



City of Fresno Department of  
Transportation/Fresno Area Express

Title VI Service Equity Analysis



*April 2020*



Prepared By:



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## Overview

In compliance with Title VI of the Civil Rights Act of 1964, the Federal Transit Administration (FTA) requires all transit agencies that receive federal funding to monitor the performance of their systems, ensuring services are made available and/or distributed equitably. One component of ensuring compliance is performing an equity analysis for all fare changes and any major service changes to determine its impact on minority (race, color, or national origin) and low-income populations.

Fresno Area Express (FAX) is the primary fixed-route transit operator in Fresno and is operated and administered by the City of Fresno, California. FAX has proposed changes to 5 of its 17 routes and the introduction of a new route.

This Title VI analysis will:

- Determine whether the proposed changes constitute a major service or not,
- Evaluate how the proposed changes may impact low-income and minority populations, and
- Identify strategies to avoid, minimize, or mitigate any disproportionate burdens, disparate impacts, or any potentially negative outcomes.

## Relevant Policies

This FAX service equity analysis was completed in accordance with FTA regulations outlined in FTA Circular 4702.1B, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients." The circular requires this analysis to ensure or minimize any disparate impact on minority populations or disproportionate burden on low-income populations.

### ***Disparate Impact Definition***

Refers to a facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin, where the recipient's policy or practice lacks a substantial legitimate justification and where there exists one or more alternatives that would serve the same legitimate objectives but with less disproportionate effect on the basis of race, color, or national origin. (FTA C 4702.1B, Chap. I-2)

### ***Disproportionate Burden Definition***

Refers to a neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations. A finding of disproportionate burden requires the recipient to evaluate alternatives and mitigate burdens where practicable. (FTA C 4702.1B, Chap. I-2)

Each transit agency is responsible for establishing a threshold for what constitutes a "major" service change as well as what differential is considered a disparate impact or disproportionate burden.

### ***Major Service Change***

In 2019, FAX completed its Triennial Title VI Program. Per FAX's Title VI policy, a major service change is any service change that:

- Adds or removes 25 percent or more of revenue miles on any route, or
- Adds or removes 25 percent or more of revenue hours on any route.

### ***Disparate Impact Policy***

A disparate impact exists if a major service change, fare change, or fare media change requires a minority population to bear adverse effects by 20 percent or more than the adverse effects borne by the general population in the affected area.

### ***Disproportionate Burden Policy***

A disproportionate burden exists if a major service change, fare change, or fare media change requires a low-income population to bear adverse effects by 20 percent or more than the adverse effects borne by the general population in the affected area.

FAX has recently completed two other Title VI analyses, one for the Faster FAX network in 2016, and one for a proposed smart card in 2018. This Title VI analysis will apply Title VI policies in a manner consistent with these earlier analyses.

## **Summary of Proposed Changes**

FAX has proposed changes to five routes (Routes 28, 45, 20, 12, and 35) and the creation of a new route, Route 3, to be implemented in two phases. These changes are included in Appendix A.

## **Summary of Public Outreach**

To collect community feedback on the proposed service changes, FAX held a series of outreach events during February and March 2020. FAX staff held multiple pop-up events at key bus stops in the FAX network as well as public workshops to present the proposed service changes, gauging support and collecting input. Feedback from these pop-up events and workshops were incorporated into the final proposed changes analyzed in this document. In particular, the public engagement process identified a new opportunity for network connectivity, affecting the final proposed alignment for Route 20. Initially, Route 20 was proposed to serve Fig Garden Loop. Community discussions indicated that it would be more effective for customers if Route 20 followed Bullard Avenue to connect with the new Route 3 at the El Paseo Shopping Center, so the proposed alignment was altered.

### ***Rider Survey***

In addition to the pop-up events and public workshops, FAX issued a rider survey. The survey asked riders for general opinions about the proposed service changes and collected information on respondent demographics so the results could be considered in a Title VI context. The survey distribution was not extensive enough to ensure statistical validity, but a target number of complete responses was set for each route (proportional to ridership) and in total to make every effort for an accurate representation. These goals were met and exceeded.

Survey results were analyzed to identify any differences in the level of support for the service changes between minority and non-minority populations or low-income and non-low-income populations. Question 4 of the survey instrument (provided in the appendix) asked customers to rate their level of support for each proposed change on a five-point scale from strongly support to strongly oppose. These responses were aggregated based on response to the demographic questions (race/ethnicity and household income). There was strong support for the proposed changes across all demographic groups.

