

Title VI Service Equity Analysis Report

January 2025 Service Changes

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Executive Summary

This document summarizes the analysis of major service changes proposed for **January 2025** 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 **22 bus routes, two FlexRide zones and three rail lines** of RTD's forthcoming **January 2025** service change. Of this change, **eight** services meet established thresholds for a major service change. The service tabulated below has proposed adjustments that were greater than 25% of baseline service and are proposed for the long-term (will remain in effect for 12 or more months).

Route Modification (one service)	Route 35: As described in the SOP, segment reinstated east of Englewood Station to Nine Mile Station primarily along Hampden Avenue
	Route 49: Daily service frequency increased to 30 minutes throughout the service day; service span expanded to extend to 11 p.m. on weekdays, to commence at 5 a.m. and extend through 11 p.m. on Saturdays, and to commence at 6 a.m. and extend through 8 p.m. on Sundays
	Route 83D: Weekday midday and evening service increased to 30-minute frequency
	Route 100: Service frequency increased between Federal Center Station (W Line) and Arvada Ridge Station (G Line)
Service Increases (seven services)	Route 139: Service spans expanded to extend two hours later on weekdays and to commence one hour earlier and extend two hours later on Saturdays and Sundays
	Route AB1: AB2 trips reinstated from Downtown Boulder Station; daily service increased to 30-minute frequency throughout the service day
	Route FF5: 3:02 p.m. eastbound trip added from Downtown Boulder Station to Anschutz; 2:45 p.m. westbound FF5 trip shifted to 2:30 p.m.; eastbound 4:02 p.m. trip added to interline with current westbound trip at 5:15 p.m.
	Route LD1: Two morning and two afternoon/evening peak trips added from Bross St/8th Ave to Denver Union Station in each direction

Minor Service Changes

The service tabulated below has proposed adjustments that were less than 25% of baseline service. This includes **one** route merger proposal that, while not currently included in the major service change policy, represents a significant change to the alignments of two bus routes. Other adjustments include service increases under the major service change threshold and schedule timing changes.

	Route 42: Running time adjustments due to changes on Route 45
	Route 52: Schedule adjustments to improve on-time performance for all service days
Schodulo Timing	Route 65: Schedule adjustments to improve on-time performance for all service days
Schedule Timing (Five services)	Route 76: Schedule adjustments to improve on-time performance on weekdays
	NB: Minor changes to weekday schedule to account for class start/end times at Boulder High and Nederland High, as well as operational hours at Eldora Ski Resort
	D Line: Schedule adjustments due to ongoing maintenance work
	Route 24: Service spans expanded to extend two hours later on weekdays, and commence one hour earlier extend and two hours later on Saturdays and Sundays
	Route 73: Daily service span increased to provide later evening trips
Service Increase	Route 205/205T: Tripper service added to address overloads on Route BOLT due to increase in Boulder High School usage
(Six services)	Route 208: School tripper service added to address overloads on the regular scheduled 7:51 a.m. westbound trip due to increase in Boulder High School usage
	E Line: Reinstatement of 15-minute frequency (temporary change)
	H Line: Reinstatement of 15-minute frequency (temporary change)

Route 1: Service east of 17th/18th Streets truncated and rerouted to Civic Center Station via Broadway/Lincoln. The new routing would serve the current alignment between Lakewood Commons and 17th/Stout.

Route 15: Routing updated to reflect a current detour, which removes access to the stop at 13th Avenue/Lisbon Street, due to inability to reliably and in the safest manner, resume westbound operations after serving the stop. Service to 13th Avenue/Lisbon Street bus stop will start as soon as the traffic signal is completed at Colfax Avenue/Picadilly Street.

Route 44: Service east of $17^{th}/18^{th}$ Streets truncated and rerouted service to Civic Center Station via Broadway/Lincoln. The new routing would serve the current alignment between Wheat Ridge/Ward Road Station and 17^{th} /California Streets.

Route Adjustment (Seven services)

Route 45: Routing updated to reflect ongoing westbound detour related to left turn at unsignalized intersection from Ireland St onto 56th Ave. Buses will operate in a loop via Maxwell, right on Dunkirk, right on 56th Ave and right on Ireland. Buses will serve the same stops on Ireland St, Dunkirk and 56th Ave in both directions. Original routing will be restored when a traffic signal at the intersection is installed and operable

Route 1E/44 (Art District Connector): Eastern portion of the Route 1 and Route 44 combined, connecting the Baker and Five Points neighborhoods from Alameda Station to 40th/Colorado Station; the western portions of the Routes 1 (Lakewood Commons to Civic Center Station) and 44 (Wheat Ridge/Ward Station to Civic Center Station) retained into downtown Denver, with the new merged routing renamed as the ART Connector

NBFX (Broomfield North FlexRide): Boundaries expanded to include a new area

ILFX (Interlocken/Westmoor FlexRide): Service boundaries expanded to include a new affordable housing development

Findings

Major service changes included in the **27** proposed **January 2025** service changes include route adjustments as well as service increases to **eight** bus routes. Of the eight routes with major service changes, three serve populations that are above the district average of minority populations, and all eight serve populations that are above the district average for low-income populations.

When considering the demographics within the service area (within a quarter mile) of the major service increases and as a proportion to the district overall, **low-income populations receive a higher increase in service** (i.e., were more positively impacted) compared to non-low-income populations. Low-income areas received 2.92% more of a benefit than non-low-income areas. This difference is above the 10% minimum threshold. **Minority areas received more of an increase in service** (i.e., were more positively impacted) compared to non-minority populations. Minority areas benefitted 0.29% more than non-minority areas, a difference above the 10% threshold.

Finally, **potential disparate impact findings** were identified at the route level for the changes proposed for Routes 100, AB1 and LD1 and a potential **disproportionate burden** for Route 139.

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.

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 (Family of Services) 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

Based on requirements within FTA Circular 4702.1B Chapter IV.7, RTD, as an agency receiving federal funding, 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.
 - 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 **January 2025** service change looked at whether an individual bus route's or rail line'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 quarter-mile service area of a bus route or rail line. 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 Census Bureau population estimates 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 is based on the non-white and Hispanic or Latino count of total population. The service area is based on the collection of block groups wholly or partially within district boundaries.

Route/line service area population is determined using a quarter mile "catchment area" centered around bus stops and rail stations. This catchment area is then used to calculate the percentage overlap of block group-based population underneath. For instance, if a catchment area contains 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).

RTD calculates the net change in service hours for each route/line proposal to provide the percent difference from baseline service hours. Any change meeting or exceeding a 25% change (either positive or negative) from baseline is flagged as a major service change for further review.

Public Outreach Overview

Three public meetings were conducted October 21-22, 2024. The comments collected on service changes during these meetings are summarized in the table below. **Table 1** captures the meeting locations, dates, number of attendees and the common themes of attendees' comments pertaining to the major service changes described in this analysis.

