

Title VI Equity Analysis – Service and Fare Changes

FY2024 Operating Budget

I. Background

The Federal Transit Administration (FTA) requires that transit agencies conduct an equity analysis to determine whether proposed permanent major service changes or fare changes will result in a disparate impact (DI) to minority customers or a disproportionate burden (DB) to low-income customers (FTA Circular 4702.1B). This requirement stems from the Civil Rights Act of 1964 states that no one should be denied the benefits of any program receiving federal funding “on the grounds of race, color, or national origin.” The purpose of the analysis is to determine if fare changes or major service changes would result in minority or low-income customers receiving substantially less of a benefit of transit service than other customers. Such a finding is known as a disparate impact (DI) to minority customers or a disproportionate burden (DB) to low-income customers.

II. Overview

Overall, the FY2024 Proposed Budget’s inclusion of a number of major rail service changes (increased rail frequencies, Yellow Line turnback, new Potomac Yard station), major bus service changes (increased frequency, route restructuring and expanded span of service), and fare changes (consolidation of weekday fare structure, low-income fare discount) necessitate equity analyses under the Title VI Circular. Staff completed the Title VI equity analyses and determined that the proposed service changes and fare changes do not result in a potential disparate impact (DI) for minority populations or a disproportionate burden (DB) for low-income populations.

III. Title VI Analysis

A. Data Sources and Methods

Service equity analyses are conducted on service reductions and service increases separately. The analysis is conducted at the mode (Metrorail or Metrobus) level. To assess the impact, the proposal is first evaluated to determine the combined number of customers the service changes will affect. The ratio of minority/low-income customers affected is then calculated for this same group of customers using demographic data collected from passenger surveys.¹

As of fall of 2022, approximately 83 percent of Metrobus customers are minority and 50 percent have a household income of \$30,000 or less. On Metrorail, 46 percent of customers are minority and 13 percent have a household income of \$30,000 or less.

¹ Data sources: 2022 Metrorail Passenger Survey, 2018 Metrobus Passenger Survey

In 2013, Metro’s Board of Directors approved² the thresholds used to identify potential DI and DB for service changes. There is a potential DI or DB if the percentage of minority or low-income customers impacted by the changes exceeds the mode’s average share of minority/low-income customers by more than the threshold percentage shown below. The applicable threshold is determined by the total number of daily customers impacted.

Table One: DI/DB Service Thresholds

Total Daily Customers Impacted	Threshold for Significant Disparity
Up to 10,000	8%
10,001 to 20,000	7%
20,001 to 40,000	6%
Over 40,000	5%

To assess the impacts of fare changes, an average fare paid by bus and rail customers by demographic group is calculated. The data are then merged with passenger survey data³ for the same customers and/or fare categories to create an average fare paid by demographic group (minority vs. non-minority, low-income vs. non-low-income).

Future fares are calculated with the same approach, except that the proposed fare policy changes are used in place of the current fares. The current average fare is then compared to the new average fare to determine the percentage change in fare by demographic group.

In Resolution 2013-27, the Board of Directors approved DI/DB thresholds for fares of five percent, meaning that the average fare increase or decrease for minority/low-income customers cannot exceed the average fare increase or decrease for non-minority/non-low-income customers by more than five percent.

B. FY2024 Service and Fare Proposals

The FY2024 Budget proposal contains several rail and bus changes and fare changes which are subject to Title VI equity analyses. The appendix of this document explains the service changes in more detail.

Table Two: Major Policy Direction – Rail Service

Rail Service	<p>Green Line: Improve Green Line headways to 6 minutes all day until 9:30 pm, improved from 10 minutes during peak hours and 12 minutes during off-peak hours. Late night service would operate every 7.5 minutes, improved from 15 minutes.⁴</p> <p>Yellow Line: Improve Yellow Line headways to 6 minutes all day until 9:30 pm, improved from 10 minutes</p>
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	<p>during peak hours and 12 minutes during off-peak hours. Late night service would operate every 7.5 minutes, improved from 15 minutes. All Yellow Line trains would operate between Huntington and Mt. Vernon Square station, instead of operating to Greenbelt.</p> <p>Orange Line: Improve Orange Line peak headways to an average of every 7.5 minutes, improved from 10 minutes. Increase off-peak headways to every 10 minutes, improved from 12 minutes. Late night service would continue to operate every 15 minutes.</p> <p>New Station: Potomac Yard Station</p>
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Table Three: Major Policy Direction – Bus Service

