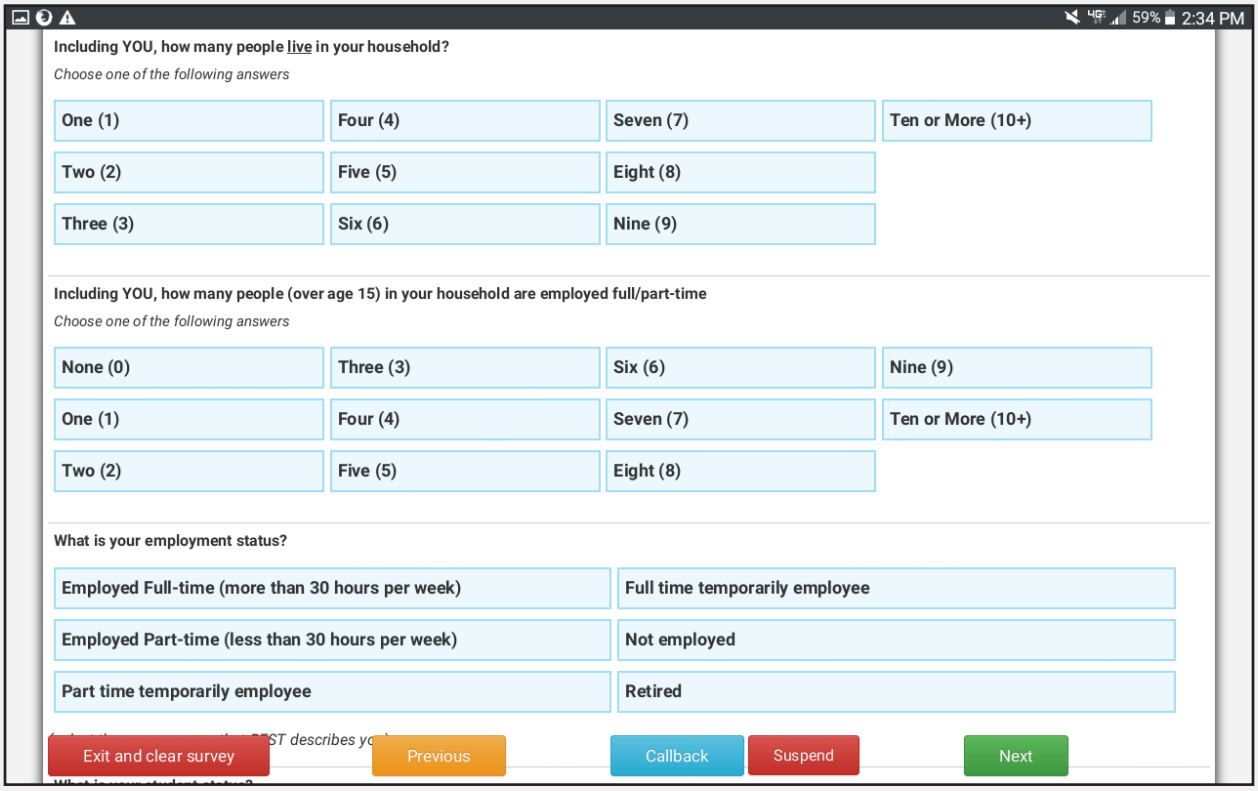

Figure 4-4: Tablet PC screenshot for Question: "Including you, how many people live in your household?"

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CHAPTER 5
DATA COLLECTION

Before administering the OD survey using an interviewer and a tablet PC, an on-to-off survey was conducted on predetermined fixed route service. An on-to-off survey is meant to capture the ridership flow of the bus route. In-other-words, the On-to-Off survey captures where the individual rider boarded the vehicle and the corresponding location where the rider alighted (exited). This allows for a more comprehensive understanding of the true ridership flow of the route, which then allows the OD survey data to be more accurately expanded.

The first step in the survey administration task for both the On-to-Off and OD survey was the selection of trips to be surveyed. The primary focus of the trip selection process was to identify blocks that would allow surveyors to ride one continuous route and in some instances interlined routes. A block is defined as a series of trips made by a single vehicle that is comprised of one or more routes that have a definitive start and end location. Ridership figures provided by IndyGo were taken into consideration to determine how many trips were needed in order to reach the goal that was proportionally allocated.

5.1 ON-TO-OFF SURVEY ADMINISTRATION METHODOLOGY

The purpose of the On-to-Off software program is to identify ridership patterns based on an individual's boarding and alighting locations which are used to help develop the sampling plan for the survey. This was accomplished by using ETC Institute's custom Android®-based on-to-off software which records the latitude and longitude of an individual's boarding and alighting location using a barcode system. ETC Institute barcodes eliminated language barriers, increased ridership participation, and provided more accurate boarding and alighting locations.

The On-to-Off surveying team used the On-to-Off software with a GPS-equipped tablet PC to record the rider's boarding latitude/longitude, alighting latitude/longitude, time of usage, route used, and direction.

The On-to-Off software was complemented with a barcode scanning system method as described below:

- Riders were handed a barcode card which was scanned by a surveyor.
- Riders were told to keep the barcode card during the duration of their trip.
- Riders were reminded to hand their cards back to the surveyor as they exited the bus.
- When riders' bus stops were approached, the surveyor took their barcode cards before they exited. The surveyor scanned riders' barcode cards as they departed the bus.
- The software then paired the boarding and the alighting location of each rider based on the unique barcode card each was handed.

A screen shot of the interface of the On-to-Off boarding/alighting software that was used to record the information is shown in Figure 5-1. The GPS mapping feature is also shown in Figure 5-1.

The On-to-Off survey was administered by teams that were directly supervised by ETC Institute. The supervisors were responsible for reviewing the performance of each team and ensuring that 1) all parts of the on-to-off procedure were being followed and 2) the sampling goals for each route were met. The supervisors operated from Julia M. Carson Transit Center, so that the performance of all teams could be evaluated.

The On-to-Off survey team sizes were determined by route ridership levels and bus size (articulated [3+ doors] or standard [1-2 doors]). A typical team consisted of two members, based on a medium to high ridership level on a standard size bus. The responsibilities of each of the positions on the On-to-Off teams are described below:

- The team leader was responsible for route and direction selection for On-to-Off software, offering riders an opportunity to participate in the survey, scanning barcode cards for boarding riders, answering rider questions, and overseeing On-to-Off operations of his/her bus.
- The support surveyor was responsible for collecting and scanning barcode cards for alighting riders, reminding riders to keep their cards ready to hand in to a surveyor when they exited at their bus stop, and answering rider questions.

The On-to-Off survey was administered Tuesday through Thursday with the exceptions of holidays and breaks for colleges/schools.

Administration of the On-to-Off survey began as early as 6 am and continued as late as 9 pm. This was to ensure that the On-to-Off data would provide the OD survey with an accurate sampling plan for administration and for the data expansion. The On-to-Off survey was administered from September 7th, 2016 through October 20th, 2016 while the OD survey was administered from September 13th, 2016 through November 3rd, 2016.

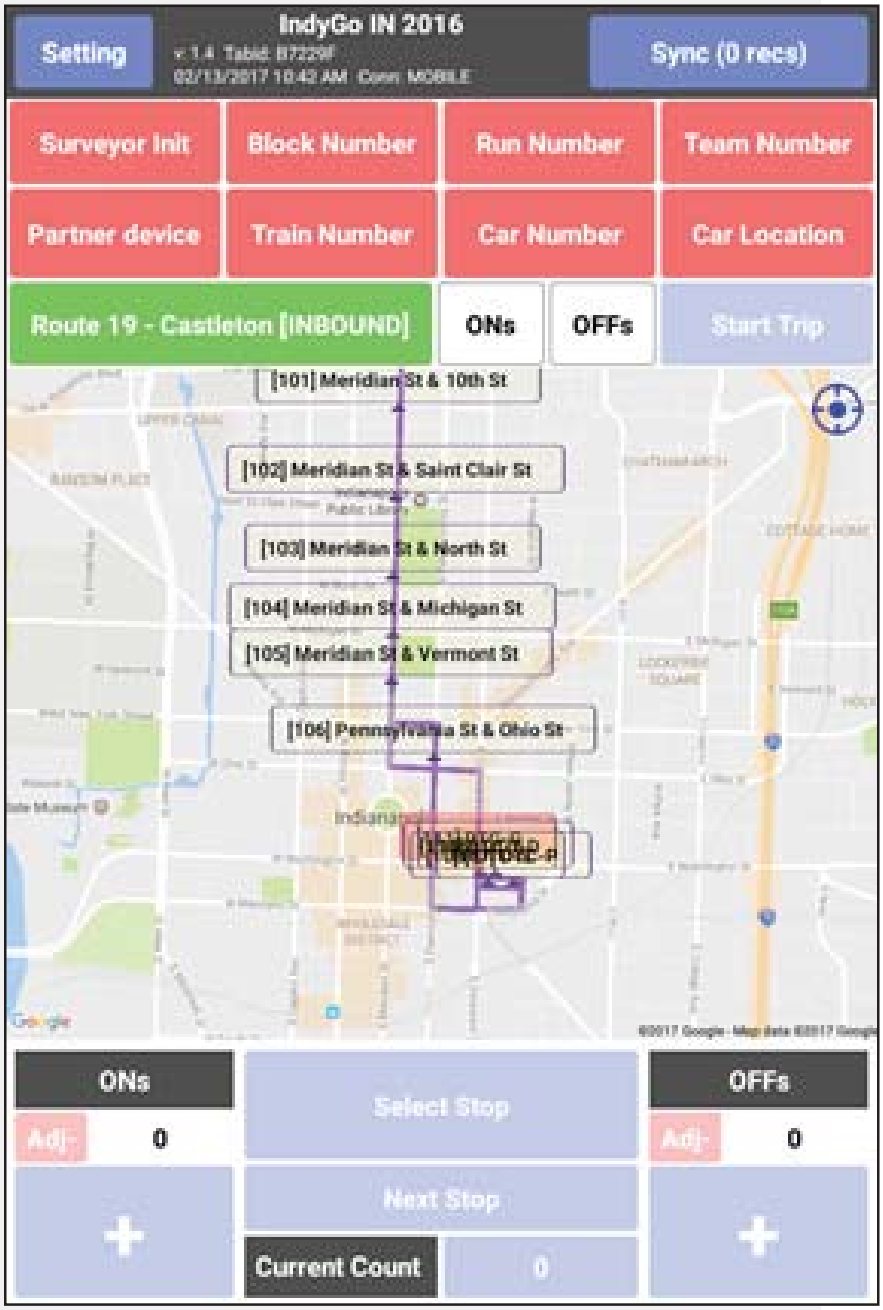


Figure 5-1: On-to-Off Survey Interface Screenshot

5.2 OD SURVEY ADMINISTRATION METHODOLOGY

The following sections describe the methodology used for the 2016 On-Board OD survey. This methodology includes recruiting and training of interviewers, procedures used for the survey, and organization of the survey teams.