Table 1. Public meeting details

Date and Time Location	Comment Themes	Number of Attendees
October 21 at 12 p.m. Virtual	Support service increases on AB and FF5	6
October 21 at 5:30 p.m. 1660 Blake St, Denver, CO, 80202	Support service increases to 83D, LD1 and Route 49	8
October 23 at 5:30 p.m. Virtual	Like service increase on AB and FF5	4
		Total - 18

The public was also notified of the ability to submit comments to service.change@rtd-denver.com, by phone at 303-299-6000 and at Board of Directors' meetings. In 2024, RTD also added the option for the public to provide comment by completing route- and line-specific surveys found at www.rtd-denver.com/service-alerts/service-changes.

There was a total of 1,289 responses on the proposed service changes, with 65% indicating a very positive impact and 20% indicating a somewhat positive impact. See below for route-specific feedback:

- Route AB1: Received strong support with 87% finding it very positive and 11% somewhat positive
- Route 35: Positive response with 72% very positive and 16% somewhat positive
- Route 49: Mixed feedback with 40% very positive and 30% somewhat positive, but 10% very negative
- Route 83D: Generally well-received with 61% very positive and 28% somewhat positive
- **Route 100**: Mixed reviews; 59% very positive, 18% somewhat positive, and a combined 18% negative
- **Route 139**: Predominantly positive at 60% somewhat positive, though 20% noted a very negative impact
- Route FF5: Mostly positive, with 41% very positive, 32% somewhat positive, and 12% negative
- Route LD1: Highly favorable with 53% very positive and 36% somewhat positive, and minimal negative feedback

Overall, the feedback reflects substantial support for the proposed changes, with a few areas where impacts are more mixed.

Additionally, the Transit Equity Office collaborated with Community-Based Organizations (CBOs) to share information on service changes and encourage customer feedback on the proposed changes to the routes. Through this partnership, three CBOs attended a total of nine events, directly reaching 944 community members.

Major Service Change, Disparate Impact and Disproportionate Burden Analyses

Proposed service changes for the **January 2025** 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 American Community Survey (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 potential finding of impact.

Major Service Change Test

Identify routes with proposed major service changes (based on trips or hours) of 25% or more

Changes by Transit Mode

For the **January 2025** runboard, 22 fixed-route bus routes and three rail lines will undergo various service changes. Of these, **12** routes will see combined increases in **bus service of over 407 total weekday revenue service hours and 541 additional weekend service hours.¹** While not considered a major service change under current policy, the proposal to merge portions of Routes 1 and 44 represents a significant change in alignment and service patterns. Service increases on other routes include additional service frequencies and spans of service (longer hours of service) on several routes both for weekday and weekend service.

Table 2. Summary of service changes by transit mode

Mode	Change in Weekday Daily Hours	Change in Saturday Daily Hours	Change in Sunday Daily Hours
All Bus	+407	+300	+241
All Rail	0	0	0
Overall	+407	+300	+241

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

There are no major service reductions proposed for the proposed **January 2025** runboard.

¹ The reinstatement of 15-minute frequency on the E and H Lines are not noted here as an increase in service hours given that their baseline frequency prior to ongoing maintenance projects (notably, the Coping Panel project and Downtown Rail Reconstruction project in 2024) was 15 minutes. Thus, there is no change in service hours.

Major Service Change Increases

Eight bus routes had proposed major service increases which include service increases of 25% or greater. Improved headways and spans of service are proposed on Routes 49, 83D, 100, 139, AB1, FF5 and LD1 for the **January 2025** service change. The proposed segment reinstatement of the Route 35 is outlined in the RTD Board approval of the System Optimization Plan (SOP).

Other Changes

While not currently included within major service change policies, the proposal to truncate Routes 1 and 44 at Civic Center Station and combine those truncated segments into the new 1E/44 (Art District Connector) route represents a significant change in alignment and service patterns. While the truncation may impact some customers who previously rode through downtown to the respective route ends, data supporting the proposal indicates potential improvements in trips for customers who formerly had to transfer to complete the new route pattern as well as improved service to and through downtown Denver.

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.

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.

Route 35

Proposal: Segment reinstated east of Englewood Station to Nine Mile Station primarily along Hampden Avenue, as described in the Systems Optimization Plan.

As shown in **Table 3**, a slightly higher percentage of the district's low-income population stands to benefit from the proposed major service increase as compared to the non-low-income population (0.98% vs. 0.79%, respectively). This difference does not meet the 10% disproportionate burden threshold (0.71%). Therefore, no potential route-level disproportionate burden is found. Additionally, a higher percentage of the district's minority population benefits from the proposed major service decrease as compared to the non-minority population (1.10% vs. 0.65%, respectively). This difference does not meet the 10% disparate impact threshold (0.58%). Thus, there is no potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 3. Route 35 Disparate Impact and Disproportionate Burden Analysis

Route 35 - Hampden Avenue					
September 2024 to January 2025 Service Change Analysis					
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population	
Route Service Area Impacted	12,370	12,629	20,517	4,196	
District Statistics	1,915,350	1,149,204	2,590,598	430,356	
District Total Base Population	3,0	064,553	3,020,954		
% of District Not Impacted	99.35%	98.90%	99.21%	99.02%	
% District Impacted	0.65%	1.10%	0.79%	0.98%	
Thresholds	Disparate Impact (DI) Disproportionate Burder (DB)				
DI & DB Thresholds are 90% for service increases and 110% for service decreases of % District Impacted Population	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted	
	0.58%	1.10%	0.71%	0.98%	

The improvement of service on this service would increase access to:

- 16,117 jobs
 - 51.8% low-to-medium wage jobs, which is above the RTD District average (38.8%)
 - o 19.8% jobs held by minorities, which is above the RTD District average (13.8%)
 - o 18% jobs held by Hispanic/Latino workers, which is just below the RTD District average (18.3%)
- 105 retail/convenience stores
- 34 human and social services centers
- 9 senior housing and facilities
- 15 colleges, middle schools and elementary schools

Route 49

Proposal: Daily service frequency increased to 30 minutes throughout the service day; service span expanded to extend to 11 p.m. on weekdays, to commence at 5 a.m. and extend through 11 p.m. on Saturdays, and to commence at 6 a.m. and extend through 8 p.m. on Sundays

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 the non-low-income population (1.03% vs. 0.33%, respectively). This difference does not meet the 10% disproportionate burden threshold (0.30%). Therefore, no potential route-level disproportionate burden is found. Additionally, a higher percentage of the district's minority population benefits from the proposed major service increase as compared to the non-minority population (0.87% vs. 0.17%, respectively). This difference does not meet the 10% disparate impact threshold (0.16%). Thus, there is no potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 4. Route 49 Disparate Impact and Disproportionate Burden Analysis

Route 49 - Denver/ Commerce City					
September 2024 to January 2025 Service Change Analysis					
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population	
Route Service Area Impacted	3,304	10,020	8,578	4,434	
District Statistics	1,915,350	1,149,204	2,590,598	430,356	
District Total Base Population	3,0	064,553	3,020,954		
% of District Not Impacted	99.83%	99.13%	99.67%	98.97%	
% District Impacted	0.17%	0.87%	0.33%	1.03%	
Thresholds	Disparat	e Impact (DI)		ionate Burden DB)	
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted	
of % District Impacted Population	0.16%	0.87%	0.30%	1.03%	