Minority riders were more likely than non-minority riders to support adding new bus service to the locations listed in Question 4. Low-income riders were more supportive of additional service to Central High School (East) than non-low-income riders and less supportive of adding service to medical facilities on Herndon Avenue or to Clovis Community College, compared to non-low-income riders. Each of the

proposed service additions still garnered majority support among low-income riders. Overall, there were no significant differences in support between minority and non-minority riders and between low-income and non-low-income riders.

## Summary of Findings

This analysis finds that the proposed changes, when examined in context, do not suggest that the service changes as a whole cause a disparate impact or disproportionate burden. Thus, no additional mitigation measures are necessary.

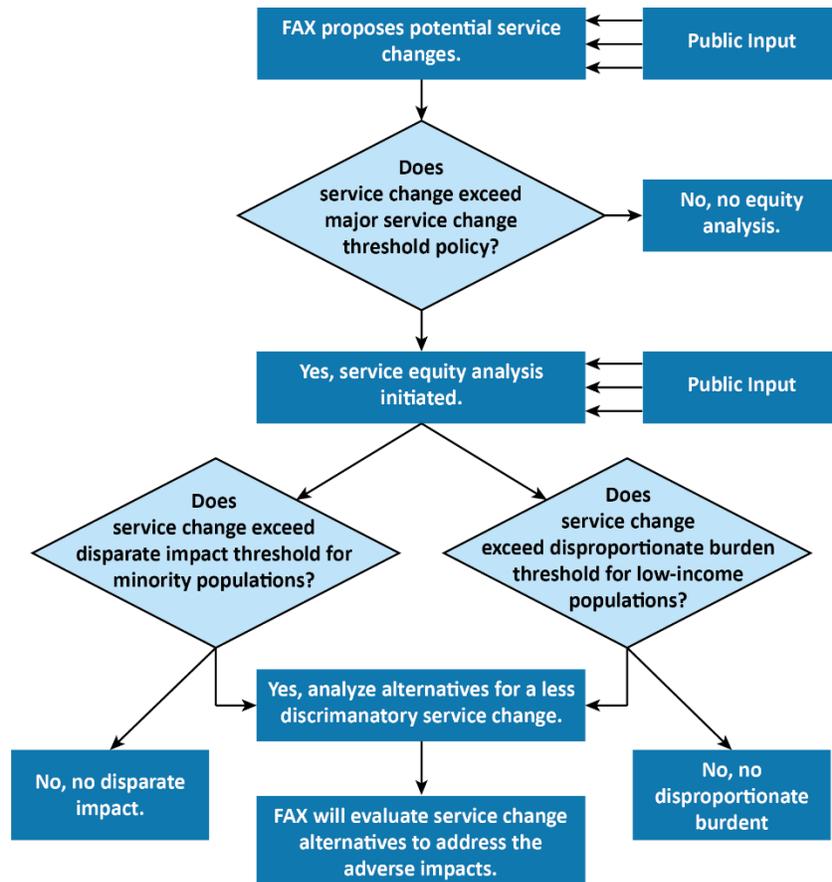
## Service Equity Analysis

The service equity analysis has three key parts:

- First, proposed service changes are analyzed to determine if those changes meet the major service change threshold as defined by Fresno’s Title VI policy.
- If any of the proposed service changes meet the major service change threshold, then the proposed route changes are analyzed to determine if those changes create a disparate impact or disproportionate burden according to Fresno’s Title VI policy.
- If a disparate impact or disproportionate burden is found, then mitigation measures will be recommended for the proposed service changes so that they no longer create a disparate impact or disproportionate burden.

Figure 1 outlines Fresno’s service equity analysis process. Because of the combination of proposed changes, Fresno determined analyzing all proposed changes, regardless if they meet policy thresholds, would provide consistent information for the decision-making process related to the proposed network changes.

Figure 1: Service Equity Analysis Process



As outlined in the FTA Circular, transit agencies should analyze available data for the general population (U.S. Census or American Community Survey data) or data specific to system ridership (survey data). To provide the most comprehensive findings, both population and ridership data were analyzed and are summarized in this document. (Care was taken not to “mix and match” in comparative analysis—always comparing ridership to ridership and population to population, as noted in FTA C 4702.1B, Chap. IV-15.)

