2021 Annual Service Equity Evaluation

April 2022

MetroTransit

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Introduction

In 2021, Metro Transit experienced continued impacts from the COVID-19 pandemic. Many of the original public health protections were lifted and traditional ridership patterns, which have been significantly disrupted by the pandemic, continued to evolve. Major drivers of service changes in 2021 included:

- Anticipated resumption of in-person school and reopening of more workplaces
- Limited operator availability due to industry-wide shortages
- Launch of METRO Orange Line and redesigned connecting local bus service

Metro Transit is committed to delivering transit service that supports the Metropolitan Council's Thrive Equity outcome. To improve transparency of service-related decisions, the agency has committed to producing an annual report assessing service equity. This annual report contains five main components:

- A description of service changes implemented throughout 2021
- A summary of ridership trends in 2021
- Results of the formal Title VI service equity analysis of 2021 service changes
- Metrics evaluating the equity of service availability, utility, and reliability
- Current equity practices in service design

2021 Service Changes

Phase I – January-August

Service levels established in late 2020 continued throughout much of 2021 until late August.

METRO Bus Rapid Transit lines and Local Bus

- METRO BRT lines and most local routes operated at 90-100% of pre-COVID weekday service levels to accommodate higher ridership levels and social distancing
- Adjustments on some routes were continued to compensate for ongoing commuter and express route suspensions

Commuter and Express Bus

- Limited service on some rush hour-only commuter and express routes continued
- All-day commuter service continued in the I-394 and I-35W corridors
- 51 routes remained suspended and three additional low-ridership routes were suspended

METRO Blue and Green lines

- Service operated every 10 minutes for most hours, seven days per week
- Hours of service were maintained from about 4:30 a.m. to 11 p.m.

Service on Northstar Commuter Rail continued to operate two a.m. inbound trips and two p.m. outbound trips each weekday, with no weekend service.

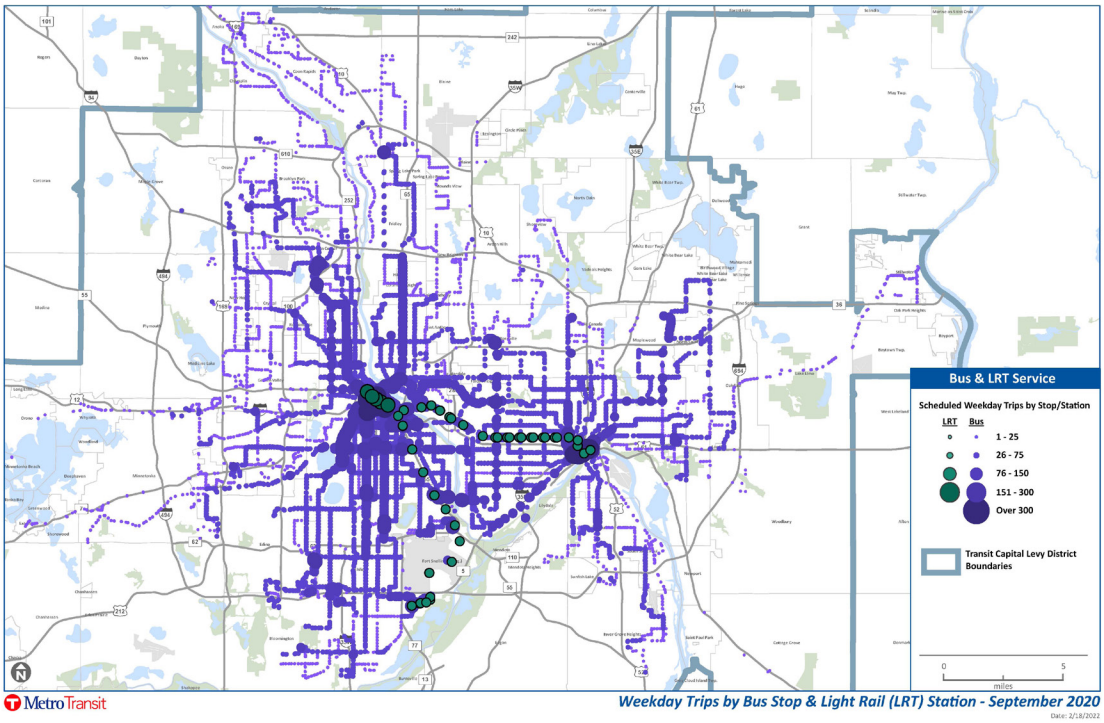

Figure 1 Weekday Trips by Bus Stop & Light Rail (LRT) Station – September 2020

A few notable service changes were implemented in early 2021:

- In March, the hours when 10-minute service was operated on METRO Blue and Green Lines were reduced on weekdays to match weekends
- In April, trips serving high school bell times resumed when Minneapolis and St. Paul schools returned to in-person learning
- In June, Route 63 was restructured and added to the High Frequency Network, and Route 323 was established. These changes were deferred from planned implementation in 2020.

Phase II – August-December

Metro Transit coordinated with regional employers, schools, and universities on plans for resuming more in-person learning and working in fall of 2021. Labor Day was seen as a likely turning point for transit demand. Metro Transit developed a package of improvements to meet the anticipated demand, including:

- Trips were added on commuter/express routes in key freeway corridors, part of a strategy to offer convenient commuter/express service at major Park & Ride locations
- Service was restored on select local and commuter/express routes, including University of Minnesota commuter routes
- On METRO Blue and Green Lines, the hours when 10-minute service is operated were expanded to include the morning rush hour
- As part of the Better Bus Routes program, Route 3 was extended to serve Minneapolis' North Loop. The portion of the route between Snelling Avenue and the North Loop was added to the High Frequency Network.