5.2.1 Labor Recruitment and Training

Assembling a team of high-quality interviewers was one of the most important steps in the OD survey administration process. ETC Institute used local temporary workers who were recruited by a staffing agency to administer the survey.

Interviewers recruited by the agency were required to have some familiarity with the bus service area. They were also required to document a solid work history, show a professional attitude and appearance, illustrate to supervisors an ability to interact positively with the public, have an ability to work a tablet PC, and show proficiency with ETC Institute's surveying program.

Each interviewer was required to attend ETC Institute's training session. IndyGo, Indianapolis Metropolitan Planning Organization and Lochmueller Group staff also attended training sessions to familiarize themselves with the survey administration process and meet with the recruited interviewers. During this training session, interviewers were presented with the following:

- An overview of the on-board survey objectives
- Instructions on how to operate the tablet PC and surveying software
- Instructions on how to approach riders and sampling procedures
- Survey etiquette protocol
- Instructions on how to deal with various situations that could be encountered during a survey
- Role-playing and one-on-one tutoring with an ETC Institute supervisor

Once all training was completed, and each interviewer was approved by an ETC Institute supervisor, interviewers spent several days under the supervision of a supervisor, who assessed each interviewer's ability to properly conduct surveys. Those who did not demonstrate proficiency in all of the required tasks for the OD survey were released.

All routes were classified as fixed routes and were surveyed using the tablet PCs. Fixed routes are routes that provide regular/continuous service throughout the day. Interviewers selected people for the survey in accordance with the sampling procedures described in Chapter 2 of this report.

Once an interviewer had selected a person for the survey, the interviewer:

- Approached the person who was selected and asked him or her to participate in the survey.
- If the person refused, the interviewer ended the survey.
- If the person agreed to participate, the interviewer asked the respondent if he/she had at least 5 minutes to complete the survey.
- If the person did not have at least 5 minutes on the bus, the interviewer asked the person to provide his/her boarding location, alighting location, name, and phone number. A phone interviewer from ETC Institute's call center contacted the respondent and asked him/her to provide the information by phone. This methodology ensured that people who completed "short-trips" on public transit were well represented.
- If the person had at least 5 minutes on the bus, the interviewer began administering the survey to the respondent as a face-to-face interview using a tablet PC.

The OD survey was administered by teams who were directly supervised by an ETC Institute supervisor. The supervisors were responsible for reviewing the performance of each interviewer ensuring that all parts of the surveying procedure were being followed and the sampling goals for each route were met.

The responsibilities for each of the positions on the OD survey team are described below.

- The supervisor was responsible for ensuring that interviewers were properly trained, equipping interviewers to conduct surveys, scheduling interviewers, inspecting work, and reviewing the data collected.
- The interviewer was responsible for administering surveys while following surveying procedures.

The OD survey was administered at the time of day that coincided with the hours that each route was operational. This was to ensure that the adminitration of the survey began prior to peak ridership levels in the morning and continued after peak ridership levels in the evening.

5.2.2 In-Field Quality Assurance / Quality Control

On a daily basis, ETC Institute's field supervisor reviewed each employee's data with regard to the following issues to assess whether or not the employee was conducting the survey properly:

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

ETC Institute's field supervisor also conducted checks on the locations where the interviews took place. These checks ensured data integrity and identified if an interviewer was being negligent. The ETC Institute field supervisor was able to verify if an interviewer was on their assigned route by viewing the displayed geographic locations of where the interviews were taking place.

If any item listed above was missing or incomplete, the supervisor flagged the record for reviewing. ETC Institute then forwarded all incomplete survey records and the corresponding name and phone number to ETC Institute's call center. Interviewers working in ETC Institute's call center then called respondents who had provided their names and phone numbers to retrieve the missing information by phone.

5.3 PILOT TEST

Prior to the data collection effort, a Pilot Test was administered over the course of two days in August 2016. The Pilot Test was a full dress rehearsal of all steps, previously discussed, to ensure all programs and procedures would adequately meet the needs of the Indianapolis Metropolitan Planning Organization (IMPO) and IndyGo. The results were summarized in a Pilot Report, and approved by the IMPO and IndyGo.

CHAPTER 6
DATA REVIEW PROCESS

6.1 DATA REVIEW PROCESS

Many of the processes described in previous chapters of this report were essential elements of the overall quality assurance/quality control (QA/QC) process that was implemented throughout the survey administration. The establishment of specific sampling goals and procedures for managing the goals ensured that a representative sample was obtained from each bus route. Training of interviewers and the high levels of oversight provided by team leaders and the project manager ensured that the survey was administered properly. The use of the latest geocoding tools contributed to the high quality of geocoding accuracy that was achieved.

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

6.1.1 Online Visual Review Tool

ETC Institute has created an online visual review tool that allows for the review of all completed records within the database. This tool shows all components of each individual trip as well as a series of preprogrammed distance and ratio checks as described on subsequent pages. After directions were finalized, the next step was to run each record through the Speed/Distance/Time checks. Figure 6-1 shows an example of the online visual review tool.

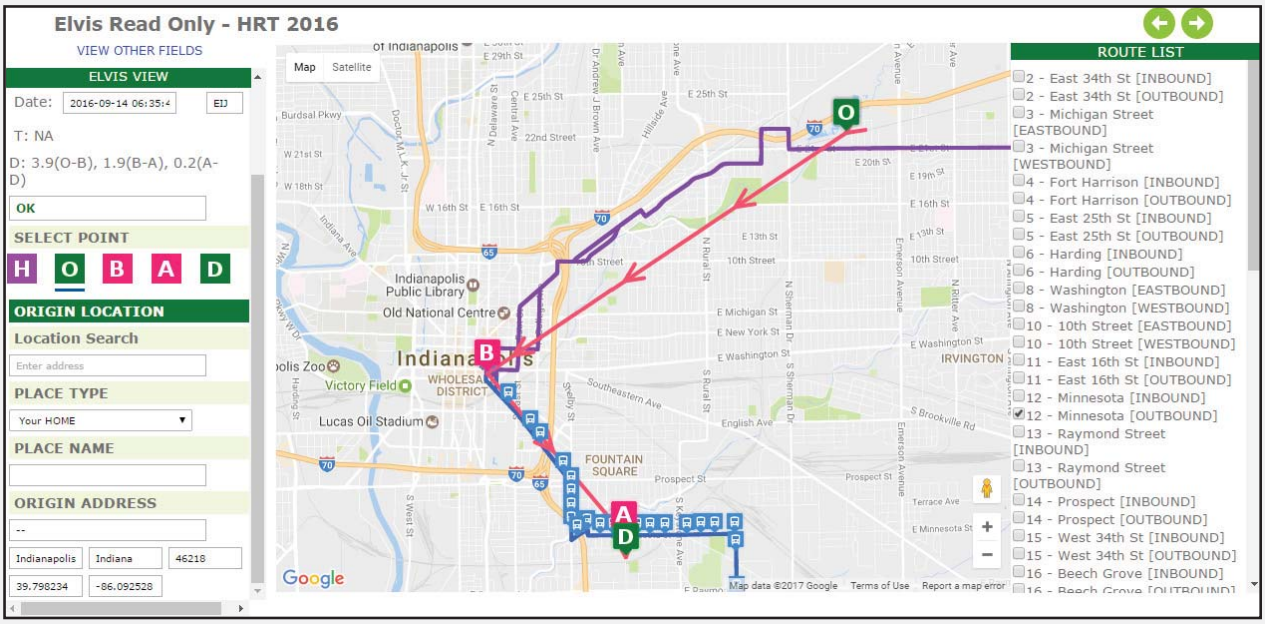


Figure 6-1: Online Visual Review Tool (Editable Version)

6.1.2 Pre-Processing Distance Checks

A series of distance and ratio checks are preprogrammed into the online visual review tool in order to allow for ETC Institute's Transit Review Team (TRT) to take a more systematic approach in reviewing complete records. The TRT process for editing surveys is described later in this section. Note: The distance and ratio checks described were meant to alert the reviewer that closer evaluation was needed. It did not necessarily indicate that the record was inaccurate or unusable.

The distances used for the checks were created using the great-circle distance formula which is based on a straight line from point A to point B that takes into account the curvature of the earth.

Access/Egress Mode Distance Check

Table 6-1 shows the distance checks for access (Origin to Boarding) and egress modes (Alighting to Destination). This table is for data quality checking purposes only.

DISTANCE CHECK NAME	CHECK	CONDITION 1	CONDITION 2	FLAG?
Origin to Boarding	Origin to Boarding distance is greater than 1.75 linear miles	Access Mode - ANY USE OF A VEHICLE (ie, dropped off, rode with others, drove, taxi...)		No
		Access Mode - Walk/Wheelchair/ Skateboard	There is at least one transfer from origin to boarding	No
		Access Mode - Walk/Wheelchair/ Skateboard	There are no transfers from origin to boarding	Yes
	Origin to Boarding distance is less than .25 linear miles	Access Mode - ANY USE OF A VEHICLE (ie, dropped off, rode with others, drove, taxi...)		Yes
		Access Mode - Every mode	There is at least one transfer from origin to boarding	Yes
		Access Mode - Walk/Wheelchair/ Skateboard	There are no transfers from origin to boarding	No
Alighting to Destination	Alighting to Destination distance is greater than 1.75 linear miles	Egress Mode - ANY USE OF A VEHICLE (i.e., will get picked up, ride with others, drive, taxi...)		No
		Egress Mode - Walk/Wheelchair/ Skateboard	There is at least one transfer from alighting to destination	No
		Egress Mode - Walk/Wheelchair/ Skateboard	There are no transfers from alighting to destination	Yes
	Alighting to Destination distance is less than .25 linear miles	Egress Mode - ANY USE OF A VEHICLE (i.e., will get picked up, ride with others, drive, taxi...)		Yes
		Egress Mode - Every mode	There is at least one transfer from alighting to destination	Yes
		Egress Mode - Walk/Wheelchair/ Skateboard	There are no transfers from alighting to destination	No

Table 6-1: Access/Egress Mode Distance Check

Origin to Destination Distance Check

Table 6-2 below shows the distance checks based on the origin and destination locations.

