



GoTriangle  
Operations & Finance Committee  
March 02, 2023  
8:30 am-10:00 am Eastern Time

*The GoTriangle Operations & Finance Committee meets remotely.*

*Microsoft Teams meeting | Join on your computer or mobile app*

*Click here to join the meeting*

*Or call in (audio only) +1 252-210-4099*

*Phone Conference ID: 602 240 539#*

**I. Call to Order and Adoption of Agenda**

*(1 minute Michael Parker)*

ACTION REQUESTED: Adopt agenda with any changes requested.

**II. Draft Minutes | February 2, 2023**

*(1 minute Michelle Dawson)*

ACTION REQUESTED: Approve minutes.

**III. Route 310 Service Change Recommendation**

*(5 minutes James Carter)*

ACTION REQUESTED: Recommend board approval of the proposed change to Route 310.

**IV. FY2024 Budget Preview**

*(30 minutes Sandra Freeman)*

**V. Fare Reinstatement Evaluation Update**

*(40 minutes Scott Thomas)*

Presentation

*(Philip Johnson and Austin Stanion)*

UCLA Policy Brief

**VI. Adjournment**

*(Michael Parker)*



**BOARD OF TRUSTEES  
OPERATIONS & FINANCE COMMITTEE  
MEETING MINUTES**

4600 Emperor Boulevard  
Suite 100  
Durham, NC 27703

Thursday, February 2, 2023

8:30 a.m.

Remote | Microsoft Teams

**Committee members present** | Brenda Howerton, Sig Hutchinson, Michael Parker, Jennifer Robinson  
[arr. 8:56 a.m.], Stelfanie Williams [arr. 8:33 a.m.]

**Committee members absent** | Corey Branch, Valerie Jordan

In the absence of a quorum, Committee Chair Michael Parker asked to start with the Route 310 Service Change Evaluation at 8:31 a.m.

**IV. Route 310 Service Change Evaluation**

Katharine Eggleston introduced James Carter. His presentation is attached and hereby made a part of these minutes.

Carter explained the purpose of this alignment change is to improve on-time performance, making it more reliable for customers.

Stelfanie Williams joined. A quorum is now present.

The route is achieving a 69% on-time rate departing from all time points and 74% at anchor stops. GoTriangle's goal is 85% or better. Late is defined as departing or arriving more than five minutes late of the scheduled time.

The proposal would eliminate the eastbound and westbound set of stops on Paramount Parkway at Lenovo and at Perimeter Park which will make the route more direct. Carter said there are existing stops, with walking infrastructure, within a half walk to the eliminated stops. The new route will reduce travel time by three minutes and route length by two miles as well as providing an opportunity to serve more people. The stops proposed to be eliminated are considered low performers, with less than five daily boardings. Carter added that the Morrisville Smart Shuttle has two nodes within the area which can help serve customers in the area.

Public outreach is ongoing and Town of Morrisville staff supports the realignment. Staff will bring the final recommendation to the Committee in March.

- I. **Adoption of Agenda**
- II. **Approval of Minutes**

**Action:** A motion was made by Hutchinson and seconded by Williams to adopt the agenda and approve the minutes of January 5, 2023. Upon vote by roll call, the motion was carried unanimously.

### III. FY2023 Durham Transit Plan Work Plan Q3 Amendment

Steven Schlossberg reported GoDurham has submitted one amendment requesting additional funds for the purchase of six electric buses. He explained a recent upgrade to the system's CAD/AVL requires upgrades to the onboard system and there also will be an improved automated passenger counter. The City previously was allocated \$6.4 million from the Durham Transit Plan. The additional cost is \$158,309.

**Action:** A motion was made by Hutchinson and seconded by Williams to recommend the board adopt Budget Ordinance Amendment 2023 0001, approving the Durham Transit Plan FY2023 Q3 work plan amendment for an additional \$158,039 for GoDurham's purchase of six electric buses. Upon vote by roll call, the motion was carried unanimously.

### IV. Route 310 Service Change Evaluation

Previously covered.