Phase III – late 2021

After pausing operator hiring in 2020 due to lower service levels, Metro Transit resumed its hiring efforts in early 2021. These efforts yielded limited success, and the shortage of operators emerged as a major challenge to service delivery in fall 2021. Hundreds of trips were being cut each day, resulting in unpredictable service for customers.

At the same time, Metro Transit was finalizing preparations for the launch of METRO Orange Line in December, for which the planned service required an increase in operators.

Metro Transit took aggressive steps to identify service reductions that could restore reliability to the system. Strategies included:

- Reducing frequencies on METRO Blue, Green and A lines to every 12 minutes
- Scaling back plans for METRO Orange Line and connecting bus service
- Reversing most of the commuter/express service improvements implemented in August
- Reducing weekday and/or Saturday frequencies on many local routes
- Suspending service on select local and commuter/express routes, focusing on:
    - Historically underperforming routes and/or
    - Routes with alternate service available

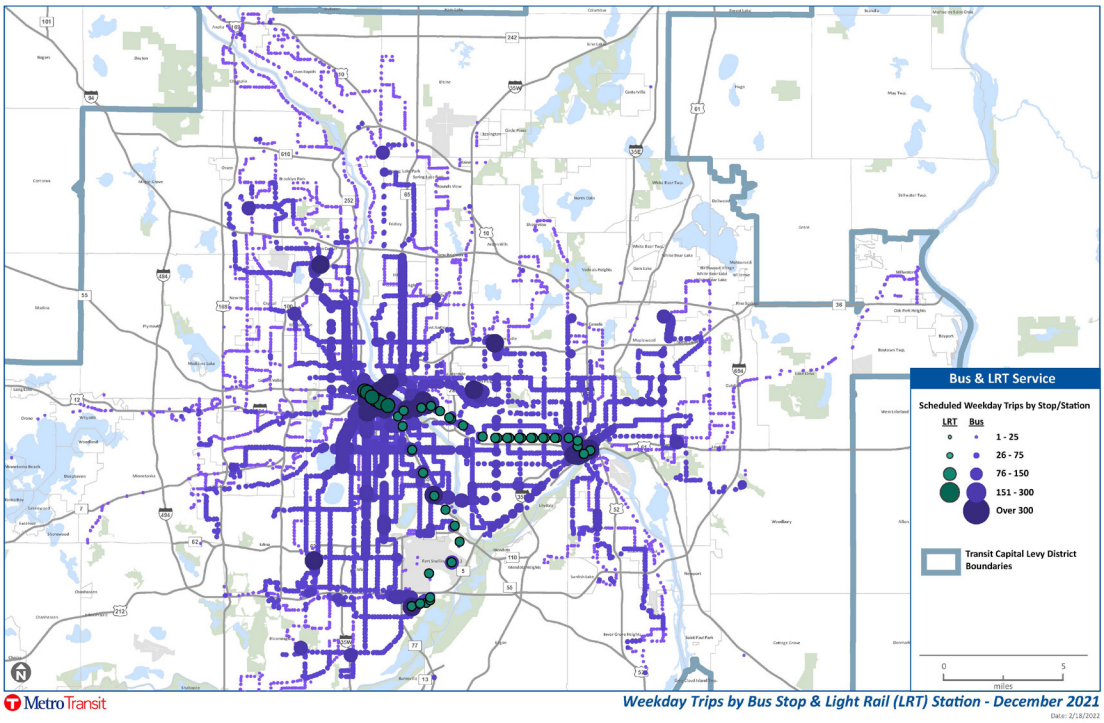

Figure 2 Weekday Trips by Bus Stop & Light Rail (LRT) Station – December 2021

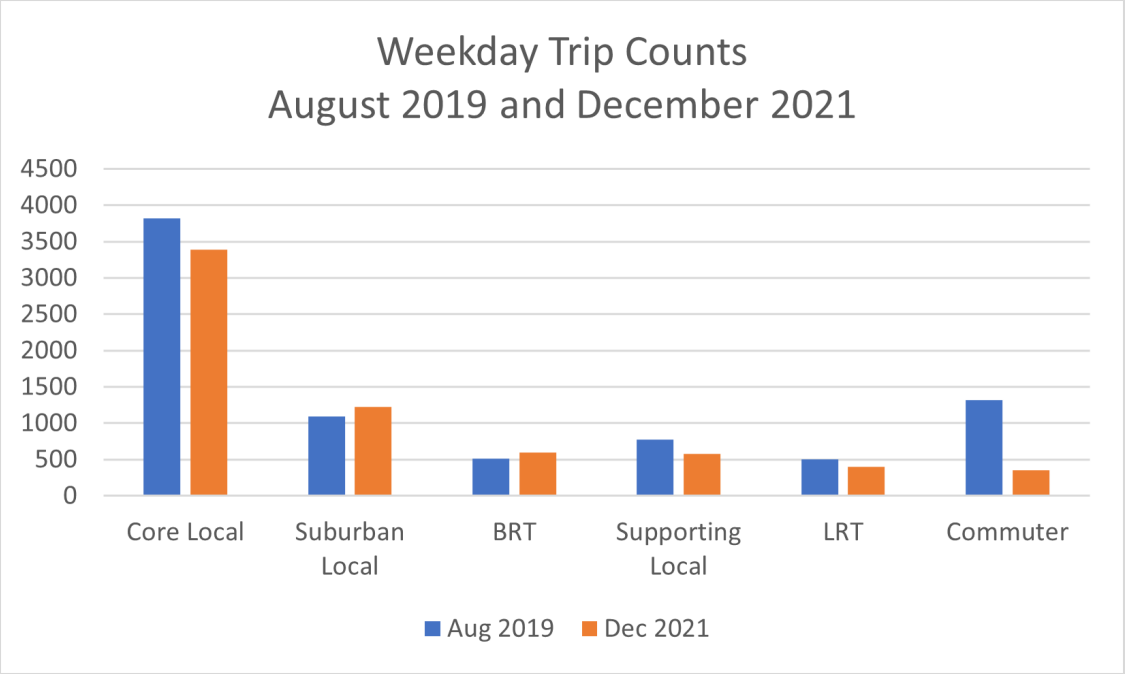

Figure 3 Weekday Trips by Route Classification, August 2019 and December 2021

- Overall, METRO BRT and suburban local routes have more trips than before the pandemic, primarily due to the launch of METRO Orange Line BRT and the restructuring of suburban branches of core local routes (i.e. Route 63 noted above)
- Trip counts for core local, LRT and supporting local routes reflect reductions made in late 2021
- Commuter service, which includes Northstar Commuter Rail and commuter/express bus trips, has stayed stable throughout the pandemic, except for a temporary increase in fall 2021.