DISTANCE CHECK NAME	CHECK	FLAG?
Origin to Destination	Origin equals the Destination	Yes
	Origin to Destination is greater than 50 miles	Yes
	Origin to Destination is less than .25 miles	Yes

Table 6-2: Origin to Destination Distance Checks

Boarding and Alighting Distance Check

Table 6-3 below shows the distance checks based on the boarding and alighting locations.

DISTANCE CHECK NAME	CHECK	FLAG?
Boarding to Alighting	Boarding equals the Alighting	Yes
	Boarding to Alighting is less than .25 miles	Yes

Table 6-3: Boarding to Alighting Distance Checks

6.1.3 Pre-Processing Ratio Checks

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

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

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

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

Table 6-4 on page 78 describes in more detail the ratio checks used, and the conditions in which a record would be flagged.

RATIO CHECKS	CHECK	RESULT OF FORMULA	CONDITION 1	CONDITION 2	FLAG?
Boarding to Alighting distance divided by Origin to Destination distance	Boarding to Alighting Distance/Origin to Destination Distance	the result of this formula is 1.5 or greater			Yes
	Boarding to Alighting Distance/Origin to Destination Distance	the result of this formula is less than .3	Access and Egress modes are both Walk/ Wheelchair/Skateboard	There are NO transfers involved in the trip	Yes
	Boarding to Alighting Distance/Origin to Destination Distance	the result of this formula is less than .3	Access or Egress mode - **ANY USE OF A VEHICLE**		No
	Boarding to Alighting Distance/Origin to Destination Distance	the result of this formula is less than .3	There is at least one transfer involved in the trip		No
Origin to Boarding distance divided by Origin to Destination distance	Origin to Boarding Distance/Origin to Destination Distance	the result of this formula is 1 or greater	there is at least one transfer from origin to boarding		No
	Origin to Boarding Distance/Origin to Destination Distance	the result of this formula is 1 or greater	Access Mode - **ANY USE OF A VEHICLE** (i.e., dropped off, rode with others, drove, taxi...)		No
	Origin to Boarding Distance/Origin to Destination Distance	the result of this formula is 1 or greater	Access Mode - Walk/ Wheelchair/Skateboard	there are no transfers from origin to boarding	Yes
Alighting to Destination divided by Origin to Destination	Alighting to Destination Distance/ Origin to Destination Distance	the result of this formula is 1 or greater	there is at least one transfer from alighting to destination		No
	Alighting to Destination Distance/ Origin to Destination Distance	the result of this formula is 1 or greater	Egress Mode - **ANY USE OF A VEHICLE** (i.e., will get picked up, ride with others, drive, taxi...)		No
	Alighting to Destination Distance/ Origin to Destination Distance	the result of this formula is 1 or greater	Egress Mode - Walk/ Wheelchair/Skateboard	There are no transfers from alighting to destination	Yes

Table 6-4: Ratio Checks for Reasonableness

6.2 TRANSIT REVIEW TEAM (TRT)

ETC Institute has a dedicated team whose priority is reviewing and editing completed records through the use of an online visual review tool. The TRT reviewed all completed records collected for the survey, paying special attention to records that were automatically flagged by the automated distance checks. Typically around 10% of all records receive an automatic flag. Prior to making edits to any survey, they first attempted to contact the respondent to clarify any questionable answer choices regarding the trip. If no contact was made, or if contact was not possible, which occurs in the vast majority of cases, the following actions detailed in Table 6-5 below were taken. These actions generally result in changes that allow about 30% of those records that are automatically flagged to be retained, or approximately 3% of all completed surveys.

Pre-Processing General Issues and Actions

Table 6-5 describes the general issues that could occur within a trip where changes may have been appropriate.

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

Table 6-5: General Issues & Actions for Resolution

Transfer Issues and Actions

Table 6-6 describes the transfer issues that could occur within a trip where changes may have been appropriate.

ISSUE #	DESCRIPTION OF ISSUE	ACTION
Transfer Issue - 1	The transfer(s) seems illogical based on either the origin to boarding or alighting to destination	If the transfer appears to have been selected incorrectly based on surveyor misselection error (IE Route 24 selected which is illogical but Route 23 is logical) or passenger error (passenger gives inaccurate transfer), then an appropriate transfer(s) will be inserted based on the geocoded points of the trip (origin and destination), the time of day of the trip and the direction of travel. If no appropriate transfers can be found, then the record will be removed from the database.
Transfer Issue - 2	The transfer(s) seems unnecessary based on either the origin to boarding or alighting to destination	If the transfer(s) appears to be unnecessary because the distance from the origin to boarding or alighting to destination is less than 0.2 miles then the trip will be reviewed in further detail to determine if the transfer(s) are inappropriate. Aspects that will determine appropriateness are: the landscape (0.1 miles for example is a very short distance but a river in-between the origin and boarding location could require an individual to use a transfer as opposed to being able to walk), disability, age, and alternate access/egress modes (IE if someone indicates walking 1 mile from origin to boarding but then indicates taking 2 transfers from alighting to destination to travel a total of 0.1 miles they have likely indicated transfers for a future trip later in the day). *NOTE: The 0.2 distance is only used as guideline to create a flag for closer review. Typically only extreme distances have transfers removed.*
Transfer Issue - 3	The passenger indicated that they did not use a transfer but based on their access/egress mode and the distance between either the origin to boarding or alighting to destination suggests that a transfer should have been used.	If the access/egress mode is "walked/walk" and no transfer is indicated, and the distance between either origin to boarding or alighting to destination is greater than 2 miles, then an appropriate transfer(s) will be inserted based on the geocoded points of the trip (origin and destination), the time of day of the trip and the direction of travel. If no appropriate transfers can be found, then the record will be removed from the database.
Transfer Issue - 4	Duplicate Transfers in the Route Path	If duplicate transfers exist in the route path, the trip path is reviewed visually to determine which route(s) were incorrectly entered. If a review of the record suggests that the transfer route(s) is/are unnecessary then they will be removed. If the transfers suggest that trip is a round trip (IE home to home) and not a one-way trip then the record will be removed from the database.

Table 6-6: Transfer Issues

6.3 POST-PROCESSING ADDITIONAL CHECKS

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

Non-trip related checks included:

- Ensuring the respondents who indicated that they were employed also reported that at least one member of their household was employed.
- Ensuring the time of day a survey was completed was reasonable given the published operating schedule for the route.
- Ensuring that the appropriate fare type was used in response to the age of respondent.
- Checking that there is a representative demographic distribution based on age, gender, and income status.
- Removing any personal contact information used for quality control purposes during the data collection portion of the project in order to protect the anonymity of the respondents.

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

CHAPTER 7
DATA WEIGHTING & EXPANSION

7.1 DATA EXPANSION OVERVIEW

When survey goals are created, they are typically based off of a percentage of the average weekday ridership for the routes in the system. That is further broken down by time periods and directions. The time periods that are created (6am to 9am for example) are based off of the specific needs of the client, generally aligning with the travel demand model. Once a sample percentage is agreed upon, the goals for the survey collection are based off of the ridership for each route by time period and direction, and then multiplied by the sampling percentage. For "circular" or "loop" routes, the ridership is typically only broken down into time period as there are many riders that will board going in one direction but alight going the other direction due to the functionality of the route. This typically is also the case if there are directional routes where many riders travel through the terminus and alight going the opposite direction of initial boarding.

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

7.1.1 Route Segmentation with APC[10] Data

There are two ways ETC Institute creates segments for bus routes:

1) boarding percentages of the route from APC data, and

2) based on the number of stops for the route.

Segmenting routes using APC data is the preferred way to segment routes as opposed to segmenting routes based on the number of stops. Routes with APC data were separated based on direction, then divided into three segments based on the total boardings. After approximately one-third of the route's total APC ridership had boarded, a new segment began. After approximately two-thirds of the route's total APC ridership had boarded the final third segment began. Figure 7-1 on page 82 is a simplified example of APC Data Segmenting. *(Note: Iterative Proportional Fitting (IPF) is used in multiple types of expansion discussed later in this document. In order for IPF to work properly, the boarding totals must match the alighting totals. For this reason, APC alightings are adjusted using a multiplying factor in order to make sure their totals match the boarding totals. These are typically nominal alterations, however, if there are significant differences in boarding and alighting totals by direction of a route, it may require additional review of the functionality of the route to ensure that the surveys are both collected and expanded appropriately.)*

10 Automated Passenger Counters (APC) are devices that may be installed on transit vehicles to record boarding and alighting data.

Segmentation with APC Example					
Direction: Eastbound	APC DATA		Segmentation		
Stops	Boardings	Alightings	Running Total of Boardings	Running Percentage of Total Boardings	Segment
Stop 1	35	0	35	23.0%	1
Stop 2	20	10	55	36.2%	1
Stop 3	20	5	75	49.3%	2
Stop 4	15	10	90	59.2%	2
Stop 5	5	12	95	62.5%	2
Stop 6	4	4	99	65.1%	2
Stop 7	19	4	118	77.6%	3
Stop 8	12	3	130	85.5%	3
Stop 9	15	5	145	95.4%	3
Stop 10	3	10	148	97.4%	3
Stop 11	2	15	150	98.7%	3
Stop 12	2	11	152	100.0%	3
Stop 13	0	10	152	100.0%	3
Stop 14	0	15	152	100.0%	3
Stop 15	0	38	152	100.0%	3
	152	152			

Figure 7-1: Route Segmenting: APC Provided Routes

Direction: Eastbound	
Stops	Segment
Stop 1	1
Stop 2	1
Stop 3	1
Stop 4	1
Stop 5	1
Stop 6	2
Stop 7	2
Stop 8	2
Stop 9	2
Stop 10	2
Stop 11	3
Stop 12	3
Stop 13	3
Stop 14	3
Stop 15	3

Figure 7-2: Route Segmenting: Non APC Provided Route

7.1.2 Route Segmentation without APC Data

Routes without APC data were divided into three segments based on the number of stops. After approximately one-third of the route's stops occurred, a new segment began. After approximately two-third of the route's stops occurred, the final third segment began. Figure 7-2 is an example of segmenting without APC Data.

