

FARE FREE EVALUATION TITLE VI FARE EQUITY ANALYSIS

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PREPARED BY



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Key Findings

GoRaleigh implemented fare free transit systemwide in May 2020 as part of their response to the COVID-19 pandemic. A Title VI fare equity analysis of the fare change has been completed and the findings are summarized below:

- Fare free transit has been in place for over six months and is thus considered a "permanent" fare change according to federal Title VI requirements, necessitating a fare equity analysis.
- Impacts of fare free transit are positive and benefit all riders.
- There is no potential for a disparate impact to minority populations nor for a disproportionate burden to low-income populations based on fare equity analysis. The analysis indicates that fare free service benefits minority and low-income riders at greater rates as these riders were previously paying higher cost fare types at a higher rate and utilizing discounted and free fare types at a lower rate relative to non-minority and non-low-income riders.
- Fare free transit has historically resulted in increases in ridership for implementing agencies, however, the COVID-19 pandemic caused drastic and widespread decreases in transit ridership beyond the influence of fare free transit. Assisted by the fare free policy, transit dependent ridership, and operating protocols, GoRaleigh retained a higher percentage of ridership than other similar transit agencies and other regional transit agencies, with the exception of GoDurham.

1.0 Introduction

Across the United States, there has been increasing interest in identifying reliable, safe, and affordable transportation access so people can reach key destinations. GoRaleigh, the City of Raleigh's Department of Transportation - Transit Program, is conducting a Fare Equity Analysis under Title VI of the Civil Rights Act of 1964 to evaluate the change from fare collection to fare free service. GoRaleigh administers public transportation for the City, including a fixed route transportation system, paratransit service, and a free downtown circulator. The agency currently operates fixed-route service along 41 bus routes, including five connector routes and five express routes (see Figure 1). Fixed routes provide service to much of the Raleigh urbanized area. GoRaleigh provided approximately 5,556,400 one-way fixed-route passenger trips in calendar year 2019, with approximately 17,500 one-way passenger trips per weekday. Total ridership in 2020 following the onset of the pandemic was 3,665,700 one-way fixed-route passenger trips. Paratransit services provided an additional 10,939 trips in 2020.

Equity evaluations are required for any permanent fare changes proposed by GoRaleigh in accordance with Federal Transit Administration (FTA) guidelines for Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of age, race, color, national origin, disability, sex (gender), or religion.

1.1 Background and Overview

The COVID-19 pandemic created major disruptions to nearly all aspects of life. In March 2020, transit ridership in the United States dropped by over half reflecting a variety of policy, economic, and social factors. Various state and local lock down orders were implemented in North Carolina and across the country limiting business and transportation activity. Many professional employers implemented work from home, allowing some workers to continue their jobs as remote work while maintaining social distance. Some choice riders decided to avoid riding public transit due to concerns for the risk of infection. However, many essential workers and transitdependent individuals still made work trips by bus. Transit agencies took a variety of measures in response

Fare Equity Analysis

FTA requires large urban transit providers to develop written procedures to evaluate proposed fare changes to determine whether changes would have a discriminatory impact or would be distributed inequitably to minority or lowincome populations.

to the pandemic, including schedule changes, enhanced cleaning procedures, and rear-door boarding on buses. Riders who continued riding transit through the pandemic tended to be minority, work in jobs that required being onsite, and have lower access to a household vehicle compared to the general public (Liu et. al, 2020).

Across the nation, transit agencies including GoRaleigh have implemented reduced or fare free policies to create social distance between operators and the public, protecting all parties while traveling on the vehicles. Suspending fare collection on buses helped facilitate rear door entry, creating social distance between riders and bus drivers. In March 2020, GoRaleigh suspended fares for both fixed route and paratransit service, a measure that will remain in place until at least June 2022.



In addition to supporting transit-dependent communities, GoRaleigh's fare free measures may have also assisted ridership retention during the pandemic. Data shows that GoRaleigh's ridership decreases may have been less pronounced relative to similar transit systems that have implemented shorter durations of zero fare policies (APTA and Transit app, 2021). In addition to fare free policies, GoRaleigh's relatively high level of transit dependent ridership may have also decreased the severity of ridership losses (see Section 4.2 Effects of Fare Free Transit During Pandemic for more information). It's also important to note that GoRaleigh's relatively high levels of ridership compared to similar systems may be a result of regional characteristics such as employees returning to the office and schools and universities coming back in session. Ridership numbers may have also been influenced by GoRaleigh's onboard safety measures including onboard sanitization, social distancing, mandatory facemasks, and driver barriers.