The improvement of service on this service would increase access to:

- 8,856 jobs
 - o 39.6% low-to-medium wage jobs, which is above the RTD District average (38.8%)
 - 14.6% jobs held by minorities, which is above the RTD District average (13.8%)
 - o 32.3% jobs held by Hispanic/Latino workers, which is above the RTD District average (18.3%)
- 41 retail/convenience stores
- 8 human and social services centers
- 1 senior housing facility
- 8 colleges, middle schools and elementary schools

Route 83D

Proposal: Weekday midday and evening service increased to 30-minute frequency

As shown in **Table 5**, a slightly higher percentage of the district's low-income population stands to benefit from the proposed major service increase as compared to the non-low-income population (1.84% vs. 1.28%, respectively). This difference does not meet the 10% disproportionate burden threshold (1.15%). Therefore, no potential route-level disproportionate burden is found. However, a lower percentage of the district's minority population benefits from the proposed major service increase as compared to the non-minority population (1.29% vs. 1.38%, respectively). This difference does not meet the 10% disparate impact threshold (1.24%). Thus, there is no potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 5. Route 83D Disparate Impact and Disproportionate Burden Analysis

Route 83D - Cherry Creek / Parker Rd Limited						
September 2024 to January 20	September 2024 to January 2025 Service Change Analysis					
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population		
Route Service Area Impacted	26,398	14,871	33,206	7,930		
District Statistics	1,915,350	1,149,204	2,590,598	430,356		
District Total Base Population	3,0	064,553	3,020,954			
% of District Not Impacted	98.62%	98.71%	98.72%	98.16%		
% District Impacted	1.38%	1.29%	1.28%	1.84%		
Thresholds	Disparat	Disparate Impact (DI)		onate Burden DB)		
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted		
of % District Impacted Population	1.24%	1.29%	1.15%	1.84%		

The improvement of service on this service would increase access to:

- 69,649 jobs
 - 34.3% low-to-medium wage jobs, which is below the RTD District average (38.8%)
 - 15.3% jobs held by minorities, which is above the RTD District average (13.8%)
 - o 17.6% jobs held by Hispanic/Latino workers, which is below the RTD District average (18.3%)
- 176 retail/convenience stores
- 85 human and social services centers
- 7 senior housing and facilities
- 22 colleges, middle schools and elementary schools

Route 100

Proposal: Service frequency increased between Federal Center Station (W Line) and Arvada Ridge Station (G Line)

As shown in **Table 6**, a slightly higher percentage of the district's low-income population stands to benefit from the proposed major service increase as compared to the non-low-income population (0.90% vs. 0.87%, respectively). This difference does not meet the 10% disproportionate burden threshold (0.79%). Therefore, no potential route-level disproportionate burden is found. However, a lower percentage of the district's minority population benefits from the proposed major service increase as compared to the non-minority population (0.60% vs. 1.03%, respectively). This difference meets the 10% disparate impact threshold (0.92%). Thus, **there is a potential disparate impact found at the route level** requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 6. Route 100 Disparate Impact and Disproportionate Burden Analysis

Route 100 - Kipling Street					
September 2024 to January 2025 Service Change Analysis					
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population	
Route Service Area Impacted	19,678	6,950	22,631	3,869	
District Statistics	1,915,350	1,149,204	2,590,598	430,356	
District Total Base Population	3,0	064,553	3,020,954		
% of District Not Impacted	98.97%	99.40%	99.13%	99.10%	
% District Impacted	1.03%	0.60%	0.87%	0.90%	
Thresholds	DISDAFATE IMPACT (DI)		onate Burden DB)		
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted	
of % District Impacted Population	0.92%	0.60%	0.79%	0.90%	

The improvement of service on this service would increase access to:

- 15,864 jobs
 - o 43.0% low-to-medium wage jobs, which is above the RTD District average (38.8%)
 - 11.6% jobs held by minorities, which is below the RTD District average (13.8%)
 - o 17.8% jobs held by Hispanic/Latino workers, which is below the RTD District average (18.3%)
- 78 retail/convenience stores
- 27 human and social services centers
- 7 senior housing and facilities
- 12 colleges, middle schools and elementary schools

Route 139

Proposal: Service spans expanded to extend two hours later on weekdays and to commence one hour earlier and extend two hours later on Saturdays and Sundays

As shown in **Table 7**, a slightly lower percentage of the district's low-income population stands to benefit from the proposed major service increase as compared to the non-low-income population (0.77% vs. 0.95%, respectively). This difference meets the 10% disproportionate burden threshold (0.85%). Therefore, **a potential route-level disproportionate burden is found**. However, a higher percentage of the district's minority population benefits from the proposed major service increase as compared to the non-minority population (1.02% vs. 0.84%, respectively). This difference does not meet the 10% disparate impact threshold (0.76%). Thus, there is no potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 7. Route 139 Disparate Impact and Disproportionate Burden Analysis

Route 139 - Quincy Avenue					
September 2024 to January 2025 Service Change Analysis					
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population	
Route Service Area Impacted	16,155	11,767	24,548	3,318	
District Statistics	1,915,350	1,149,204	2,590,598	430,356	
District Total Base Population	3,0	064,553	3,020,954		
% of District Not Impacted	99.16%	98.98%	99.05%	99.23%	
% District Impacted	0.84%	1.02%	0.95%	0.77%	
Thresholds	Disparat	Disparate Impact (DI)		onate Burden DB)	
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted	
of % District Impacted Population	0.76%	1.02%	0.85%	0.77%	

The improvement of service on this service would increase access to:

- 2,953 jobs
 - o 67.3% low-to-medium wage jobs, which is above the RTD District average (38.8%)
 - 18.8% jobs held by minorities, which is above the RTD District average (13.8%)
 - o 19.5% jobs held by Hispanic/Latino workers, which is above the RTD District average (18.3%)
- 29 retail/convenience stores
- 7 human and social services centers
- 6 senior housing and facilities
- 7 colleges, middle schools and elementary schools

Route AB1

Proposal: AB2 trips reinstated from Downtown Boulder Station; daily service increased to 30-minute frequency throughout the service day

As shown in **Table 8**, a higher percentage of the district's low-income population stands to benefit from the proposed major service increase as compared to the non-low-income population (1.33% vs. 0.24%, respectively). This difference does not meet the 10% disproportionate burden threshold (0.22%). Therefore, no potential route-level disproportionate burden is found. However, a lower percentage of the district's minority population benefits from the proposed major service increase as compared to the non-minority population (0.24% vs. 0.62%, respectively). This difference meets the 10% disparate impact threshold (0.56%). Thus, **there is a potential disparate impact found at the route level** requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 8. Route AB1 Disparate Impact and Disproportionate Burden Analysis