### V. Cybersecurity Presentation

Willard Poindexter's presentation is attached and hereby made a part of these minutes. He stated the focus of the presentation will be email, as 75% of cyberattacks are related to email.

Poindexter explained common email attack methods: malware, phishing, viruses and ransomware. He reviewed the flow structure for email coming into GoTriangle accounts - Barracuda, Trend Micro, Exchange and Outlook - which scan for viruses, spyware and malicious code.

Jennifer Robinson joined.

Poindexter explained the steps GoTriangle uses to prevent an attack:

- Complex password policy and use of strong passwords
- Multi-factor authentication
- Up-to-date operating systems and network applications
- User education to recognize and report email phishing with monthly campaigns
- Quarterly KnowBe4 user training and reminders of cybersecurity risks with additional training for repeat clickers

Poindexter explained GoTriangle's plan in the event of an attack and the network infrastructure designed to limit the possibility of attackers getting into the network and reduce the chance of attacks. Sandra Freeman added that GoTriangle carries cybersecurity insurance and in the case of a ransomware attack, GoTriangle would not interact directly with the attacker but allow its insurance provider to take the lead.

Williams asked about a larger enterprise risk management structure at GoTriangle and system testing. Majid Mohammed stated that GoTriangle does conduct regular penetration testing. Lattuca responded that there is internal discussion about a risk manager position which may be included in the FY2024 budget.

**VI. Adjournment**

**Action:** Chair Parker adjourned the meeting at 9:15 a.m.

Prepared by:

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Michelle C. Dawson, CMC  
Clerk to the Board of Trustees

## MEMORANDUM

**TO:** GoTriangle Board of Trustees Operations & Finance Committee  
**FROM:** Planning and Capital Development  
**DATE:** February 15, 2023  
**SUBJECT:** **Route 310 Service Change Recommendation**

### Strategic Objective or Initiative Supported

- 1.2 Pursue service improvements and expansion opportunities
- 2.2 Deliver reliable service

### Action Requested

Staff requests that the Committee recommend that the Board of Trustees to approve the proposed change to Route 310.

### Background and Purpose

Staff is proposing a minor alignment change to Route 310 (Regional Transit Center-Wake Tech RTP-Cary) to improve on-time performance. The route serves the Regional Transit Center, Perimeter Park, the Town of Morrisville, Park West Village, and Cary Depot. The route currently operates once an hour on weekdays.

GoTriangle has an on-time performance target of 85% and regularly evaluates on-time performance of routes to identify deficiencies and identify opportunities for improvement. Staff has identified that Route 310 is suffering from ongoing on-time performance issues. As an example, in October 2022, just 69% of departures from timepoints were on time, compared to the 85% target.

To address this issue with existing resources (without adding operators to the route), staff has evaluated making the route more direct, shortening the current route alignment by 2 miles. This will reduce one-way travel time and increase on-time performance at Cary Depot and the RTC. In addition, the proposed alignment will expand access to more residents and jobs with new bus stops to be located at the Perimeter Park Apartments, Marketplace Shopping Center, Duke Health, and UNC Health.

While the proposed change would eliminate stops on Paramount Pkwy, these stops are lightly used with 4 daily boardings and alightings (October 2022). Riders can utilize existing stops on Watkins Rd and Carrington Mills Rd, stops are within one-half mile from the removed stops.

The service change has a proposed effective date of March 26, 2023. The change will be accompanied by a minor schedule change to route(s) 305 and 700 and reinstatement of the CRX and DRX express services to November 2022 service levels. The pending changes to the route(s) 305, 700, CRX, and DRX do not require Board approval to be implemented.