1.2 FTA Recipient Requirements

As a recipient of FTA financial assistance, GoRaleigh must comply with Title VI of the Civil Rights Act of 1964, follow Executive Order 12898 on federal actions to address Environmental Justice, and adhere to the guidelines established in the Federal Transit Administration's Circular 4702.1B. These guidance documents were used to develop GoRaleigh's fare equity analysis for fare free service implemented in response to the COVID-19 pandemic, and a summary of their directives are as follows:

- Discrimination based on race, color, or national origin is prohibited under any program or activity receiving federal financial assistance. Title VI of the Civil Rights Act of 1964, as amended
- Transit agencies receiving federal funds must develop and implement an agency-wide Title VI Program. Federal Transit Administration (FTA) Circular 4702.1B, October 2012
- Minority communities and low-income populations must not be subject to disproportionately high and adverse environmental effects. Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"

As a large transit operator providing fixed route service in a large urbanized area¹, GoRaleigh must evaluate whether any adverse effects result from fare changes and address any potential disparate and disproportionate impacts affecting minority and low-income populations. FTA circular 2702.1B on Title VI compliance states that while low-income populations are not a protected class under Title VI there is an "...inherent overlap of environmental justice principles in this area", and thus transit providers must determine whether low-income populations will bear a disproportionate burden of any proposed major service or fare changes. Based on other civil rights statutes, equity analyses may also discuss any potential for discrimination based on other characteristics such as age, sex, gender, physical/mental disability, and English language proficiency.

Fare equity analysis is required for all fare changes, regardless of the amount of the fare increase or decrease. Exceptions are granted in some circumstances, including temporary or promotional fare changes, but fare changes lasting longer than six months are considered permanent and thus do not apply to these exceptions. GoRaleigh uses a consistent methodology when conducting fare equity analyses as described in the following section.

¹Fixed route transit providers located in urbanized areas with a population of 200,000 or more that operate 50 or more fixed route vehicles in peak hours must evaluate and address potential disparate and disproportionate impacts that major service or fare changes may have on minority and low-income populations, respectively and consider mitigation strategies as needed. Federal Transit Administration (FTA) Circular 4702.B, October 2012.

2.0 Methodology

The following sections describe the methodology for conducting a fare equity analysis and the methodology used to evaluate the impact of free transit fares on GoRaleigh's ridership during the COVID-19 pandemic.

2.1 Fare Equity Analysis Methodology

A fare equity analysis was conducted to evaluate if the fare free service adversely impacts minority or low-income populations in the area. The steps of a fare equity analysis are highlighted to the right and detailed in the following sections. The underlying data analysis methodology is described below. The equity analysis report also documents any alternatives or mitigation needed and summarizes the public engagement used to inform or communicate the implemented fare changes.

Fare Equity Analysis Steps:

1 Identify Title VI populations and describe ridership and demographic variables by fare type. Describe the nature and extent of the potential impacts of the proposed fare change(s).

Determine whether there is the potential for planned fare changes to have a disparate impact on minority populations based on the agency's current policies and thresholds. Assess whether disparate impacts would be likely to occur based on the nature of the potential impacts and the threshold comparison.

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Determine whether there is the potential for low-income populations to bear a disproportionate burden of the changes based on the agency's current policies and thresholds. Assess whether a disproportionate burden would be likely to occur based on the nature of the potential impacts and the threshold comparison. Identify potential alternatives or mitigation measures to reduce or address identified impacts.

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Data Sources. Data from the 2019 GoRaleigh Customer Survey was used to examine equity impacts of fare free service on low-income and minority populations within GoRaleigh's service area. Survey data was collected in October 2019 onboard GoRaleigh buses and included questions about racial and ethnic identification, household income, and bus fare or pass type. Information about fare payment methods is summarized by demographic characteristics and forms the basis for the threshold analysis.

2.2 Fare Free Impact Analysis Methodology

The purpose of the Title VI fare equity analysis is to evaluate the impacts of the fare change (i.e. adjusting from charging fares to providing free fares) on riders; however, this change was implemented under pandemic conditions, which separately impacted ridership. Thus, the analysis considered both the effects of fare free service in a "typical" or pre-pandemic circumstance to shed light on how fare free policies would impact GoRaleigh ridership in a "typical" pandemic-free environment and the effects of zero fare service during the pandemic to gauge how fare free policies may have impacted the agency's ridership during the pandemic.

GoRaleigh's past ridership along with ridership for prepandemic fare free agencies from the Integrated National Transit Database (iNTD) is used to estimate ridership had there not been a pandemic. Then, ridership data from transitapp.com, including GoRaleigh and comparison agencies who implemented different fare free policies, is used to estimate the effect of fare free transit on ridership during the pandemic.

The methodology used for the analysis is explained in the following sections and the analysis results are shared in Section 4.0.

Minority Populations:

Minority populations are identified as respondents who selected one of the following survey response choices

- African American / Black
- Asian
- Hispanic
- Native American Indian
- Other (free response)

Low-Income Populations:

Low-income populations have a household income at or below 150 percent of the federal poverty level for a regionally average household size. Low-income populations are identified as respondents who selected any income choice at or below \$25,000 were coded as low-income.

