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Title VI Service Equity Analysis Report

May 2024 Service Changes

Service Equity Analysis: May 2024

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Executive Summary

This document summarizes the analysis of major service changes proposed for the **May 2024** runboards to ensure that the changes will not inequitably impact minority and low-income populations.

Methodology

RTD's established Title VI program methodology defines the process to identify major service changes, disparate impacts and disproportionate burdens. Analyses were performed at the route and block group levels to identify any potential disparities in service changes based on race/ethnicity or income.

Major Service Changes

RTD proposes changes to 31 bus route/patterns and six rail lines of RTD's forthcoming **May 2024** runboard. Of these 37 changes, two services meet established thresholds for a major service change. Although meeting the threshold of 25% for a major service change, the suspension of the L Line during downtown rail reconstruction project will be a temporary change in service during the **May 2024** runboard and will be reinstated in September 2024; this proposed service change falls below the threshold of major service changes based on timeline of the change. The routes tabulated below have proposed adjustments to service that were greater than 25% of baseline service and will remain in effect for 12 or more months.

Service Adjustments (1 service)	Free MallRide: Reduce service to 10-minute headways
Service Reinstatement (1 service)	Free MetroRide: Reinstatement in accordance with System Optimization Plan and to provide alternate services during downtown rail reconstruction project

Findings

Major service changes included in the proposed **May 2024** service changes include a reduction of service on the Free MallRide and reinstatement of the Free MetroRide previously suspended in April 2020. These routes both serve high concentrations of low-income populations in central Denver.

When considering the demographics within the service area (within a quarter mile) of a major service increase and as a proportion to the District overall, low-income populations received a greater increase in service (i.e., were more positively impacted) compared to non-low-income populations. Low-income areas received 0.28% more of a benefit than non-low-income areas. However, minority areas received less of an increase in service (i.e., were less positively impacted) compared to non-minority populations. Minority areas benefitted 0.01% less than non-minority areas. For population within the service area impacted by a service decrease, low-income areas were impacted more than non-low-income areas. Low-income areas were negatively impacted 0.48% more than non-low-income areas. Conversely, minority areas were less impacted than non-minority areas, receiving 0.43% less of an impact from service decreases compared to non-minority areas.

Finally, a potential disparate impact and a potential disproportionate burden were identified at the individual route-level: the Free MallRide had a potential disproportionate burden finding and the Free MetroRide had a potential disparate impact finding.

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Introduction

Title VI and Environmental Justice

Equity is a core principle of RTD's functional mission to provide mass transit service 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 RTD to evaluate, prior to implementation, any and all service changes that exceed the established major service change threshold, to determine whether those changes will have a disproportionately negative impact on minority or low-income populations.

This equity analysis report has been prepared to document changes that are proposed to occur between the current and proposed runboards. Routes with major service changes include one major increase and one reinstatement of a formerly suspended route pattern. These changes and all others have been reviewed individually at the route/line level and in aggregate at the block group level to identify potential impacts to the communities RTD serves.

Service Change Philosophy

An equity analysis is triggered by proposed major service changes to the transit services provided by RTD. These changes include the addition of new routes/lines, the elimination of existing routes/lines and changes to the alignment and trip frequency within existing routes/lines. RTD has established principles to identify the service changes needed to meet the diverse travel needs of those within the District and maintain a high-performance, sustainable transit system.

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RTD Service Changes Guiding Principles

- Service performance evaluation based on service standards
- The effects on the overall integrity of the transit network and on transit dependent markets
- The availability of alternative services to affected riders
- Cost-effective distribution throughout the District and Family of Services and the ability to enhance service when possible
- Compliance with Title VI of the Civil Rights Act: benefits and services are provided without regard to race, color or national origin; also, disparate effects on low-income and minority populations
- Response to changes in the communities where services are provided

RTD services are divided into various service classes depending on service type, route alignment and frequency. Each service class has its own service standards derived from the performance of all routes within each class. RTD continually and comprehensively adjusts services in response to changes in ridership and operational performance of the transit system. It is also the agency's responsibility to identify services that are underperforming and recommend modifications, curtailment or cancellation of service as warranted. In keeping with Colorado Revised Statutes, RTD utilizes official service standards to establish performance metrics used to identify underperforming services on a class-of-service basis. The agency uses these metrics to identify a series of service changes. Equity analyses examine the impact of the proposed major service changes on minority populations and low-income households at or below 150 percent of the Department of Health and Human Services Poverty Guidelines.

...The general assembly further finds that the district should be organized efficiently, economically, and on a demand-responsive basis and that the district should consider least-cost alternatives in discharging its responsibilities.

Colorado Revised Statutes 32-9-119.7 Farebox Recovery Ratios – Plans

RTD's Title VI Equity Analysis Policies

Per FTA Circular 4702.1B Chapter IV.7, RTD must establish a Major Service Change Policy, a Disparate Impact Policy and a Disproportionate Burden Policy. Collectively, these policies provide foundational requirements for evaluating service change proposals for equity and compliance with Title VI. These policies and their applicable thresholds are listed below:

1. **Major Service Change:** A major service change is defined as a 25% addition or reduction in the service hours of any route that would remain in effect for 12 or more months. All major service changes will be subject to an equity analysis that includes an analysis of adverse effects.

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- a. An **Adverse Effect** is defined as a geographical or temporal reduction in service that includes, but is not limited to, eliminating a route, shortening a route by eliminating segments, rerouting an existing route and increasing headways. RTD shall consider the degree of adverse effects and analyze those effects when planning major service changes.
2. **Disparate Impact Policy:** A major service change should not adversely affect a minority population 10 percent more than non-minority populations; this level of impact is considered a disparate impact.
3. **Disproportionate Burden Policy:** A major service change should not adversely affect a low-income population 10% more than non-low-income populations; this level of impact is considered a disproportionate burden. A low-income population is a group of households who are at or below 150% of the Department of Health and Human Services Poverty Guidelines.