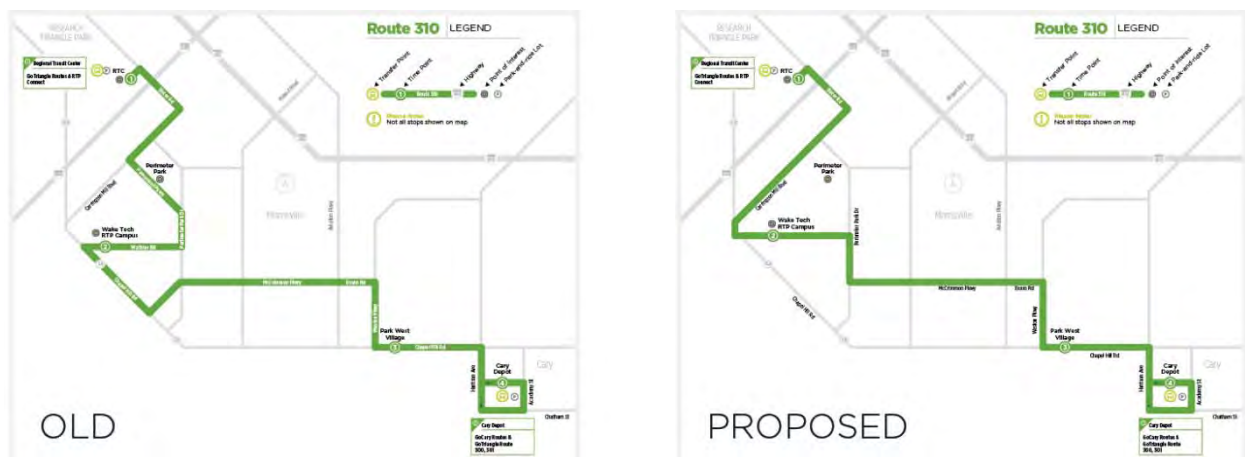
### Stakeholder and Public Engagement

GoTriangle staff met with the Town of Morrisville planning staff to discuss the route 310 proposal. No concerns were raised as there are sidewalks that connect the proposed eliminated stops to alternate stops.

The comment period for the route 310 change began January 25<sup>th</sup>, 2023, and ended February 5<sup>th</sup>, 2023. Comments were collected utilizing the service change webpage and Service Planning voicemail. There were a total of three comments collected, all of which were in support of the change. Service Planning has analyzed the comments received and this resulted in no change to the proposed alignment.

### Map

The images below show the current routing on the left and the proposed routing on the right.



### Financial Impact

The route change does not affect the GoTriangle FY23 budget.

### Attachments

- None

### Staff Contacts

- James Carter, Transit Service Planner II, 919-485-7592, [jcarter@gotriangle.org](mailto:jcarter@gotriangle.org)
- Jenny Green, Transit Service Planning Supervisor, 919-485-7529, [jgreen@gotriangle.org](mailto:jgreen@gotriangle.org)
- Meg Scully, Planning Manager, 919-485-7455, [mscully@gotriangle.org](mailto:mscully@gotriangle.org)
- Katharine Eggleston, Chief Devt. Officer, 919-485-7564, [keggleston@gotriangle.org](mailto:keggleston@gotriangle.org)

## MEMORANDUM

**TO:** GoTriangle Board of Trustees Operations & Finance Committee  
**FROM:** Planning and Capital Development  
**DATE:** February 24, 2023  
**SUBJECT:** Fare Reinstatement Evaluation Update

### Strategic Objective or Initiative Supported

1.5 Maintain cost-effectiveness

### Action Requested

None

### Background and Purpose

Prior to the pandemic-related fare suspension, GoTriangle received around \$1,000,000 in revenue annually from the GoPass institutional/employer discount fare program, around \$800,000 in revenue from cash fares and passes purchased directly by fixed-route bus riders, and around \$600,000 from paratransit fares.

GoTriangle suspended fare collection at the beginning of the COVID-19 pandemic, and has committed to continue the fare suspension through at least June 30, 2023.

At its January 2023 meeting, the Board of Trustees voted to direct staff to begin the process to perform a fare equity analysis and public engagement to inform a future decision by the Board on whether or not to reinstate fare collection for FY24.

At this meeting, staff will present information about the anticipated impacts of a decision to return to collecting fares including draft results of equity analysis and next steps for public engagement.