Typical (Pre-pandemic) Effects of Fare Free Transit on Ridership

This section discusses typical impacts of fare-free service implementation that one could expect pre-pandemic. In 2020, Planning Communities performed an analysis on the potential impacts of free fares on Orange County Public Transportation (OCPT) services and operations based on a review of other agencies. That analysis was reviewed to inform the current analysis and was based on a brief scan of other transit agencies that provided fare free service, review of available research on fare free service, and a review of agency transit operations. The research was conducted on transit agencies that provided fare free service prior to the pandemic and agencies that had previously charged fares and then opted to go fare free. As such, their changes in fare policies could be linked to changes in ridership.

True system-wide fare free service is rare in the United States and across the world. Historically in the U.S., fare free transit service has been primarily limited to small urban areas with modest ridership, rural areas, communities with seasonal tourism, or university dominated communities where the majority of passengers are college students (Volinski, 2012). A scan of online research, websites, and databases yielded a potential list of 61 U.S. transit agencies operating fare free prior to the pandemic. Several criteria were used to select comparison agencies from this list, expanding on what was applied for OCPT. Comparison agencies must have had fare-free service for their whole system, thereby eliminating systems with free service only on select routes (such as a downtown circulator) and systems that provide fare free service only to select customers. University systems that only served campus ridership and those providing service to a very limited population and service area were also screened out. Comparison agencies were those who had stopped charging fares, thus providers were eliminated if they had been fare free since inception. Finally, providers were removed if they did not have operations data in the NTD.

Due to the low number of fare free systems and the unique characteristics of the vast majority of those systems, no agencies were found that provide a true peer comparison with GoRaleigh. After the screening process, three agencies remained, including Chapel Hill Transit², Corvallis Transit System, and Mountain Line. The three remaining systems were examined in the years before and after the implementation of free fares; data on demand response trips was available and included for Chapel Hill and Moutain Line transit systems. Operational expenses and total passenger trips before the change were based on the average values for the year fare free service was implemented and the year before it. This was done to account for the fact that fare free service was not implemented at the beginning or end of these calendar years. The percent changes in operational expenses and total passenger trips were applied to 2019 iNTD data for GoRaleigh to determine a potential range of increase, providing an estimate for what the impact of fare free transit might have been absent the COVID-19 pandemic.

The most recent data in the National Transit Database is from 2019, thus it cannot be used to examine agencies post-pandemic.

Effects of Fare Free Transit During the Pandemic

This section evaluates the impact of fare free transit on ridership during the COVID-19 pandemic. During the pandemic, many of the nation's urban transit systems offered system-wide fare free transit service for the first time, as fare collection was suspended, in many cases as a COVID-19 safety protocol. Under normal circumstances, fare free transit results in swift and significant increases in ridership. The COVID-19 pandemic, however, caused decreases in transit ridership that could not be overcome by fare free transit. This section discusses the impacts of the pandemic and fare free ridership policies on GoRaleigh and comparison transit agencies in order to attempt to distinguish the effects of fare free service from the effects of the pandemic on GoRaleigh ridership.

² As of 2019, Chapel Hill Transit, was the largest truly fare free system in the United States.

Ridership data for GoRaleigh and several comparison agencies were analyzed to examine the effect of fare free policies following the onset of the COVID-19 pandemic. Several criteria were used for this comparison agency selection. Comparison agencies were chosen based on prior peer agency discussions with GoRaleigh, a peer agency report output from the iNTD, and other operational or geographic considerations. From this selection, agencies who did not have data available on transitapp.com were removed. Additional details on comparison agencies, including the selection process, is included in Appendix B.

The analysis is based on data provided via a partnership between the American Public Transportation Association (APTA) and transitapp.com. It should be noted that the synthetic data produced by APTA and transitapp.com are imperfect and may over-sample or under-sample system ridership based on the app utilization of a transit system's ridership. However, these estimates offer a glimpse into general trends and can shed light on how ridership behavior may be affected by fare free policies during the pandemic.

To evaluate the effect of fare free policies on ridership behavior, comparison transit agencies were grouped into categories based on their fare free policies. During the data analysis three fare policy clusters emerged:

- Fare free for 0-3 months
- Fare free for 3-6 months
- Fare free for 6+ months

Ridership estimates from 2019 were then compared to estimates from 2020 to evaluate the percentage changes in annual ridership for GoRaleigh and comparison agencies by these fare free policy durations or clusters.

3.0 Title VI Populations

Transit riders tend to have higher proportions of minority and low-income individuals than non-transit riders, making fare free transit inherently more equitable (APTA, 2007).

Table 1 summarizes minority and low-income populations served by fare type. This information is used to determine whether fare changes will have a disparate impact on minority populations and whether low-income populations will bear a disproportionate burden of the changes.

