



2021 Title VI Service Performance Monitoring Report

July 2022

Title VI Service Performance Monitoring Report

Table of Contents

- Title VI and Environmental Justice 2
- Service Standards and Transit Monitoring Overview 2
- Title VI Service Performance Measure Rating Scale Rubric 3
- Minority vs. Non-Minority Lines/Routes Performance Results 4
- Minority vs. Non-Minority Lines/Routes Performance Results 5
- Low-Income vs. Higher Income Lines/Routes Performance Results 6
- Exhibit A: Stop Amenities Tables 8
- Exhibit B: Vehicle Loads Table (Minority and Non-Minority)..... 9
- Exhibit C: Vehicle Loads Table (Low-Income and Higher Income) 10
- Exhibit D: Revenue Hours Tables 11
- Exhibit E: On-Time Performance Table (Minority and Non-Minority) 12
- Exhibit F: On-Time Performance Table (Low-Income and Higher Income) 13
- Exhibit G: Vehicle Assignment Justification 14
- Exhibit H: Service Availability Table 15

Title VI Service Performance Monitoring Report

Title VI and Environmental Justice

Equity is a core principle of the Regional Transportation District's (RTD) functional mission to provide public transit services within the Denver region. An equitable mass transit system fairly distributes the benefits and adverse effects of transit service without regard for race, color, national origin, or low-income status. This principle is detailed and reinforced by Title VI of the Civil Rights Act of 1964 and Executive Order 12898 pertaining to environmental justice.

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs receiving federal financial assistance. Specifically, Title VI states, "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

In 1994, President Clinton issued Executive Order 12898, which states that each federal agency "shall make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The Federal Transit Administration's (FTA) Circular 4702.1B provides its recipients of FTA financial assistance with instructions for achieving compliance with Title VI and Environmental Justice. In this circular, the FTA requires that RTD document measures taken to comply with DOT's Title VI regulations by submitting a Title VI Program to the FTA every three years.

Service Standards and Transit Monitoring Overview

Part of RTD's compliance with FTA Circular 4702.1B Title VI Requirements and Guidelines for Federal Transit Administration Recipients (Title VI Circular) is ongoing performance monitoring across all service modes (bus, light rail, and commuter rail). The Title VI Circular does not require monitoring for demand response service. Aligned with RTD's 2021-2026 Strategic Plan, staff will conduct an annual review of resource and service distribution. The objective is to ensure there is an equitable distribution across RTD's system. The analysis in this report compared minority and/or low-income access to that of non-minority and/or higher income access across six service performance metrics for data compiled during calendar year 2021:

1. **Revenue hours:** RTD evaluates the amount and distribution of revenue hours of service provided. The hours while in service include trip start to finish.
2. **On-time performance:** RTD defines "on-time" as no more than one minute early or five minutes late, measured at time points.
3. **Vehicle loads:** RTD evaluates whether local, regional, SkyRide, Bus Rapid Transit, light and commuter rail vehicles are overcrowded by comparing the load/seat factor for each vehicle type and time period (peak and midday). RTD used automated passenger counter data to calculate compliance with the maximum load standard. The maximum load factor is the ratio of the total number of passengers on a trip to the total number of vehicle seats on each individual trip. For each route, the count of the trips that exceeded the load factor are divided by the total number of sampled trips to determine the percentage of trips that exceeded the load factor. RTD requires that Vehicle Load standards be met 60% of the time.