### Financial Impact

None

### Attachments

- Presentation
- UCLA Policy Brief: Fare-free? Reduced fares? What research tells us about strategies for pricing public transit

## Staff Contacts

- Austin Stanion, Regional Technology Proj. Mgr., 919-485-7451, [astanion@gotriangle.org](mailto:astanion@gotriangle.org)
- Philip Johnson, Senior Transit Service Planner, 919-314-8748, [pjohnson@gotriangle.org](mailto:pjohnson@gotriangle.org)
- Katharine Eggleston, Chief Devt. Officer, 919-485-7564, [keggleston@gotriangle.org](mailto:keggleston@gotriangle.org)



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# Returning to Fares Analysis

March 2023





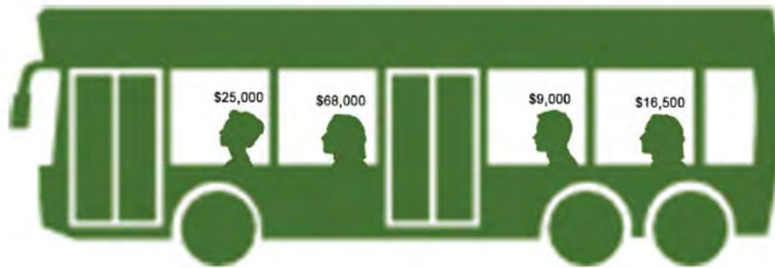
# Agenda

- Background
- Fare Equity Analysis Results
  - Average Fare Cost per Boarding
  - Relative Cost of Transit
- Mitigation and Alternatives
- Revenue, Reliability, and Equity
- Public Engagement



# Title VI Definitions

## Disproportionate Burden



## Disparate Impact



## Disparate Impact/Disproportionate Burden

### Definitions

#### Disparate Impact

A policy that appears neutral whose impacts affect racial, ethnic, or national origin groups in a substantially non-neutral way.

Can be positive or *negative*:

1. *Negative*: Service changes can **take away service** disproportionately used by minority communities OR **fare/fare media changes** that negatively impact minority communities
2. *Positive*: Service changes that **add service** disproportionately used by non-minority communities OR **fare/fare media changes** that disproportionately benefit non minority communities

#### Disproportionate Burden

A policy that appears neutral that impacts low-income populations far more than non low-income populations:

Can be positive or *negative*:

1. *Negative*: Service changes can **take away service** disproportionately used by low-income communities OR **fare/fare media changes** that disproportionately impact low-income communities
2. *Positive*: Service changes that **add service** disproportionately used by non-low-income communities OR **fare/fare media changes** that disproportionately benefit non low-income communities



# Establishing Thresholds

Disproportionate Burden



Disparate Impact

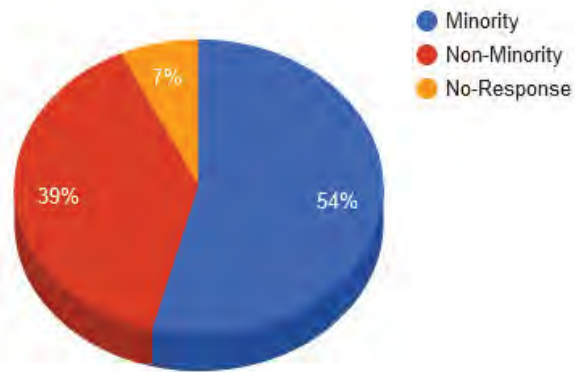


- With public participation, the Board sets thresholds for disparate impact and disproportionate burden prior to the analyses
- Conduct disparate impact and disproportionate burden analyses for fare changes
- Board adopted thresholds
  - For the disparate impact analysis, a threshold of 10 percent shall be used to determine if the effects of a fare change are borne disproportionately by minority populations.
  - For the disproportionate burden analysis, a threshold of 10 percent shall be used to determine if the effects of a fare change or proposed major service change are borne disproportionately by low-income populations.