7.2 TYPES OF BUS DATA EXPANSION

The type of bus data expansion conducted depended on the data available for the specific bus route. The three types of data that created the combinations that guided the type of expansion used were: APC data (from Client), On-to-Off Counts Data (collected by ETC Institute), and Origin Destination (OD) Survey Data (collected by ETC Institute). The figure below shows the data combinations, the corresponding route segmentation, and type of expansion used.

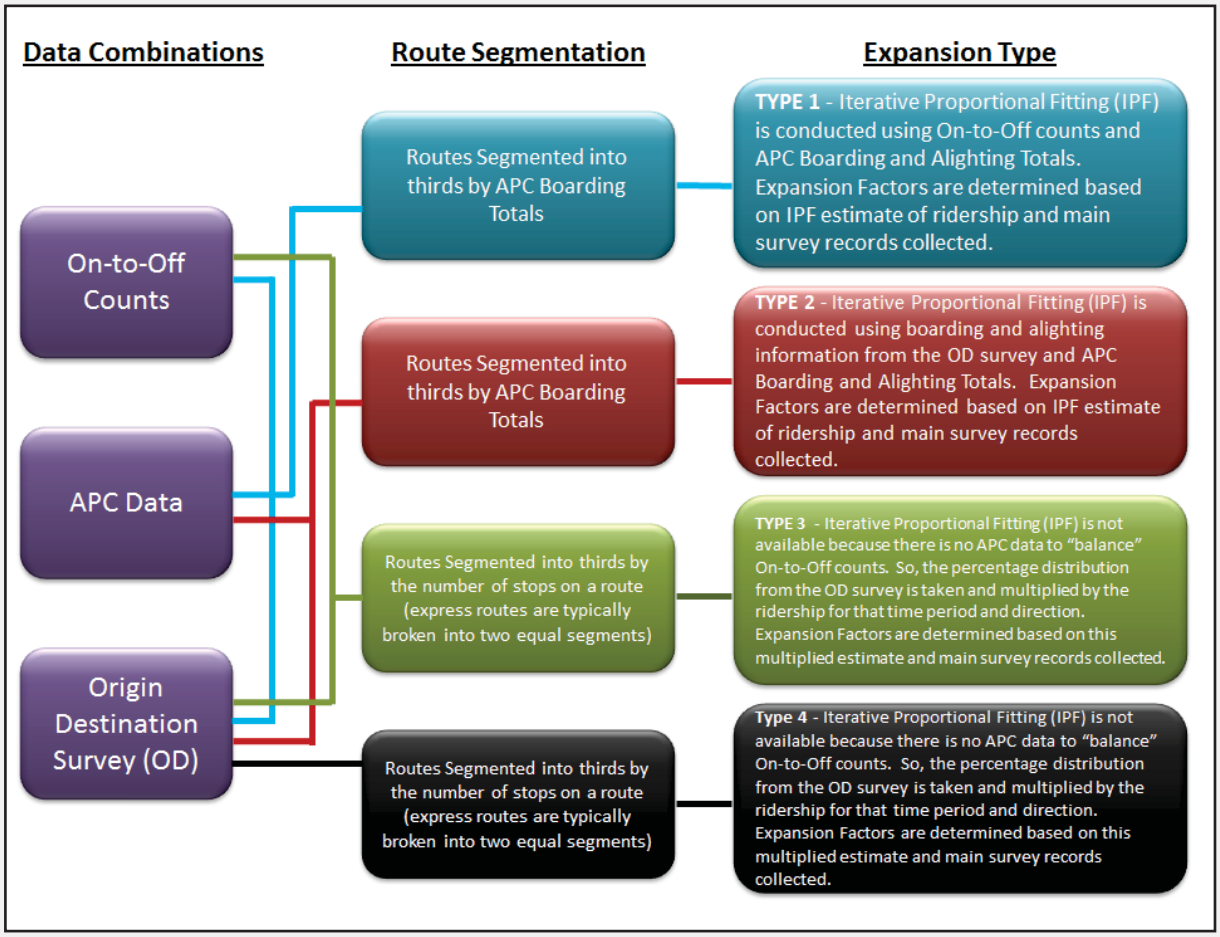
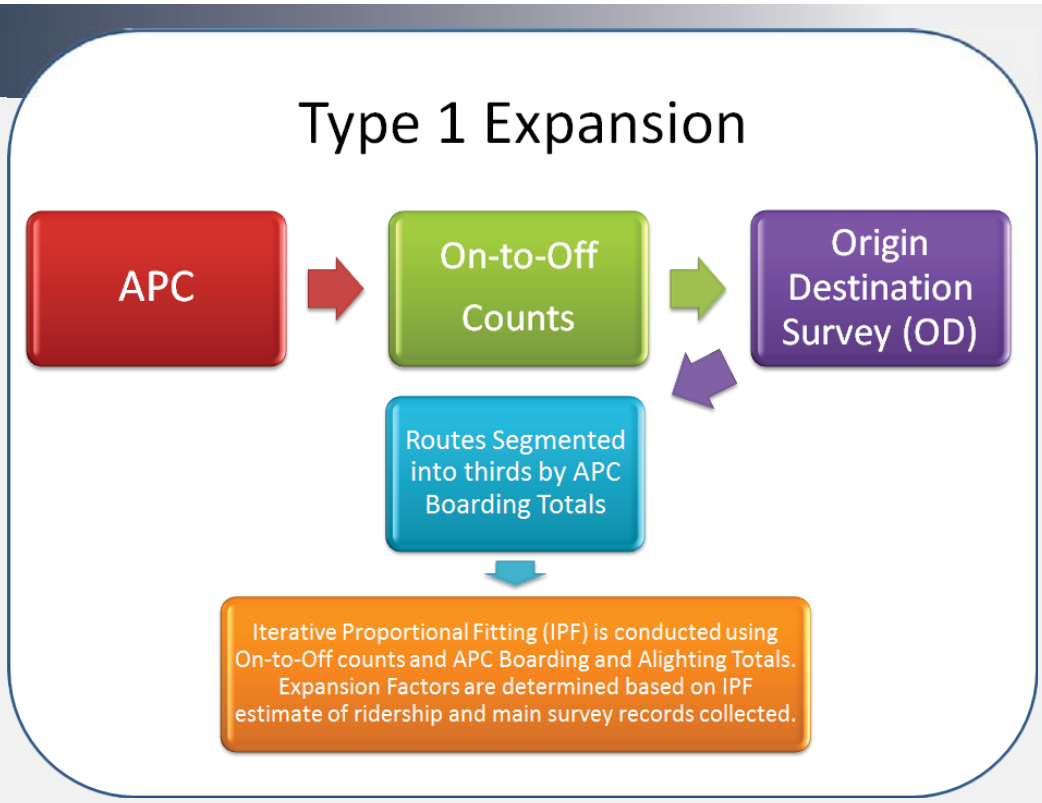


Figure 7-3: Data Expansion Flow Chart



7.2.1 Type 1 Expansion: Bus Routes with APC data, On-to-Off Counts Data, and OD Survey Data

Of the four types of bus expansion discussed, Type 1 expansion was the preferred method as it incorporated all three types of data that were available. Typically On-to-Off data collection is reserved for more heavily traveled routes. These heavier ridership routes are also typically more likely to have available APC data. 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 described previously. The segments were then appended to both the On-to-Off counts and OD data based on the boarding and alighting locations. The methodology for Type 1 expansion is as follows:

TYPE 1

Type 1

Expansion Methodology for Bus Routes with APC Data, On-to-Off Data and OD Survey Data

Once the segments were appended to the On-to-Off 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:

Table 7-A-1 on page 85 shows the segmented results for the On-to-Off counts that was administered for a certain route, direction, and time period. Each row in the table identifies the segment where passengers boarded the bus. The columns in the table identify the segments where people alighted the bus. For example, 20 of the On-to-Off counts had riders board in segment 2 and alight in segment 3.

Table 7-A-2 shows the distribution of the data in Table 7-A-1 expressed as a percentage of all boardings for the specific time period and direction. Table 7-A-2 was created by dividing each on-to-off cell in Table 7-A-1 by the sum of all On-to-Off counts in Table 7-A-1, which is 115. For example, 20/115 (17.4%) of all trips boarded in segment 2 and alighted in segment 3 as shown in Table 7-A-2.

The total APC ridership for the route, time period, and direction was applied to the On-to-Off distribution percentages shown in Table 7-A-2. This produces an estimate of the ridership flow for the boarding segment to the alighting segment as shown in Table 7-A-3. Applying the actual ridership of 320 creates an initial estimate of 56 trips (17.4% x 320) boarding in segment 2 and alighting in segment 3.

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

Table 7-A-1: Bus Data Expansion Table Results of On-to-Off Survey

Route: Example Eastbound (6am-9am)		PERCENTAGE DISTRIBUTION OF RIDERSHIP COUNTS FROM THE ON/OFF SURVEY		
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%

Table 7-A-2: Bus Data Expansion Table Distribution of On-to-Off Survey

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

Table 7-A-3: Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments

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

Table 7-A-4: Boardings & Alightings by Station

In order to develop a more accurate estimate of the ridership flows between segments on each route, ETC Institute developed an Iterative Proportional Fitting (IPF) Algorithm to balance the differences between the ridership projected from the On-to-Off counts (shown in Table 7-A-3) and the APC ridership for each segment (shown in Table 7-A-4). The IPF process is described below:

Step 1: Correction for the Boardings

The estimated ridership from the On-to-Off counts for each route (as shown in Table 7-A-3) was multiplied by the ratio of the actual boardings from APC data for each segment by the estimated boardings for each segment. For example, if the actual boardings for Segment 1 were 120 and the estimated boardings were 100, each cell associated with Segment 1 would have been multiplied by 1.2 (120 / 100) to adjust the estimated boardings to actual boardings.

Step 2: Correction for the Alightings

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

The processes described in Steps 1 and Steps 2 were repeated sequentially until the difference between the actual and estimated boardings and alightings was zero. Table 7-A-5 shows that after seven balancing iterations in this algorithm, there were no differences between the projected distribution and the actual boardings and alightings.

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 ALIGHTING 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

Table 7-A-5: Iterative Balancing Process

The final estimate for ridership flows is shown in Table 7-A-6.