Route AB1 - Boulder / Denver Airport						
September 2024 to January 20.	September 2024 to January 2025 Service Change Analysis					
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population		
Route Service Area Impacted	11,935	2,715	6,289	5,739		
District Statistics	1,915,350	1,149,204	2,590,598	430,356		
District Total Base Population	3,0	064,553	3,020,954			
% of District Not Impacted	99.38%	99.76%	99.76%	98.67%		
% District Impacted	0.62%	0.24%	0.24%	1.33%		
Thresholds	Disparate Impact (DI)			ionate Burden DB)		
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted		
of % District Impacted Population	0.56%	0.24%	0.22%	1.33%		

The improvement of service on this service would increase access to:

- 10,571 jobs
 - o 32.0% low-to-medium wage jobs, which is below the RTD District average (38.8%)
 - 10.7% jobs held by minorities, which is below the RTD District average (13.8%)
 - o 11.4% jobs held by Hispanic/Latino workers, which is below the RTD District average (18.3%)
- 94 retail/convenience stores
- 14 human and social services centers
- 9 colleges, middle schools and elementary schools

Route FF5

Proposal: 3:02 p.m. eastbound trip added from Downtown Boulder Station to Anschutz; 2:45 p.m. westbound FF5 trip shifted to 2:30 p.m.; eastbound 4:02 p.m. trip added to interline with current westbound trip at 5:15 p.m.

As shown in **Table 9**, a higher percentage of the district's low-income population stands to benefit from the proposed major service increase as compared to the non-low-income population (1.29% vs. 0.32%, respectively). This difference does not fall below the 10% disproportionate burden threshold (0.29%). Therefore, no potential route-level disproportionate burden is found. A slightly lower percentage of the district's minority population benefits from the proposed major service increase as compared to the non-minority population (0.52% vs. 0.56%, respectively). However, this difference does not fall below the 10% disparate impact threshold (0.51%). Thus, there is no potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 9. Route FF5 Disparate Impact and Disproportionate Burden Analysis

Route FF5 - Flatiron Flyer					
September 2024 to January 2025 Service Change Analysis					
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population	
Route Service Area Impacted	10,812	5,948	8,245	5,553	
District Statistics	1,915,350	1,149,204	2,590,598	430,356	
District Total Base Population	3,0	064,553	3,020,954		
% of District Not Impacted	99.44%	99.48%	99.68%	98.71%	
% District Impacted	0.56%	0.52%	0.32%	1.29%	
Thresholds	Disparate Impact (DI)			ionate Burden DB)	
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted	
of % District Impacted Population	0.51%	0.52%	0.29%	1.29%	

The improvement of service on this service would increase access to:

- 21,980 jobs
 - o 31.7% low-to-medium wage jobs, which is below the RTD District average (38.8%)
 - 13.8% jobs held by minorities, which is below the RTD District average (13.8%)
 - o 14.4% jobs held by Hispanic/Latino workers, which is below the RTD District average (18.3%)
- 102 retail/convenience stores
- 22 human and social services centers
- 3 senior housing and facilities
- 12 colleges, middle schools and elementary schools

Route LD1

Proposal: Two morning and two afternoon/evening peak trips added from Bross St/8th Ave to Denver Union Station in each direction

As shown in **Table 10**, a slightly higher percentage of the district's low-income population stands to benefit from the proposed major service increase as compared to the non-low-income population (1.13% vs. 1.08%, respectively). This difference does not meet the 10% disproportionate burden threshold (0.98%). Therefore, no potential route-level disproportionate burden is found. A lower percentage of the district's minority population benefits from the proposed major service increase as compared to the non-minority population (0.96% vs. 1.17%, respectively). This difference meets the 10% disparate impact threshold (1.05%). Thus, **there is a potential disparate impact found at the route level** requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 10. Route LD1 Disparate Impact and Disproportionate Burden Analysis

Route LD1 - Longmont / Denver									
September 2024 to January 2025 Service Change Analysis									
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population					
Route Service Area Impacted	22,323	11,004	28,096	4,881					
District Statistics	1,915,350	1,149,204	2,590,598	430,356					
District Total Base Population	3,0	064,553	3,020,954						
% of District Not Impacted	98.83%	99.04%	98.92%	98.87%					
% District Impacted	1.17%	0.96%	1.08%	1.13%					
Thresholds	Disparat	e Impact (DI)		onate Burden DB)					
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted					
of % District Impacted Population	1.05%	0.96%	0.98%	1.13%					

The improvement of service on this service would increase access to:

- 33,589 jobs
 - o 32.1% low-to-medium wage jobs, which is below the RTD District average (38.8%)
 - 11.1% jobs held by minorities, which is below the RTD District average (13.8%)
 - o 14.7% jobs held by Hispanic/Latino workers, which is below the RTD District average (18.3%)
- 170 retail/convenience stores
- 59 human and social services centers
- 1 senior housing and facilities
- 28 colleges, middle schools and elementary schools

Analysis of Minor Service Change

A route level analysis for minor service changes is atypical in RTD's equity analyses but was performed to understand the potential impacts to minority and low-income populations currently served by Routes 1 and 44 and to provide supplemental information for the **January 2025** service change. Because of the truncation of these routes prior to a merger and the potential for new transfers, proposals on the extent routes are considered service decreases. The merged segments creating the 1E/44 (Art District Connector) is considered a service increase. As with major service changes analyses, the demographics of each route were reviewed for potential DI or DB findings.

Route 1

Proposal: As described in the SOP, service east of 17th/18th Streets truncated and rerouted to Civic Center Station via Broadway/Lincoln. The new routing would serve the current alignment between Lakewood Commons and 17th/Stout

For the purposes of this analysis and as a conservative measure, this proposal is assumed as a service decrease due to possibility of forced transfers at Civic Center Station. As shown in **Table 11**, a slightly higher percentage of the district's low-income population stands to be impacted from the proposed major service decrease as compared to the non-low-income population (2.13% vs. 1.12%, respectively). This difference meets the 10% disproportionate burden threshold (1.23%). Therefore, a potential route-level disproportionate burden is found. Additionally, a higher percentage of the district's minority population is impacted from the proposed major service decrease as compared to the non-minority population (1.61% vs. 1.08%, respectively). This difference meets

the 10% disparate impact threshold (1.19%). Thus, there is a potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 11. Route 1 Disparate Impact and Disproportionate Burden Analysis (considered as a service decrease)

Route 1 - West 1st Avenue									
September 2024 to January 2025 Service Change Analysis									
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population					
Route Service Area Impacted	20,751	18,500	29,031	9,177					
District Statistics	1,915,350	1,149,204	2,590,598	430,356					
District Total Base Population	3,0	064,553	3,02	20,954					
% of District Not Impacted	98.92%	98.39%	98.88%	97.87%					
% District Impacted	1.08%	1.61%	1.12%	2.13%					
Thresholds	Disparat	e Impact (DI)		onate Burden DB)					
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted					
of % District Impacted Population	1.19%	1.61%	1.23%	2.13%					

The decrease of service on this service would impact access to:

- 22,469 jobs
 - 30.7% low-to-medium wage jobs, which is below the RTD District average (38.8%)
 - 15.5% jobs held by minorities, which is below the RTD District average (13.8%)
 - 21.8% jobs held by Hispanic/Latino workers, which is above the RTD District average (18.3%)
- 44 retail/convenience stores
- 25 human and social services centers
- 12 colleges, middle schools and elementary schools

Route 44

Proposal: As described the SOP, service east of 17th/18th Streets truncated and rerouted to Civic Center Station via Broadway/Lincoln. The new routing would serve the current alignment between Wheat Ridge/Ward Road Station and 17th/California

For the purposes of this analysis and as a conservative measure, this proposal is assumed as a service decrease due to possibility of forced transfers at Civic Center Station. As shown in **Table 12**, a slightly higher percentage of the district's low-income population stands to be impacted from the proposed major service decrease as compared to the non-low-income population (2.55% vs. 1.56%, respectively). This difference meets the 10% disproportionate burden threshold (1.71%). Therefore, a potential route-level disproportionate burden is found. Additionally, a lower percentage of the district's minority population stands to be impacted from the proposed major service decrease as compared to the non-minority population (1.64% vs. 1.74%, respectively). This difference meets the 10% disparate impact threshold (1.91%). Thus, there is no potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis).

Table 12. Route 44 Disparate Impact and Disproportionate Burden Analysis (considered as a service decrease)

Route 44 - 44th Avenue									
September 2024 to January 2025 Service Change Analysis									
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population					
Route Service Area Impacted	33,234	18,850	40,321	10,989					
District Statistics	1,915,350	1,149,204	2,590,598	430,356					
District Total Base Population	3,0	064,553	3,02	20,954					
% of District Not Impacted	98.26%	98.36%	98.44%	97.45%					
% District Impacted	1.74%	1.64%	1.56%	2.55%					
Thresholds	Disparat	e Impact (DI)		onate Burden DB)					
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted					
of % District Impacted Population	1.91%	1.64%	1.71%	2.55%					

The decrease of service on this service would impact access to:

- 55,954 jobs
 - 21.6% low-to-medium wage jobs, which is below the RTD District average (38.8%)
 - 12.6% jobs held by minorities, which is below the RTD District average (13.8%)
 - o 14.7% jobs held by Hispanic/Latino workers, which is below the RTD District average (18.3%)
- 88 retail/convenience stores
- 41 human and social services centers
- 15 colleges, middle schools and elementary schools

New 1E/44 Art District Connector Route

Proposal: Eastern portion of the Route 1 and Route 44 combined, connecting the Baker and Five Points neighborhoods from Alameda Station to 40th/Colorado Station; the western portions of the Routes 1 (Lakewood Commons to Civic Center Station) and 44 (Wheatridge-Ward Station to Civic Center Station) retained into downtown Denver, with the new merged routing renamed as the ART Connector, as described in the RTD Board-approved Systems Optimization Plan. Under current policy, this change is not considered a Major Service Change.

As shown in **Table 13**, a higher percentage of the district's low-income population stands to benefit from the proposed merger as compared to the non-low-income population (2.02% vs. 0.90%, respectively). This difference does not meet the 10% disproportionate burden threshold (0.81%). Therefore, no potential route-level disproportionate burden is found. Additionally, a higher percentage of the district's minority population benefits from the proposed merger as compared to the non-minority population (1.31% vs. 0.92%, respectively). This difference does not meet the 10% disparate impact threshold (0.83%). Thus, there is no potential disparate impact found at the route level requiring further examination (i.e., access to key public service destinations, community engagement and network level analysis), and the creation of the 1E/44 helps maintain service availability following the truncation of the Routes 1 and 44.

Table 13. New ART Connector Route 1-44 Disparate Impact and Disproportionate Burden Analysis

New ART Connector Route 1-44 Alameda Stn to 40th & Colorado Stn via Downtown								
September 2024 to January 2025 Service Change Analysis								
	Non- Minority Population	Minority Population	Non-Low- Income Population	Low-Income Population				
Route Service Area Impacted	17,620	14,998	23,225	8,683				
District Statistics	1,915,350	1,149,204	2,590,598	430,356				
District Total Base Population	3,0	064,553	3,020,954					
% of District Not Impacted	99.08%	98.69%	99.10%	97.98%				
% District Impacted	0.92%	1.31%	0.90%	2.02%				
Thresholds	Disparat	e Impact (DI)		onate Burden DB)				
DI & DB Thresholds are 90% for service increases and 110% for service decreases	DI Threshold	Min Pop Impacted	DB Threshold	L-I Pop Impacted				
of % District Impacted Population	0.83%	1.31%	0.81%	2.02%				

The merging of these routes would maintain (and increase) access to:

- 90,675 jobs
 - o 23.5% low-to-medium wage jobs, which is below the RTD District average (38.8%)
 - o 13.5% jobs held by minorities, which is below the RTD District average (13.8%)
 - o 16.9% jobs held by Hispanic/Latino workers, which is below the RTD District average (18.3%)
- 148 retail/convenience stores
- 67 human and social services centers
- 27 colleges, 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 routeand 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 are 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 407 weekday revenue hours and 541 weekend hours
- Of the nearly 320,000 people served by stops within the service area with major service changes, equity
 populations represented a higher share of population compared to district averages. Of this total, over
 55,000 people with low incomes and nearly 122,000 people in minority communities would receive service
 improvements.

• At the systemwide level, equity routes and non-equity routes² were compared only for those with major service changes. All bus routes serve higher than average low-income populations. Of the eight bus routes with major service changes, three serve higher than average minority populations.

In review of the proposed major service changes at the <u>systemwide level</u>, there are no potential disparate impact or disproportionate burden findings.

An analysis was conducted of all district block groups and their service levels to establish the baseline equity thresholds for low-income and minority populations and to determine the systemwide magnitude of impacts of the **September 2024** to **January 2025** service changes. 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 non-low-income and non-minority block groups are referred to as "non-equity" block groups.

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.³ Using the 2018-2022 Five-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.⁴ The thresholds summarized in **Table 14** 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 14. District averages; NTD 2023; ACS 2018-2022 Five-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 15** summarizes the change in service for total block group populations

² Based on existence of the route within the May 2024 network and the population within a quarter mile of bus stops or rail stations. 2018-2022 Five-Year ACS estimates were used for population identification.

³ Some block groups are not completely contained within district boundaries due to differences in boundaries between the District and Census-defined geographies.

⁴ 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 in a particular block group.

underlying the bus stops with proposed major service increases (excluding the route merger) proportionally compared to population in the District. There are no proposed major service decreases. The comparison reviews 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 **January 2025** service change; changes to D, E and H Lines are temporary changes.

