

Equity Analysis for Proposed Fare Change



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Ann Arbor Area Transportation Authority

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1. Introduction

Background

The Federal Transit Administration (FTA) requires every transit agency with more than 50 fixed route buses and receiving federal funding to conduct a Fare Equity Analysis prior to approving any change in transit fares or fare media. The purpose of the Fare Equity Analysis is to determine if the change in fares will have a disparate impact on minorities protected by Title VI of the Civil Rights Act of 1964 or place a disproportionate burden on persons with low income as defined in Presidential Executive Order 12988. Title VI specifically states “no person in the United States shall on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance.”

The Ann Arbor Area Transportation Authority (AAATA), doing business as TheRide, proposes to modify its fares in 2021. This Fare Equity Analysis will assess the proposed changes and identify any disparate impacts or disproportionate burdens. If disparate impacts are found, the proposed fare changes will need to be modified to eliminate the effects or the board of directors of TheRide will need to pass a motion stating that the proposed changes are consistent with the business goals of TheRide and that there is no less discriminatory option to achieve the same business goals. If any disproportionate burdens are found, TheRide must attempt to eliminate or mitigate those burdens, but if the burden cannot be eliminated or mitigated, the original changes may proceed unmodified.

In April 2014, the AAATA adopted an Equity Analysis Policy. The policy included several key definitions, provided as follows with additional explanations added in italics:

Disparate Impact

- Disparate impact 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 exist alternatives that would serve the same legitimate objectives but with less disproportionate effect on the basis of race, color, or national origin.
- *Disparate impacts must be eliminated prior to approval, or the Board must pass a specific motion to authorize a fare change that creates a disparate impact.*

Disproportionate Burden

- Disproportionate burden 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.
- *Fare changes that create a disproportionate burden should be changed to eliminate the burden or should be mitigated. However, if these issues cannot be eliminated or mitigated, it is possible the change will proceed as planned.*

Minority Persons

Minorities include persons identifying as belonging to any of the following races or ethnic groups:

- American Indian and Alaska Native
- Asian
- Black or African American
- Hispanic or Latino, regardless of race
- Native Hawaiian or other Pacific Islander

Low Income

In practice, the AAATA has also expanded the definition of a low-income person since the policy was adopted to include a larger segment of the population. This change fits with the best practices of transit systems nationwide that understand that the federal poverty line is too low.

- Low-income person means a person whose median household income is at or below 150 percent of the US Department of Health and Human Services poverty guidelines.

2. Proposed Fare Changes

Overview

TheRide staff have proposed several fare adjustments for implementation in 2022. These changes stem from a 2018 fare study and a desire to simplify, streamline, and make fares easier to use for riders and employees. The proposed changes implement some recommendations from the 2018 fare study, including the following:

- Lowering the price of bus passes
- Improving equity for users of NightRide by eliminating any zone surcharges

Fare changes are also proposed for GoldRide and FlexRide fares to improve equity and better match costs.

The proposed changes all require a full Title VI and Environmental Justice equity analysis to ensure that the changes do not create disparate impacts or disproportionate burdens.

30-Day and Day Passes

- Bus passes are overpriced, according to the fare study. Lower prices have been proposed. The multiplier for the 30-Day Pass has been lowered from 38.7 to 30 times the base fare, and the multiplier for the Day Pass has been lowered from 3 to 2 times the base fare.

Fare	Current (FY2021)	Proposed (FY2022)
Day Pass	\$4.50	\$3.00
Reduced Day Pass	N/A	\$1.50
30-Day Pass	\$58.00	\$45.00
Reduced 30-Day Pass	\$29.00	\$22.50

NightRide & HolidayRide

- Currently a \$2.00 surcharge (on top of the \$5.00 fare) is applied to trips between Ann Arbor and Ypsilanti, bringing the cost to \$7.00 per one-way trip. The surcharge is the only example of a zoned fare from TheRide and has thus been nominated for discontinuation.

	Current (FY2021)	Proposed (FY2022)
Fares with Trip Surcharge	\$2.00	\$0

FlexRide

- A base fare of \$1.00, below the fixed route base fare, was established when FlexRide was first introduced in 2018. This fare needs to align more accurately with fixed route fares through the elimination of a paid transfer.