Potential service changes in 2022 are highly dependent on Metro Transit's ability to hire enough operators to compensate for attrition and grow the workforce. Scheduled service was reduced in March 2022 in response to the ongoing operator shortage. The METRO D Line is planned to open in late 2022. Metro Transit will continue to monitor ridership market development trends for opportunities to reinvest in service.

Community Outreach

Metropolitan Council procedure 2-2e (Public Involvement in Transportation Service Changes and Restructuring) requires a public hearing when major service changes are proposed. Changes made during an emergency are exempt from this requirement. Most service level decisions throughout 2021 were made because of ongoing pandemic-related emergency conditions. Certain service changes did include a formal public outreach process:

- Orange Line Connecting Bus Study Recommended Plan
- Better Bus Routes – Route 63 / New Route 323
- Better Bus Routes – Route 3

For all service decisions, transit staff sought to reflect community needs in decision-making through the following channels:

- Consultation with school districts, colleges and universities, and business leaders on their COVID-19 response plans and anticipated needs
- Ongoing review of customer comments submitted throughout the pandemic
- Incorporation of priorities from the summer 2020 Listening and Learning through Crisis survey, including:
  - Ensure adequate capacity of service
  - Promote service reliability

2021 Ridership Trends and Distribution

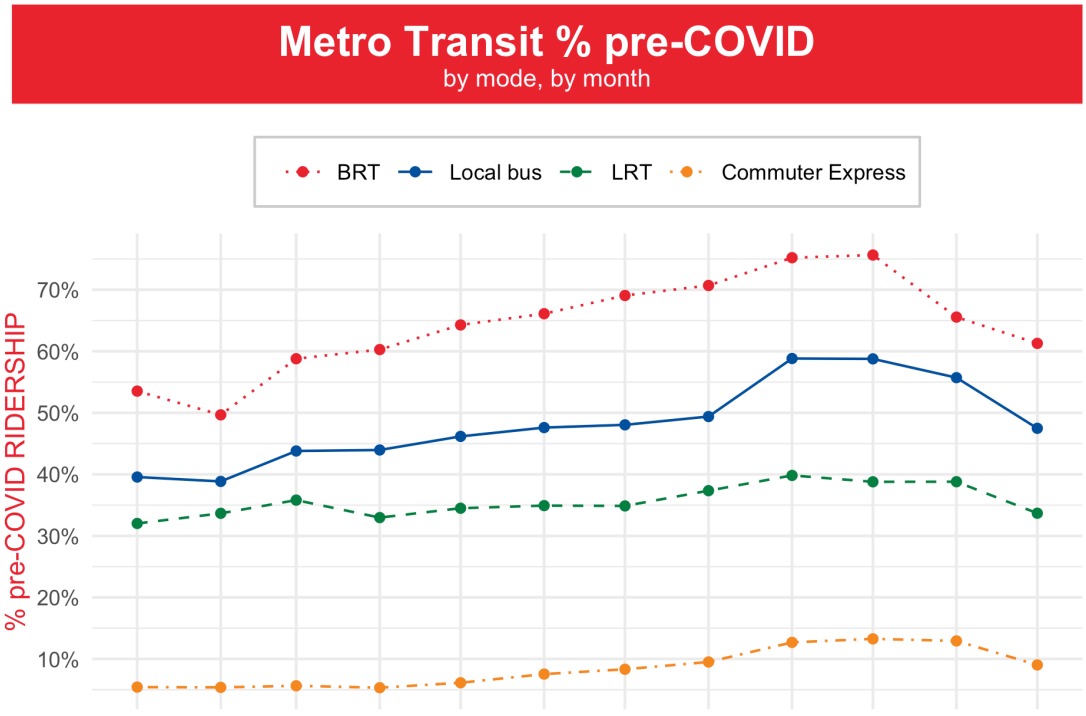

Figure 4 Ridership by Mode as Percentage of Pre-COVID Conditions

From early 2021 through summer, ridership on all modes trended slightly higher. In fall of 2021, ridership levels increased, with demand returning for high school and college/university trips. At the same time, Metro Transit added service and offered discounted fares and passes. As the year ended, ridership contracted, reflecting both annual seasonal trends and growing impacts of the COVID-19 Omicron variant on travel demand.