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

Table 7-A-6: Final Estimate of Ridership Flows between Stations

The actual number of OD records completed for each boarding to alighting segment pair is shown inTable 7-A-7. To calculate the expansion factors, the final estimate of ridership between segments shown in Table 7-A-6 was divided by the actual number of OD records collected, as shown in Table 7-A-7. This calculation produces the expansion factors shown in Table 7-A-8. 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 who board in segment 2 and alighting in segment 3 as shown in Table 7-A-8.

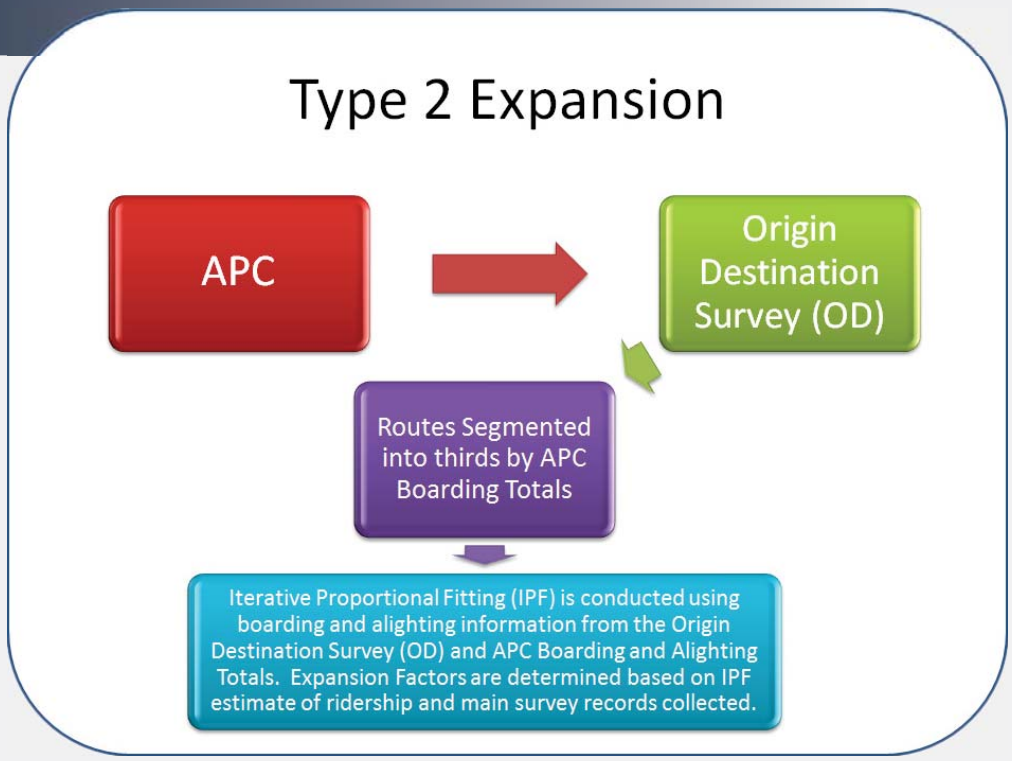
Route: Example Eastbound (6am-9am)				
Segment	Total	1	2	3
1	32	3	9	20
2	17		7	10
3	8			8
Total	57	3	16	38

Table 7-A-7: Number of Completed Surveys (Bus)

TABLE 8: WEIGHTING FACTORS 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

Table 7-A-8: Weighting Factors (Bus)

TYPE 2



7.2.2 Type 2 Expansion: Bus Routes with APC Data, OD Survey Data, but no On-to-Off Counts Data

On-to-Off counts are not collected for lower ridership routes. However, sometimes these routes will have APC data available. In this case, Type 2 expansion is appropriate. This type of expansion also divided stops into three segments based on total boarding distribution by direction. These segments were then appended to the OD records based on the boarding and alighting locations. The expansion method is similar to Type 1 expansion, the only difference being that the distribution of OD records was substituted for the On-to-Off count data in Table 7-A-1. The methodology for Type 2 expansion is as follows:

Type 2

Expansion Methodology for Bus Routes with APC Data, OD Survey Data, but No On-to-Off Counts Data

Table 7-B-1 shows the segmented results from the OD survey that replaced the On-to-Off counts. Each row in the table identifies the segment where passengers boarded the bus. The columns in the table identify the segments where people alighted. For example, 10 OD surveys had riders board in segment 2 and alight in segment 3.

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

Table 7-B-1: Bus Data Expansion Table Results of On-to-Off Survey

Table 7-B-2 shows the distribution of the data in Table 7-B-1, expressed as a percentage of all boardings for the time period and direction. Table 7-B-2 was created by dividing each cell in Table 7-B-1 by the sum of all records in Table 7-B-1, which is 57. For example, 10/57 (17.5%) of all trips boarded in segment 2 and alighted in segment 3 as shown in Table 7-B-2.

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

Table 7-B-2: Bus Data Expansion Table Distribution of On-to-Off Survey

The ridership for the route by time period and direction was applied to the "On-to-Off" (boarding to alighting information from the OD survey) distribution shown in Table 7-B-2. This produces an estimate of the ridership flow on the route based on the boarding segment to the alighting segment as shown in Table 7-B-3. Applying the actual ridership of 320 to the distribution created an initial estimate that 56 trips (17.5% x 320) boarded in segment 2 and alighted in segment 3.

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

Table 7-B-3: Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments

In order to develop a more accurate estimate of ridership flows between segments for each route, ETC Institute developed an Iterative Proportional Fitting (IPF) Algorithm to balance the differences between the initial estimated ridership (shown in Table 7-B-3) and the ridership observed by APC data at each segment (shown in Table 7-B-4).

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

Table 7-B-4: Boardings & Alightings by Station

The key steps to the iterative process are described below:

Step 1: Correction for the Boardings

The estimated ridership from the "On-to-Off" data (boarding to alighting information from the OD survey) for each route (shown in Table 7-B-3) was multiplied by the ratio of the actual boardings from the APC data for each segment by the estimated boardings for each segment. For example, if the actual boardings for Segment 1 were 120 and the estimated boardings were 100, each cell associated with Segment 1 would have been multiplied by 1.2 (120 / 100) to adjust the estimated boardings to actual boardings.

Step 2: Correction for the Alightings

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

The processes described in Step 1 and Step 2 were repeated sequentially until the difference between the actual and estimated boardings and alightings was zero. Table 7-B-5 shows that after six balancing iterations in this algorithm, there were no differences between the projected distribution and the actual boardings and alightings.

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

Table 7-B-5: Iterative Balance Process

The final estimate for ridership flows is shown in Table 7-B-6 below.

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

Table 7-B-6: Final Estimate of Ridership Flows between Stations

The actual number of OD records that were completed for each boarding to alighting segment is shown in Table 7-B-7. To calculate the expansion factors, the final estimate of ridership between segments shown in Table 7-B-6 was divided by the actual number of OD records that were completed as shown in Table 7-B-7. This calculation produces the expansions shown in Table 7-B-8. So, the 40 estimated riders were divided by the 10 completed surveys to produce a factor of 3.96 to be applied to riders who board in segment 2 and alighting in segment 3, as shown Table 7-B-8.

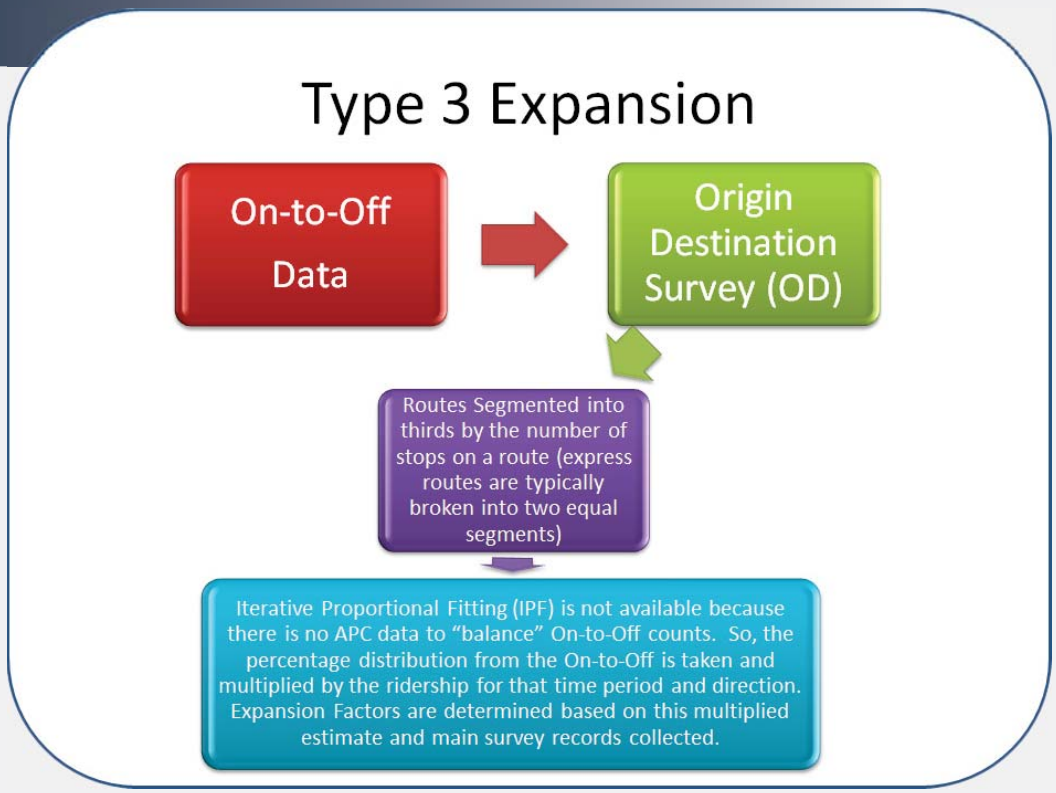
Route: Example Eastbound (6am-9am)				
Segment	Total	1	2	3
1	32	3	9	20
2	17		7	10
3	8			8
Total	57	3	16	38

Table 7-B-7: Number of Completed Surveys (Bus)

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

Table 7-B-8: Weighting Factors (Bus)

TYPE 3



7.2.3 Type 3 Expansion: Bus Routes with On-to-Off Counts and OD Survey Data, but without APC Data

Expansion Type 3 is utilized for routes where On-to-Off counts are collected, but APC data is not available. Routes without APC data are segmented into three segments based on number of stops along a route. These segments were then appended to the On-to-Off and OD Survey databases. The expansion method is less complex than the two previously discussed types of expansion. The methodology for Type 3 expansion is as follows:

Type 3

Expansion Methodology for Bus Routes with On-to-Off Counts and OD Survey Data, but without APC Data

Table 7-C-1 displays the results for the On-to-Off counts. Each row in the table identifies the segment where passengers board the bus. The columns in the table identify the segments where people alight the bus. For example, 20 of the On-to-Off counts captured riders boarding on segment 2 and alighting on segment 3.