	Minor	ity Ridership		Low-Inc	Low-Income Ridership					
Fare Type	QUESTION		Percent	Question Response Total	Low-income Total	Percent				
Pay cash fare for this trip only	189	157	157 83.1% 165 126		126	76.4%				
Buy day pass on bus	202	164	81.2%	188	137	72.9%				
Day pass bought previously	131	110	84.0%	117	91	77.8%				
7- or 31-day pass	129	91	70.5%	111	82	73.9%				
University/other ID	63	45	71.4%	50	32	64.0%				
GoPass	107	75	70.1%	94	52	55.3%				
Free senior ID	52	39	75.0%	44	32	72.7%				
First GR trip was on a fare free route	29	16	55.2%	20	11	55.0%				
Overall	902	697	77.3%	789	563	71.4%				

Table 1: GoRaleigh Minority and Low-Income Ridership by Fare Payment Method

Source: 2019 GoRaleigh Customer Survey

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4.0 Fare Free Impacts

Fare free service imparts a benefit to all transit users, and this benefit is especially valuable for low-income individuals, for whom transit fare takes up a relatively larger portion of their disposable income. The onset of the pandemic had a substantially negative impact on ridership for transit agencies across the United States, including GoRaleigh. During the pandemic, many transit agencies suspended fares as a safety measure, which had a positive impact on ridership. The following sections analyze the effects of fare free transit for GoRaleigh's ridership and operations and characterize how the pandemic altered the effects.

4.1 Effects of Fare Free Transit

The Analysis of Potential Impacts of Free Fares on Orange County Public Transportation Services and Operations relies on a 2002 National Center for Transportation Research (NCTR) report and a 2012 Transportation Cooperative Research Program (TCRP) report which examined fare free transit service in detail. This research identified advantages and disadvantages associated with fare free service:

Advantages:

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- Increased ridership
- Decrease in operational cost associated with collecting fares
- Faster boarding and unloading this is primarily due to time saved on collecting fares; the ability to use both bus doors for boarding and alighting contributes as well
- Elimination of rider anxiety around paying fares
 some riders may not know if exact change is needed or may feel embarrassed for spending time looking for change
- Elimination of fare disputes between drivers and riders

Disadvantages:

- Loss of fare revenue
- Decrease in on-time performance due to increase in ridership
- Increased "problem riders", including individuals who are unruly, inebriated, or may hassle other riders (e.g. begging)
- Increased maintenance costs
- Increased vandalism, assaults, and other crimes

• Better "quality of life"

Research indicates that context heavily influences agency experience with fare free service. Revenue shortfall from lost fares depends on how much of the system's budget was covered by farebox recovery; systems with a very low farebox recovery rate may save money by going to fare free if the cost of processing fares is larger than fare revenue. Issues with vandalism and problem riders are more common in large urban settings (Planning Communities, 2020).

Fare Free Comparison Agency Analysis

Table 2 (below) presents the effects of the change in fare policies on comparison systems. Operational expenses and total passenger trips before the change represent the average values for the year fare free service was implemented and the year before it. This was done in order to account for the fact that fare free service was not implemented at the beginning or end of these calendar years.

Agency - Service Type	Year Implemented	Operating Expenses Before*	Change	Ridership Before*	Ridership After	Change	
Fixed-Route Bus Service							
Chapel Hill Transit	2002	\$6,597,000	21.4%	3,252,000	4,834,000	48.7%	
Corvallis Transit System	2011	\$2,315,000	5.8%	793,000	1,132,000	42.8%	
Mountain Line	2015	\$4,193,000	14.5%	988,000	1,546,000	56.5%	
Demand Response Service**	:						
Chapel Hill Transit	2002	\$970,000	17.3%	60,000	73,000	20.6%	
Mountain Line	2015	\$652,000	17.6%	21,000	27,000	26.0%	

Table 2: Effects of Fare Free Policies on Pre-Pandemic Systems

Source: Florida Transit Information System Urban Integrated National Transit Database

*Values represent a two-year average of implementation and the year preceding implementation

**Demand response data is not available for Corvallis Transit System

In all three cases, ridership saw an immediate and substantial increase in the year following implementation, ranging from a 42.8 percent to 56.5 percent increase. This is consistent with research on fare free systems in the nation, most of which experience a 50 percent increase in ridership following implementation. The increase in operational expenses varied greatly between these systems, from a 5.8 percent to 21.4 percent increase. Demand response ridership increases were 20.6 and 26.0 percent, respectively, and operational expense increases were 17.3 and 17.6 percent, respectively, for Chapel Hill Transit and Mountain Line; demand response data was not available for Corvallis Transit System.

Fare Free Operational Analysis

Table 3 presents estimated impacts to fixed route ridership and operating expenses GoRaleigh could have expected had they implemented fare free service without COVID-19 based on 2019 iNTD data. Estimates are based on Chapel Hill Transit, Corvallis Transit System, and Mountain Line changes following the implementation of fare free service; ridership increases vary from 43 percent (low) to 56 percent (high), while operating expense increases range from 6 percent (low) to 21 percent (high).

Table 3: Estimated Impacts to GoRaleigh Fixed-Route Ridership and Operating Expenses									
Operating Metric	2019 iNTD values	Low Est	imate	High Est	timate	Average Implemented			
	Original	Total	Change	Total	Change	Total	Change		
Ridership	5,271,000	7,380,000	2,109,000	8,171,000	2,899,000	7,775,000	2,504,000		
Operating Expense	\$35,597,000	\$37,733,000	\$2,136,000	\$43,428,000	\$7,831,000	\$40,581,000	\$4,984,000		

Table 4 presents estimated impacts to demand response ridership and operating expenses GoRaleigh could have expected had they implemented fare free service without COVID-19 based on data provided by GoRaleigh. Estimates are based on Chapel Hill Transit and Mountain Line changes following the implementation of fare free service; ridership increases vary from 20 percent (low) to 26 percent (high).