Table 15. Systemwide disparate impact and disproportionate burden equity analysis summary for all major service increases (excludes Routes 1, 44)

Systemwide Disparate Impact a	nd Disproportion Non-Minority	nate Impact Ana Minority	lysis: All Increas	Low-Income		
	Population	Population	Income Population	Population Population		
Impacted Block Group Population	197,709	121,939	256,146	55,102		
District Population	1,915,350	1,915,350 1,149,204 2,590,598		430,356		
District Total	3,064	1,553	3,02	3,020,954		
% District Population Not Impacted	89.68%	89.39%	90.11%	87.20%		
% District Population Impacted	10.32%	10.61%	9.89%	12.80%		
Thresholds	Disparato (D	e Impact I)	· ·	onate Burden OB)		
DI & DB thresholds are 90% for	DI	Minority Pop	DB	Low Inc. Pop		
service increases & 110% for	Threshold	Impacted	Threshold	Impacted		
service decreases	9.29%	10.61%	8.90%	12.80%		

For system-level service increases (excluding population affected by the merger of Routes 1 and 44), **minority populations stand to benefit more than non-minority populations** (10.61% vs. 10.32% respectively). This difference does not meet the disparate impact threshold of 9.29%. Therefore, no system-level disparate impact finding is found with the proposed major service increases. **Low-income populations stand to benefit more than non-low-income populations** (12.8% vs. 9.89%, respectively). The difference does not meet the 10% disproportionate burden threshold of 8.9%. 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 services with major service changes (orange). Compared to the District overall, Routes 35, 49, 139 serve minority populations higher than the District average.

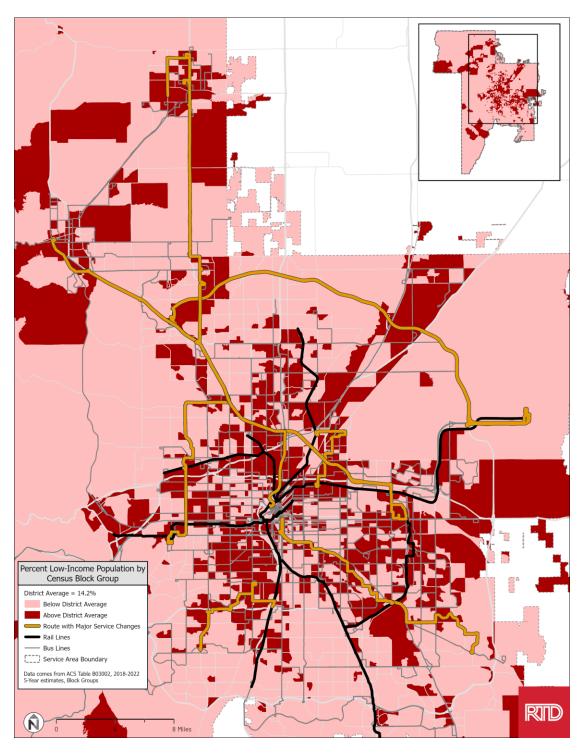


Figure 1. Block groups with above-average low-income population and routes with major service changes;
US Census Bureau 2018-2022 5-Year Estimates

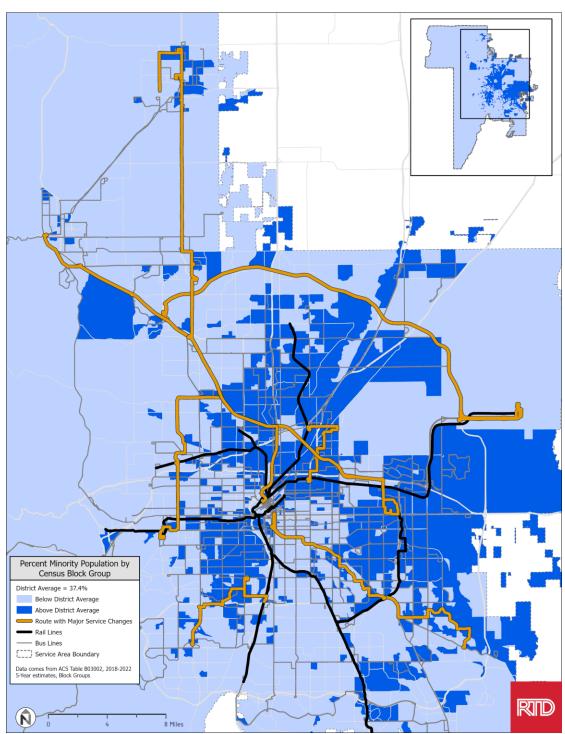


Figure 2. District block groups with above-average minority population and routes with major service changes;
US Census Bureau 2018-2022 5-Year Estimates

Major service changes from **September 2024** to **January 2025** are captured in **Figure 3**. This map provides a generalized view of where service is changing at the route pattern level. The current bus network is shown with the change in weekday service levels colored according to the percentage change in weekday service hours. All other bus routes, shown in gray, are proposed to undergo minimal (e.g., schedule adjustments, minor realignments) or no service changes in **January 2025**.

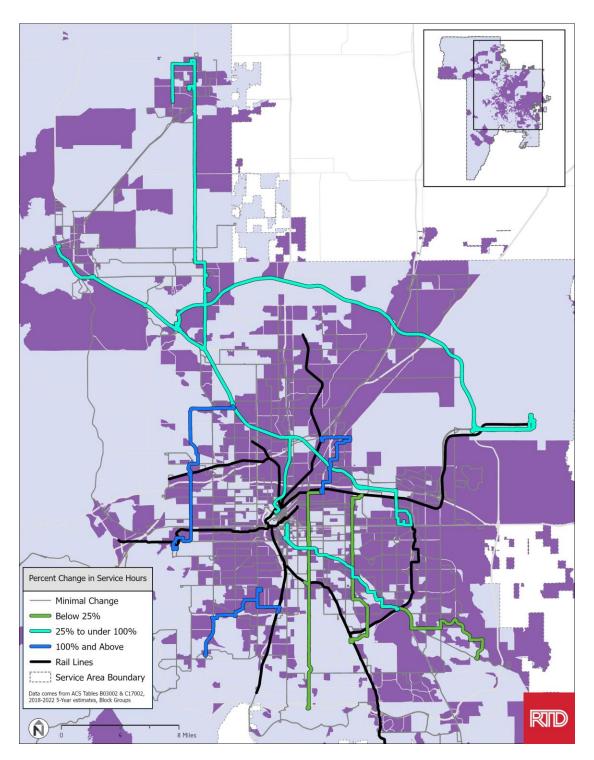


Figure 3. Depiction of route changes by percent change in weekday service hours

Summary of Findings

The systemwide service modifications proposed between **September 2024** and **January 2025** include schedule improvements, expansions of service spans, alignment changes, and additional trips on regional routes. Eight major service changes include those for Routes 35, 49, 83D, 100, 139, AB1, FF5, and LD1.