### Data Sources

Data from the American Community Survey (ACS) and the 2018 FAX Customer Satisfaction Survey were used to perform the Title VI analysis.

### American Community Survey

2018 ACS five-year estimates provide census block group-level population data for the geography-based analysis. The following tables were used in this analysis:

- C17002: Ratio of Income to Poverty Level in the Past 12 Months
- B03002: Hispanic or Latino Origin by Race

FAX defines low-income as at or below 150 percent of the federal poverty line. Individuals who reported in the ACS that their income over the previous 12 months fell below 150 percent of the federal poverty line were defined as low-income for the geographic analysis.

For purposes of this analysis, the following origin by race categories are defined as minority:

- Black or African American alone
- American Indian or Alaska Native alone
- Asian alone
- Native Hawaiian or Other Pacific Islander alone
- Hispanic or Latino
- “Other” race alone
- Two or more races

### *2018 FAX Customer Satisfaction Survey*

The following questions from the 2018 Customer Satisfaction Survey were analyzed for the service equity analysis:

- **Q1:** What is the bus route number that you are on? (Blank space for entering a number.)
- **Demographics, Ethnicity:** Which of the following most closely describes your ethnic background? (1) Hispanic, (2) White/Caucasian, (3) African American/Black, (4) Asian/Southeast Asian- please specify national origin or Asian ethnic group, (5) American Indian, (6) Pacific Islander, (7) Middle Easterner, (8) other/please specify.
- **Demographics, Household Size:** Including yourself, how many people live in your household? (Blank space for entering a number.)
- **Demographics, Income:** Which of the following categories best describes your total household income in 2013, before taxes? (1) less than \$10,000 per year, (2) \$10,000 to \$19,999, (3) \$20,000 to \$29,999, (4) \$30,000 to \$39,999, (5) \$40,000 to \$49,999, (6) \$50,000 to \$74,999, (7) \$75,000 to \$99,999 per year, (8) \$100,000 or more per year.

All respondents who indicated a race/ethnicity other than Non-Hispanic White/Caucasian were considered a minority for purposes of this analysis. If a respondent indicated more than one race/ethnicity, they were considered a minority. Furthermore, if a respondent indicated “other,” they were considered a minority. Records where the respondent did not answer the race/ethnicity question were excluded from the disparate impact analysis, as their minority status could not be determined.<sup>1</sup>

FAX’s definition of low-income is any person whose median household income is at or below 150 percent of the federal poverty line. The federal poverty guidelines issued by the U.S. Department of Health and Human Services were used as the basis for determining low-income status. See Table 1. Utilizing the survey questions related to household income and number of persons per household, each survey respondent was coded as low-income (below 150 percent of the poverty line) or non-low-income (above 150 percent of the poverty line) according to Table 2, below. For ranges where a significant portion of the range fell below 150 percent poverty line, the entire range was classified as low-income/”below” to ensure no low-income individuals were mistakenly classified as non-low-income.

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<sup>1</sup> If these respondents did not answer the race/ethnicity question but did answer the questions related to household size and income, they were still included in the disproportionate burden analysis. The FTA directs recipients to analyze disparate impact and disproportionate burden separately.

Households with 13 or more members making more than \$100,000 were considered low-income for the same reason.

*Table 1: 2018 Poverty Guidelines for the 48 Contiguous States and D.C.*

Persons in Family/Household	Poverty Guideline	150 Percent of Poverty Guideline
1	\$12,140	\$18,210
2	\$16,460	\$24,690
3	\$20,780	\$31,170
4	\$25,100	\$37,650
5	\$29,420	\$44,130
6	\$33,740	\$50,610
7	\$38,060	\$57,090
8	\$42,380	\$63,570
9	\$46,700	\$70,050
10	\$51,020	\$76,530
11	\$55,340	\$83,010
12	\$59,660	\$89,480

*Table 2: Low-Income Status by 2018 FAX Customer Satisfaction Survey Categories (Below or Above 150 Percent of Federal Poverty Guideline)*