Operating expenses did not vary substantially, and so are only estimated for an average increase of 17.5 percent.

Table 4: Estimated Impact Operating Metric	cts to GoRaleigh Access Demand Response Ridership and Operating Expenses2019 Demand Response RidershipLow EstimateHigh EstimateAverage							
	Original	Total	Change	Total	Change	Total	Change	
Ridership	493,000	592,000	99,000	622,000	128,000	607,000	113,000	
Operating Expense	\$8,573,000					\$10,073,000	\$1,500,000	

4.2 Effects of Fare Free Transit During Pandemic

This section presents the results of two analyses that disentangle the negative effect of the pandemic and the positive effect of fare free policies on ridership. These analyses were conducted to demonstrate how zero-fare policies may affect ridership in a pandemic free-scenario as well as during the pandemic. Results from this analysis show a ridership trend that is directly associated with the duration of fare free policies for a transit agency.

The trend indicates that the greater the duration fare free policies were implemented during the pandemic, the lower the decrease in ridership from 2019 to 2020 (see Figure 2). For example, transit agencies that went fare free for 0-3 months during 2020 experienced an average annual decrease in ridership of 57.9 percent. By comparison, agencies that adopted and maintained fare free policies for more than six months during 2020 experienced a less severe decrease in average annual ridership (41.5 percent).

GoRaleigh suspended fares through all of 2020 and the agency falls in the fare free 6+ months cluster. Compared to the national average of all agencies (54.8 percent decrease) and relative to its peer cluster (fare free 6+ months; 41.5 percent decrease), GoRaleigh maintained higher levels of ridership from 2019 to 2020, experiencing a decrease in ridership of 34.0 percent.



Figure 2: Estimated Impacts to GoRaleigh Access Demand Response Ridership and Operating Expenses

**Indicates actual loss in ridership based on GoRaleigh data

Figure 2 can also provide a hypothetical indication of what GoRaleigh ridership characteristics may have looked like under different fare policies during the pandemic. For example, had GoRaleigh chosen to adopt fare free policies for a smaller duration of time, the data indicates that GoRaleigh's the level of ridership may have also decreased a greater amount.

Table 5 shows what GoRaleigh's ridership characteristics may have looked like under various hypothetical fare policy scenarios. For example, if the pandemic had not occurred and GoRaleigh had gone fare free, its annual ridership in 2020 may have reached 7,934,500. Conversely, had GoRaleigh not adopted fare free policies, its annual ridership in 2020 may have only reached 2,339,300. This analysis is limited by the availability of data and the small sample size used in the analysis (see Appendix B for more information).

It should be noted GoRaleigh outperformed ridership levels anticipated based on its peer group (fare free 6+ months). Based on APTA transit app data, GoRaleigh was projected to attract only 3,292,800 annual riders in 2020 (equivalent to a -41.5 percent decrease in ridership over 2019). In actuality, GoRaleigh attracted 3,665,700 annual riders in 2020.

Table 5: Estimated Variations in 2020 GoRaleigh Ridership Based on Hypothetical Fare Policy Scenarios								
Scenario	Fare Policy	Change in Ridership	2020 Ridership Estimate					
No Pandemic	Fare Free 6+ Months	+42.8 percent	7,934,500					
Pandemic	Fare Free 0-3 months	-57.9 percent	2,339,300					
Pandemic	Fare Free 3-6 months	-51.8 percent	2,678,200					
Pandemic	Fare Free 6+ months	-41.5 percent*	3,292,800*					

Actual Annual Ridership in 2019: 5,556,400, *Actual Annual Ridership in 2020: 3,665,700, *Actual Percent Change in Ridership from 2019-2020: -34.0 percent

Sources: INTD 2019, APTA 2021, GoRaleigh 2021

Results also help disentangle the pandemic effect on ridership in contrast to the fare free effect on ridership. In a world where the pandemic had not occurred, GoRaleigh may have seen growth in ridership of 2,278,100 individuals by implementing fare free policies for 6+ months (growth from 5,556,400 to 7,934,500). On the other hand, if GoRaleigh had not instituted a fare free policy during the pandemic, it may have lost an additional 953,500 annual riders (estimated difference in ridership between the 0-3 month zero-fare cluster and the 6+ month zero-fare cluster), as evidenced by comparison agency performance during the pandemic.