Throughout 2021, METRO BRT and local bus modes service had stronger ridership relative to pre-COVID levels, with BRT service reaching over 75% of pre-COVID ridership in the high-ridership months of September and October. These patterns reflect the current use of transit for a variety of trip purposes throughout the day.

Services oriented to "9-5" downtown commutes continued to have very low ridership in 2021 relative to pre-COVID levels. However, ridership did increase in fall of 2021 when some employers and schools returned to in-person activities.

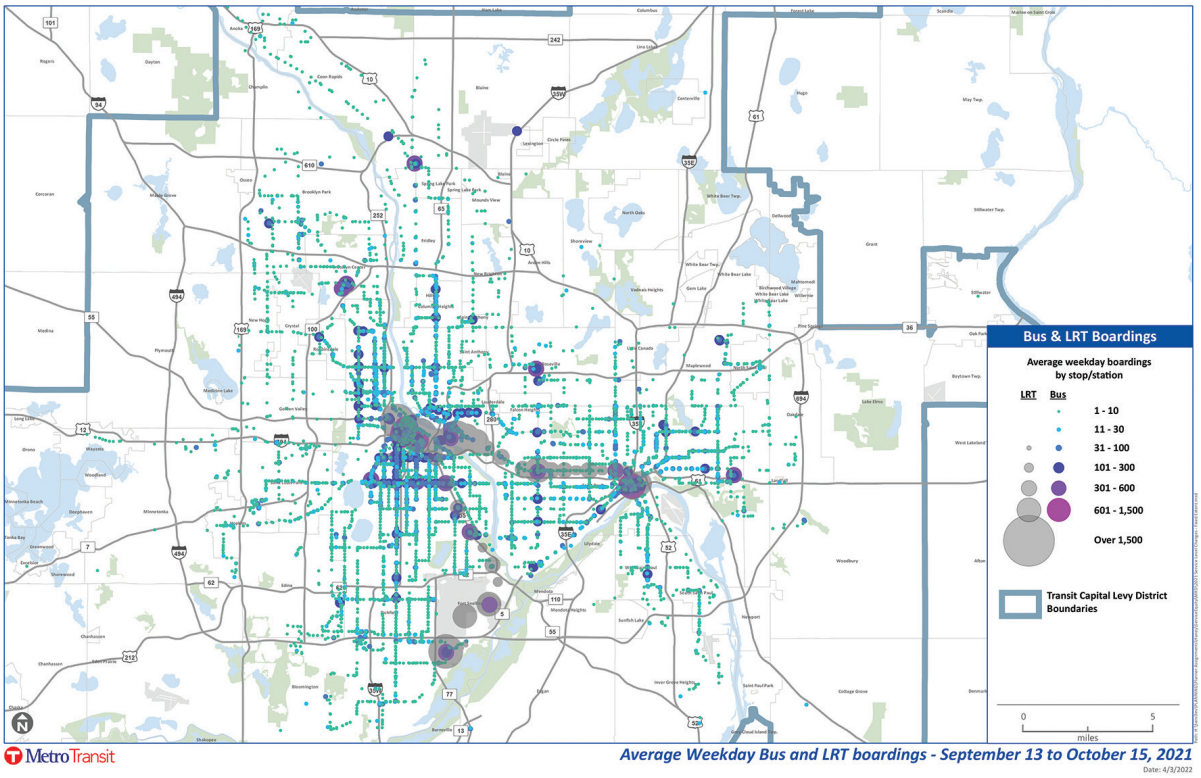

Figure 5 Average Weekday Bus and LRT Boardings by Stop, Fall 2021

As in 2020, ridership in 2021 continued to be concentrated in major local and METRO corridors and at regional destinations and transfer points.

Title VI Service Equity Analysis

The Federal Transit Administration (FTA) requires transit agencies to show that they are not discriminating against communities of color and lower-income groups when providing transit service. This analysis is known as a Title VI Service Equity Analysis (SEA). This document includes a brief summary of the methodology and results, and the full report is available on-line.

Metro Transit reviewed bus and rail service as of December 2021 to understand how service availability – or access to transit – has changed. December 2021 service was compared to September 2019 and September 2020, separately, to see the extent to which the impacts of those changes differ between Black, Native American, and people of color (BIPOC) and White non-Hispanic residents. The analysis also reviewed how service availability has changed between low-income and non-low-income residents. Per FTA guidance in their Title VI Circular, Metro Transit's Title VI work refers to all non-White, non-Hispanic persons as BIPOC rather than breaking down the analysis any further to separate out communities of color by specific race..

Framework for Evaluating Impacts

Metro Transit uses the percent change in access to transit service for the average resident to assess the impact of service changes. Put another way, we attempt to quantify how much bus or rail service is within a reasonable walk or roll from one's home, and how that has changed over time. The number of trips at each stop or station is a way to quantify the amount of transit service available in a given area and to the residents living within it. The average percent change in service for each population group (total population, BIPOC, White, low-income, and non-low-income) is then calculated by weighting the percent change in weekly scheduled trips for each area by the population residing within that area.