Single Ride Rate with Transfer to Fixed Route	Current (FY2021)	Proposed (FY2022)
FlexRide Regular Fare	\$2.50	\$1.00
FlexRide Reduced Fare	\$1.25	\$0.50

GoldRide

Among the services offered to senior citizens is a demand-response, curb-to-curb service piggybacking on the existing A-Ride complementary Americans with Disabilities paratransit service mandated by federal law. The service has only operated in Ann Arbor prior to the pandemic. The service was discontinued as part of cutbacks arising from the pandemic. The AAATA is now planning to reinstate the service but expand it to Ypsilanti City and Township. An increased fare has been proposed to cover the high operating costs that average over \$40.00 per person, per one-way trip.

Single Ride Rate	Current (FY2021)	Proposed (FY2022)
GoldRide for Low Income (Same Day or Advance booking)	N/A	5.00
GoldRide with Advance Booking	\$3.00 + \$3.00 per add'l person	\$20.00 + \$5.00 per add'l person
GoldRide with Same Day Booking	\$4.00 + \$3.00 per add'l person	\$20.00 + \$5.00 per add'l person

3. The Analysis

Procedure

TheRide policy governing the calculation of the impact of fare changes on minority and low-income populations is:

- For any proposed change in fares, the effect on minority and nonminority riders will be calculated for each fare category by multiplying the amount of increase by the annual riders using the fare category by the percentage of minority riders and nonminority riders. The additional payment for all fare categories will be totaled and compared for minority and nonminority riders.
 - Disparate impacts exist if a minority population bears 5 percent or more of the cumulative increase in fares than would be expected, based on the percentage of minority persons in the population of riders.
 - Disproportionate burdens exist if a low-income population bears 10 percent or more of the cumulative increase in fares than would be expected based on the percentage of low-income persons in the population of riders.

If a fare change involves a fare decrease, the inverse threshold would be used to determine disparate impacts or disproportionate burdens.

Data Sources

To conduct the required calculations, data on rider demographics and the fares paid are required. In 2017, the AAATA conducted a comprehensive onboard survey that asked passengers questions about their race and ethnicity to obtain the information required for the Title VI portion of the analysis. Questions were asked about the number of persons residing in their household and the total household income. Combining this information facilitates estimation of whether their income is above or below 150 percent of the poverty line. Some adjustment is required, given that the income choices on the survey do not correspond to the categories in the federal poverty guidelines. Two questions on the survey also provide information on the fare paid and if the respondent has a discount card issued by the AAATA.

The 2018 fare study included a fare model that projected the number of persons who would use each of the new fare products.

Demographics

Question 33 on the onboard survey asked users to identify which of the five racial groups they belonged to. The question also offered a choice of “Other,” with an opportunity to write in a response. Question 34 asked if the rider identified as “Hispanic or Latino.” The non-minority population for the calculation of disparate impact was based on all persons who selected “Caucasian/White” and not “Hispanic or

Latino.” All respondents who selected a race other than “Caucasian/White” and answered either “yes” or “no” to the “Hispanic or Latino” question were considered minorities.

To identify which respondents qualified for the low-income calculation required for the environmental justice disproportionate burden analysis, we used questions 31 and 32. Question 31 asked how many people lived in the users’ household, with possible answers of 1, 2, 3, 4, 5, or more. Question 32 asked for the “total combined annual household income.” There were nine possible categories. These categories do not correspond to the categories in the federal guidelines. This means that the midpoint of the survey categories was used to determine into which federal range a person might best fit.

Figure 1 shows the ranges for household income from the survey and the midpoint for each range. This figure also shows the federal income ranges for determining the poverty line based on the number of persons in a household.

Figure 1. Survey Household Income Ranges and 2017 Federal Poverty Guidelines

Question 32 Income Ranges		Question 32 Midpoint of Range	150% of Federal Poverty Guidelines		
			Persons in Household	Income Range	
Less than	\$ 10,000	\$ 10,000	1	Less than	\$ 18,090.00
\$10,000	to \$ 14,999	\$ 12,500	2	\$ 18,091.00	to \$ 24,360.00
\$15,000	to \$ 19,999	\$ 17,500	3	\$ 24,361.00	to \$ 30,630.00
\$20,000	to \$ 24,999	\$ 22,500	4	\$ 30,631.00	to \$ 36,900.00
\$25,000	to \$ 34,999	\$ 30,000	5	\$ 36,901.00	to \$ 43,170.00
\$35,000	to \$ 49,999	\$ 42,500	6	\$ 43,171.00	to \$ 49,440.00
\$50,000	to \$ 74,999	\$ 57,500	7	\$ 49,441.00	to \$ 55,710.00
\$75,000	to \$100,000	\$ 87,500	8	\$ 55,711.00	to \$ 61,980.00
more than	\$100,000	\$ 100,000	9	\$ 61,981.00	to \$ 99,240.00

Figure 2 shows how these data were combined to determine if survey respondents were above or below 150 percent of the federal poverty guidelines.