			Total Boardings this Direction During this Time Period =	300
Route: Example Eastbound (6-9am)	DISTRIBUTION OF COMPLETED ON2OFF SURVEYS			
Segment		1	2	3
1	55	5	20	30
2	30		10	20
3	15			15
Total	**100**	**5**	**30**	**65**

Table 7-C-1: Bus Data Expansion Table Results of On-to-Off Survey

Table 7-C-2 shows the distribution of the data in Table 7-C-1 expressed as a percentage of all boardings for the route, time period, and direction. Table 7-C-2 was created by dividing each On-to-Off cell in Table 7-C-1 by the sum of all On-to-Off counts in Table 7-C-1, 100. For example, 20/100 (20.00%) of all trips board in segment 2 and alight in segment 3 as shown in Table 7-C-2.

Route: Example Eastbound (6-9am)	DISTRIBUTION OF ON2OFF SURVEYS AS % OF ALL COMPLETED ON2OFF SURVEYS			
Segment		1	2	3
1	55.00%	5.00%	20.00%	30.00%
2	30.00%	0.00%	10.00%	20.00%
3	15.00%	0.00%	0.00%	15.00%
Total	100%	5.00%	30.00%	65.00%

Table 7-C-2: Bus Data Expansion Table Distribution of On-to-Off Survey

The total ridership for the route, time period, and direction was applied to the On-to-Off distribution shown in Table 7-C-2. This produces an estimate of the ridership flow on the route based on the boarding to the alighting segment, shown in Table 7-C-3. Applying the actual ridership, 300 riders, to the distribution creates an estimate that 60 trips (20.00% x 300) boarded in Segment 2 and alighted in Segment 3.

Route: Example Eastbound (6-9am)	ESTIMATED RIDERSHIP BASED ON THE ON-TO-OFF SURVEY			
Segment		1	2	3
1	165	15	60	90
2	90	0	30	60
3	45	0	0	45
Total	300	15	90	195

Table 7-C-3: Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments

The actual number of OD records completed for each boarding-to-alighting segment is shown in Table 7-C-4. To calculate the expansion factors, the estimate of ridership between segments, shown in Table 7-C-3, was divided by the actual number of OD records completed between segments, shown in Table 7-C-4. The calculation produces the expansion factors shown in Table 7-C-5. So, the 60 estimated riders were divided by the 7 OD records to produce a factor of 8.57 to be applied to riders who board in segment 2 and alighting in segment 3 as shown in Table 7-C-5.

		Total Number of Surveys =	30	
Route: Example Eastbound (6-9am)	NUMBER OF COMPLETED SURVEYS			
Segment		1	2	3
1	16	4	4	8
2	10		3	7
3	4			4
Total	30	4	7	19

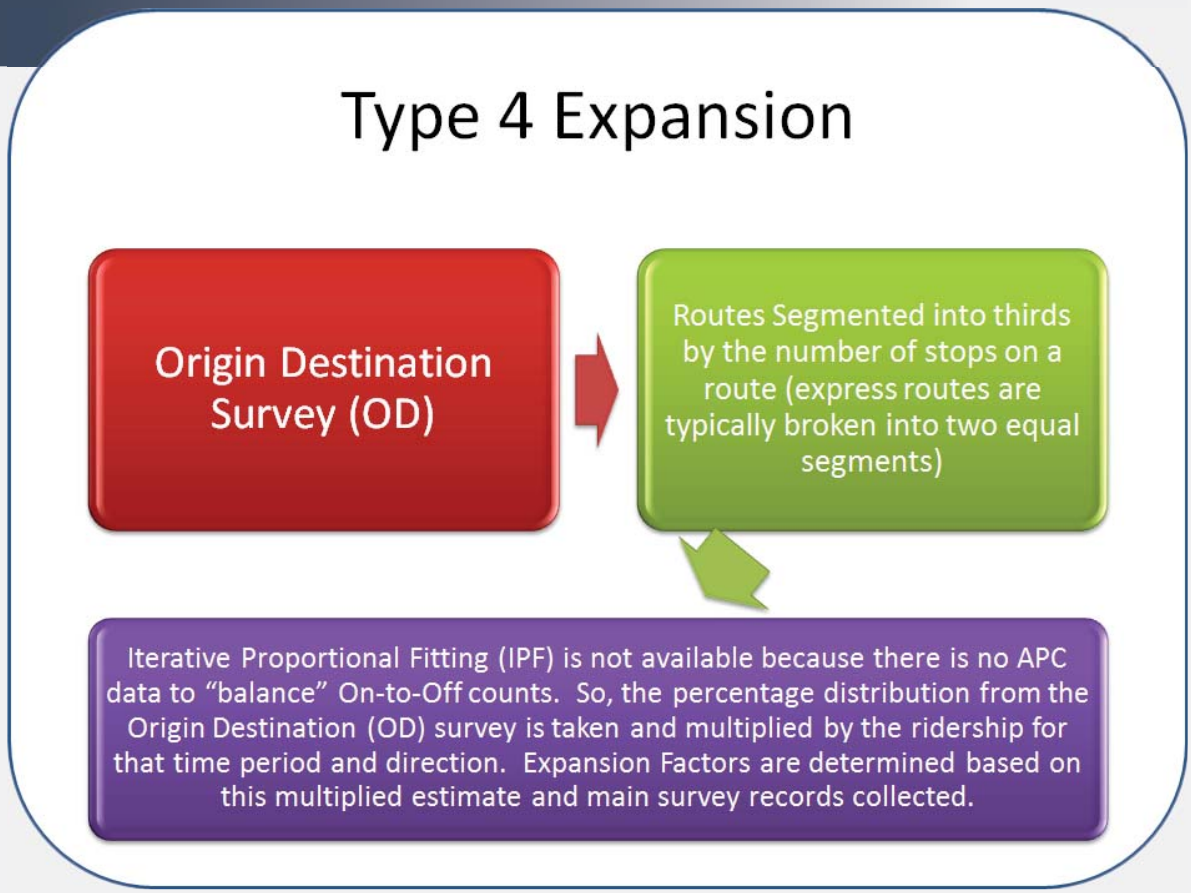
Table 7-C-4: Number of Completed Surveys

Route: Example Eastbound (6-9am)				
Segment		1	2	3
1	10.312500	3.750000	15.000000	11.250000
2	9.000000		10.000000	8.571429
3	11.250000			11.250000
Total	10.000000	3.750000	12.857143	10.263158

Table 7-C-5: Weighting Factors

Once all the expansion factors were calculated, each factor was applied to all surveys with the same route, direction, time of day, boarding segment, and alighting segment.

TYPE 4



7.2.4 Type 4 Expansion: Bus Routes with OD Survey Data, without On-to-Off Counts Data or APC Data

For routes that only have OD Survey data, Type 4 expansion is utilized. Routes are divided into three segments based on number of stops along a route. These segments were then appended to the OD Survey database. The methodology for Type 4 expansion is as follows:

Type 4

Expansion Methodology for Bus Routes with OD Survey Data, without On-to-Off Counts Data or APC Data

Table 7-D-1 shows the segmented results from the OD survey that replaced the On-to-Off counts. Each row in the table identifies the segment where passengers boarded the bus. The columns in the table identify the segments where people alighted. For example, 7 of the OD surveys had riders board in segment 2 and alight in segment 3.

		Total Boardings this Direction During this Time Period =	300	
Route: Example Eastbound (6-9am)	DISTRIBUTION OF COMPLETED ON2OFF SURVEYS			
Segment		1	2	3
1	16	4	4	8
2	10		3	7
3	4			4
Total	30	4	7	19

Table 7-D-1: Bus Data Expansion Table Results of On-to-Off Survey

Table 7-D-2 shows the distribution of the data inTable 7-D-1 as a percentage of all boardings for the route. Table 7-D-2 was created by dividing each on-to-off cell in Table 7-D-1 by the sum of all OD records replacement data in Table 7-D-1, which is 30. For example, 7/30 (23.33%) of all trips boarded in segment 2 and alighted in segment 3 as shown in Table 7-D-2.

Route: Example Eastbound (6-9am)	DISTRIBUTION OF ON2OFF SURVEYS AS % OF ALL COMPLETED ON2OFF SURVEYS			
Segment		1	2	3
1	53.33%	13.33%	13.33%	26.67%
2	33.33%	0.00%	10.00%	23.33%
3	13.33%	0.00%	0.00%	13.33%
Total	100%	13.33%	23.33%	63.33%

Table 7-D-2: Bus Data Expansion Table Distribution of On-to-Off Survey

The total ridership for the route, time period, and direction was applied to the On-to-Off distribution shown in Table 7-D-2. This produces an estimate of the ridership flow on the route based on the boarding segment to the alighting segment as shown in Table 7-D-3. Applying the actual ridership of 300 to the distribution creates an estimate that 70 trips (23.33% x 300) board in Segment 2 and alight in Segment 3.

Route: Example Eastbound (6-9am)	ESTIMATED RIDERSHIP BASED ON THE ON-TO-OFF SURVEY			
Segment		1	2	3
1	160	40	40	80
2	100	0	30	70
3	40	0	0	40
Total	300	40	70	190

Table 7-D-3: Bus Data Expansion Table Initial Estimate of Ridership Flows Between Segments

The actual number of OD records that were completed for each boarding-to-alighting segment pair is shown in Table 7-D-4. To calculate the expansion factors, the estimate of ridership between segments, shown in Table 7-D-3, was divided by the actual number of OD records that were completed between segments shown in Table 7-D-4. This calculation produces the expansion factors shown in Table 7-D-5. So, the 70 estimated riders were divided by the 7 completed OD records to produce a factor of 10.00 to be applied to riders who boarded in segment 2 and alighted in segment 3 as shown in Table 7-D-5.