Following FTA guidelines. Metro Transit has set a threshold to determine when differences are significant enough to result in potential discrimination. There are two types of potential discrimination-the phrase "disparate impact" is used when analyzing impacts by race, while the term "disproportionate burden" references to differences based on income. As outlined in the Metropolitan Council's Title VI Program, Metro Transit defines its disparate impact and disproportionate burden thresholds using the "80% rule." This means there may be potential for discrimination if BIPOC or lower-income groups do not receive at least 80% of the benefits that White or more affluent populations receive. There is also a concern when White or higher-income groups do not bear at least 80% of the adverse effects that BIPOC or low-income communities experience.

Scenarios

This SEA explored the potential for discrimination resulting from the December 2021 service changes under two scenarios:

1. December 2021 compared to September 2019: Measuring changes in access to transit service between December 2021 and pre-COVID-19 service levels from September 2019.
2. December 2021 compared to September 2020: Measuring changes in access to transit service between December 2021 and September 2020, when schedules were adjusted in response to the pandemic and significant changes in travel needs and patterns.

Data

Figures 6 and 7 show the geographic distribution of BIPOC and White residents, and low-income and non-low-income residents, respectively, in areas served by Metro Transit bus or rail service.

These demographic data are then linked with the service data from December 2021, September 2020, and September 2019 to understand the extent to which the magnitude of service changes varied between different groups. Figures 8 and 9 show the change in weekly scheduled trips available in residential areas. These maps show the underlying variation in the direction (increase or decrease) and magnitude (small or large) of the service changes. Areas with no residents and places not served by fixed routes are not shown on the maps, as these do not affect the results.