If a proposed major service change results in a disparate impact or a disproportionate burden, RTD will consider modifying the proposed service change. RTD will then analyze the modification and make sure it removed the potential disparate impact or disproportionate burden. If a less discriminatory option cannot be identified and RTD can demonstrate a substantial legitimate justification for the proposed service change, the FTA may allow RTD to proceed with the proposed change.

Analysis

Data Sources and Methodology

Demographic data used for this analysis comes from the Census Bureau's American Community Survey (ACS) 5-Year Estimates for years 2018 to 2022 and is reviewed at the census block group geographic level. Other data related to the analysis includes route alignments and block group geography. The linking of these datasets into a service-geographic-demographic combination relates equity populations with changes in service at a geographic level to aid in reviewing potential impacts to district equity communities.

The equity analysis for the **May 2024** runboard looked at whether an individual route's major service changes impacted the communities it served. The review needed to determine the proportional difference in changes made to equity populations within a route's/line's quarter-mile service area. These proportional differences were compared against district population proportions of equity populations and route/line proportions of equity populations.

Low-income status for population within the District is derived from the Census Bureau and is based on 150% of the United States federal poverty level (Department of Health and Human Services guidelines), based on local context, which is an annual income of \$32,580 for a family of three. Minority status was based on the non-white and Hispanic or Latino count of total population. The service area was based on the collection of block groups within district boundaries.

Route/line service area population was determined using a quarter mile "catchment area" centered around bus stops and rail stations. This catchment area was then used to calculate the percentage overlap of block group-based population underneath. For instance, if a catchment area contained 100% of the underlying block group, 100% of the population would be associated with the services within a quarter mile; if 50% of a block group was contained in the catchment area, only half of the underlying population would count as being included (ratios of population demographics would be unchanged).

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RTD calculated the net change in service hours for each route/line modification to provide the percent difference from baseline service hours. Any change at or above 25% from baseline was flagged as a major service change for further review.

Public Outreach Overview

Three public meetings were conducted March 6-7, 2024. The comments collected on service changes during these meetings are summarized in the table below. In addition to the general outreach, the Transit Equity Office reached out to 97 key public activity centers surrounding the routes/lines to inform them of the proposed major service changes, how to provide feedback and encourage community members to attend the open houses. Table 1 captures the meeting locations, dates, number of attendees and the common themes of attendees' comments pertaining to the two major service changes described in this analysis.

Table 1. Public meeting details

Date and Time Location	Comment Themes	Number of Attendees
March 6 at 12 p.m. Virtual	No comments on the major service changes	17
March 6 at 5:30 p.m. 1660 Blake St, Denver, CO, 80202	Comment indicating satisfaction of the Free MetroRide being reinstated	12
March 7 at 12 p.m. Virtual	Comment inquiring permanence of the Free MetroRide following construction	10
		Total – 39

The public was also notified of the ability to submit comments to service.changes@rtd-denver.com, by phone at 303-299-2004 and by fax 303-299-2227.

Major Service Change, Disparate Impact and Disproportionate Burden Analysis

Proposed service changes for the **May 2024** runboard that resulted in a 25% or greater change in service were categorized by equity population (minority or non-minority, low-income or non-low-income) for comparison. Routes were categorized as either equity or non-equity based on their identification within the prior (current) network using 2018-2022 ACS five-year demographic data.

A comparative, proportional equity analysis was completed to review the routes/lines individually. This analysis identified the equity and non-equity populations within a route/line service area and compared those against the equity and non-equity populations of the District. If impacted equity populations within the route/line service area received 10% or greater impacts compared to non-equity populations, the route/line had a potential finding of Disparate Impact (for minority populations) or Disproportionate Burden (for low-income populations) and was flagged for a finding of potential impact.

Major Service Change Test

Identify routes with proposed major service changes (annual trips) of 25% or more

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Changes by Transit Mode

For the **May 2024** runboard, 31 bus routes will undergo various service changes. Of these, 5 routes will see combined increases in **bus service of over 56 total weekday revenue service hours and 62 additional weekend service hours**. While cancelling each other out, the decrease in service on the Free MallRide with reinvestment of its resources into reinstating the previously suspended Free Metro Ride service both exceed the major service change threshold. The reduction on the Free MallRide allows for 90 new weekday revenue service hours for the Free MetroRide, providing another option between Denver Union Station and Civic Center Station.

Table 2. Summary of service changes by transit mode

Mode	Change in Weekday Daily Hours
All Bus	+55
All Rail	0
Overall	+55

Major Service Change Review

A complete listing of all service changes can be found in Appendix A. Changes were first reviewed in aggregate equity groupings of routes/lines prior to individual review of routes/lines, route/line block groups and overall network levels; equity grouping comparison occurred at every level. Major service changes are categorized as the following:

- **Major Service Reductions** (a service reduction of 25% or more)
- **Major Service Increases** (service increases of 25% or more related to new or restructured service)

Major Service Change Reductions

The Free MallRide is proposed to have reduced service in light of continuing construction work on the downtown 16th Street Mall and in anticipation of the downtown rail reconstruction project. The service hours reduced on the Free MallRide are proposed to be reinvested to reinstate the Free MetroRide.

The L Line is proposed to be temporarily suspended due to Near-Term Downtown Rail Reconstruction Project during the **May 2024** runboard but will be reinstated prior to the September 2024 runboard.

Major Service Change Increases

One bus route had a proposed major service increase which includes service increases of 25% or greater. The reinstatement of the Free MetroRide is proposed for the **May 2024** runboard to mitigate impacts of the downtown rail reconstruction project and provide additional service through downtown.

Route- and Line-Level Analysis

Having identified the service changes which meet the definition of Major Service Change, the next step in the analysis is to look at each route/line individually to determine potential Disparate Impacts (DI) and/or Disproportionate Burdens (DB). Both service reductions and service increases are analyzed. For service increases, the analysis examines the extent to which the benefits of the improvements are inclusive of minority and low-income populations. For service decreases, the analysis examines the extent to which the adverse effects of the reductions are disproportionately borne by minority and low-income populations.