When evaluating the effects of fare free policies, it is important to consider other factors that may have contributed to higher levels of sustained ridership for GoRaleigh. One key contributing factor may be GoRaleigh's high level of transit dependent ridership. GoRaleigh 2019 Customer Service survey data shows that approximately 78 percent of its ridership is minority and 50 percent of its ridership is low-income. During the pandemic, the issue of transit dependency became much more visible as choice riders stayed away from transit services for health and safety reasons. This issue was most apparent during the onset of the pandemic, as ridership fell by 76 percent nationally (Bergal, 2021). Ridership has recovered to some extent, but is currently estimated to be at 54 percent of pre-pandemic levels (APTA, 2021). Meanwhile, across the country transit agencies and cities are considering removing or reducing fares to ensure access for disadvantaged communities, but are challenged with how to accommodate the lost revenue (Bergal, 2021).

4.3 Title VI Threshold and Fare Free Impacts Analysis

The fare equity analysis compares the minority and low-income populations for each fare type to the corresponding populations who responded to the survey overall. Proposed fare changes are determined to have the potential to have a disparate impact if the minority population for a specific fare type differs from the GoRaleigh 2019 Customer Service Survey overall by more than 3 percent and either experiences a relatively higher proportion of negative impacts or has a relatively lower opportunity to benefit from positive changes. Service changes are determined to have a disproportionate impact if the low-income population for a specific fare type differs from the GoRaleigh 2019 Customer Service Survey overall by more than 5 percent and either experiences a relatively higher proportion of negative impacts or has a relatively lower opportunity to benefit from positive changes.

Fare Change Impact Thresholds

A fare change may result in disparate impacts when the minority population is at least 3% greater than the system average.

A fare change may result in a disproportionate burden on low-income populations if the low-income population is at least 5% greater than the system average. Table 6 summarizes minority and low-income populations served by fare type. This information is used to determine whether fare changes will have a disparate impact on minority populations and whether low-income populations will bear a disproportionate burden of the changes.

Minority Low-Income									
Fare Type	Question Response Total		Percent	Question Response Total	Low-income Total	Percent			
Pay cash fare for this trip only	189	157	83.1%	165	126	76.4%			
Buy day pass on bus	202	164	81.2%	188	137	72.9%			
Day pass bought previously	131	110	84.0%	117	91	77.8%			
7- or 31-day pass	129	91	70.5%	111	82	73.9%			
University/other ID	63	45	71.4%	50	32	64.0%			
GoPass	107	75	70.1%	94	52	55.3%			
Free senior ID	52	39	75.0%	44	32	72.7%			
First GR trip was on a fare free route	29	16	55.2%	20	11	55.0%			
Overall	902	697	77.3%	789	563	71.4%			

Table 6: Fare Equity Evaluation Results

Higher percentage than system average, exceeds threshold

Lower percentage than system average, exceeds threshold

*All Response Total column represents the total number of responses received for each answer choice. Respondents could choose to skip some questions, resulting in missing values and accounting for the different grand total amounts for minority and low-income.

GoRaleigh 2019 Customer Satisfaction Survey data indicates that minority populations use the following fare types at a rate higher than the overall average, exceeding the 3 percent threshold: "Pay cash fare for this trip only", "bus day pass on bus", and "day pass bought previously". Minority populations use the following fare types at a rate lower than the overall average, exceeding the 3 percent threshold: "7- or 31-day pass", "University/other ID", "GoPass", "free senior ID", and "first GoRaleigh trip was on a fare free route". Relative to non-minority riders, the implementation of free fares would provide greater benefits to minority riders based on the distribution of existing payments by fare type.

The analysis reveals no potential for a negative disparate impact to minority populations compared to the system average. The analysis reveals some potential for disparate positive effects to minority populations from implementation of free fares based on the previous fare structure. Minority populations use all single ride and single day pass types at a rate higher than the system average, and all free or discounted fare types at a rate lower than the system average.

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Data indicates that low-income populations use the following fare types at a rate higher than the overall average, exceeding the 5 percent threshold: "Pay cash fare for this trip only" and "day pass bought previously". Low-income populations use the following fare types at a rate lower than the overall average, exceeding the 5 percent threshold: "University/other ID", "GoPass", and "first GoRaleigh trip was on a fare free route". Relative to riders who are not low-income, the implementation of free fares would provide greater benefits to low-income riders based on the distribution of existing payments by fare type.

The analysis reveals no potential for a disproportionate burden to low-income populations. The analysis reveals some potential for disproportionate benefits to low-income populations from implementation of free fares based on the previous fare structure. Low-income populations use two of the single ride and single day pass types at a rate higher than the system average, and three of the free or discounted fare types rate lower than the system average.

Single ride and single day passes represent the largest cost per ride compared to all other options. Results indicate that both minority and low-income riders are paying these higher cost fare types at a disproportionately high rate, and that these riders are receiving the benefits of discounted and free fare types at a disproportionately low rate. Elimination of fares thus yields positive impacts for minority and low-income riders associated with fare payments.

5.0 Mitigation and Alternatives

Fare free service provides a benefit to all riders. Furthermore, equity analysis indicates that under the previous system of fares, minority and low-income riders were paying for the most expensive fare types at a rate higher than the system average and were benefitting from discounted and free fares at a rate lower than the system average. Since the current fare free system provides even greater relative benefit to minority and low-income riders, no mitigation is recommended at this time.