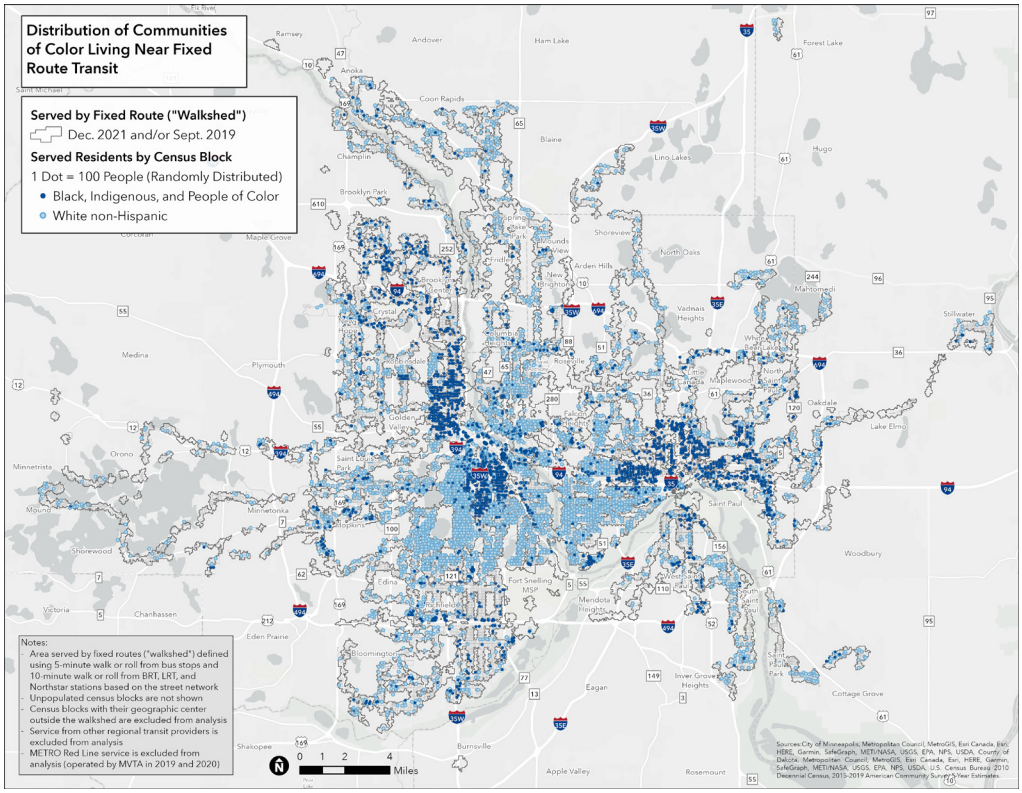

Figure 6. Residents Served by Metro Transit Fixed Routes: BIPOC and White

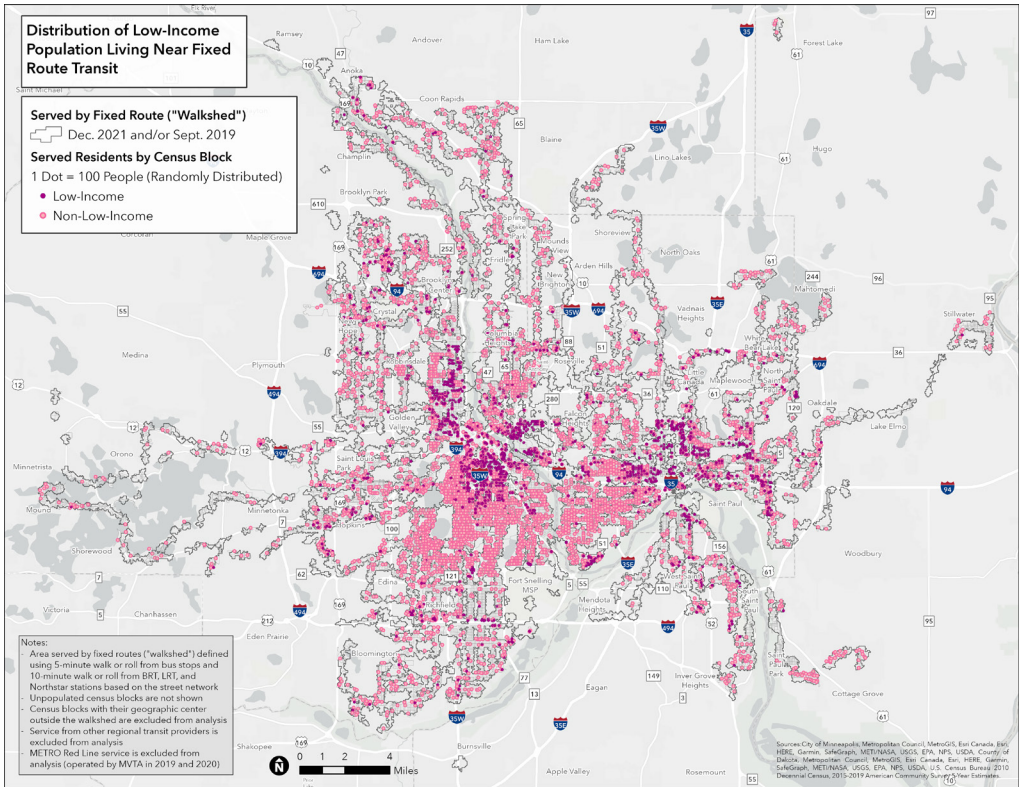

Figure 7. Residents Served by Metro Transit Fixed Routes: Low-Income and Non-Low-Income

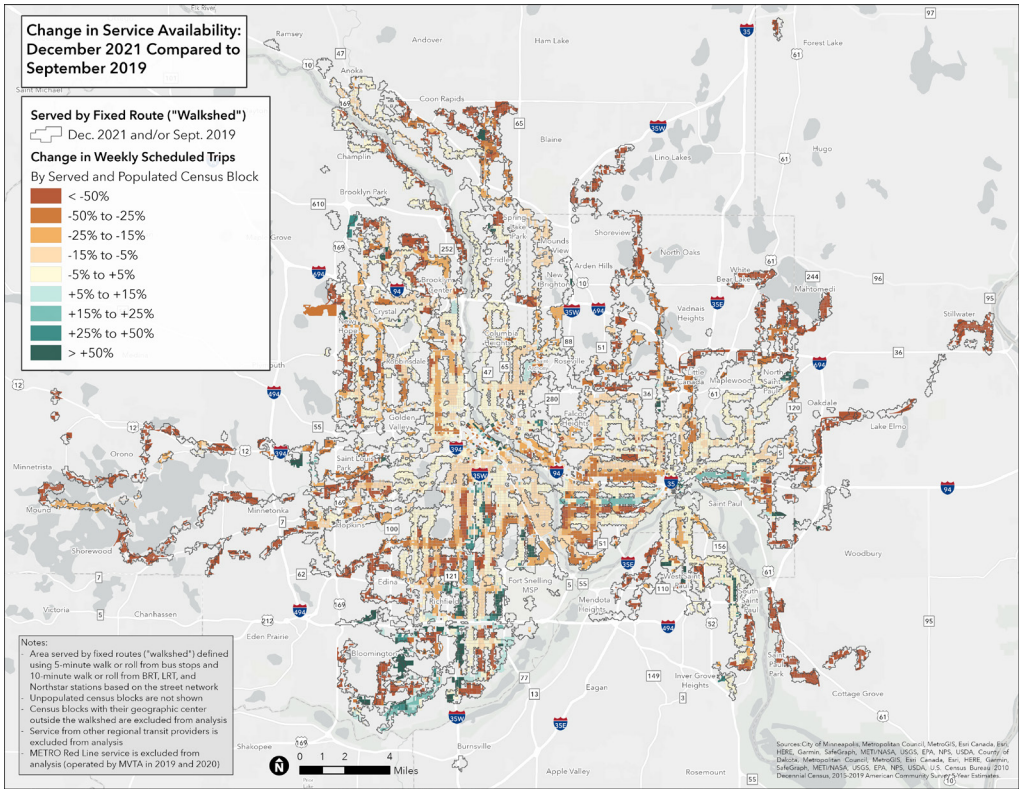

Figure 8. Percent Change in Service by Census Block: December 2021 compared to September 2019