Figure 2 - Determining If Survey Respondents Are Above or Below Poverty Guidelines

Question 31 Persons in Household	Above or Below 150% of Federal Poverty Guidelines					
	Midpoint of Range on Question 32					
	\$ 10,000	\$ 12,500	\$ 17,500	\$ 22,500	\$ 30,000	\$ 42,500
1	Below	Below	Below	Above	Above	Above
2	Below	Below	Below	Below	Above	Above
3	Below	Below	Below	Below	Below	Above
4	Below	Below	Below	Below	Below	Above
5 or more	Below	Below	Below	Below	Below	Below

Data were also used from Questions 18 and 29 concerning use of TheRide after 8 p.m., after 9 p.m., and before 7 a.m. to estimate the demographics of NightRide passengers.

Usage of Fare Types

The survey question on fare types provided eight choices, including an opportunity to write in a fare type from the seven alternatives provided. The choices were:

- Cash
- Transfer
- goPass
- EMU Pass
- MCard
- 30-Day Pass
- Token
- Other

The next question asked if the rider was using an AAATA discount card. The options included:

- Fare Deal Card (Disability)
- ADA Green Card
- Fare Deal Card (Low-Income)
- Good as Gold Card
- Fare Deal Card (Age 60–64)

This information was applied to each of the proposed fare changes to determine how many riders would be affected.

30-Day Pass

The demographics (race, ethnicity, and poverty status) of 30-Day Pass riders were based on persons identifying on the survey that they used a 30-Day Pass (question 10) and did not have an AAATA discount card (Question 11).

The 2017 fare study model output forecasts how many 30-Day passes will be purchased in 2022.

30-Day Reduced Pass

The demographics (race, ethnicity, and poverty status) of 30-Day Reduced Price Pass riders were based on persons identifying on the survey that they used a 30-Day Pass (Question 10) and held an AAATA discount card (question 11).

The 2017 fare study model output forecasts how many reduced-price 30-Day passes will be purchased in 2022.

Day Pass and Reduced Price Day Pass

When the survey was conducted in 2017, TheRide did not have a Day Pass, and as a result, no demographic data are available. In the Title VI and Environmental Justice analysis, the demographic data for the Day Pass/Reduced Day Pass were estimated using a combination of the 30-Day/30-Day Reduced and Cash demographics.

The 2018 fare study model output forecasts how many Day Passes and Reduced-Price Day Passes will be purchased annually in 2022.

NightRide and Holiday Ride

The NightRide and HolidayRide demographics were estimated using the survey results for passengers paying cash and riding the system after 8:00 p.m. (all riders) or 9:00 p.m. or before 7:00 a.m. (work trips only). This was not an exact match for the NightRide and HolidayRide because NightRide operates from 9:15 p.m. to 5:30 a.m. and is open to all passengers, not just workers. There were no questions on the survey to identify holiday riders, workers or not.

The 2018 fare study model output shows how many NightRide and HolidayRide single fares with a \$2.00 supplement will be purchased annually in 2022.

FlexRide

The FlexRide demographics are based on persons in the survey who stated they paid cash and rode Routes 45, 46, 61, and 67. These fixed routes were partially or entirely replaced by the FlexRoute service. The sample sizes for these demographic groups were exceedingly small. Routes 61 and 67 had just three riders total that used cash fares, while Routes 45 and 46 had 99 cash riders total.

The 2018 fare study model output shows how many FlexRide full or reduced cash fares will be paid in 2022. A transfer rate was estimated based on current FlexRide usage data.

GoldRide

The new GoldRide fares apply to senior citizens riding the proposed premium on-demand service, similar to the previous A-Ride service provided to senior citizens. The 2017 onboard survey was not administered on the A-Ride service, so no demographic information is available. The fixed route onboard survey did provide an opportunity for fixed route riders to identify if they had a GoldRide card. It is possible that some of the GoldRide card holders use both fixed routes and the A-Ride service, but at best, the GoldRide users on A-Ride would be only a subset of the GoldRide on fixed routes, and some GoldRide on A-Ride users would never ride fixed routes. In addition, the new GoldRide fares include a new category for GoldRide Card holders with low incomes. The closest to identifying the demographics of who would be eligible for this new fare would be to count GoldRide users who have incomes below 150 percent of the federal poverty guideline.

The GoldRide fare adjustments for A-Ride were not included in the 2018 fare study. An estimate of the potential ridership in 2022 with the new fares provided by TheRide is used in the equity analysis.