Reported Annual Household Income in 2018								
Persons in Household	Less than \$10,000	\$10,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or More
1	Below	Below	Above	Above	Above	Above	Above	Above
2	Below	Below	Below	Above	Above	Above	Above	Above
3	Below	Below	Below	Above	Above	Above	Above	Above
4	Below	Below	Below	Below	Above	Above	Above	Above
5	Below	Below	Below	Below	Below	Above	Above	Above
6	Below	Below	Below	Below	Below	Above	Above	Above
7	Below	Below	Below	Below	Below	Below	Above	Above
8	Below	Below	Below	Below	Below	Below	Above	Above
9	Below	Below	Below	Below	Below	Below	Above	Above
10	Below	Below	Below	Below	Below	Below	Above	Above
11	Below	Below	Below	Below	Below	Below	Below	Above
12	Below	Below	Below	Below	Below	Below	Below	Above
13+	Below	Below	Below	Below	Below	Below	Below	Below <sup>2</sup>

<sup>2</sup> Only one survey record fell in this category. Even if the household has an income over 150 percent of the poverty line, since the exact income is not known, the person was categorized as low-income to ensure no low-income respondents were not counted.

## Major Service Change Analysis

The first step in determining if the proposed service changes would cause a disparate impact or disproportionate burden is determining which proposed changes, if any, constitute a major service change under Fresno’s policy. To do so, revenue miles and revenue hours were compared for each route in the existing and proposed network. New routes or routes with proposed changes are highlighted in blue. See Table 3. Routes with a 25 percent or greater change in revenue miles or revenue hours from the existing network to the proposed network are considered major service changes. For the Route 12 and Route 35 interline, the revenue hours and revenue miles of each route were combined.

Table 3: Change in Revenue Hours and Revenue Miles, Existing and Proposed

Route	Revenue Hours (Annual)			Revenue Miles (Annual)			Major Change?
	Existing	Proposed	Percent Change	Existing	Proposed	Percent Change	
1	66,853	66,853	0.0%	765,759	765,759	0.0%	
<b>3</b>	<b>New</b>	<b>9,625</b>	<b>100.0%</b>	<b>New</b>	<b>163,043</b>	<b>100.0%</b>	<b>Yes</b>
9	25,858	25,858	0.0%	329,046	329,046	0.0%	
<b>12/35 (Interline)</b>	<b>28,330</b>	<b>26,238</b>	<b>-7.4%</b>	<b>325,172</b>	<b>321,926</b>	<b>-1.0%</b>	<b>No</b>
<b>20</b>	<b>14,740</b>	<b>19,151</b>	<b>29.9%</b>	<b>187,038</b>	<b>217,488</b>	<b>16.3%</b>	<b>Yes</b>
22	25,081	25,081	0.0%	300,197	300,197	0.0%	
26	28,666	28,666	0.0%	339,693	339,693	0.0%	
<b>28</b>	<b>37,798</b>	<b>33,236</b>	<b>-12.1%</b>	<b>413,741</b>	<b>379,391</b>	<b>-8.3%</b>	<b>No</b>
32	25,843	25,843	0.0%	273,589	273,589	0.0%	
33	7,379	7,379	0.0%	98,711	98,711	0.0%	
34	35,455	35,455	0.0%	380,441	380,441	0.0%	
38	41,084	41,084	0.0%	554,063	554,063	0.0%	
39	13,690	13,690	0.0%	162,236	162,236	0.0%	
41	27,535	27,535	0.0%	330,513	330,513	0.0%	
<b>45</b>	<b>13,711</b>	<b>15,908</b>	<b>16.0%</b>	<b>186,687</b>	<b>189,035</b>	<b>1.3%</b>	<b>No</b>
58	4,172	4,172	0.0%	65,164	65,164	0.0%	
<b>Affected</b>	<b>94,579</b>	<b>104,157</b>	<b>10.1%</b>	<b>1,112,638</b>	<b>1,270,883</b>	<b>14.2%</b>	
<b>System</b>	<b>396,195</b>	<b>405,774</b>	<b>2.4%</b>	<b>4,712,052</b>	<b>4,870,295</b>	<b>3.4%</b>	

Of the five existing routes with proposed changes, only one, Route 20, qualifies as a major service change due to a greater than 25 percent increase in revenue hours. Since Route 3 is new, it is considered a 100 percent change in hours and miles and, thus, also a major service change.

Despite only two routes meeting the major service change threshold, this analysis includes all proposed changes.