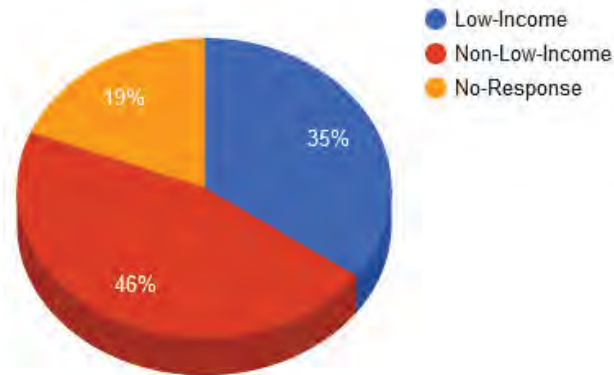
# About GoTriangle Riders

2019 Onboard Survey Data  
2,510 Respondents

Race/Ethnicity



Household Income



## Proposed Fare Structure approved by the Board in 2019

Fare Category	Fare Cost
Single-Ride Adult Fare - Regional	\$2.50
Single-Ride Adult Fare - Express	\$2.50
Single-Ride Disability Fare - Regional	\$1.25
Single-Ride Disability Fare - Express	\$1.25
Single-Ride Senior Fare - Regional	\$0.00
Single-Ride Senior Fare - Express	\$0.00
Single-Ride Youth Fare (age 12 and under) - Regional	\$0.00
Single-Ride Youth Fare (age 12 and under) - Express	\$0.00
Single-Ride Youth Fare (age 13 - 17) Regional	\$1.25
Single-Ride Youth Fare (age 13 - 17) Express	\$1.25
Regional Day Pass	\$5.00
Regional 7-Day Pass	\$24.00
Regional 31-Day Pass	\$80.00
Express Day Pass	\$5.00
Express 7-Day Pass	\$24.00
Express 31-Day Pass	\$80.00
University or Employer Provided GoPass	\$0.00

\*Pre-Covid Proposed Permanent Fare Structure

## Fare Media Usage

These tables show the distribution of fare payment usage by race and income

Table 1-4: Fare Payment Type vs Minority Status

Fare Payment Type	Minority	Non-minority	No response	All Customers
Cash	23.2%	13.1%	9.7%	18.3%
Daypass	15.3%	7.0%	7.4%	11.5%
7-day or 31-day pass	9.9%	6.9%	8.0%	8.6%
Pre-pandemic GoPass	47.0%	68.9%	32.6%	54.6%
Free senior fare	2.8%	2.4%	1.1%	2.5%
No response	1.8%	1.5%	41.1%	4.4%
Grand Total	100.0%	100.0%	100.0%	100.0%

Table 1-5: Fare Payment Type by Low-Income Status

Fare Payment Type	Low-income	Non-low income	No response	All Customers
Cash	24.6%	13.4%	18.6%	18.3%
Daypass	17.6%	8.2%	8.2%	11.5%
7-day or 31-day pass	11.5%	6.7%	7.8%	8.6%
Pre-pandemic GoPass	40.6%	69.4%	44.6%	54.6%
Free senior fare	3.5%	1.4%	3.6%	2.5%
No response	2.1%	1.0%	17.1%	4.4%
Grand Total	100.0%	100.0%	100.0%	100.0%



# Average Fare Cost per Boarding

## Methodology

Compares average fare for boardings by:

- minority customers versus non-minority customers
- low-income customers vs non-low income customers

Assumes a cash fare rate equal to the single cash fare rate, and assumes the rate that a daily, weekly, and monthly pass holder would pay per ride. The methodology also assumes a \$1.38 per boarding for GoPass, since this amount is the average revenue that GoTriangle receives per GoPass boarding.

The socio-economic and demographic information used in the analysis all comes from the 2019 GoTriangle On-Board Survey Results. Household size data is sourced from the Census Population Estimates Program (PEP) which is updated annually. The low-income threshold is set at 150% of the federal poverty level which is a level set by the GoTriangle Board of Trustees.