<p>Bus Service</p>	<p>Route B2: Improve service frequency to every 12 minutes</p> <p>Route A12: Restructure A12 service into two new routes and extend service to Downtown Largo</p> <p>Routes 16G and 16H: Restructure route 16G and 16H service with new Route 16M replacing them between Skyline and Pentagon City. 16G service to Arlington Mill would be discontinued</p> <p>Route 11C: Modify existing route 11C by restoring route 11Y pre-pandemic alignment between Mt. Vernon Square and Potomac Park</p> <p>District of Columbia All-Night Bus Service⁵: Extend span of service on 13 Metrobus routes in the District of Columbia and increase frequencies on these routes to provide a minimum of 20-minute headways across the service day</p>
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² Resolution 2013-27

³ Data sources: 2022 Metrorail Passenger Survey, 2018 Metrobus Passenger Survey

⁴ The proposal would maintain late evening (after 9:30PM) service levels north of Mt. Vernon Square to be the same as those authorized in the FY2023 Operating Budget, while providing an increase in service on other portions of the line.

⁵ Subject to funding authorization from the District of Columbia

Table Four: Major Policy Direction – Fares

<p>Simplify Metrorail Fare Structure</p>	<p>Consolidate weekday fare structure (peak and off-peak) into single structure: Base fare of \$2.00 Max fare of \$6.00 Milage charge of \$0.40</p>
<p>Other Proposed Changes</p>	<p>Adjusting fare for seven-day short trip pass to cover trips up to \$4.00 Launch low-income fare discount program</p>

C. Results of Analysis – Rail Service Changes

The Metrorail service changes provide a significant benefit to minority and low-income customers. Using survey data from the recent 2022 Metrorail Passenger Survey⁶, staff has determined that the benefiting customers from this proposal are more likely to be minority (by close to 5 percent) and low-income (by more than one percent) than average. As discussed elsewhere in the FY2024 Budget presentation materials, the proposal positively impacts 49 percent of rail customers. A relatively small number of customers (approximately 8 percent) are negatively impacted by the proposal. Consistent with other equity analyses, service increases and service decrease are analyzed separately in this report.

a. Rail Service Increases

The service equity analysis evaluates the demographics of those who would benefit from increased service frequency on the Green, Yellow, and Orange Lines and new service to/from the new Potomac Yard Station. Using Metrorail passenger survey data, Metro staff calculated the percentage of minority and low-income customers benefiting from the proposal. Because the proposed service change affects rail customers, Metro then compared that percentage to the mode average for Metrorail (46.2 percent minority; 13.0 percent low-income). On any given service day, the number of benefiting customers is above 40,000; therefore, the threshold for a finding of potential DI/DB is five percent. Note, the threshold is shown as a negative number because the analysis focuses on benefiting customers. The proposal can benefit a *lower* percentage of minority or low-income customers up to the threshold before there is a finding of potential DI or DB.

6 Data collected fall 2022

Table Five: DI/DB Test, Metrorail Service Increases

	Minority Impacted Trips	Low-Income Impacted Trips
Impacted Ratio	51.0%	14.2%
Mode Average	46.2%	13.0%
Difference	4.8%	1.2%
Threshold	-5.0%	-5.0%
DI or DB	No	No

As shown in Table Five, the proposal benefits a group of customers that are more minority and more low-income than the mode average. Therefore, there is no finding of a potential DI for minority customers or potential DB for low-income customers.

b. Rail Service Reductions

As discussed, the rail service changes proposed for FY2024 are a significant increase in service for Metrorail minority and low-income customers. However, some customers will see a decrease in service due to the fact that Yellow Line service will longer operate to Greenbelt. At stations north of Mt Vernon Square, customers would see a slight decrease in frequency with trains every 6 minutes rather than every 5 minutes during peak periods. In addition, customers traveling to and from Yellow Line stations south of L'Enfant Plaza and Green Line stations north of Mt Vernon Square would now have to transfer to make the same trip.⁷

Using Metrorail passenger survey data, Metro staff calculated the percentage of minority and low-income customers affected by this change. Because the proposed service change affects rail customers, Metro then compared that percentage to the mode average for Metrorail (46.2 percent minority; 13.0 percent low-income). On any given service day between 10,000 and 20,000 customers would be impacted, therefore the threshold for a finding of potential DI/DB is seven percent.

⁷ Note the proposal has been modified to maintain late evening (after 9:30PM) service levels north of Mt. Vernon Square to be the same as those authorized in the FY2023 Operating Budget, thereby reducing a customer impact at these stations during this time period.