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Disparate Impact and Disproportionate Burden Analysis

For each route/line with a major service change, determine the percent of the route's/line's impacted equity and non-equity populations comprising the District's equity and non-equity populations; if the difference is greater than 10% for equity populations, additional review is required for potential adverse impacts

In concert with RTD's Title VI policies, the demographics of each of major service change routes were reviewed for potential DI or DB findings. For service increases, the following analysis examines the extent to which the benefits of the improvements are inclusive of minority and low-income populations. Because these are proposed service increases, protected populations *falling below* these thresholds are flagged for potential concerns. The narrative analysis of each individual line follows, which includes further considerations of access to jobs, education, health care, food and social services for minority and low-income populations.

Free MallRide

Proposal: Due to ongoing construction work on the 16th Street Mall and in anticipation of downtown rail reconstruction project, it is proposed to reduce frequencies on the Free MallRide to 10-minute headways from every 5 minutes. This change will free up operator resources to reinstate Free MetroRide service, the reinstatement of which will also help mitigate impacts of the rail reconstruction project.

As shown in **Table 3**, a higher percentage of the District's low-income population stands to be impacted by the proposed major service decrease as compared to non-low-income population (0.75% vs. 0.43%, respectively). This difference exceeds the 10% disproportionate burden threshold (0.47%). Therefore, a potential route-level disproportionate burden is found requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis). However, a lower percentage of the District's minority population is impacted from the proposed major service decrease as compared to the non-minority population (0.36% vs. 0.56%, respectively). This difference falls below the 10% disparate impact threshold (0.62%). Thus, there is no disparate impact found at the route level.

Table 3. Free Mall Ride Disparate Impact and Disproportionate Burden Analysis

Route MALL - Free MallRide				
January 2024 to May 2024 Service Change Analysis				
	Non-Minority Population	Minority Population	Non-Low-Income Population	Low-Income Population
Route Service Area Impacted	10,741	4,098	11,163	3,238
District Statistics	1,915,350	1,149,204	2,590,598	430,356
District Total Base Population	3,064,553		3,020,954	
<i>% of District Not Impacted</i>	<i>99.44%</i>	<i>99.64%</i>	<i>99.57%</i>	<i>99.25%</i>
% District Impacted	0.56%	0.36%	0.43%	0.75%
Thresholds	Disparate Impact (DI)		Disproportionate Burden (DB)	
<i>DI & DB Thresholds Are 90% for service increases and 110% for service decreases of % District Impacted Population</i>	<i>DI Threshold</i>	<i>Min Pop Impacted</i>	<i>DB Threshold</i>	<i>L-I Pop Impacted</i>
	0.62%	0.36%	0.47%	0.75%

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The reduction of service on the Free MallRide would limit access to:

- About 114,800 jobs
 - 18% low-to-medium wage jobs, which is below the RTD District average (45%)
 - 13% jobs held by minorities, which is below the RTD District average (14%)
 - 14% jobs held by Hispanic/Latino workers, which is below the RTD District average (18%)
- 169 retail/convenience stores
- 40 human and social services centers
- 2 senior housing and facilities
- 11 colleges, high schools, middle schools and elementary schools

Free MetroRide

Proposal: In accordance with the System Optimization Plan, ongoing 16th Mall construction and in anticipation of downtown rail reconstruction project, reinstatement of the Free MetroRide service is recommended to give customers alternative connection between Denver Union Station and the Central Business District.

As shown in **Table 4**, a higher percentage of the District’s low-income population stands to benefit from the proposed major service increase as compared to non-low-income population (0.81% vs. 0.50%, respectively). This difference does not meet the 10% disproportionate burden threshold (0.45%). Therefore, no potential route-level disproportionate burden is found. However, a lower percentage of the District’s minority population stands to benefit from the proposed major service increase as compared to the non-minority population (0.44% vs. 0.60%, respectively). This difference exceeds the 10% disparate impact threshold of 0.54%. Thus, a potential disparate impact is found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 4. Free MetroRide Disparate Impact and Disproportionate Burden Analysis

Route METRORIDE - Free MetroRide				
January 2024 to May 2024 Service Change Analysis				
	Non-Minority Population	Minority Population	Non-Low-Income Population	Low-Income Population
Route Service Area Impacted	11,449	5,019	12,908	3,472
District Statistics	1,915,350	1,149,204	2,590,598	430,356
District Total Base Population	3,064,553		3,020,954	
<i>% of District Not Impacted</i>	<i>99.40%</i>	<i>99.56%</i>	<i>99.50%</i>	<i>99.19%</i>
% District Impacted	0.60%	0.44%	0.50%	0.81%
Thresholds	Disparate Impact (DI)		Disproportionate Burden (DB)	
<i>DI & DB Thresholds Are 90% for service increases and 110% for service decreases of % District Impacted Population</i>	<i>DI Threshold</i>	<i>Min Pop Impacted</i>	<i>DB Threshold</i>	<i>L-I Pop Impacted</i>
	0.54%	0.44%	0.45%	0.81%

The reinstatement of service on the Free MetroRide would expand access to:

- About 116,140 jobs
 - 18% low-to-medium wage jobs, which is below the RTD District average (45%)
 - 13% jobs held by minorities, which is below the RTD District average (14%)

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- 14% jobs held by Hispanic/Latino workers, which is below the RTD District average (18%)
- 170 retail/convenience stores
- 47 human and social services centers
- 2 senior housing and facilities
- 10 colleges, high schools, middle schools and elementary schools

Systemwide Analysis

In accordance with RTD's 2022 Title VI Program Update, a systemwide analysis is required in addition to route- and line-level analyses. A system level analysis provides further understanding of changes to service levels for Title VI protected populations at aggregate levels.

The major service change threshold of 25% or greater used for individual route-level analyses was used as precedent to determine potential adverse impacts overall and to identify structural issues in areas requiring further review. Once average District thresholds for low-income and minority populations were established, subsequent equity analyses focused on the subset of district block groups that experienced major service changes of 25% or greater (additions or reductions in service), and whether equity block groups with major service changes experienced service changes of 10% or more compared to non-equity block groups. Routes with major service changes are later comparatively reviewed for potential adverse effects at route-block group levels (block groups within route service areas).