**Average Cost of Transit  
per Boarding by Groups**



# Average Fare Cost per Boarding

## Disparate Impact Analysis

The fare change proposal would result in minority riders paying 8% more than non-minority riders to board the bus. The average minority rider would pay an average fare of \$1.62 while the non-minority rider would pay \$1.49. Since this difference does not exceed 10%, the analysis does not identify that the fare change has a disparate impact to minorities.

Table 1: Disparate Impact Analysis

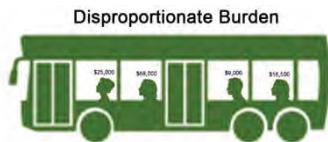


	Minority	Non-minority	No response	System Average
Existing Fare Per Boarding	\$0.00	\$0.00	\$0.00	\$0.00
Proposed Fare Per Boarding	\$1.62	\$1.49	\$1.53	\$1.57
% of System Average Increase	103%	95%	98%	
Difference	8%			

## Disproportionate Burden Analysis

The fare change proposal would result in low-income riders paying 7% more than non-low-income riders to board the bus. The average low-income rider would pay an average fare of \$1.63 while the average non-low-income rider would pay \$1.51. Since this difference does not exceed 10%, the analysis does not identify that the effects of the fare change are borne disproportionately by low-income riders.

Table 2: Disproportionate Burden Analysis



	Low income	Non-low income	No response	System Average
Existing Fare Per Boarding	\$0.00	\$0.00	\$0.00	\$0.00
Proposed Fare Per Boarding	\$1.63	\$1.51	\$1.57	\$1.57
% of System Average Increase	104%	97%	100%	
Difference	+7%			



# Relative Use of GoPass

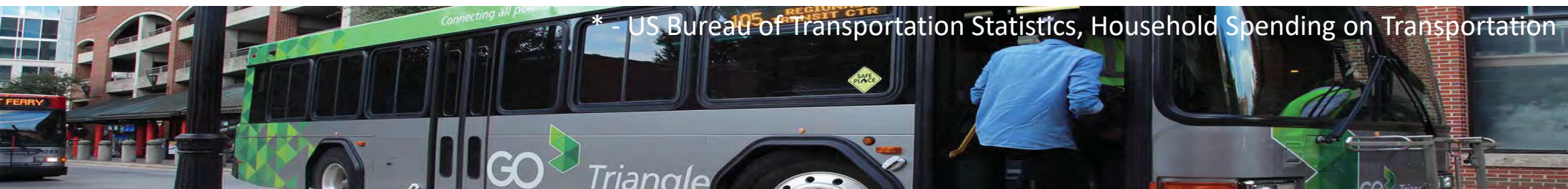
	Minority	Non-Minority	No Response	Low Income	Non Low Income	No Response
Cash	68%	28%	4%	47%	33%	19%
Daypass	72%	24%	4%	54%	33%	13%
7-day or 31-day pass	62%	31%	6%	47%	36%	17%
GoPass	46%	49%	4%	26%	58%	15%
Free Senior Fare	59%	38%	3%	48%	25%	27%
No Response	22%	14%	65%	17%	10%	73%
All Fare Types	54%	39%	7%	35%	46%	19%





# Relative Cost of Transit

- Nationally in 2021, households spent an average of \$10,961 on transportation in 2021—the second largest household expenditure category after housing.\*
- Households in the lowest income quintile spent less on average on transportation (\$4,273) but faced a larger transportation cost burden, spending 26.9 percent of their after-tax income on transportation.\*
- With fare capping, GoTriangle riders would spend no more than \$960 per year per adult to ride the bus, or \$1920 for a household with two adults.
  - For a household with income of \$25,000, this represents about 8% of annual income.
  - With expansion of the GoPass program to cover low-income individuals or a decision to continue fare suspension, this cost could be eliminated for low-income households in our community.