Table Six: DI/DB Test, Metrorail Service Reductions

	Minority Impacted Trips	Low-Income Impacted Trips
Impacted Ratio	53.1%	15.1%
Mode Average	46.2%	13.0%
Difference	6.9%	2.1%
Threshold	7.0%	7.0%
DI or DB	No	No

As shown in Table Six, the proposal impacts a higher proportion of minority customers than the system average. However, this difference (of 6.9 percent) is below the 7.0 percent threshold. Therefore, there is not a DI for minority customers. The proposal impacts a higher proportion of low-income customers than the system average. However, the difference (of 2.1 percent) is below the 7.0 percent threshold. Therefore, there is not a DB for low-income customers.

D. Results of Analysis – Bus Service Changes

As with the rail service changes, the bus service changes provide a significant increase in service to minority and low-income customers. Using survey data from the 2018 Metrobus Passenger Survey, staff has determined that the benefiting customers from this proposal are far more likely to be minority (by close to seven percent) and low-income (by more than six percent) than average. However, in order to implement these beneficial service changes, some riders will be negatively impacted.

c. Bus Service Increases

The equity analysis for Metrobus evaluates the demographics of those who would benefit from increased bus frequency, extended span of service, and other major service changes. The analysis evaluates the percentage of minority and low-income customers benefiting from the combined service changes relative to the average minority and low-income percentage for all Metrobus customers.

Using customer survey data, Metro staff calculated the percentage of minority and low-income customers benefiting from the proposal. Because the proposed service change affects bus customers, Metro then compared that percentage to the mode average for Metrobus (83.2 percent minority; 49.6 percent low-income). The average daily number of total benefiting customers is less than 10,000; therefore, the threshold for a finding of potential DI/DB is eight percent. Note, the threshold is shown as a negative number because the analysis focuses on benefiting customers. The proposal can benefit a *lower* percentage of minority or low-income customers up to the threshold before there is a finding of potential DI or DB.

The equity analysis includes alternatives with and without the District of Columbia's proposed All-Night Bus Service program.

Table Seven: DI/DB Test, Metrobus Service Increases Not Including District of Columbia All-Night Bus Service

	Minority Impacted Trips	Low-Income Impacted Trips
Impacted Ratio	90.0%	55.8%
Mode Average	83.2%	49.6%
Difference	6.8%	6.1%
Threshold	-8.0%	-8.0%
DI or DB	No	No

Table Eight: DI/DB Test, Metrobus Service Increases Including District of Columbia All-Night Bus Service

	Minority Impacted Trips	Low-Income Impacted Trips
Impacted Ratio	87.5%	54.3%
Mode Average	83.2%	49.6%
Difference	4.3%	4.6%
Threshold	-8.0%	-8.0%
DI or DB	No	No

As shown in Tables Seven and Eight, the bus service increases benefit a group of customers that is more likely to be minority and more likely to be low-income than average. Therefore, neither alternative of the proposal results in a finding of potential DI for minority customers or a finding of potential DB for low-income customers.

d. Bus Service Reductions

However, in order to implement the changes on routes 16G/16H and A12, a small number of customers will either need to travel further to a bus stop or have to transfer to make the same trip. The number of daily customers impacted by these changes is less than 10,000 daily trips, therefore, the threshold for a finding of potential DI/DB is eight percent.

Table Nine: DI/DB Test, Metrobus Service Reductions

	Minority Impacted Trips	Low-Income Impacted Trips
Impacted Ratio	89.4%	52.5%
Mode Average	83.2%	49.6%
Difference	6.2%	2.9%
Threshold	8.0%	8.0%
DI or DB	No	No

As shown in Table Nine, the proposal impacts a higher proportion of minority customers than the system average. However, this difference (of 6.2 percent) is below the 8.0 percent threshold. Therefore, there is not a DI for minority customers. The proposal impacts a higher proportion of low-income customers than the system average. However, the difference (of 2.9 percent) is below the 8.0 percent threshold. Therefore, there is not a DB for low-income customers

E. Results of Analysis – Fare Changes

For the fare equity analysis, the FY2024 Operating Budget proposal includes a consolidation of the weekday fare structure with a base rail fare of \$2.00, a milage charge of \$0.40 and a maximum fare of \$6.00. It also includes a low-income fare program which would reduce the fare to half price for those enrolled in the program. The equity analysis evaluates whether the average fare increase for minority/low-income customers exceeds the average fare increase for non-minority/non-low-income customers by more than five percent.