Route-level Findings:

- Of the 27 total services with proposed changes, taken individually, **4 had potential DI or DB findings.**
- **Route 100 has a potential disparate impact** finding due to minority populations receiving 0.42% less benefit than non-minority populations. Low-income populations receive 0.03% more benefit than non-low-income populations.
- **Route 139 has a potential disproportionate burden** finding due to low-income populations receiving 0.18% less benefit than non-low-income populations. Minority populations receive 0.18% more benefit than non-minority populations.
- Route AB1 has a potential disparate impact finding due to minority populations receiving 0.39% less benefit than non-minority populations. Low-income populations receive 1.09% more benefit than non-low-income populations.
- **Route LD1 has a potential disparate impact** finding due to minority populations receiving 0.21% less benefit than non-minority populations. Low-income populations receive 0.05% more benefit than non-low-income populations.
- Additionally, while not considered major service changes, the truncation of the Route 1 impacts equity (i.e., minority and low-income) populations more than non-equity (i.e., non-minority and non-low-income) populations. Minority populations are impacted 0.53% more than non-minority populations. Additionally, low-income populations are impacted 1.01% more than non-low-income populations. Truncation of the Route 44 also has a potential disproportionate burden finding due to low-income populations being impacted 1.0% more than non-low-income populations (whereas populations are impacted 0.09% less than non-minority populations). On the other hand, the merger of segments from Routes 1 and 44 into the 1E/44 Art District Connector had no potential findings and will maintain service availability to the truncated portions of the Routes 1 and 44.

Table 16 summarizes major service changes by change type, provides findings of potential disparate impacts and disproportionate burdens based on a comparative difference analysis, and it provides the individual route service change.

Table 16. Summary of major service changes by change type and impact

Service		Potential	Potential	Service Change Percent					
Change Type	Route	Disparate Impact?	Disproportionate Burden?	Weekend	Saturday	Sunday			
Increase	Route 35	No	No	156%	156%	278%			
	Route 49	No	No	121%	0%	0%			
	Route 83D	No	No	30%	0%	0%			
	Route 100	Yes	No	139%	8%	0%			
	Route 139	No	Yes	14%	23%	26%			
	Route AB1	Yes	No	31%	31%	30%			
	Route FF5 No No		No	39%	0%	0%			
	Route LD1	Yes	No	61%	0%	0%			

Systemwide-level Findings:

- Routes 35, 49, 83D, 100, 139, AB1, FF5, and LD1 comprise the January 2025 runboard's major service changes.
- Almost 320,000 people live within a quarter mile of bus stops on routes with major service increases. Both minority and low-income populations are represented at higher shares of the population than district averages (38.2% and 17.7%, respectively). Low-income populations received a slightly higher benefit (were more positively impacted) compared to non-low-income populations. Low-income areas benefited 2.92% more compared to non-low-income areas. Minority populations received a higher benefit (were more positively impacted) compared to non-minority populations. Minority areas benefited 0.29% more compared to non-minority areas.

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.

Title VI concerns are minimal with the proposed January 2025 service change proposal. Although three major service changes resulted in a potential disparate impact and one major service change resulted in a disproportionate burden at the route level, RTD recommends keeping the January 2025 service plan as proposed as there are no practical alternatives to avoid, minimize or mitigate the disparate impacts and disproportionate burden. As noted in the route-level findings, improving service on these routes (100, 139, AB1 and LD1) does not raise concerns of inequitable distribution of benefits given the minimal differences (0.42%, 0.18%, 0.39% and 0.21%, respectively) between the comparator groups.

Additionally, the network-level analysis provides holistic understanding of changes to service levels for Title VI-protected populations across the service area compared to the route level. The analysis revealed no network level findings. In fact, **both minority and low-income populations stand to benefit more at the network**

level from the major service changes than non-minority and non-low-income populations. All eight bus routes facing major service changes serve higher than average low-income populations, and three of the routes serve higher than average minority populations with only three improvements (specifically, to the Routes 100, AB1 and LD1) serving areas with relatively low minority populations as compared to non-minority populations.

Appendix A: Systemwide Service Changes

Change	Service Cha	inges
Туре	Route	Description
Seasonal Adjustment	205/205T	Tripper service added to address overloads on Route BOLT due to increase in Boulder High School usage.
(Service Increase)	208	School tripper service added to address overloads on the regular scheduled 7:51 a.m. westbound trip due to increase in Boulder High School usage
	42	Schedule adjustments due to changes on Route 45 since the routes are interlined (trips integrated)
	52	Schedule adjustments to improve on-time performance for all service days
Schedule Timing	65	Schedule adjustments to improve on-time performance for all service days
· · · · · · · · · · · · · · · · · · ·	76	Schedule adjustments to improve on-time performance on weekdays
	D	Schedule adjustments aimed at improving on-time performance on all service days
	1	As described in the SOP, service east of 17 th /18 th Streets truncated and rerouted to Civic Center Station via Broadway/Lincoln. The new routing would serve the current alignment between Lakewood Commons and 17 th /Stout
	15	Routing updated to reflect a current detour, which removes access to the stop at 13th Avenue/Lisbon Street, due to inability to reliably and in the safest manner, resume westbound operations after serving the stop. Service to 13 th Avenue-Lisbon Street bus stop will start as soon as the traffic signal is completed at Colfax Avenue/Picadilly Street
	35*	As described in the SOP, segment reinstated east of Englewood Station to Nine Mile Station primarily along Hampden Avenue
Route	44	As described the SOP, service east of 17 th /18 th Streets truncated and rerouted to Civic Center Station via Broadway/Lincoln. The new routing would serve the current alignment between Wheat Ridge/Ward Road Station and 17 th /California
Adjustment	ART Connector (1E/44)	Described in the SOP as the 1E/44, the eastern segments of the Route 1 and Route 44 would be combined into a new route service, connecting the Baker and Five Points neighborhoods from Alameda Station to 40 th /Colorado Station and thereby connecting the Santa Fe Arts District, the Denver Theatre District and the RiNo Arts District, inspiring the ART route name. The western portions of the Routes 1 (Lakewood Commons to Civic Center Station) and 44 (Wheat Ridge/Ward Station to Civic Center Station) would be retained at current service levels
	45	Routing update to reflect ongoing westbound detour related to left turn at unsignalized intersection from Ireland Street onto 56th Avenue. Buses will operate in a loop via Maxwell Place, right on Dunkirk Street, right on 56th Avenue and right on Ireland Street. Buses will serve the same stops on Ireland Street, Dunkirk Street and 56th Avenue in both directions. The original routing will be restored when a traffic signal is installed at the intersection