The analysis of all service changes identified the following:

- Systemwide, bus service increases by over 55 weekday revenue hours
- Of the over 31,000 people served by stops within the service area with major service changes, low-income populations represented a higher share of population than District averages. Of this total, nearly 8,500 low-income people would receive service improvements
- At the systemwide level, equity routes and non-equity routes¹ were compared only for those with major service changes. The two bus routes with major service changes both serve above-average low-income populations and are classified as low-income routes

In review of the Free MallRide and Free MetroRide at the systemwide level, there are potential disproportionate burden and disparate impact findings, respectively.

An analysis of all district block groups and their service levels was conducted to establish the baseline equity thresholds for low-income and minority populations and to determine the systemwide magnitude of impacts of the **January 2024 to May 2024** service change. Block groups with low-income and minority populations at or above the district average are referred to in this analysis as "equity" block groups whereas on-low-income and non-minority block groups are referred to as "non-equity" block groups.

¹ Based on existence of the route within the January 2024 network and the population within a quarter mile of bus stops or rail stations. 2018-2022 5-Year ACS estimates were used for population identification.

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Network Analysis Process

Determine block groups at/above district averages for low-income population (14.2%) and minority population (37.5%).

Determine which block groups experienced service changes of 25% or more.

Of block groups with a major service change, compare the difference in population for equity versus non-equity block groups; if the difference is more than 10%, review for potential adverse impacts.

There are 2,197 block groups defined as being wholly within or mostly within the District.² Using the 2018-2022 5-Year ACS Estimates, total population residing within these block groups was calculated as well as the total minority population and total low-income population, calculated separately, to determine the District-wide low-income and minority rates which set the thresholds for which block groups are classified as above average. While the percent minority figure of 37.5% was derived by using the base population of the service area (3.064 million), the low-income population percentage of 14.2% is derived from a slightly smaller population figure (3.02 million). This is due to the smaller population whose poverty status the Census Bureau can determine.³ The thresholds summarized in **Table 5** yielded 824 (37.5% of all) block groups above the district average for low-income population, and 846 (38.5%) block groups above the district average for minority population.

Table 6. District averages; NTD 2023; ACS 2018-2022 5-year estimates

Service Area (sq. mi.)	Total Block Groups	Total Population	Percent Minority	Total Population (assessed)	Percent Low-Income
2,342	2,197	3,064,553	37.5%	3,020,954	14.2%

The proposed major service changes were examined in aggregate by transit mode to determine overall impacts to underlying population. **Table 5** summarizes the change in service for block group population underlying the bus stops with proposed major service decreases proportionally compared to population in the District, while **Table 6** summarizes impacted block group population for major service increases. These comparisons review the equity composition of those who may be impacted by proposed service changes compared to the overall equity composition of the District overall. No major service changes (longer than 12 months) were proposed for rail services with the **May 2024** runboard.

² Some block groups are not completely contained within district boundaries due to differences in boundaries between the District and Census-defined geographies.

³ The total population whose poverty status is determinable/assessed is lower than the estimate of total population due to the inability of the Census to determine income for everyone estimated to reside a particular block group.

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Table 5. Systemwide disparate impact and disproportionate burden equity analysis summary for all major service decreases

Systemwide Disparate Impact and Disproportionate Impact Analysis: All Decreases				
	Non-Minority Population	Minority Population	Non-Low-Income Population	Low-Income Population
Route Service Area Impacted	7,477	2,757	7,087	2,794
District	1,915,350	1,149,204	2,590,598	430,356
District Total	3,064,553		3,020,954	
% District Not Impacted	99.61%	99.76%	99.73%	99.35%
% District Impacted	0.39%	0.24%	0.27%	0.65%
Thresholds	Disparate Impact (DI)		Disproportionate Burden (DB)	
<i>DI & DB thresholds are 90% for service increases & 110% for service decreases</i>	<i>DI Threshold</i>	<i>Minority Pop Impacted</i>	<i>DB Threshold</i>	<i>Low Inc. Pop Impacted</i>
	0.43%	0.24%	0.30%	0.65%

For system-level service decreases (service decrease on the Free MallRide), **non-minority populations stand to be impacted more than minority populations** (0.39% vs. 0.24%, respectively). The difference does not surpass the disparate impact threshold of 0.43%. Therefore, no system-level disparate impact finding is found with the proposed major service decrease. **Low-income populations stand to be impacted more than non-low-income populations** (0.65% vs. 0.27%, respectively). The difference exceeds the 10% disproportionate burden threshold of 0.30%. Therefore, a system-level disproportionate burden is found with the proposed major service decrease.

Table 6. Systemwide disparate impact and disproportionate burden equity analysis summary for all major service increases

Systemwide Disparate Impact and Disproportionate Impact Analysis: All Increases				
	Non-Minority Population	Minority Population	Non-Low-Income Population	Low-Income Population
Route Service Area Impacted	4,539	2,348	4,869	2,017
District	1,915,350	1,149,204	2,590,598	430,356
District Total	3,064,553		3,020,954	
% District Not Impacted	99.76%	99.80%	99.81%	99.53%
% District Impacted	0.24%	0.20%	0.19%	0.47%
Thresholds	Disparate Impact (DI)		Disproportionate Burden (DB)	
<i>DI & DB thresholds are 90% for service increases & 110% for service decreases</i>	<i>DI Threshold</i>	<i>Minority Pop Impacted</i>	<i>DB Threshold</i>	<i>Low Inc. Pop Impacted</i>
	0.21%	0.20%	0.17%	0.47%

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For system-level service increases (reinstatement of the Free MetroRide), **minority populations stand to benefit less than non-minority populations** (0.20% vs. 0.24%, respectively). This difference falls just below the disparate impact threshold of 0.21%. Therefore, a system-level disparate impact finding is found with the proposed major service increase. **Low-income populations stand to benefit more than non-low-income populations** (0.47% vs. 0.19%, respectively). The difference is above the 10% disproportionate burden threshold of 0.17%. Therefore, no system-level disproportionate burden is found with the proposed major service increase.