\* - US Bureau of Transportation Statistics, Household Spending on Transportation

# Mitigation and Alternatives

Although there are no Title VI findings, the following mitigations are presented for consideration if the Board chooses to return to fare collection in FY24:

**Mitigation Baseline – Implement board-approved fare capping**

**Mitigation Option #1 – Create low-income GoPass program through partnerships with Health and Human Services, Housing Authorities, and/or Jobs Access Programs**

**Mitigation Option #2 – Expand GoPass program to include employers and institutions with higher proportions of minority and low-income employees**

**Mitigation Option #3 – Ease back into fares**





# Revenue, Reliability & Equity

- Fare-free transit has clear equity benefits
- But reliable quality transit also has equity benefits
- Commute-time-to-work is the most important factor for a family's ability to rise out of poverty (more important than schools or crime statistics)<sup>1</sup>



1: R Chetty & N Hendren 2015 (Harvard University)



# Revenue, Reliability & Equity

- Service improvements are likely to be more impactful than fare reductions, even for low-income riders<sup>2</sup>
- Reduced fare programs can lower burden and increase usage for low income riders<sup>3</sup>



2: H King & B Taylor 2023 (UCLA)  
3: Rosenblum et Al 2019 (MIT)

# GoTriangle & Fare Equity



- Returning to fares could provide \$10 Million or more over 5 years, losing this revenue could have tradeoffs of reduced reliability or service impacts
- If GoTriangle returns to fares, a low-income fare program could mitigate impacts on low-income riders





# Go Pass Considerations

- GoTriangle has a higher percentage of non-low-income riders compared to other systems
- Institutional partners have demonstrated a willingness to pay fares for their populations
- Going fare-free would shift costs from institutional partners to GoTriangle sources





# Public Engagement

- In March, GoTriangle will begin public engagement around the issues of returning to fare and potential trade-offs in service reliability
- A summary of results from this public engagement period will be provided to the board in April prior to a decision on returning to fares for FY24 budget



# Returning to Fares Analysis

March 2023



## **UCLA**

### **Policy Briefs**

#### **Title**

Fare-free? Reduced fares? What research tells us about strategies for pricing public transit

#### **Permalink**

<https://escholarship.org/uc/item/93p7h6dv>

#### **Authors**

King, Hannah  
Taylor, Brian D.

#### **Publication Date**

2023-02-01

#### **DOI**

10.17610/T6WC8Z

# Fare-free? Reduced fares? What research tells us about strategies for pricing public transit

Hannah King, Graduate Student Researcher, UCLA Institute of Transportation Studies  
 Brian D. Taylor, Professor of Urban Planning and Public Policy, UCLA Luskin School of Public Affairs; Director, UCLA Institute of Transportation Studies

February 2023

## Issue

Many analysts have argued for transit fares to vary with distance traveled and time of day to better reflect the highly variable costs of transit service provision on both efficiency and equity grounds. However, proposals for variable fares have garnered little traction among transit managers and their governing boards, who often worry that changing fares may be even less popular with riders than raising them. Until recently, variable fares were also difficult to implement from a technological standpoint. As a result, most fare experimentation has centered on “fare-free” or reduced-fare programs.

Free- and reduced-fare (FAR) programs have most commonly been targeted at specific groups of riders, like students or seniors. FAR programs may reduce the costs of collecting fares. Because they are, essentially, flat fares, FAR policies limit the ability of operators to charge different fares based on trip costs rather than traveler characteristics. Even so, FAR programs are increasingly being touted by advocates in recognition of transit’s important social service role in providing mobility to those unable to afford or otherwise access private mobility, such as older adults who may face both physical and financial barriers to automobile use.

## Key Findings

**FAR programs are likely to improve ridership — if sustainable funding for the FAR program can be found.** Identifying sustainable funding is the fundamental challenge of FAR programs. Ridership increases are likely to be more pronounced on systems with previously high fares

and those with higher proportions of low-income riders, and less pronounced on systems with already low fares and/or higher-income riders.

**The net fiscal impact of FAR programs on transit agency finances is uncertain, particularly with respect to increased costs that may be occasioned by increased rider demand.** Fully understanding how FAR programs influence agency finances is a major research challenge but one worth undertaking. Without such information, recommendations about the wisdom of implementing FAR programs are necessarily speculative.