## Geographic/Population Analysis

This report summarizes two layers of analysis. The first layer considers the population living within ½ mile of FAX system bus stops. There are two parts to this first layer of analysis. First, the percent of minority and low-income populations along current routes with proposed changes are compared against

the system-wide percentages of minority and low-income populations. This identifies which routes are considered “minority routes” or “low-income routes.” Typically, only minority and low-income routes would be considered for further analysis. In this case, all routes will receive additional analysis. The second step is to compare the difference in the minority share of population between the existing and proposed route. If the difference is 20 percentage points greater than the difference for non-minorities, this indicates a disparate impact. For example, say the demographic makeup of existing Route A is 78 percent minority and the makeup of proposed Route A is 50 percent minority. Minority population with access to that route has decreased by 28 percentage points, while, conversely, non-minority access has increased by 28 percentage points. This exceeds the 20 percent threshold for a disparate impact, indicating some mitigation might be required. Results of this analysis are summarized in Table 4 and the analysis was repeated for low-income populations, as shown in Table 5.

*Table 4: Population within 1/2 Mile of FAX Stop by Minority Status, Existing and Proposed*

Route	Existing		Proposed		Difference	
	Total Population within ½ mile	Percent Minority	Total Population within ½ mile	Percent Minority	Percentage Point Change Minority	Disparate Impact
1	90,146	77.7%	90,146	77.7%	0.0%	No
<b>3</b>	<b>New Route</b>		<b>49,495</b>	<b>50.8%</b>	<b>N/A</b>	<b>Yes</b>
9	66,028	60.8%	66,028	60.8%	0.0%	No
<b>12 (Interline)</b>	<b>37,177</b>	<b>79.8%</b>	<b>91,064</b>	<b>81.7%</b>	<b>1.9%</b>	<b>No</b>
<b>20</b>	<b>65,031</b>	<b>74.6%</b>	<b>96,827</b>	<b>76.8%</b>	<b>2.2%</b>	<b>No</b>
22	106,364	74.9%	106,364	74.9%	0.0%	No
26	95,323	74.1%	95,326	74.1%	0.0%	No
<b>28</b>	<b>80,524</b>	<b>72.6%</b>	<b>59,718</b>	<b>75.3%</b>	<b>2.7%</b>	<b>No</b>
32	69,264	78.2%	69,264	78.2%	0.0%	No
33	47,619	89.6%	47,619	89.6%	0.0%	No
34	82,517	75.8%	82,517	75.8%	0.0%	No
<b>35 (Interline)</b>	<b>55,248</b>	<b>83.3%</b>	<b>91,064</b>	<b>81.7%</b>	<b>-1.6%</b>	<b>No</b>
38	104,106	78.4%	104,106	78.4%	0.0%	No
39	59,763	79.8%	59,763	79.8%	0.0%	No
41	101,073	81.9%	101,073	81.9%	0.0%	No
<b>45</b>	<b>100,973</b>	<b>60.1%</b>	<b>75,604</b>	<b>70.3%</b>	<b>10.2%</b>	<b>No</b>
58	25,309	45.7%	25,309	45.7%	0.0%	No
<b>System Total</b>	<b>474,113</b>	<b>72.8%</b>	<b>503,156</b>	<b>72.1%</b>	<b>-0.7%</b>	<b>No</b>

Table 5: Population within ½ Mile of FAX Stop by Income Status, Existing and Proposed

Route	Existing		Proposed		Difference	
	Total Population within ½ mile	Percent Low-income	Total Population within ½ mile	Percent Low-Income	Percentage Point Change Low-Income	Disparate Impact
1	90,146	50.6%	90,146	50.6%	0.0%	No
<b>3</b>	<b>New Route</b>		<b>49,495</b>	<b>20.0%</b>	<b>N/A</b>	<b>Yes</b>
9	66,028	39.7%	66,028	39.7%	0.0%	No
<b>12 (Interline)</b>	<b>37,177</b>	<b>39.6%</b>	<b>91,064</b>	<b>50.2%</b>	<b>10.6%</b>	<b>No</b>
<b>20</b>	<b>65,031</b>	<b>47.6%</b>	<b>96,827</b>	<b>45.4%</b>	<b>-2.2%</b>	<b>No</b>
22	106,364	48.1%	106,364	48.1%	0.0%	No
26	95,323	46.3%	95,326	46.3%	0.0%	No
<b>28</b>	<b>80,524</b>	<b>48.6%</b>	<b>59,718</b>	<b>49.0%</b>	<b>0.4%</b>	<b>No</b>
32	69,264	50.1%	69,264	50.1%	0.0%	No
33	47,619	66.4%	47,619	66.4%	0.0%	No
34	82,517	48.3%	82,517	48.3%	0.0%	No
<b>35 (Interline)</b>	<b>55,248</b>	<b>56.7%</b>	<b>91,064</b>	<b>50.2%</b>	<b>-6.5%</b>	<b>No</b>
38	104,106	49.6%	104,106	49.6%	0.0%	No
39	59,763	47.7%	59,763	47.7%	0.0%	No
41	101,073	50.8%	101,073	50.8%	0.0%	No
<b>45</b>	<b>100,973</b>	<b>36.3%</b>	<b>75,604</b>	<b>42.4%</b>	<b>6.1%</b>	<b>No</b>
58	25,309	16.9%	25,309	16.9%	0.0%	No
<b>System Total</b>	<b>474,113</b>	<b>44.7%</b>	<b>503,156</b>	<b>43.4%</b>	<b>-1.3%</b>	<b>No</b>