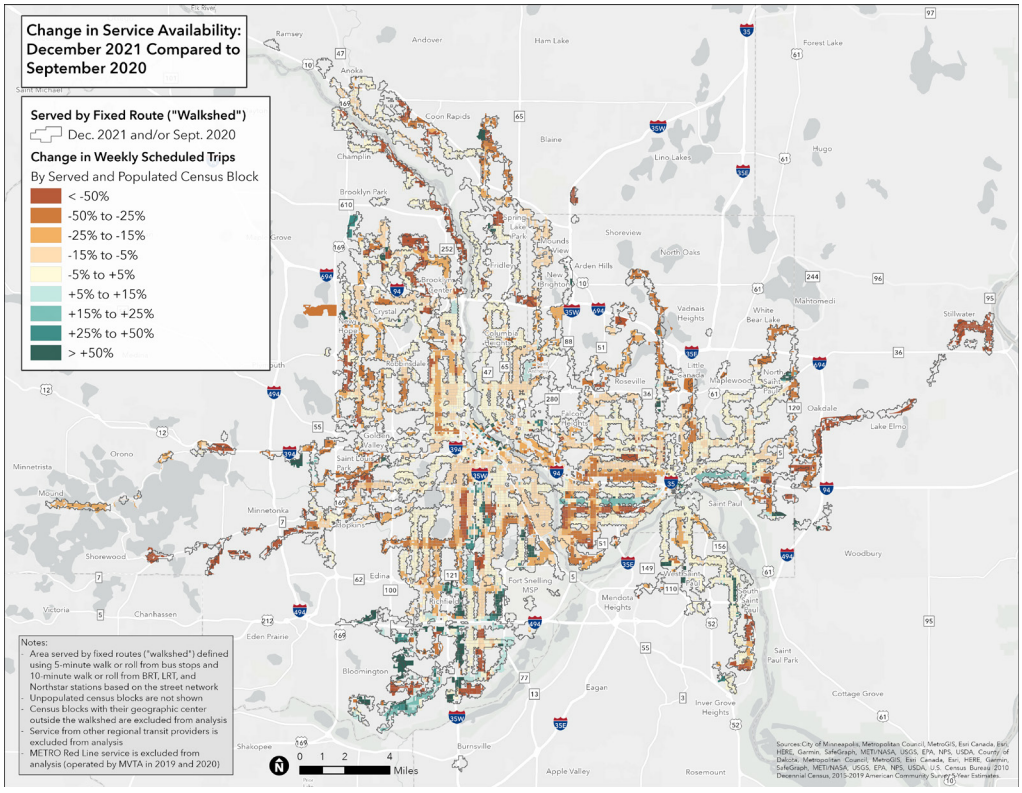

Figure 9. Percent Change in Service by Census Block: December 2021 Compared to September 2020

Results

1. December 2021 compared to September 2019

- The average resident served by Metro Transit experienced a 18.7% decrease in the number of weekly scheduled trips available near their home (Figure 10). The average White non-Hispanic resident experienced 48% greater service reduction than the average BIPOC resident (-21.4 vs. -14.5%) These results indicate no potential for discrimination because the service reductions for BIPOC residents were less than those for White residents.
- Similarly, the average non-low-income resident experienced 39% greater service reduction than the average low-income resident (-20.5% vs. -14.7%). These results indicate no potential for discrimination because the service reductions for low-income residents were less than those for more affluent residents.

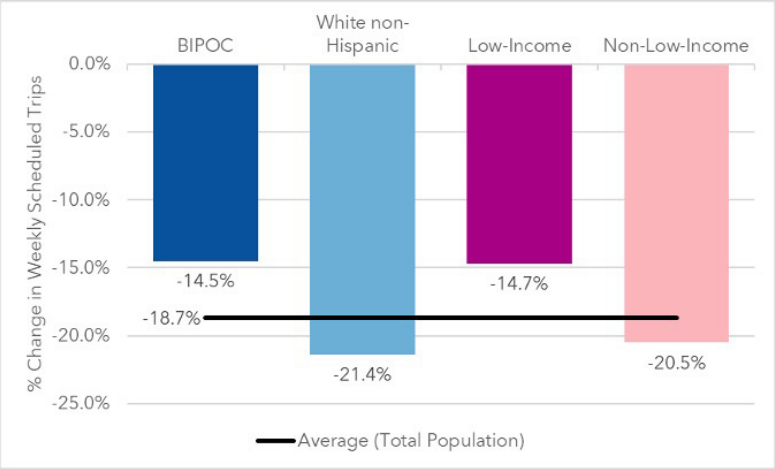

Figure 10. Average Percent Change in Access to Transit Service: December 2021 Compared to September 2019

2. December 2021 compared to September 2020

- The average resident served by Metro Transit experienced a 2.4% decrease in the number of weekly scheduled trips near their home (Figure 11). The average White non-Hispanic resident experienced a 75% greater service reduction than the average BIPOC resident (-2.8% vs. -1.6%), though the magnitude of change for both groups was relatively small. These results indicate no potential for discrimination because the service reductions for BIPOC residents were less than those for White residents.
- The average non-low-income resident experienced a 2.2% reduction in service, slightly less than that of the average low-income resident, who saw a 2.3% reduction. However, the reductions for the average non-low-income resident are at least 80% of those experienced by the average low-income resident, so there is no concern about discrimination.

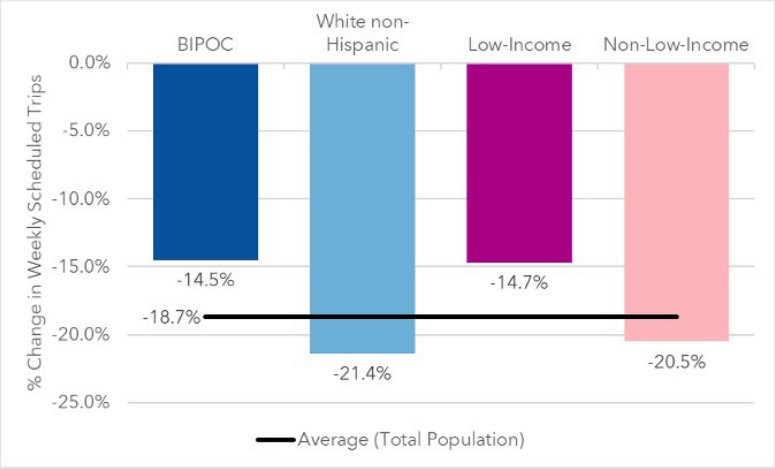

Figure 11. Average Percent Change in Access to Transit Service: December 2021 compared to September 2020