**In California, state-level farebox recovery requirements present a major barrier to the further expansion of FAR programs.** FAR programs would almost certainly be much more common than they are now if transit agencies were not bound by minimum farebox recovery requirements, such as those under California’s Transportation Development Act (TDA). However, eliminating or relaxing farebox recovery requirements would represent a significant move away from a user fee-funded transit system and toward one that functions more like a park or school, where a baseline level of access is expected for every community member. Accordingly, FAR programs have the potential to enable some level of transit access for all.

**All else equal, service improvements are likely to be a more effective use of resources than fare reductions, even for low-income riders.** The vast majority of transit research that compares fare elasticities with service elasticities finds that service elasticities are greater. This implies that, at the margin, increased spending to improve

transit service is likely to attract more riders than similar expenditures to make transit cheaper, though there can be exceptions to this general rule.

**FAR programs may generate a host of societal benefits to the extent that they decrease vehicle use.** These benefits include reducing vehicle miles traveled (VMT) and associated greenhouse gas emissions. Mode shift and environmental benefits are likely to be modest, however, because the most price-sensitive riders tend to have less access to cars and trucks. Again, increased spending on transit service improvements may lead to more of these benefits than FAR programs.

**For the foreseeable future, transit agencies that reduce the financial barriers to transit access will face challenges related to holes in the social safety net.** By reducing the financial barriers to transit access, FAR programs may risk increasing the presence of individuals engaging in antisocial behavior such as active, in-vehicle use of illicit substances, not maintaining acceptable hygiene standards, and not engaging other riders respectfully. Some transit agencies, such as LA Metro, San Francisco's BART, and Philadelphia's SEPTA, are responding to these challenges by dedicating funding to (1) "transit ambassador" programs designed to both improve the experience of riding transit and (2) increasing agencies' abilities to support unhoused individuals and members of other vulnerable rider groups.

**One size does not fit all.** If fare-free transit is to be adopted, the cost (in foregone fare revenue) is lower on systems that already recover a relatively small share of their operating costs out of the farebox. Such systems tend to operate in less transit-friendly environments and carry larger shares of lower income and mobility disadvantaged riders. On systems with higher farebox recovery rates, especially those serving large downtowns, the opportunity cost of fare-free programs is much higher, and such systems often carry proportionally larger shares of non-poor riders. On these systems, targeted fare-reduction programs aimed at

particular rider groups (low-income, students, etc.) are a less costly way of providing fare reductions to riders who need them most.

## More Information

This policy brief is drawn from the report "Considering Fare-Free Transit in The Context of Research on Transit Service and Pricing: A Research Synthesis," prepared by Hannah King and Brian D. Taylor at the UCLA Institute of Transportation Studies. The report can be found here: [www.its.ucla.edu/project/innovative-transit-fares](http://www.its.ucla.edu/project/innovative-transit-fares).

For more information about findings presented in this brief, please contact Hannah King at [hrking@ucla.edu](mailto:hrking@ucla.edu). Readers interested in learning more about FAR programs in California can refer to "A Review of Reduced and Free Transit Fare Programs in California," prepared by Jean-Daniel Saphores, Deep Shah, and Farzana Khatun at the UC Irvine Institute of Transportation Studies. The report can be found here: <https://doi.org/10.7922/G2XP735Q>.

*Research presented in this policy brief was made possible through funding received by the University of California Institute of Transportation Studies (UC ITS) from the State of California through the Public Transportation Account and the Road Repair and Accountability Act of 2017 (Senate Bill 1). The UC ITS is a network of faculty, research and administrative staff, and students dedicated to advancing the state of the art in transportation engineering, planning, and policy for the people of California. Established by the Legislature in 1947, the UC ITS has branches at UC Berkeley, UC Davis, UC Irvine, and UCLA.*

Project ID: UC-ITS-2022-08 | DOI: 10.17610/T6WC8Z