Figures 1 and 2 illustrate the locations of above average low-income and minority block groups within the District as well as highlight the two bus routes with major service changes (orange). Compared to the District overall, both the Free MallRide and Free MetroRide serve above-average low-income populations in downtown Denver. The Free MetroRide is currently suspended, and it is proposed to be reinstated while the Free MallRide is proposed to have a reduction in service.

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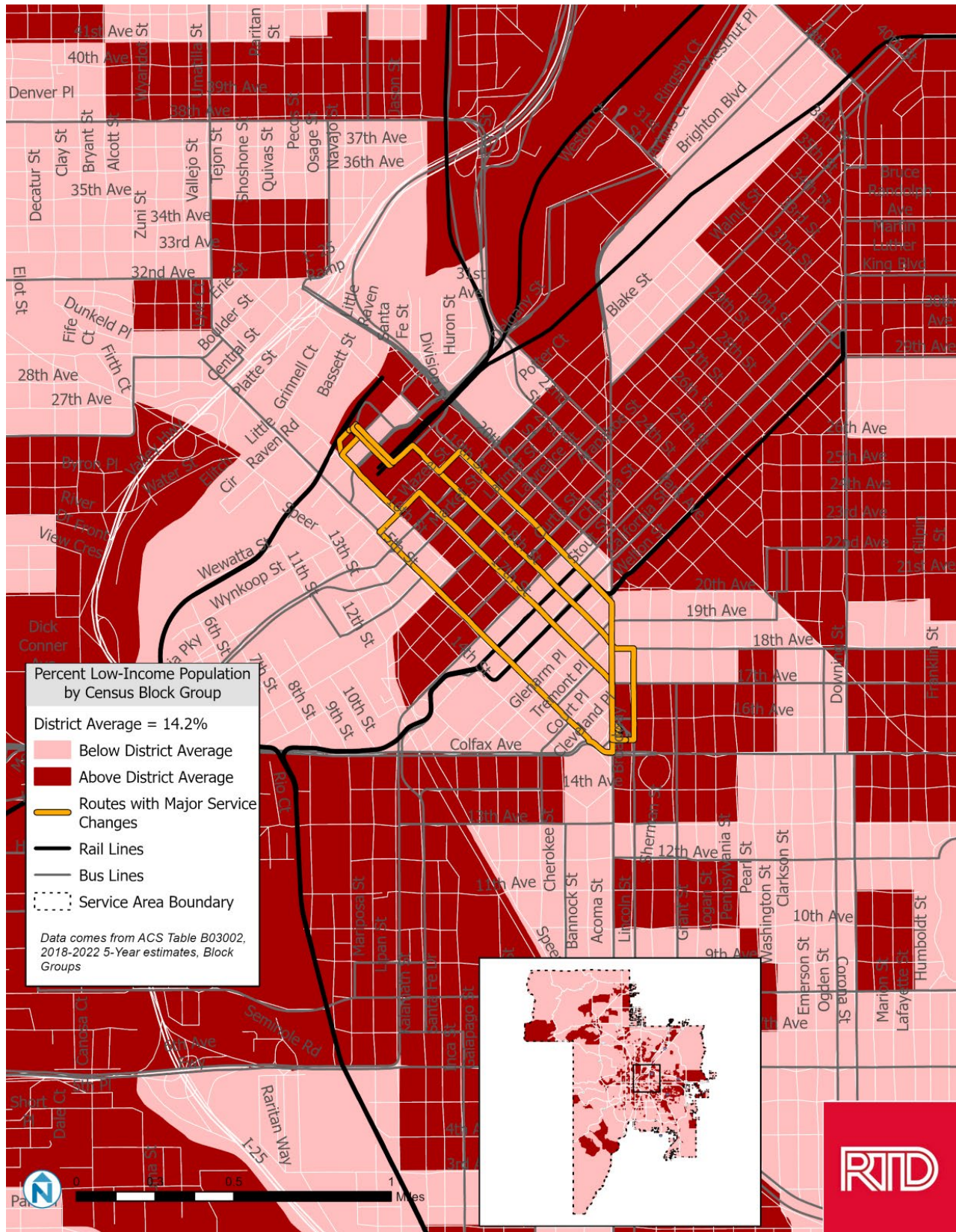


Figure 1. Block groups with above-average low-income population and routes with major service changes; US Census Bureau 2018-2022 5-Year Estimates