	Total Number of Surveys =	30		
Route: Example Eastbound (6-9am)	NUMBER OF COMPLETED SURVEYS			
Segment		1	2	3
1	16	4	4	8
2	10		3	7
3	4			4
Total	30	4	7	19

Table 7-D-4: Number of Completed Surveys

Route: Example Eastbound (6-9am)				
Segment		1	2	3
1	10.00	10.00	10.00	10.00
2	10.00		10.00	10.00
3	10.00			10.00
Total	10.00	10.00	10.00	10.00

Table 7-D-5: Weighting Factors

Once all the expansion factors are calculated, each factor is applied to all surveys with the same route, direction, time of day, boarding segment, and alighting segment.

General Rule for Expansion Factors

While there are no specific guidelines for the expansion factor values, ETC Institute uses a guideline of keeping expansion factors below 3 times the average expansion factor based on the sampling percentage. This is done in order to keep any one record from representing a markedly high number of riders in the system. The formula for determining this guideline is:

1/(Sampling %) x 3 = Guideline Weight Factor

If the expansion factor for a boarding segment to alighting segment pair is greater than 3 times the average expansion factor then it is aggregated into the adjacent boarding-to-alighting segment where it will have the least impact on the previously existing expansion factors. This guideline is standard for all the various expansion types.

Summary

After all the factors are appended to the OD survey database (regardless of type of expansion) the factors are summed by route, time period, and direction. If expansion was done properly, the summed factors will equal the boarding ridership provided in the APC data by route, time period, and direction.

7.3 LINKED TRIP EXPANSION FACTORS FOR ALL RECORDS

The linked trip expansion factor helps to account for the number of transfers that were made by each passenger, so the linked expansion factors should better represent the overall system. Linked expansion factors are generated after the unlinked expansion factors are created.

The equation that is used to calculate the linked trip multiplying factor is shown below:

Linked Trip Multiplying Factor = [1 / (1 + # of transfers)]

If a passenger did not make a transfer, the linked trip multiplying factor would be 1.0 because the person would have only boarded one vehicle. If a person made two transfers, the linked trip expansion factor would be 0.33 because the person would have boarded three transit vehicle during his/her one-way trip. An example of how the linked trip expansion factors were calculated is provided in Figure 7-4 below.

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

Figure 7-4: Sample Calculations of Linked Trip Multiplying Factors

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

7.4 DECOMPOSITION ANALYSIS

Resource Systems Group (RSG), a subconsultant that specializes in statistical analyses, performed a decomposition analysis to understand how the linked-trip weights represent actual ridership. On a typical Origin-Destination (OD) study, an unlinked-trip weight is calculated based on the average weekday ridership for the route on which the respondent was surveyed, and does not consider whether they transferred to or from other routes during their trip. A second weight is calculated (the linked-trip weight) that considers the number of transfers made. This weight is calculated by taking the number of transfers made by a respondent, adding one, and then taking the inverse of that number. For example, if a rider made one transfer, the linked-trip weight would be the inverse of one plus one—or 1/2. If the rider made two transfers, then the linked-trip weight would be 1/3.

The decomposition analysis reviews all transit routes/lines used by survey respondents and looks to see how many riders transferred to each route and from each route. This allows us to determine whether the total ridership estimated from the linked trip weight using all the routes/lines adds up to the total boardings on a particular route as well as the total boardings for the entire system.

Table 7-E-1 below is an example of a simple transit system with 6,000 linked trips (riders) on three routes.

Route 1	Route 2	Route 3
1000		
	1000	
		1000
1000		
	1000	
1000		

Table 7-E-1: Linked Trips example (# linked trips)

As one can see in the table above, these 6,000 linked trips are the equivalent of the number of riders on the system. However, these 6,000 riders (linked trips) are making 10,000 unique boardings (the number of times these riders get on a transit vehicle). The 10,000 boardings for these 6,000 riders are shown in Table 7-E-2. In this table, boardings in red indicate the additional boardings over what is shown in Table 7-E-1. The boardings in red are due to the transfers made by riders.

Route 1	Route 2	Route 3
1000		
	1000	
		1000
1000	1000	
	1000	1000
1000	1000	1000

Table 7-E-2: Unlinked Trips or Boardings Example

The analysis is summarized in a table like Table 7-E-3, which shows the number of respondents surveyed on a particular route along with the number of respondents surveyed on other routes that reported transferring to or from the route. The table then sums the total number of boardings reported in the survey (either by being surveyed on or transferred to/from) and compares this sum to the actual boardings obtained from APC or farebox data. Ideally, the system-wide difference between the two should be small but some amount of difference is to be expected at the route level.

	Linked Trips			Unlinked Trips			
Route Surveyed	# Resp. Surveyed on Route	# Resp. Transferring FROM Route	# Resp. Transferring TO Route	Total Boardings (from survey)	Actual Boardings	Absolute Difference	Percent Difference
Route 1	1,500	700	800	3,000	3,100	-100	-3.2%
Route 2	3,000	2,000	1,000	6,000	5,000	1,000	20.0%
Route 3	500	250	250	1,000	975	25	2.6%

Table 7-E-3: Example Results

The purpose of this memo is to summarize RSG's decomposition analysis conducted on the IndyGo OD dataset. This analysis reviews all transit routes used by survey respondents and looks to see how many riders transferred to and from each route. This allows one to determine whether the total ridership estimated from the linked trip weight using all the routes/lines adds up to the total boardings on a particular route as well as the total boardings on the entire surveyed system. This analysis is a good QA/QC step to ensure the survey effort and weighting/expansion process was done properly.

RSG found virtually no difference between linked and unlinked boardings. Upon analysis by route size one finds very slight variability between large and small routes; this variability is expected as the analytical resolution increases. The differences between estimated and actual boardings seen on IndyGo are extremely small and validate the efficacy of the surveying and weighting undertaken.

	Segment	Estimated Boardings (Linked Trips + Transfers)*	Actual Boardings (Unlinked Trips)**	Absolute Difference	Percent Difference
Route Size	> 1,000 actual boardings	23,188	23,011	178	0.8%
	< 1,000 actual boardings	12,317	12,501	(184)	-1.5%
Overall	**Total**	**35,506**	**35,512**	**(6)**	**0.0%**

*using linked trip w eights
**using unlinked trip w eights

Table 7-E-4: Decomposition Analysis Summary

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APPENDIX A
SURVEY INSTRUMENT

IndyGo

IndyGo 2016 On-Board Ridership Survey

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

What is your HOME ADDRESS (please be specific, ex: 123 W. Main St):
(*If you are visiting the Indianapolis area, please list the* ***hotel name*** *or address where you are staying*)

Street Address _____ **City** _____ **State** _____ **Zip Code** _____

COMING FROM?

1. What type of place are you COMING FROM NOW?
(the starting place for your one-way trip)

- O Work or Work Related
- O College / University (students only)
- O School K-12 (students only)
- O Doctor / Clinic / Hospital (non-work)
- O Shopping
- O Social / Religious / Personal Business
- O Airport (passengers only)
- O Your **HOME** → *Go to Question #4*
- O Other: _____

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

_____

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

_____

City: _____ **State:** _____ **Zip:** _____

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

- O Walk / Wheelchair
- O Bike
- O Was dropped off by someone (answer 4a)
- O Drove alone and parked (answer 4a)
- O Drove or rode with others and parked (answer 4a)
- O Car share (e.g. BlueIndy, etc.) (answer 4a)
- O Taxi, Uber, Lyft, etc. (answer 4a)
- O Other_____

4a. Where did you board the FIRST bus you used for this one-way trip (Nearest intersection):

_____

5. Where did you get ON this bus? Please provide the nearest intersection:

_____

GOING TO?

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

- O Work or Work Related
- O College / University (students only)
- O School K-12 (students only)
- O Doctor / Clinic / Hospital (non-work)
- O Shopping
- O Social / Religious / Personal Business
- O Airport (passengers only)
- O Your **HOME** → *Go to Question #9*
- O Other: _____

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

_____

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

_____

City: _____ **State:** _____ **Zip:** _____

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

- O Walk / Wheelchair
- O Bike
- O Be picked up by someone (answer 9a)
- O Get in a parked vehicle & drive alone (answer 9a)
- O Get in a parked vehicle & drive/ride w/others (answer 9a)
- O Car share (e.g. BlueIndy, etc.) (answer 9a)
- O Taxi, Uber, Lyft, etc. (answer 9a)
- O Other_____

9a. Where will you get off the LAST bus you are using for this one-way trip (Nearest intersection):

_____

10. Where will you get OFF this bus? Please provide the nearest intersection:

_____

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

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

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

START → [ ] → [ ] → [ ] → [ ] → END

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

Continue

OTHER INFORMATION ABOUT THIS TRIP

12. What time did you BOARD this bus? _____ : _____ **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. What fare payment methods were used for this one-way trip? *(select all that apply)*
O 1 Trip (Cash on bus) O 1 Day Pass O 7 Day Pass O 31 Day Pass (Monthly)
O 1 Trip Ticket O 10 Trip Pass O S Pass (If S Pass skip to Q16) O Other_____

15. What type of fare was this?
O Youth (6-18) O Regular O Senior (65 and older) O Disabled

16. On this round trip (between the time you left home and will return home) will you or did you *(check all that apply)*
O No other trip O Go to work O Go to school O Go shopping
O Buy a meal/beverage O Visit friend/relative or attend a religious/social event O Other errands
O Other (please specify):_____

17. If bus services were not available, how would you have made this trip?
O Would have walked O Would have driven myself O Car Share (e.g. Blue Indy, etc.)
O Would have bicycled O Would have taken a taxi, Uber, Lyft, etc. O Would not have made this trip
O Would have ridden with someone else O Would have taken transit to a different location

18. How many days a week do you usually make this trip?
O 6-7 days a week O Twice a month O First time riding
O 3-5 days a week O Once a month
O 1-2 days a week O Less than once a month

ABOUT YOU AND YOUR HOUSEHOLD

19. Are you a visitor to the Indianapolis region? ONo O Yes (if YES, please skip to Q25)

20. How many vehicles (cars, trucks, or motorcycles) are available to your household? _____ vehicles
20a. [If #20 is more than NONE] Could you have used one of these vehicles for this trip? OYes ONo

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

22. Including YOU, how many people (over age 15) in your household are employed full/part-time?____ people

23. What is your employment status? (check the one response that BEST describes you)
O Employed full-time (more than 30 hours per week) O Not employed O Part time temporarily employee
O Employed part-time (less than 30 hours per week) O Full time temporarily employee O Retired

24. What is your student status? (check the one response that BEST describes you)
O Not a student O Yes – College/University/Community College O Yes – K - 12th grade
O Yes – Vocational / Technical / Trade school O Other_____

25. Do you have a valid driver's license? OYes ONo

26. What is your AGE? O Under 16 O 16-18 O 19-24 O 25-34
O 35-49 O 50-64 O 65 and over

27. What is your race / ethnicity? *(check all that apply)*
O American Indian/Alaska Native O Asian O Black/African/African American O Hispanic/Latino
O Native Hawaiian/Pacific Islander O White O Other: _____

28. What is your gender? O Male O Female

29. Which of the following BEST describes your TOTAL ANNUAL HOUSEHOLD INCOME in 2015 before taxes?
O Less than $15,000 O $25,000 - $34,999 O $60,000 - $99,999 O $150,000 - $199,999
O $15,000 - $24,999 O $35,000 - $59,999 O $100,000 – $149,999 O $200,000 or more

30. Do you speak a language other than English at home? O No OYes - **Which language?** _____
30a. [If #30 is Yes] How well do you speak English? O Very Well O Well O Less than well O Not at all

31. Do you have any of the following: *(check all that apply)*
O Smart phone O Checking account O Debit card O Credit card

REGISTER TO WIN 1 of 3 31-Day passes

Please provide your name and phone number so you can be sent your prize if selected.