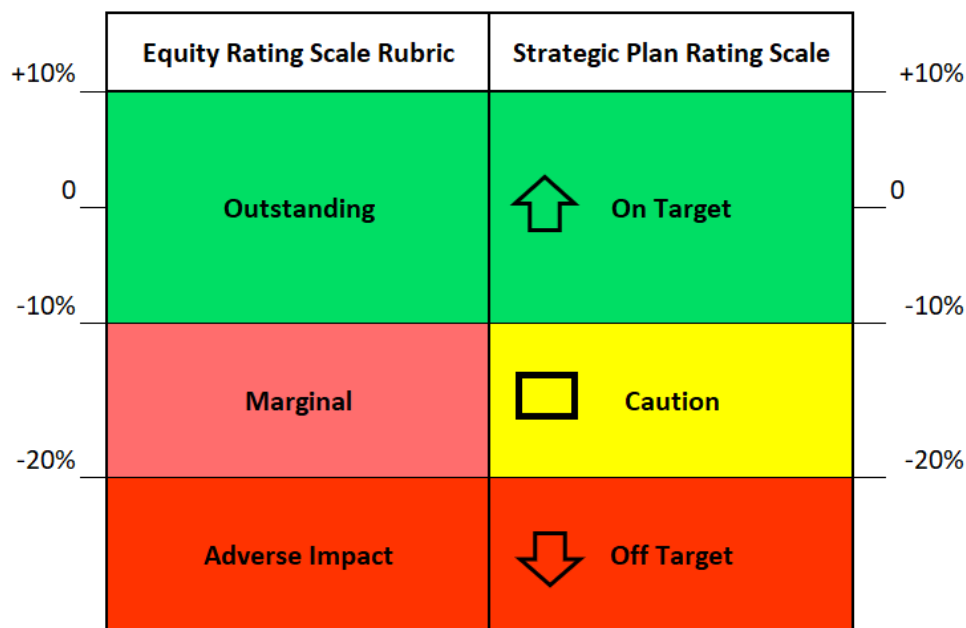
Title VI Service Performance Monitoring Report

4. **Service availability:** RTD considers persons residing within one-half mile of bus stops and/or rail stations as having service available. Service availability is expressed as number and percentage of District-wide population and is determined by vehicle mode.
5. **Stop amenities:** RTD analyzes the distribution of stop amenities in the RTD system (shelters, seating, lighting, waste receptacles, etc.) in order to identify any potential disparities.
6. **Vehicle assignment:** The FTA expects that the average age of vehicles on minority and/or low-income lines/routes should be no more than the average age of vehicles on non-minority and/or higher income lines/routes.

Title VI Service Performance Measure Rating Scale Rubric

The target for RTD’s 2021-2026 Strategic Plan objective is within 10% or better. This range will guide RTD in establishing a baseline to set targets for subsequent years. Above the 10% threshold but within 20% would result in a “marginal” score. A marginal score would be flagged as a caution and area for improvement. Any composite measure that exceeds 20% would indicate “adverse impact” and would result in a system-wide disparate impact¹ /disproportionate burden² finding per the Federal Transit Administration. RTD will work to improve service and access on an on-going basis to ensure RTD’s equity targets are achieved and for compliance with RTD’s Board adopted Title VI Program.

Legend



¹ A facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin.

² A facially neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations.

Title VI Service Performance Monitoring Report

Minority vs. Non-Minority Lines/Routes Performance Results³

Equity Metric: Distribution of Amenities 2021			
Metric % of stops with amenity on minority vs. non-minority lines/routes	<= 20% Difference	<=10% Difference	As good or better on minority lines/routes
<i>Seating</i>	✓	✓	✓
<i>Lighting</i>	✓	✓	✓
<i>Elevators</i>	✓	✓	✓
<i>Digital Displays</i>	✓	✓	✓
<i>Shelters</i>	✓	✓	✓
<i>Signs, Maps and/or Schedules</i>	✓	✓	✓
<i>Waste Receptacles</i>	✓	✓	✓
<i>Ticket Vending Machines</i>	✓	✓	✓

Equity Metric: Service Standards 2021															
Metric Minority and non-minority comparison by mode and for the system as a whole	<=20% Difference					<=10% Difference					As good or better on minority lines/routes				
	L C L	R G L	L R T	C R T	S Y S	L C L	R G L	L R T	C R T	S Y S	L C L	R G L	L R T	C R T	S Y S
Vehicle Loads	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Revenue Hours	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✗	✓	✗	✓	✗
On-Time Performance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓
Vehicle Assignment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Availability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓

✓ = Performance meets metric at level indicated
 ✗ = Performance does not meet level indicated

³ A minority line/route is defined by the FTA as having at least one-third of its revenue vehicle hours in census block groups with above-average minority populations.