Change	Service Ch	anges
Туре	Route	Description
Service Increase	24	Consistent with the SOP, service spans expanded to extend six hours later weekdays, commence one hour earlier Saturdays, and extend three hours later Saturdays and Sundays
	49*	Daily service frequency increased to 30 minutes throughout the service day; expand service span weekdays to 11 p.m. and to 5 a.m. – 11 p.m. Saturdays, and 6 a.m. – 8 p.m. Sundays
	73	Consistent with the SOP, service spans expanded to commence 90 minutes earlier and extend two hours later weekdays and commence 90 minutes earlier and extend one hour later Saturdays and Sundays
	83D*	Weekday midday and evening service frequency increased to 30 minutes
	100*	Service frequency increased between Federal Center Station (W Line) and Arvada Ridge Station (G Line), with routing primarily along Kipling Boulevard
	139*	Consistent with the SOP, service spans expanded to commence two hours earlier and extend four hours later weekdays and to commence one hour earlier and extend three hours later Saturdays and Sundays
	AB*	Consistent with the SOP, AB service levels reinstated at 30-minute peak period frequency and 60-minute mid-day frequency on weekdays, Saturdays and Sundays; modified Route AB2 pattern also reinstated between Downtown Boulder Station and Denver International Airport during morning and afternoon/evening peaks, weekdays, and Saturdays. Routing would be via Canyon Boulevard, 28th Street, US 36•Table Mesa Station, to regular routing along US 36 and C-470 to Denver International Airport. This modified pattern would replace the former AB2 while Boulder Junction @ Depot Square Station remains closed.
	FF5*	Consistent with the SOP, trips added eastbound trips from Downtown Boulder Station to Anschutz Medical Center would be added at 3:02 p.m. and 4:02pm. which would interline with current westbound trip at 5:15 p.m. on weekdays; also schedule adjustments shifting 2:30 and 2:45 p.m. Route FF5 trips.
	LD1*	Two morning and two afternoon/evening peak trips added from Bross St/8th Ave to Denver Union Station in each direction
	E	15-minute service frequency reinstated between RidgeGate Station and Denver Union Station
	Н	15-minute frequency reinstated between Florida Station and the Downtown Denver Loop
	NBFX	Boundary expansion of the North Broomfield FlexRide to include a new area situated between the streets of Midway Boulevard to the south, Zuni Street to the east, and Main Street to the west. This expansion will also include the Walmart located at 200 West 136th Ave, as well as a small section near Outlook Bluff
	ILFX	Boundary expansion of the Interlocken FlexRide to include a new affordable housing development located to the northwest of the intersection of US 36 and Northwest Parkway.

^{*}Major service change



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

Route 35
Extension of alignment from Englewood Station to Nine Mile Station via Hampden Avenue

	Employment	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Existing Service	Existing access to an estimated 13,454 jobs	98	8	5	8	6	3	2	58	8
	Low/Medium Wage Jobs* 39%									
	Jobs Held by Workers of Color* 13% 14%									
	Jobs Held by Hispanic/Latino Workers* 23% 18%									
	■ Route 35 ■ District									
Improved Access	Improvement in access to an estimated 16,117 jobs	163	34	9	5	2	0	8	94	11
	Low/Medium Wage Jobs 39%									
	Jobs Held by Workers of Color 14%									
	Jobs Held by Hispanic/Latino Workers 18% 18%									
	■ Route 35 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route 49

	Em	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores	
Improved Access	Improvement in access to an estimated 8,856 jobs		58	8	1	4	1	2	1	32	9
	Low/Medium Wage Jobs	40% 39%									
	Jobs Held by Workers of Color	15% 14%									
	Jobs Held by Hispanic/Latino Workers	18%									
	■ Route 49	■ Route 49 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route 83D

	Employment	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Improved Access	Improvement in access to an estimated 69,649 jobs	290	85	7	5	3	4	10	158	18
	Low/Medium Wage Jobs 34% 39%									
	Jobs Held by Workers of Color									
	Jobs Held by Hispanic/Latino Workers 18% 18%									
	■ Route 83D ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route 100

	Employment		Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Improved Access	Improvement in access to	an estimated 15,864 jobs	124	27	7	5	3	1	3	69	9
	Low/Medium Wage Jobs	43% 39%									
	Jobs Held by Workers of Color	12% 14%									
	Jobs Held by Hispanic/Latino Workers	18% 18%									
	■ Route 100	0 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route 139

	Employment		Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges		Convenience Stores
Improved Access	Improvement in access to	Improvement in access to an estimated 2,953 jobs		7	6	3	2	1	1	23	6
	Low/Medium Wage Jobs	39%									
	Jobs Held by Workers of Color	19% 14%									
	Jobs Held by Hispanic/Latino Workers	19% 18%									
	■ Route 13	9 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route AB1

	Employment		Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges		Convenience Stores
Improved Access	Improvement in access to	an estimated 10,571 jobs	117	14	0	2	2	2	3	88	6
	Low/Medium Wage Jobs	32%									
	Jobs Held by Workers of Color	11%									
	Jobs Held by Hispanic/Latino Workers	11%									
	■ Route AB	1 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route FF5

	Employment		Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Improved Access	Improvement in access to	an estimated 21,980 jobs	139	22	3	3	2	2	5	94	8
	Low/Medium Wage Jobs	32%									
	Jobs Held by Workers of Color	14% 14%									
	Jobs Held by Hispanic/Latino Workers	14%									
	■ Route FF:	5 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route LD1

	Employment	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Improved Access	Improvement in access to an estimated 33,589 jobs	258	59	1	11	6	6	5	153	17
	Low/Medium Wage Jobs 32% 39%									
	Jobs Held by Workers of Color 11%									
	Jobs Held by Hispanic/Latino Workers 15% 18%									
	■ Route LD1 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route 1

Reduction in service

	Em	ployment	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Existing Access	Existing access to an estimated 109,428 jobs		319	66	5	8	5	5	11	194	25
	Low/Medium Wage Jobs	23%									
	Jobs Held by Workers of Color	13% 14%									
	Jobs Held by Hispanic/Latino Workers	16% 18%									
	■ Route 1	■ District Average									
Reduced Access	Reduction in access to an	estimated 22,469 jobs	81	25	0	3	4	4	1	36	8
	Low/Medium Wage Jobs	31%									
	Jobs Held by Workers of Color	15% 14%									
	Jobs Held by Hispanic/Latino Workers	22% 18%									
	■ Route 1	■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route 44

Reduction in service

	Employment	Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Existing Access	Existing access to an estimated 112,640 jobs	327	70	6	13	8	8	14	188	20
	Low/Medium Wage Jobs 22% 39%									
	Jobs Held by Workers of Color									
	Jobs Held by Hispanic/Latino Workers 14% 18%									
	■ Route 44 ■ District Average									
Reduced Access	Reduction in access to an estimated 55,954 jobs	144	41	0	5	1	2	7	80	8
	Low/Medium Wage Jobs 22% 39%									
	Jobs Held by Workers of Color 13% 14%									
	Jobs Held by Hispanic/Latino Workers 15% 18%									
	■ Route 44 ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.

Route 1E/44 (Art District Connector, merger of Routes 1 and 44 segments)

Improved service

	Employment		Total POI	Social Services	Senior Housing & Facilities	Elementary Schools	Middle Schools	High Schools	Colleges	Retail (Includes Grocery)	Convenience Stores
Improved Access	Improvement in access to	an estimated 90,675 jobs	242	67	0	8	5	6	8	128	20
	Low/Medium Wage Jobs	24%									
	Jobs Held by Workers of Color	14% 14%									
	Jobs Held by Hispanic/Latino Workers	17% 18%									
	■ ART Connec	■ ART Connector ■ District Average									

^{*} Low/Medium wage jobs defined as having earnings of under \$3,333 per month, or \$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, 2021.