GoRaleigh and other local transit agencies have suspended fares until at least June 30, 2022. Reimplementing fares would warrant careful consideration of mitigation measures.

6.0 Public Involvement

GoRaleigh informed the public of the suspension of fares, as well as service adjustments, enhanced cleaning procedures, and other COVID-response procedures through digital communications and notices in transit vehicles and facilities. Announcements were distributed via the agency website, social media posts on Facebook and Twitter, and notices posted in buses and transit centers. Social media posts illustrating these notifications are included in Appendix C – Public Involvement Materials.

Public Participation Plan

GoRaleigh is required to establish an inclusive public participation plan to meet FTA Circular 4702.1B Title VI Guidelines. GoRaleigh's most recent Public Participation Plan was prepared in 2021.

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7.0 Conclusions

The fare equity analysis shows no potential for either a negative disparate impact to minority populations or a negative disproportionate burden to low-income populations based on GoRaleigh's implementation of system-wide fare free service. In fact, the equity analysis indicates that minority and low-income populations were using more expensive per-ride fare types at rates greater than the overall system average and free and discounted fares at a rate lower than the overall system average, indicating the potential for positive impacts to minority and low-income populations from the implementation of fare free service. Fare free transit service benefits all riders, and minority and low-income riders benefit at an even greater rate.

Transit agencies that went fare free for durations of 0-3 months (in 2020) experienced ridership decreases of 57.9 percent, transit agencies with zero fares for 3-6 months experienced ridership decreases of 51.8 percent, and transit agencies with zero fare policies lasting 6+ months experienced decreases of 41.5 percent compared to 2019 ridership. Based on this review, if GoRaleigh had not instituted a fare free policy, it may have lost an additional 953,500 annual riders during the pandemic, reflecting the difference between the 0-3 months and 6+ months fare free clusters.

GoRaleigh experienced an actual annual decrease in ridership of 34.0 percent from 2019 to 2020, which was a lower decrease even compared with the fare free 6+ months cluster. Various factors, including the agency's fare free policy, along with its transit dependent ridership (78 percent minority and 50 percent low income) and COVID-19 route operations and enhanced protocols, together enabled GoRaleigh to sustain higher levels of annual ridership than similar transit agencies and other regional agencies, with the exception of GoDurham.

The COVID-19 pandemic has brought to light inequities as the majority of transit users are lower-income essential workers, often people of color. Across the United States transit agencies and cities are considering removing or reducing fares to ensure transit access for disadvantaged communities. With the well-documented benefits of fare free service, the fare equity analysis results offer GoRaleigh a unique opportunity to examine the role its fare policies have on its transit-dependent ridership and the wider community.

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Appendix A: Key Terms and Policies

Minority Populations

Minority status was determined based on responses to the survey questions "Do you consider yourself to be: 1) African American / Black, 2) Asian, 3) Caucasian/White, 4) Hispanic, 5) Native American, 6) Other (option to enter a free response." While respondents had the option to select more than one choice, nearly all selected only one. If a respondent selected any answer choice aside from "Caucasian/White" and "Other", they were coded as minority. If a respondent selected only "Caucasian/White" and no other answer choice, they were coded as non-minority.

For respondents who selected "Other", free response answers were reviewed to determine the appropriate classification. Among these respondents, the following answers were dropped from analysis: ""Human", "Human rade[sic]", "American", "Prefer not answer", and "Not answering". One respondent selected the choice for "White/Caucasian" and entered "pedestrian" as a free response; this was coded as non-minority. The following answers were coded as minority: "Mixed", "Mexican", "Middle East", "Blk/White", "Biracial", "Isrealite[sic]", "Black & white", "La Latnia[sic]", "Jamaican", "Hawaiian", "African", and "Black".

Low-Income Populations

GoRaleigh's Title VI guidelines define low-income as under households with income under 150% of the poverty line. According to the US Census, the average household size in Raleigh in 2019 was 2.42. According to the Department of Health and Human Services 2019 Poverty Guidelines, the poverty guideline for a household of 2 was \$16,910 and the poverty guideline for a household of 3 was \$21,330 in 2019. Based on these poverty guidelines and the average household size, the poverty line for Raleigh in 2019 was approximately \$19,000. Multiplying this value by 1.5 provides the low-income threshold of \$28,500. Unfortunately, none of the survey answer choices aligned with this value. The closest break point was \$25,000, thus respondents who selected any income choice at or below \$25,000 were coded as low-income, and all other respondents were coded as non-low-income.

Disparate Impact Policy

The GoRaleigh disparate impact policy establishes a 3 percent threshold for determining when adverse impacts of fare changes are borne disproportionately by minority populations. The thresholds apply to the difference in the impacts of each proposed fare change on minority populations compared to the impacts on non-minority populations. This is measured by analyzing ridership surveys as to whether minority riders are more likely to use each mode of service, payment type, or payment media that would be subject to the fare change.