Title VI Service Performance Monitoring Report

Minority vs. Non-Minority Lines/Routes Performance Results

Distribution of Amenities (See Exhibit A for full details)

- The percentage of stops containing each amenity on minority lines/routes exceeds the percentage for non-minority lines/routes in all categories examined with the exception of ticket vending machines and digital displays, which is slightly higher for non-minority lines/routes.

Vehicle Loads (See Exhibits B and C for full details)

- Average load/seat percentages range from a low of 0.00% to a high of 9.20%.
- All average loads by mode are below the maximum load factor for every time period.

Revenue Hours (See Exhibit D for full details)

- A slightly lower percentage of revenue hours of service are provided on minority bus routes than non-minority routes (49% vs. 51%, respectively).
- A lower percentage of revenue hours of service are provided on minority light rail lines than non-minority lines (36% vs. 64%, respectively).
- A greater percentage of revenue hours of service are provided on minority commuter rail lines than non-minority lines (78% vs. 22%, respectively).
- A slightly lower percentage of revenue hours of service are provided on all minority modes of service than all non-minority modes of service (48% vs. 52%, respectively).

On-time performance (OTP) (See Exhibits E and F for full details)

- Average OTP for minority local bus lines is 1 percent lower than OTP for non-minority local bus routes on weekdays. The Saturday and Sunday average OTP for minority local bus routes are 4 percent lower than OTP for non-minority local bus routes.
- Average OTP for minority regional bus lines is 9 percent greater than OTP for non-minority regional bus routes on weekdays. The Saturday average OTP for minority regional bus routes is 10 percent greater than OTP for non-minority local bus routes. The Sunday average OTP for minority regional bus routes is 4 percent lower than OTP for non-minority local bus routes.
- Average OTP for the four minority light rail lines is 2 percent lower than the OTP for the three non-minority light lines for Monday-Thursday, Friday, and Weekend.
- All commuter rail lines are considered minority lines.

Vehicle Assignment (See Exhibit G for full details)

- RTD is unable to examine vehicle assignments consistently or accurately at this time as indicated in Exhibit E. RTD will explore other options to report this measure later this year, allowing for this portion of the analysis to be completed.
- For light and commuter rail there are no specific alignment for a certain model or year. RTD assigns the number of vehicles per train and is based solely on ridership.

Service Availability (See Exhibit H for full details)

- A higher percentage of the RTD district's minority population lives within ½ mile of local bus, light rail, and commuter service compared to the district's non-minority population. Regional bus has a slightly higher percentage for non-minority compared to minority (15.5% vs. 11.8%, respectively).

Title VI Service Performance Monitoring Report

Low-Income vs. Higher Income Lines/Routes Performance Results⁴

Equity Metric: Distribution of Amenities 2021			
Metric % of stops with amenity on low-income vs. higher income lines/routes	<= 20% Difference	<=10% Difference	As good or better on low-income lines/routes
<i>Seating</i>	✓	✓	✓
<i>Lighting</i>	✓	✓	✓
<i>Elevators</i>	✓	✓	✓
<i>Digital Displays</i>	✓	✓	✓
<i>Shelters</i>	✓	✓	✓
<i>Signs, Maps and/or Schedules</i>	✓	✓	✓
<i>Waste Receptacles</i>	✓	✓	✓
<i>Ticket Vending Machines</i>	✓	✓	✓

Equity Metric: Service Standards 2021															
Metric Low-income and higher income comparison by mode and for the system as a whole	<=20% Difference					<=10% Difference					As good or better on low-income lines/routes				
	L C L	R G L	L R T	C R T	S Y S	L C L	R G L	L R T	C R T	S Y S	L C L	R G L	L R T	C R T	S Y S
Vehicle Loads	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Revenue Hours	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✗	✓	✓	✗	✗
On-Time Performance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vehicle Assignment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Availability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Distribution of Amenities (See Exhibit A for full details)

✓ = Performance meets metric at level indicated
✗ = Performance does not meet level indicated

⁴ Low-income is defined as households at or below 150% federal poverty. A low-income line/route is defined as having at least one-half of its revenue vehicle hours in census block groups with above-average low-income populations.