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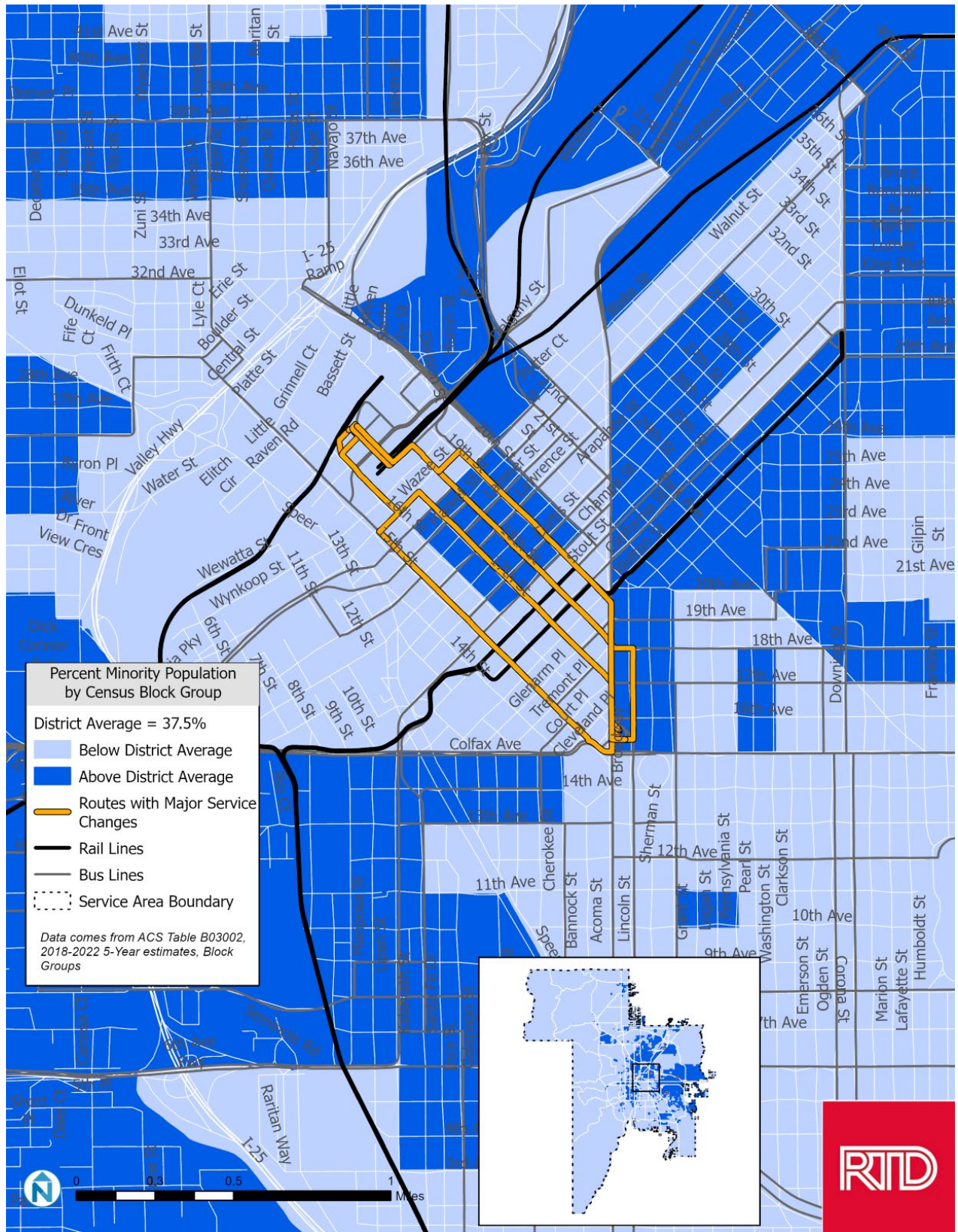


Figure 2. District block groups with above-average minority population and routes with major service changes; US Census Bureau 2017-2021 5-Year Estimates

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The **January 2024 to May 2024** service changes are captured in **Figure 3**. This map provides a generalized view of where service is changing at the route pattern level. The **January 2024** bus network and the addition of the Free MetroRide is colorized according to the percentage change in service hours. The Free MallRide is shown in teal (29% service change). The network also includes the Free MetroRide in blue, representing the reinstatement of service (100%). All other bus routes, shown in gray, are programmed to undergo minimal (e.g., schedule adjustments, minor realignments) or no service changes in **May 2024**.