#### Route 28

The percentage of minority individuals living within ½ mile of Route 28 stops is equal to the system-wide percentage, and there is only a small, positive change between the existing and proposed route, suggesting that the small decrease in revenue hours and miles impacts non-minority populations more than minority populations. In comparison to the 20% threshold, there is no disparate impact, and no mitigation measures need to be considered.

The percentage of low-income individuals living within ½ mile of Route 28 is slightly higher than the system-wide percentage, and there is no change in percentage of low-income individuals between the existing and proposed route. As a result, there is no disproportionate burden, and no mitigation measures need to be considered.

#### Route 45

The proportion of minority individuals living within ½ mile of Route 45 is significantly less than the system-wide average, and the proposed changes suggest that the discontinued segments of the route primarily served non-minority communities. The changes to Route 45 also represent an increase in service, meaning the changes are a service improvement. As a result, there is no disparate impact, and no mitigation measures need to be considered.

The percentage of low-income individuals living within ½ mile of Route 45 is below the system-wide average, and the proposed changes increase that percentage, suggesting that the discontinued segments of the route do not serve predominantly low-income communities. Service to the remaining portion of the route, which has a greater proportion of low-income individuals, is increased. As a result, there is no disproportionate burden, and no mitigation measures need to be considered.

### Route 3

Route 3 is the only new route, and as such, is one of only two proposed changes to meet the major service change threshold. Additionally, the percentage of minority individuals living within ½ mile of proposed Route 3 stops is significantly smaller than that of the existing system-wide percentage. As the difference is greater than 20 percent, there is a potential disparate impact, and mitigation measures for the disparate impact will be considered for Route 3.

The percentage of low-income individuals living within ½ mile of the proposed Route 3 stops is significantly smaller than the existing system-wide percentage. As the difference is greater than 20 percent, the proposed addition therefore meets the disproportionate burden threshold. As a result, mitigation measures for the potential disproportionate burden will be considered for Route 3.

### Route 20

Route 20 is the other proposed change that meets the major service change threshold. The population living within ½ mile of existing stops has a slightly higher percentage of minority individuals than the system-wide average, and that percentage becomes higher under the proposed network. As a result, and because the changes to Route 20 are a service improvement, there is no disparate impact, and no mitigation measures need to be considered.

The percentage of low-income individuals living within ½ mile of Route 20 stops is slightly higher than the system-wide average. The proposed changes lower that percentage slightly, but not by a significant margin. As a result, there is no disproportionate burden, and no mitigation measures need to be considered.

### Route 12/35 Interline

The percentage of minority individuals living within ½ mile of both the existing Route 12 and Route 35 is above the system-wide average. The proposed Route 12/35 interline largely follows the same route, which is reflected in the results of this analysis, with the combined route showing a percentage of minority individuals between that of the two existing routes. As a result, no mitigation measures need to be considered.

The percentage of low-income individuals living within ½ mile is below the system-wide average. As with the disparate impact findings, the combined route's percentage of low-income individuals within ½ mile of stops is between that of the two existing routes. As a result, no mitigation measures need to be considered.

### Ridership Analysis

The second layer of analysis considers FAX ridership based on the demographic information gathered through the 2018 Customer Satisfaction Survey. To consider known FAX riders specifically, rather than the population that merely *could* be using FAX due to geographic proximity, the most recent customer satisfaction survey was also analyzed for impacts. Unfortunately, the demographics of ridership on proposed routes cannot be known until changes are implemented, so the disparate impact and disproportionate burden analysis cannot be completed with survey data. The purpose of considering this

data is to determine if there are any routes that were not identified as minority or low-income routes based on population analysis but have above-average minority or low-income ridership (Part 1 of the population analysis). Findings are summarized in Table 6.