Title VI Service Performance Monitoring Report

- The percentage of stops containing each amenity on higher income lines/routes exceeds the percentage for low-income lines/routes in all categories examined with the exception of seating and digital displays, which is slightly higher for low-income lines/routes. Ticket vending machines are comparable for both lines/routes.

Vehicle Loads (See Exhibits B and C for full details)

- Average load/seat percentages range from a low of 0.00% to a high of 9.20%.
- All average loads by mode are below the maximum load factor for every time period.

Revenue Hours (See Exhibit D for full details)

- A slightly lower percentage of revenue hours of service are provided on low-income bus routes than higher income routes (49% vs. 51%, respectively).
- The same percentage of revenue hours of service are provided on light rail lines for both low-income and higher income at 50%.
- A greater percentage of revenue hours of service are provided on higher income commuter rail lines than low-income lines (63% vs. 37%, respectively).
- A slightly lower percentage of revenue hours of service are provided on all low-income modes of service than all higher income modes of service (48% vs. 52%, respectively).

On-time performance (OTP) (See Exhibits E and F for full details)

- Average OTP for low-income and higher income local bus routes are the same on weekdays. Saturday average OTP for low-income local bus routes are 2 percent lower than OTP for higher income local bus routes. Sunday average OTP for low-income local bus routes are 1 percent lower than OTP for higher income local bus routes.
- Average OTP for low-income regional bus routes is 9 percent greater than OTP for higher income regional bus routes on weekdays. The Saturday average OTP for low-income regional bus routes is 9 percent greater than OTP for higher income local bus routes. The Sunday average OTP for low-income regional bus routes is 9 percent lower than OTP for higher income local bus routes.
- Average OTP for the three low-income light rail lines is the same as the OTP for the four higher income light lines for Monday-Thursday and Weekend. Average OTP for the three low-income light rail lines is 2 percent lower than the OTP for the four higher income light lines for Friday.
- Average OTP for the two low-income commuter rail lines is 8 percent lower for Monday-Thursday and 7 percent lower for Friday and Weekend compared to the two higher income commuter rail lines.

Vehicle Assignment (See Exhibit G for full details)

- RTD is unable to examine vehicle assignments consistently or accurately at this time as indicated in Exhibit E. RTD will explore other options to report this measure later this year, allowing for this portion of the analysis to be completed.
- For light and commuter rail there are no specific alignment for a certain model or year. RTD assigns the number of vehicles per train and is based solely on ridership.

Service Availability (See Exhibit H for full details)

- A higher percentage of the RTD district's low-income population lives within ½ mile of local bus, regional bus, light rail, and commuter service compared to the district's higher income population.

Title VI Service Performance Monitoring Report

Exhibit A: Stop Amenities Tables

Category of Amenity	Pct. of Stops on Minority Lines/Routes	Pct. of Stops on Non-Minority Lines/Routes
Seating	44%	44%
Lighting	26%	22%
Elevators	<2%	<2%
Digital Displays	2.4%	2.8%
Shelters	8%	7%
Signs, Maps and/or Schedules	6%	5%
Waste Receptacles	11%	9%
Ticket Vending Machines	3%	4%

Category of Amenity	Pct. of Stops on Low-Income Lines/Routes	Pct. of Stops on Higher Income Lines/Routes
Seating	46%	44%
Lighting	21%	24%
Elevators	<1%	<2%
Digital Displays	3%	2.4%
Shelters	6%	8%
Signs, Maps and/or Schedules	3%	5%
Waste Receptacles	6%	10%
Ticket Vending Machines	3%	3%