Your Name: _____

Phone Number: (_____) _____

Thank you for your help!

APPENDIX B
INDYGO TRAINING OD SURVEY

Introductions

Indianapolis Metropolitan Planning Organization
Indianapolis Public Transportation Corporation

- Ryan McCuchan (ETC)
- Brad Carlson (ETC)
- Fred G'sell (ETC)
- Lochmueller Group

2

Agenda

- Overview of the project
- What you will be doing
- Expectations for conduct
- How to use the equipment
- How to conduct the survey
- Practical exercise for conducting the survey
- Adjourn

3

Overview of the Survey

The overall purpose of the survey is to collect information on the travel patterns of bus passengers to inform transportation planning and forecasting, leading to a better transit system.

4

Overview of the Survey

Most importantly, the data you will be collecting is important and will benefit the Indianapolis and the surrounding areas for years to come.

Each individual passenger you collect information on from the interview, is being counted. It is very important to capture each individual so that each particular passenger may be represented in planning.

Interviewer Position

As a Interviewer, your job will consist of riding on board IndyGo bus routes conducting in-person interviews with passengers.

You will approach passengers using a random selection method (to be described later in training), politely explain who you are and what IndyGo is doing, ask for participation, and conduct the survey using a personal tablet loaded with the survey.

6

Expectations for Conduct: General

- Be On-time
- **Drivers and Transit employees are ALWAYS right!!!!!**
- Business Casual Attire – Jeans are okay but make sure jeans are appropriate (no tears, excessively baggy). No saggy pants.
- Be polite and courteous to everyone (Employees/Passengers).
- Good hygiene is important.
- No headphones on the bus. If you want to listen to headphones, keep them hidden and use them only on break.
- Do not use the internet on the tablets for personal use!!

7

Expectations for Conduct: Continued

- Cell phone calls from the bus should be to supervisors or other survey staff for work purposes only. Personal cell phone calls should be made on break and should not involve foul language if on any of the transit systems property including bus stop shelters.
- No disrespectful behavior of any kind will be tolerated.
- No Cheating…you will get caught

8

Conduct on Buses

- Do **NOT** hold up the line when people are getting on or off the bus.
- The survey is **ALWAYS** voluntary. There is never a good reason to argue with anyone who doesn't want to participate in the survey.
- No eating / drinking / chewing tobacco / smoking / E cigarettes / vaping on the bus. No tobacco products while in your vest/near transit facilities including shelters, because that is against the law.
- **Some one is always watching you**

9

Administrative Issues

- Driver / Customer Interaction
  - No arguments with drivers / riders **(remove yourself from the situation)**
  - Even though you do not work for the IMPO or IndyGo, your behavior reflects on them.
  - "Thank you for your suggestions and/or I understand your comments and concerns. I am a subcontractor for IndyGo and the IMPO and I am sure that if you call customer service, they will also value your thoughts and opinions".

10

Administrative Issues Continued

- Contact Information
  - Project cell phone ??????????????
  - No VM, texts encouraged
  - Identify yourself and your issues quickly
- DO NOT BRING VALUABLES THAT DON'T FIT IN YOUR POCKET OR CARRYABLE BAG!!!!

11

Safety

Your personal safety comes first.

- Always look both ways when crossing streets and parking lots
- Always wear your vest (identifies you as a interviewer to security)
- Always have your hand on the hand rail if you are standing/walking on a moving vehicle

If you ever feel that your safety is being threatened, please get off the vehicle.

Conduct Statement

QUESTIONS ABOUT CONDUCT or SAFETY?

13

Data We are Collecting

The main elements we will be collecting during the interview is the passenger's one-way trip. A **one-way** trip is shown in the example below and differs from a **round trip**. A one-way trip is getting from point A to point B such as traveling from work to home, home to work, school to shopping, etc.

14

Data We are Collecting

The one-way trip information we will collect includes:

- Each passengers Origin (where the passenger is coming from including type of place and location)
- All routes the passenger has taken and will take to make the current trip they are on (routes prior to the vehicle the survey is being conducted and the routes that will be used after the passenger exits the vehicle that they are surveyed on)

15

Data We are Collecting

- Destination (where the passenger is going including type of place and location
- Boarding and alighting locations for the vehicle the survey is being conducted (where the respondent got on the bus and is getting off the bus which they are surveyed on)
- How passengers get to their first transit stop from their origin and how they will get to their destination from their last transit stop
- Transfers before and after this bus

16

Data We are Collecting

We will also collect the passenger's home address. If a passenger is uncomfortable providing their precise home address, ask if they can provide the nearest cross streets or intersection. Other data we will collect includes:

- Fare information
- The time that the passenger boarded the bus that they are being surveyed on
- If the passenger will be making their return trip using the same exact routes (opposite direction)

17

Data We are Collecting Continued

- Frequency and length of time riding transit
- Residential Status – If the respondent is a Visitor
- Working Automobiles available to their household and availability for current trip
- Number of people living in household **(Specify Dorms etc.)**
- Household employees (persons over 15 that are living with them and employed)
- Employment status of the passenger and if employed, does employer pay any part of transit fare

18

Data We are Collecting Continued

- Student status of the passenger
- Drivers license status of the passenger
- Age, Ethnicity, and Gender of passenger
- Household Income for 2015 (let passenger select this on the tablet)
- Other languages spoke in their household if any
- If they speak another language at home, how well do they speak English

19

Interview Length

The interview should take no longer than 7 minutes. Depending on amount of transfers used and other items, it may take a minute or two more. Once familiarized with the survey and program, you may be able to complete a survey in 4-5 minutes. Our expectations for surveyor productivity are no less than 5 completed surveys per hour that are accurate.

20

How to Approach Passengers

Approach passengers with a smile and introduce yourself as a surveyor for Metropolitan Council. Make sure to approach the passenger with enthusiasm and do not be afraid when asking questions relating to demographics. Be polite even if the passenger declines the interview. Always thank the passenger at the end of the survey or if the passenger refuses.

21

Turning Refusals

If a passenger refuses to take the survey, quickly state the importance of the survey and how their individual input will contribute to transportation improvement. It is very important to capture that individuals trip and demographic information so that they may be counted in regional planning.

22

Capturing Accurate Locational Data

It is of utmost importance that the correct address or cross streets are input into the survey. Address information must include:

- Complete address with correct city (you must verify city or zip code)
- If a passenger only gives an intersection (cross streets), we must have **two cross streets**. If the passenger only provides one cross street, you must ask for another intersecting street and then verify the city.
- If the passenger provides a place name, then you must verify the exact location of that place (streets and city).

23

How to Use the Equipment

- **Two Types: Samsung Galaxies and/or iPads**
- **Review Basics**
  - How to turn the device on/off
  - How to log into the survey
  - How to adjust brightness and other settings
  - How to check you battery strength

24

How to Conduct Survey

- **Selecting Participants**
  - Everyone who boards the bus/train is eligible participate
  - The tablet will select the rider to be interviewed
  - DO NOT skip children or persons with disabilities
  - If you encounter a child who is accompanied by an adult, ask the parent or adult with him/her for permission or have the parent answer on behalf of the child.
  - Always introduce the interview in English!
  - VERY IMPORTANT – the selection process must ALWAYS BE RANDOM

25

How to Conduct Survey

- **Getting People to Do the Survey**
  - "Hi, I'm Brad, you were randomly selected to participate in a short interview to improve service on route XX."
  - "Would you mind answering a few questions?" or
  - "Please help us out"

26

How to Conduct Survey

- **Four Response Options:**
  - YES – you will ask if they have at least five minutes to determine whether you will administer
    - Full Survey
    - Full Survey until passenger has to exit
  - NO – refusal, follow question
  - NO – language barrier, attempt call

27

Break 10:20am

We will now be taking a short break. Please return to the meeting room in approximately 15 minutes.

Survey Assignments

For some assignments you will need to be cognizant of getting on and off your assigned route. You will need to ask the driver at the end of each trip, if that bus is remaining the same route. We will also be conducting some survey assignments by utilizing Bus Blocks.

A block is an series of trips made by a single bus and may includes multiple routes.

29

Survey Assignments

The Block will always be represented on the front of the bus but always double check with the driver. On occasions you will have to get off your vehicle and wait to catch another block so we can get you back to a starting location or back on track to get back to the starting location.

30

Survey Assignments

The Most Important Thing is, when one trip ends, check your assignments sheet so you can either:

- Get off that bus to catch another block. When ever you see a black line in your assignment such as assignment 6 which has three block changes, you will have to get off each bus to wait for the next block.
- **Ensure the route and direction so you can enter each route and direction properly to associate each survey with the correct information.**

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Survey Assignments

Go through Example assignments 50 and 6
Asn = Assignment Number
Route= Route to enter (Important)
Direction=Route Direction to enter (important)
Block= Bus vehicle you will be riding on
Start Location= starting point/stop for trip
Start = starting point/stop for trip
End= ending point/stop for trip
End Location= ending point/stop for trip

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How to Conduct Survey

- **Let's Walk Thru the Survey**

33

How to Conduct Survey

- Questions
- Breakout in Small Groups

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FINAL EXAM

- Test Questions

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