Equity Analysis

In Figure 3, a calculation using the data described previously is provided to determine if the proposed fare changes will result in a disparate impact or disproportionate burden. The calculation shows that there are no disparate impacts or disproportionate burdens created by the proposed changes.

The new fares result in an 83.0 percent decrease in fare revenue for the 77.2 percent of riders affected by the fare changes and who have incomes below 150 percent of the federal poverty guideline. This is a 5.8 percent difference. The policy of TheRide says there is a disproportionate burden if the difference between those numbers is less than -10 percent.

The new fares result in a 66.1 percent decrease in fare revenue for the 65.4 percent of riders affected by the fare changes and who identified themselves as minorities. This is a 0.7 percent difference. The policy of TheRide says there is a disparate impact if the difference between those numbers is less -5 percent.

The fare change proposals discussed in this equity analysis comply with the federal requirements stated in FTA Circular 4702.1B.

Figure 3 - Equity Analysis Calculations

Fare	2022 Annual Pass Sales or Riders from Model	Current Fare or Pass Price	Proposed Change in Cost	Percentage of Low Income from 2017 On Board Survey or best estimate						Percentage of Minority from 2017 On Board Survey or best estimate						Total Cost Change
				% of Low Income Users	Low Income Users (150% of Poverty Line)	Change in Cost for Low Income Users	% of Non-Low Income Users	Non Low Income Users	Change in Cost for Non Low Income Users	% Minority Users	Minority Users	Change in cost Minority Users	% Non Minority Users	Non Minority Users	Change in Cost of Non Minority Users	
30 Day Pass	2,563	\$ 58.00	\$ (13.00)	53.0%	1,359	\$ (17,662)	47.0%	1,205	\$ (15,663)	56.1%	1,438	\$ (18,695)	43.9%	1,125	\$ (14,630)	(33,325)
Reduced 30 Day Pass	5,432	\$ 29.00	\$ (6.50)	76.8%	4,172	\$ (27,116)	23.2%	1,260	\$ (8,191)	62.4%	3,389	\$ (22,032)	37.6%	2,042	\$ (13,275)	(35,307)
Day Pass	2,701	\$ 4.50	\$ (1.50)	60.0%	1,621	\$ (2,431)	40.0%	1,081	\$ (1,621)	58.0%	1,567	\$ (2,350)	42.0%	1,135	\$ (1,702)	(4,052)
Reduced Day Pass	23,530	\$ 4.50	\$ (3.00)	78.0%	18,353	\$ (55,059)	22.0%	5,176	\$ (15,529)	68.0%	16,000	\$ (48,000)	32.0%	7,529	\$ (22,588)	(70,589)
Gold Ride New	1,680	\$ 3.02*	\$ 16.98	0.0%	-	\$ -	100.0%	1,680	\$ 28,526	55.0%	924	\$ 15,690	45.0%	756	\$ 12,837	28,526
Gold Ride Low Income	15,120	\$ 3.02*	\$ 1.98	100.0%	15,120	\$ 29,938	0.0%	-	\$ -	65.0%	9,828	\$ 19,459	35.0%	5,292	\$ 10,478	29,938
Night Ride Surcharge	1,570	\$ 2.00	\$ (2.00)	54.9%	862	\$ (1,724)	45.1%	708	\$ (1,416)	62.4%	980	\$ (1,959)	37.6%	590	\$ (1,181)	(3,140)
Flex Ride	1,286	\$ 2.50	\$ (1.50)	53.5%	688	\$ (1,032)	46.5%	598	\$ (897)	77.2%	993	\$ (1,489)	22.8%	293	\$ (440)	(1,929)
Flex Ride Reduced	1,112	\$ 1.25	\$ (0.75)	24.1%	268	\$ (201)	75.9%	844	\$ (633)	73.9%	822	\$ (616)	26.1%	290	\$ (218)	(834)
Total	54,994			77%	42,442	\$ (75,287)	23%	12,552	\$ (15,424)	65.4%	35,940	\$ (59,993)	34.6%	19,053	\$ (30,718)	(90,711)
Percent of Total					77.2%	83.0%		22.8%	17%		65.4%	66.1%		34.6%	33.9%	
Difference						5.8%			-6%		0.8%				-0.8%	

* Based on average fare for Advance Reservations and Same Day existing service in 2019

No disproportionate burden as share in reduction of cost for low income is 5.8 % more than percent of low income users (less than 10%)

No disparate impact as reduction as share of cost reductions for minorities is 0.8% more than the proportion of minority riders (less than -5.0%)