*Table 6: Minority and Low-Income Ridership Shares by Route, Compared to System Total*

Route	Minority		Low-Income	
	Percentage Minority	System Avg % Difference	Percentage Low-Income	System Avg % Difference
1	81.7%	0.0%	90.2%	2.0%
9	74.5%	-7.1%	80.2%	-8.0%
12	No Responses			
20	<b>86.7%</b>	<b>5.0%</b>	<b>83.6%</b>	<b>-4.6%</b>
22	83.3%	1.6%	80.0%	-8.2%
26	80.5%	-1.2%	88.3%	0.1%
28	<b>82.1%</b>	<b>0.4%</b>	<b>84.4%</b>	<b>-3.8%</b>
32	81.3%	-0.4%	96.3%	8.1%
33	66.7%	-15.0%	100.0%	11.8%
34	84.3%	2.6%	90.2%	2.0%
35	<b>80.8%</b>	<b>-0.9%</b>	<b>97.2%</b>	<b>9.0%</b>
38	83.5%	1.8%	92.7%	4.5%
39	82.1%	0.4%	84.3%	-3.9%
41	84.8%	3.1%	89.6%	1.4%
45	<b>71.2%</b>	<b>-10.5%</b>	<b>86.5%</b>	<b>-1.7%</b>
58	100.0%	18.3%	100.0%	11.8%
<b>System-Wide</b>	<b>81.7%</b>		<b>88.2%</b>	

#### Route 28

Similar to the ACS analysis, the percentage of minority riders on Route 28 is equal to the percentage of minority riders system-wide. The percentage of low-income riders is slightly lower on Route 28 than system-wide, but not significantly so, and remains quite high overall. As a result, there is no disparate impact or disproportionate burden, and no mitigation measures need to be considered.

#### Route 45

The percentage of minority riders on Route 45 is below the system-wide percentage, and the percentage of low-income riders is slightly below. Although the changes to Route 45 are a service improvement, the ACS analysis of the proposed changes indicates that the proposed changes better serve minority and low-income individuals and, as a result, there is no disparate impact or disproportionate burden, and no mitigation measures need to be considered.

#### Route 20

The percentage of minority riders on Route 20 is above average, while the percentage of low-income riders is below average. The differences in both cases, however, are relatively small. As a result, there is no disparate impact or disproportionate burden, and no mitigation measures need to be considered.

## Route 12/35 Interline

The 2018 Customer Satisfaction Survey did not collect any data on Route 12 because that route was not yet in existence at the time that the survey was conducted, so only Route 35 is reviewed. The percentage of minority riders on Route 35 is slightly below average, while the percentage of low-income riders is above the system-wide average, although by significantly less than the disproportionate burden threshold. As a result, there is no disparate impact or disproportionate burden, and no mitigation measures need to be considered.

## Recommended Mitigation Measures

No additional mitigation measures are necessary; the proposed changes, when examined in context, do not suggest that the service changes as a whole cause a disparate impact or disproportionate burden.

Of the proposed changes, only Route 3 was found to have potential disparate impacts and disproportionate burdens; it is an increase in service that disproportionately benefits non-minority and non-low-income individuals. However, the results from the analyses suggest that the other proposed changes already mitigate the impact of the new Route 3, and that no additional mitigation measures are necessary.

The difference in percent of minority and low-income individuals between the existing and proposed networks overall is very small. While Route 3 does increase service in areas with lower than average minority and low-income individual percentages, the changes to Route 45 reduce service in those same areas and improve service on portions of the route with greater percentages of minority and low-income individuals. The difference between the service improvements of Route 3 and service reductions and improvements of Route 45, when combined with the other small increases in minority and low-income individual percentages on other routes, largely cancel out.

The Route 12/35 interline, for example, significantly increases the area accessible without a transfer for the predominately minority communities along both routes. Additionally, Route 3 provides access to a number of medical facilities along Herndon Avenue, along with job access to two regional shopping centers to minority and low-income individuals via numerous transfer connections along the route. Responses from the survey conducted as part of the public outreach for this project indicate that service to these facilities had the highest support of all potential service additions amongst minority and low-income riders, suggesting that minority and low-income riders see Route 3 as providing a valuable service. As a result, the addition of Route 3, when incorporated into the broader system context, does not cause a disparate impact or disproportionate burden, and no further mitigation measures are necessary.