Title VI Service Performance Monitoring Report

Exhibit B: Vehicle Loads Table (Minority and Non-Minority)

Local		
Time Period	Minority	Non-Minority
Peak (125%)	0.10%	0.19%
Midday (100%)	0.19%	0.16%

Bus Rapid Transit		
Time Period	Minority	Non-Minority
Peak (100%)	0.78%	n/a
Midday (100%)	0.03%	n/a

Regional		
Time Period	Minority	Non-Minority
Peak (100%)	0.05%	0.00%
Midday (100%)	0.00%	0.00%

SkyRide		
Time Period	Minority	Non-Minority
Peak (100%)	0.00%	4.15%
Midday (100%)	0.30%	9.20%

Commuter Rail		
Time Period	Minority	Non-Minority
Peak (100%)	0.00%	0.00%
Midday (100%)	0.00%	0.00%

Light Rail		
Time Period	Minority	Non-Minority
Peak (100%)	0.77%	1.30%
Midday (100%)	0.03%	0.14%

Title VI Service Performance Monitoring Report

Exhibit C: Vehicle Loads Table (Low-Income and Higher Income)

Local		
Time Period	Low-Income	Higher Income
Peak (125%)	0.09%	0.17%
Midday (100%)	0.12%	0.25%

Bus Rapid Transit		
Time Period	Low-Income	Higher Income
Peak (100%)	0.78%	n/a
Midday (100%)	0.03%	n/a

Regional		
Time Period	Low-Income	Higher Income
Peak (100%)	0.05%	0.00%
Midday (100%)	0.00%	0.00%

SkyRide		
Time Period	Low-Income	Higher Income
Peak (100%)	0.00%	4.15%
Midday (100%)	0.30%	9.20%

Commuter Rail		
Time Period	Low-Income	Higher Income
Peak (100%)	0.00%	0.00%
Midday (100%)	0.00%	0.00%

Light Rail		
Time Period	Low-Income	Higher Income
Peak (100%)	0.53%	1.17%
Midday (100%)	0.05%	0.08%

Title VI Service Performance Monitoring Report

Exhibit D: Revenue Hours Tables

Mode of Service	Minority Hours	Non-Minority Hours	Difference; Minority to Non-Minority +/-
Bus	49%	51%	(2)
Light Rail	36%	64%	(28)
Commuter Rail	78%	22%	56
System	48%	52%	(4)

Mode of Service	Low Income Hours	Higher Income Hours	Difference; Low Income to Higher Income +/-
Bus	49%	51%	(2)
Light Rail	50%	50%	0
Commuter Rail	37%	63%	(26)
System	48%	52%	(4)

Title VI Service Performance Monitoring Report

Exhibit E: On-Time Performance Table (Minority and Non-Minority)

Mode of Service	Day	Avg. % On-Time (weighted)		Difference; Minority to Non-Minority +/-(-)
		Minority Lines	Non-Minority Lines	
Local Bus	Weekday	87%	88%	(1)
	Saturday	88%	92%	(4)
	Sunday	88%	92%	(4)
Regional Bus	Weekday	92%	83%	9
	Saturday	97%	87%	10
	Sunday	88%	92%	(4)
Light Rail	Mon-Thurs	94%	96%	(2)
	Friday	93%	95%	(2)
	Weekend	94%	96%	(2)
Commuter Rail	Mon-Thurs	92%	n/a	n/a
	Friday	92%	n/a	n/a
	Weekend	93%	n/a	n/a

Title VI Service Performance Monitoring Report

Exhibit F: On-Time Performance Table (Low-Income and Higher Income)

Mode of Service	Day	Avg. % On-Time (weighted)		Difference; Low Income to Higher Income +/-
		Low Income Lines	Higher Income Lines	
Local Bus	Weekday	87%	87%	0
	Saturday	88%	90%	(2)
	Sunday	89%	90%	(1)
Regional Bus	Weekday	92%	83%	9
	Saturday	89%	98%	(9)
	Sunday	89%	98%	(9)
Light Rail	Mon-Thurs	95%	95%	0
	Friday	93%	95%	(2)
	Weekend	95%	95%	0
Commuter Rail	Mon-Thurs	96%	88%	8
	Friday	95%	88%	7
	Weekend	96%	89%	7