Disproportionate Burden Policy

The GoRaleigh disproportionate burden policy establishes a 5 percent threshold for determining when adverse impacts of fare changes are disproportionately borne by low-income populations. The thresholds apply to the difference in the impacts of each proposed fare change on low-income populations compared to the impacts on other populations. This is measured by analyzing ridership surveys as to whether low-income riders are more likely to use each mode of service, payment type, or payment media that would be subject to the fare change. Minority

Fare Change Impact Thresholds

In addition to defining major service changes, FTA requires that agencies establish thresholds for evaluating the impacts of proposed fare changes. The GoRaleigh disparate impact policy establishes a 3 percent threshold for determining when adverse impacts of fare changes are borne disproportionately by minority populations. The thresholds apply to the difference in the impacts of each proposed fare change on minority populations compared to the impacts on non-minority populations. This is measured by analyzing ridership surveys as to whether minority riders are more likely to use each mode of service, payment type, or payment media that would be subject to the fare change. The GoRaleigh disproportionate burden policy establishes a 5 percent threshold for determining when adverse impacts of fare changes are disproportionately borne by low-income populations. The thresholds apply to the difference in the impacts of each proposed fare change on low-income populations compared to the impacts on other populations. This is measured by analyzing ridership surveys as to whether low-income riders are more likely to use each mode of service, payment type, or payment media that would be subject to the fare change on low-income populations compared to the impacts on other populations. This is measured by analyzing ridership surveys as to whether low-income riders are more likely to use each mode of service, payment type, or payment media that would be subject to the fare change.

Appendix B: Pandemic Fare Free Comparison Agency Characteristics

Table 7: Comparison Agencies Used in the Fare Free and Pandemic Effects Analysis

Agency Name Agen Locat		Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
Port Authority	Pittsburgh, PA										
San Mateo County Transit District (samTrans)	San Mateo, CA										
Central Ohio Transit Authority	Columbus, OH										
Metropolitan Atlanta Rapid Transit Authority (MARTA) ¹	Atlanta, GA										
City of Madison (Metro Transit) ²	Madison, WI										
Charlotte Area Transit System	Charlotte, NC										
Indianapolis and Marion County Public Transportation	Indianapolis, IN										
Transit Authority of Northern Kentucky (TANK)	Fort Wright, KY										
GoRaleigh	Raleigh, NC										
GoDurham	Durahm, NC										
Greater Richmond Transit Company	Richmond, VA										
Kansas City Area Transportation Authority	Kansas City, MO										
Washington Metro Area Transit Authority	Washington, DC										
Fares Charged Mixed Month F	are Free										

¹No data could be located associated with route changes for Metropolitan Atlanta Rapid Transit Authority (MARTA). ²No data could be located associated with route changes, schedule changes, enhanced cleaning, or mask requirements for the City of Madison (Metro Transit)

Every system for which information could be obtained had schedule changes, route changes, needed enhanced cleaning, and required face masks. It should be noted that there was not an official data source tracking the status or duration of fare free policies among systems. Online research and telephone interviews were conducted to identify if a fare free policy was implemented and the duration of that policy. Originally 18 transit agencies were identified as potential systems for a comparative analysis. After data limitations were accounted for, a total of 12 agencies remained for the analysis (shown in the table above).

Appendix C: Public Involvement Materials



GoRaleigh March 27, 2020 · 🚱

Beginning Monday, March 30 GoRaleigh routes will operate on a weekend schedule.

Routes serving hospitals and other essential facilities (2 Falls of Neuse, 4 Rex, 15 WakeMed, 19 Apollo Heights) will continue to operate with the same frequencies.

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Additionally:

- •The 20 Garner route will provide peak period service only
- •The 40X Wake Tech Express will remain on its Modified Service schedule
- •The R-Line will operate between the hours of 1 p.m. 6 p.m.
- •The Wake Forest Loop will only operate the A route

Schedule information is available on www.goraleigh.org. Our Regional Information Center can answer any specific questions that you may have at 919.485.7433 (RIDE).





GoRaleigh

Published by 🙆 · May 23, 2020 · 🔇

The health and safety of GoRaleigh's customers and employees remain our top priority. Beginning May 24, in order to provide additional seats on our buses for social distancing, all GoRaleigh routes will be operating on their normal weekday schedules.

GoRaleigh's R-Line will begin operating on its new route ending at 6 p.m. nightly.

Services operated by GoRaleigh under contract will operate as follows:

- The 40X Wake Tech Express will remain on its modified schedule
- FRX Fuquay-Varina will return to regular service on July 6
- ZWX Zebulon-Wendell will return to regular service on July 6
- WRX Wake Forest will return to regular service on July 6
- Wake Forest Loop will return to regular service on May
 24





GoRaleigh Published by @ · March 22, 2020 · G

Beginning Monday, March 23, GoRaleigh will suspend fares and offer rear door boarding for riders in an effort to make trips as easy and safe as possible. Front door access will be available for persons with disabilities.



16 Comments 173 Shares

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PREPARED BY