Table Ten: DI/DB Test, Fare Proposal

	Minority	Non-Minority	Low-Income	Non-Low-Income
Current Av. Fare	\$2.20	\$2.76	\$1.73	\$2.65
Proposed Av. Fare	\$2.25	\$2.86	\$1.64	\$2.76
Average Change	2.1%	3.5%	-5.1%	4.2%
Difference	-1.4%		-9.4%	
Threshold	+5.0%		+5.0%	
DI/ DB	No		No	

As shown on Table Ten, the fare proposal under consideration provides a significant benefit to minority and low-income customers relative to other customers due to the low-income fare program.

The proposal would increase the average fare paid by minority customers *less* (by 1.4%) than their non-minority counterparts, as many of the customer expected to use the low-income fare product are also minority. The proposal would *reduce* the average fare paid

by low-income customers while raising the fares for non-low-income rides, with a net difference of more than nine percent. Therefore, there is no potential disparate impact to minority customers and no potential disproportionate burden to low-income customers.

Note that as part of the low-income fare product implementation, the \$2 fee for purchasing a SmarTrip card may be waived for some customers. This change in fare policy would not result in a disparate impact to minority customers or a disproportionate burden to low-income customers as the group of benefiting customers is significantly more likely to be minority or low-income than average.⁸

Other Title VI Matters

The FTA requires transit agencies to review and update their Title VI Programs every three years. Metro's current Title VI Program was adopted by the Board of Directors in September of 2020⁹. Staff will review and recommend an updated program for Board consideration and approval this fall.

Staff have identified three potential modifications to the Title VI Program. Staff will conduct public outreach on these potential modifications in advance of presenting recommendations to the Board as required by Title VI. The potential modifications identified to date include:

1. New definitions for major Metrorail service change
2. New Title VI definitions for use in assessing the Better Bus Network Redesign
3. New income threshold for the definition of low-income

In addition, staff is notifying the Board that an outstanding Title VI mitigation has been closed. In late 2019, Metro adopted bus service changes as part of Fall 2019 Bus State of Good Operations (SOGO) program.¹⁰ The proposed service increases would have resulted in a disparate impact and disproportionate burden to Metrobus customers. Staff had identified a potential mitigation to address these impacts. The Covid-19 pandemic delayed implementation of both the original SOGO service changes and the mitigation. As part of service changes that were made over the course of recovery, the service changes and the mitigation (Metrobus service increases adopted as part of the FY2023 Operating Budget) were implemented.

⁸ With 80% to 90% of these riders expected to be minority and 100% expected to be low-income.

⁹ Resolution 2020-34

¹⁰ Resolution 2019-41, adopted November of 2019

Appendix

Major Service Changes – Rail

Table A1: Metrobus Major Service Change Definitions

Parameters	Metrorail Definitions
Span	Change in span of normal operations above or below the current service levels.
Coverage / Availability	Complete and permanent scheduled station closure for one or more days in a week; opening of a new station. Addition or abandonment of a line.
Frequency	Change in frequency of normal operations above or below the current service levels

Table A2: Major Metrorail Service Changes – FY2024

Parameters	Metrorail Definitions
Coverage / Availability	New Potomac Yard Station
Frequency	Changes in frequency Green, Yellow and Orange Line

Major Service Changes – Bus

Table A3: Metrobus Major Service Change Definitions

Parameters	Metrobus Definitions
Span	Increase or decrease in span of service on a line of more than one hour in a single fiscal year.
Frequency	Increase or decrease in revenue miles on a line of more than 20 percent in a single fiscal year.
Coverage / Availability	Increase or decrease in route miles on a line of 15 percent in a single fiscal year. Projected increase or decrease of 10 percent of the customers on a line in a single fiscal year.

Table A4: Major Metrobus Service Changes – FY2024

Line Name	Routes	Major Service Change	Reason for Major
Columbia Pike- Pentagon City	16G,16H	Yes	Coverage
Bladensburg Road-Anacostia	B2	Yes	Revenue Miles
Martin Luther King Jr. Highway	A12	Yes	Coverage
Mount Vernon Express	11C	Yes	Coverage
Pennsylvania Avenue	32	Yes	Span
Wisconsin Avenue	33	Yes	Span
14th Street	52	Yes	Span
Georgia Avenue-7th Street	70	Yes	Span
U Street	90	Yes	Span
Anacostia-Congress Heights	A6	Yes	Span
Anacostia-Congress Heights	A8	Yes	Span
Crosstown	H4	Yes	Span
16th Street	S2	Yes	Span
Capitol Heights - Minnesota Ave.	V2	Yes	Span
Deanwood-Alabama Avenue	W4	Yes	Span
Benning Road-H Street	X2	Yes	Span