Title VI Service Performance Monitoring Report

Exhibit G: Vehicle Assignment Justification

At RTD, vehicle assignments are put together in blocks that typically consist of operations on multiple routes (typically referred to as interlining or through lining). Putting work together in blocks is operationally more efficient and takes less resources, but in many cases makes it impossible to keep buses on a single route. Because of the way blocks are put together it is possible to have a combination of contractors and RTD operators providing services on what we constitute as a route. In other cases, a block could be composed of several different routes that connect at common locations such as transfer centers. Add in limitations of the technology and other factors it is difficult to assign a specific bus to operate on a specific route. As a result, RTD is unable to examine vehicle assignments consistently or accurately at this time. RTD will explore other options to report this measure later this year, allowing for this portion of the analysis to be completed.

For light and commuter rail there are no specific alignment for a certain model or year. RTD assigns the number of vehicles per train and is based solely on ridership

Title VI Service Performance Monitoring Report

Exhibit H: Service Availability Table

Demographic Analysis of Proximity to RTD Service (Percent)		RTD District	RTD District	Percent within 1/2* Mile			Percent within 1/4 Mile	Percent within 3 miles	Frequent All Day Service within 1/2 Mile		Frequent Peak and/or Midday Service within 1/2 Mile	
		Totals	Merged Buffers	Limited	Regional	Rail	Local Bus	CRT	Bus	Bus & Rail	Bus	Bus & Rail
Population	Total (ACS 5 year estimate, 2015-2019)	3,015,645	69.5%	24.6%	14.2%	7.4%	57.7%	30.3%	23.9%	27.1%	24.2%	27.4%
Minority	All Minorities*	1,078,739	77.3%	28.7%	11.8%	8.9%	66.4%	40.8%	30.3%	33.7%	30.7%	34.1%
Non-Minority	White (Non-Hispanic)	1,936,906	65.2%	22.4%	15.5%	6.6%	52.9%	24.4%	20.4%	23.5%	20.6%	23.6%
Population	Total population with known income (ACS 5 year estimate, 2015-2019)**	2,970,345	69.4%	24.6%	13.9%	7.4%	57.5%	30.3%	23.6%	26.8%	23.9%	27.0%
Income	Below 150% of Poverty Level	464,699	82.2%	31.2%	16.6%	11.0%	71.6%	40.6%	35.4%	38.9%	35.7%	39.3%
Income	Above 150% of Poverty Level	2,505,646	67.0%	23.4%	13.4%	6.7%	54.9%	28.4%	21.5%	24.5%	21.7%	24.8%
<p>Sources: RTD GTFS GIS, US Census American Community Survey Tables: 2015 - 2019 (5-Year Estimates), Table B03002. Hispanic or Latino Origin By Race, and Table C17002. Ratio Of Income To Poverty Level In The Past 12 Months (Block Group Level Data), USDOT National Address Database (NAD)</p> <p>To adjust for the fact that some census block groups are only partially within the District, the fraction of each block group's population within the transit district was calculated by using the percentage of address points within the district and each block group. This address fraction was the factor used to proportion Census counts resulting in demographics within buffers for each service and PnR. Address points come from the USDOT National Address Database.</p> <p>* All Minorities include Black (non-Hispanic), Hispanic, Asian (non-Hispanic), Native American (non-Hispanic), Hawaiian Native and Pacific Islander (non-Hispanic), and Other (Including Mixed Race, non-Hispanic).</p> <p>** Population totals for the RTD district vary between statistics for race and income/poverty in part due to the fact that the Census is a full count and the ACS is an extrapolation based on a sample, and in part because the ACS total excludes those whom poverty status is not determined.</p>												