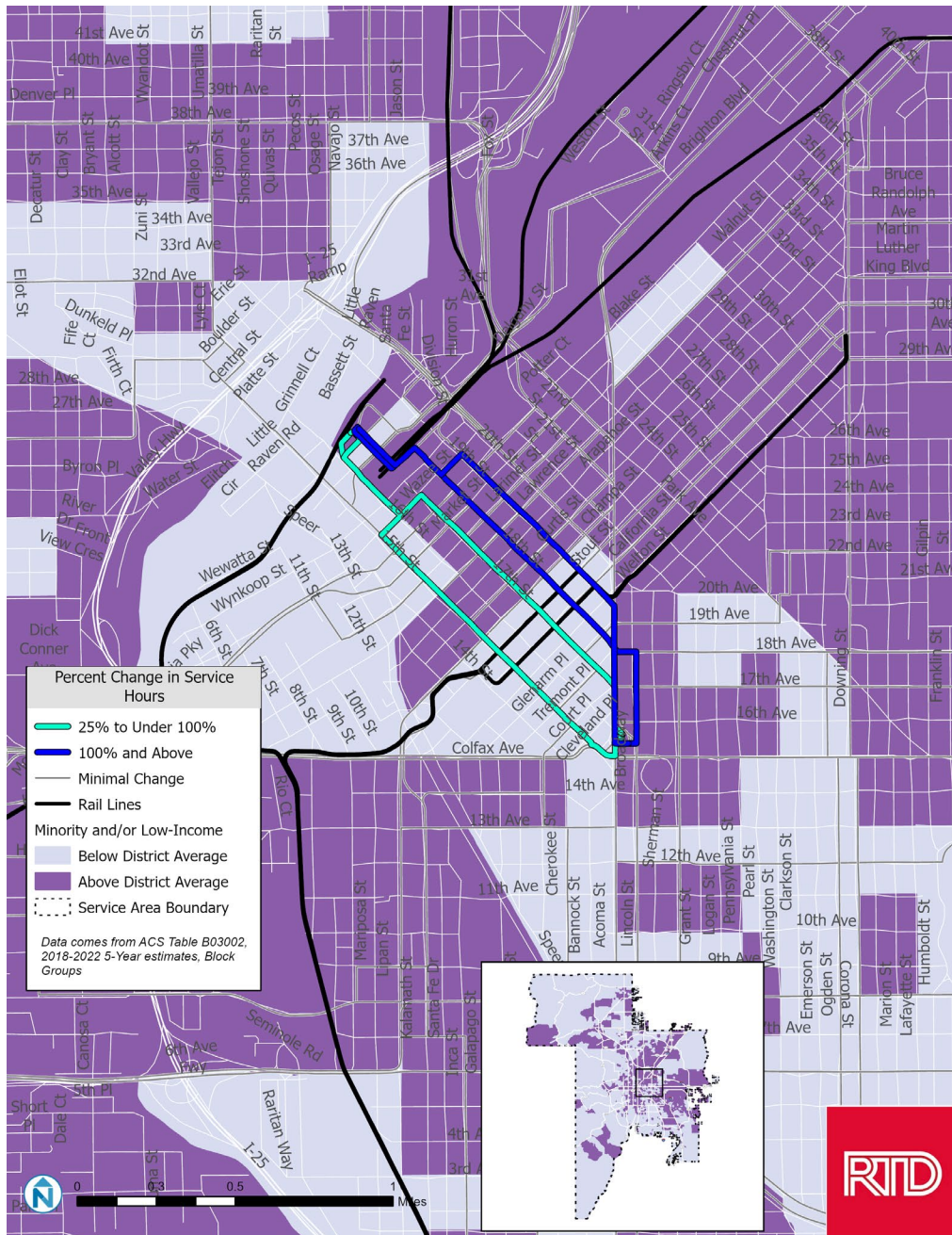


Figure 3. Depiction of route changes by percent change in service hours

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Summary of Findings

The systemwide service modifications proposed between **January 2024** and **May 2024** include schedule adjustments, suspension of school trips, changes to summer schedules and trip availability and additional service. The major service changes were entirely focused on bus services with a major service decrease on the Free MallRide and a major service increase on the Free MetroRide.

Route-level Findings:

- Of the 37 total services with proposed changes, taken individually, **2 had potential findings.**
- **The Free MallRide has a potential disproportionate burden finding** due to low-income populations receiving +0.32% more impact than non-low-income populations. Minority populations received 0.20% less of an impact than non-minority populations.
- **The Free MetroRide has a potential disparate impact finding** due to minority populations receiving 0.16% less benefit than non-minority populations. Low-income populations benefited 0.31% more than non-low-income populations.

Table 7 summarizes major service changes by change type, provides findings of potential disparate impacts and disproportionate burdens based on a comparative difference analysis, and provides the individual route service change.

Table 7. Summary of major service changes by change type and impact

Service Change Type	Route	Potential Disparate Impact?	Potential Disproportionate Burden?	Service Change Pct
Increase	Free MetroRide	No	Yes	100%
Decrease	Free MallRide	Yes	No	29.1%

Systemwide-level Findings:

- The Free MallRide and Free MetroRide comprise the May 2024 runboard's systemwide major service decreases and increases, respectively.
- For the proposed service increase on the Free MetroRide, of the almost 6,900 people located within the block groups that include the route's stops, low-income population represented a higher share of the population than District averages, indicating targeted services to low-income populations. **Low-income populations received a greater increase in service (were positively impacted more) compared to non-low-income populations.** Low-income areas benefited 0.28% more compared to non-low-income areas. However, **minority populations received a lower increase in service (were less positively impacted) compared to non-minority populations.** Minority areas benefited 0.03% less compared to non-minority areas. This difference met the disparate impact threshold; therefore, a system-level disparate impact was found with the proposed change.
- When considering the proposed service decrease on the Free MallRide for the demographics within the block groups that include the route's stops and as a proportion to the District overall, **minority populations were impacted less compared to non-minority populations.** Minority population areas received 0.15% less of an impact compared to non-minority areas. This was below the disparate

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impact threshold; therefore, no systemwide disparate impact was found. However, **low-income populations as a received 0.38% more of an impact than non-low-income populations.** This was above the threshold for a potential disproportionate burden; therefore, a potential disproportionate burden was found with the proposed service decrease.

Next Steps for Potential Disparate Impacts and Disproportionate Burden Findings

Given a potential disparate impact or disproportionate burden, RTD will evaluate whether there is an alternative that would serve the same objectives and with a more equitable impact. Otherwise, RTD will either:

- a) Alter the service proposal to avoid, minimize, or mitigate potential disparate impacts/disproportionate burdens, or
- b) Provide a substantial legitimate justification for keeping the proposal as-is and show that there are no alternatives that would have a less disparate impact on minority riders or disproportionate burden on low-income customers but would still accomplish the project or program goals.

Alterations to the initial proposed **May 2024** service changes⁴ include reduction of service on the Free MallRide and reinstatement of the Free MetroRide, both of which serve low-income populations at rates higher than the District average.

RTD recommends keeping the **May 2024** service plan as proposed as there are no practical alternatives to avoid, minimize or mitigate the disparate impact (Free MetroRide) and disproportionate burden (Free MallRide). The substantial legitimate justification for the Free MallRide service reduction is evident as this change is due to the ongoing construction work on the 16th Street Mall and the Near-Term Downtown Rail Reconstruction Project. Moreover, the Free MetroRide service increase will be utilized as a mitigation measure (i.e., providing customers with alternative connection between Denver Union Station and the Central Business District) due to the downtown rail reconstruction project. Thus, providing the substantial legitimate justification for the reinstatement.

Additionally, the overall potential benefits of the proposed service plan to customers are significant, with a greater benefit to minority and low-income customers. Specifically, a total of 13 of the 16 minor changes are considered minority bus routes and a total of 10 out of 16 are considered low-income bus routes. These minor changes include improvements to on-time performance for 14 bus routes, stops being added to one bus route to improve operations and transit access and the introduction of all-day service to one bus route to mitigate impacts on rail service due to construction.

⁴ <https://www.rtd-denver.com/service-changes>

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Appendix A: Systemwide Service Changes

Change Type	Service Changes	
	Route	Description
<i>Modified</i>	0L	It is proposed to introduce all-day service to address the impacts to customers on light rail during the near-term downtown rail reconstruction project. This service change would be discontinued after the completion of the project.
	8	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekdays, Saturdays, and Sundays/Holidays.
	11	Suspend seasonal school tripper service. Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	12	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	20	Suspend seasonal school tripper service. Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	24	Suspend seasonal school tripper service. Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	37	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	45	Adjust routing to use Airport Way in both directions instead of Peña Blvd. Add eastbound bus stop 40 th Ave & 40 th Circ E (Stop ID: 24702) and westbound bus stop 40 th Ave & Airport Way (Stop ID: 24701) to route to improve operations and transit access.
	65	Suspend seasonal school tripper service.
	73	Suspend seasonal school tripper service.
	83 D/L	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	105	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	120W/E	It is proposed to adjust the route name to just '120' in coordination with other RTD local route names and to reduce confusion about 120E at Eastlake related to direction. It is also proposed to streamline the route name by adjusting it to '120th Avenue Crosstown'.
	120L	It is proposed to adjust the route name to 'Thornton/Brighton' to better identify the starting and ending terminals of the route and to reduce confusion with route 120 (Local).
	121	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	169	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
	169L	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekday service.
225	Reduce weekday service frequency for summer.	
228	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekdays only.	
DASH	Reduce weekday service frequency for summer.	

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Change Type	Service Changes	
	Route	Description
	FF1	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekdays, Saturdays, and Sundays/Holidays. It is proposed to adjust the last eastbound trip, on Saturday and Sunday each, to 15 minutes earlier leave time from downtown Boulder Station, to allow enough time for arrival at Denver Union Station before closing of the facility at 00:30am. New trip leave times would be 11:12pm Saturdays and 11:42pm Sundays.
	Free MetroRide	In accordance with the System Optimization Plan, with the ongoing 16th Mall construction and in anticipation of downtown rail reconstruction project, reinstatement of the Free MetroRide service is recommended to give customers alternative connection between Denver Union Station and the Central Business District.
	GS	Schedule adjustments resulting from running time analysis, aimed at improving on-time performance, are proposed for weekdays only.
	JUMP	Reduce weekday service frequency for summer.
	NB	Short-turn trips at Nederland High School due to Eldora Ski Resort not being in operation.
	RX	It is proposed to consolidate the current 5:24pm and 6:48pm northbound trips and to provide 1 northbound trip, from Civic Center Station, at 6:10pm, due to low ridership. It is also proposed to shift the current 5:04pm northbound trip to 5:10pm, to better balance the overall headways/schedule.
	Platte Valley FlexRide	It is proposed to remove the flex route and to allow Platte Valley FlexRide to operate as a regular FlexRide service within the newly proposed boundaries of: Federal Blvd to the west, Alameda Ave to the south, Colfax to the north, and Santa Fe to the east. This service will operate from 5:30am to 6:00pm.
	Evergreen FlexRide	It is proposed to combine the Evergreen North and Evergreen South FlexRide service areas into a singular service area.
	E Line	Schedule adjustments related to the coping panel project will be necessary to accommodate reduced operating speeds in the Southeast Corridor. Service frequency will be reduced during the peak periods to service every 30 minutes from the current 15-minute frequency.
	D Line	It is recommended that D Line service be replaced with the former C Line pattern of service (Mineral Station – Denver Union Station) renamed Special Service Train for the duration of the downtown rail reconstruction project.
	H Line	Due to coping panel work resuming and rail reconstruction project taking place in the downtown loop it is recommended to modify/replace service on the H Line with the J Line pattern, operating Florida Station to Denver Union Station until the downtown Denver rail reconstruction project is completed.
	N Line	It is proposed to extend on Saturday evening, one southbound at 11:13 p.m., and northbound at 11:56 p.m. responding to increased customer requests, supported by increased ridership on the existing trips preceding the proposed trip times. The last three northbound trips are averaging over 94 boardings.
	R Line	Schedule adjustments related to the coping panel project will be necessary to accommodate slower operating service in the Southeast Corridor.
<i>Reductions</i>	Free MallRide	Reduce frequencies on the Free MallRide to 10-minute headways. This change will free up operator resources to reinstate Free MetroRide service.
	E, D, H, R, W Lines	Reduce span of service to increase maintenance of way window.
<i>Suspensions</i>	L Line	Service will be temporarily suspended due to the downtown rail reconstruction project until September 2024.

Appendix B: Analysis of Impact on Access to Employment, Social Services, Senior Housing & Facilities, Schools, Retail and Convenience Stores

Service Equity Analysis: May 2024

Free MallRide

Reduction of service

	Employment	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores												
Reduced Access	<p>Reduction in access to an estimated 114,803 jobs</p> <table border="1"> <caption>Job Loss Breakdown by Category</caption> <thead> <tr> <th>Category</th> <th>MallRide (%)</th> <th>District (%)</th> </tr> </thead> <tbody> <tr> <td>Low/Medium Wage Jobs*</td> <td>18%</td> <td>45%</td> </tr> <tr> <td>Jobs Held by Workers of Color*</td> <td>13%</td> <td>14%</td> </tr> <tr> <td>Jobs Held by Hispanic/Latino Workers*</td> <td>14%</td> <td>18%</td> </tr> </tbody> </table> <p>■ MallRide ■ District</p>	Category	MallRide (%)	District (%)	Low/Medium Wage Jobs*	18%	45%	Jobs Held by Workers of Color*	13%	14%	Jobs Held by Hispanic/Latino Workers*	14%	18%	222	40	2	2	0	1	8	150	19
Category	MallRide (%)	District (%)																				
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* Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or about \$40,000 per year. Jobs held by workers of color include jobs where the race indicated was not "White Alone." Jobs held by Hispanic/Latino workers include jobs where the ethnicity indicated was Hispanic/Latino. Source: US Census Bureau, 2019.

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Free MetroRide

Reinstatement of service

	Employment	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores												
New Access	<p>Creates access to an estimated 116,136 jobs</p> <table border="1"> <caption>Job Access Comparison</caption> <thead> <tr> <th>Category</th> <th>MetroRide (%)</th> <th>District (%)</th> </tr> </thead> <tbody> <tr> <td>Low/Medium Wage Jobs*</td> <td>18%</td> <td>45%</td> </tr> <tr> <td>Jobs Held by Workers of Color*</td> <td>13%</td> <td>14%</td> </tr> <tr> <td>Jobs Held by Hispanic/Latino Workers*</td> <td>14%</td> <td>18%</td> </tr> </tbody> </table> <p>Legend: MetroRide (Blue), District (Red)</p>	Category	MetroRide (%)	District (%)	Low/Medium Wage Jobs*	18%	45%	Jobs Held by Workers of Color*	13%	14%	Jobs Held by Hispanic/Latino Workers*	14%	18%	229	47	2	2	0	0	8	153	17
Category	MetroRide (%)	District (%)																				
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