2021 Service Metrics, Disaggregated by Race

Service metrics help us understand how our community experiences our service at their stops. We measure who could benefit from the service we provide and the potential connections to opportunities. Reporting our performance, disaggregated by race, is one of the ways we demonstrate our commitment to transparency. This practice helps us identify areas where residents identifying as White may be experiencing higher quality service compared to residents identifying as Black, Native American, Asian, Hispanic, Other or Pacific Islander, or Multiple ethnicities in the U.S. Census survey programs.

A core set of metrics establish the foundation for historical review and transparency

Accessibility to jobs, the **count of scheduled trips, access to frequent service** and **service reliability** are measured every year using the same methodology and consistent data sources. We use these metrics to understand and communicate the amount of service we offer and the potential utility of the service. Our customers will only choose transit if it connects with destinations regularly and reliably.

Important milestones or context may require additional metrics to tell a more complete story

Significant workforce shortages and transit schedules that do not align with workforce resources have required us to cut scheduled trips, which threatens our community's ability to count on us for reliable transportation to their jobs, medical appointments, and social connections.

For 2021, we are introducing **cut trips and percent of service delivered** due to the workforce shortages that have made it difficult to fulfill our scheduled service, our promise to the customer.

In 2020 we included a **passenger crowding** metric because of the social distancing standards in place that attempted to limit the spread of COVID-19. We did not repeat that analysis because vaccines and masks were additional tools available that allowed us to drop the social distancing requirements in 2021.

Methodology is documented, repeatable and consistent over time

We use U.S. Census American Community Survey (ACS) demographic data (five-year rolling average) as our demographic data source and established service databases for our performance. We prioritize consistent methodology when reporting so we can review trends over time and ensure our work is repeatable. The methodology for disaggregating performance by race is described in the Appendix.

Service Availability

Count of scheduled trips is an indicator of how much service is available. Typically, residents living near a stop with a hundred trips available are more likely to ride transit compared to residents living near a stop with only a couple of trips available. Although transit supply does not equal transit ridership, it is the first requirement to build demand.

There is a slight decrease in the amount of service available at each active stop, but the patterns by racial groups remain stable over time. Residents identifying as Black or Native American on the ACS survey have more trips serving their nearby stop than residents identifying as White. Our region remains highly segregated and there is often a high demand for service in areas serving Black and American Indian residents. This measure does help describe who could potentially benefit from transit service, but it does not account for the utility of that service for the community.

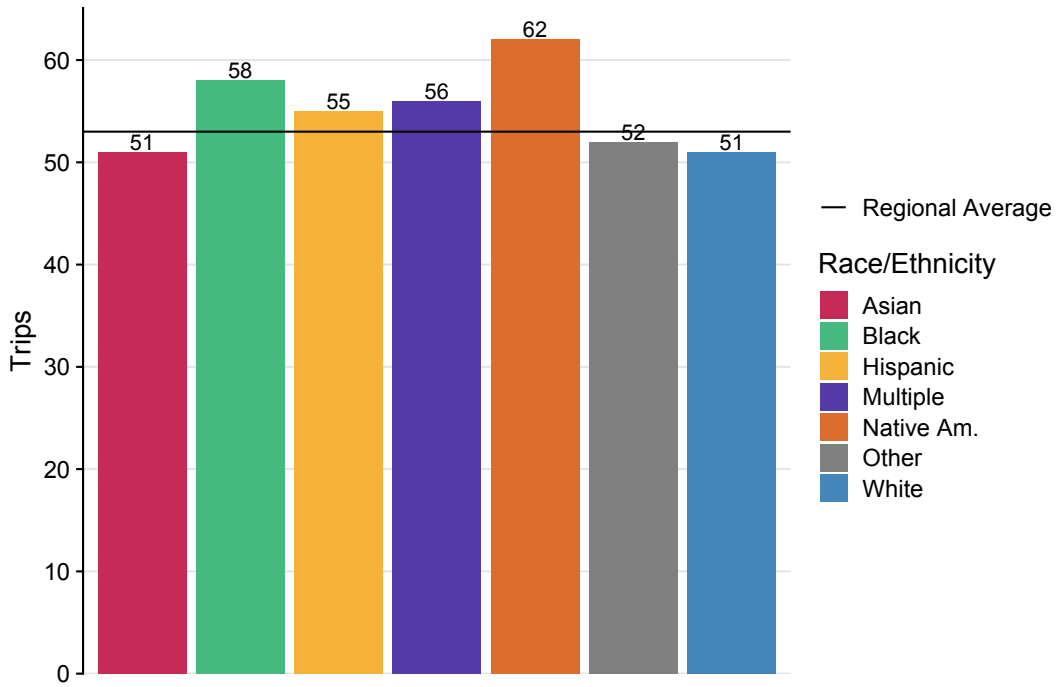

Figure 12 Average Number of Trips Available to the Population, Disaggregated by Race, Fall 2021

Service Utility

Access to frequent service (transit routes that serve stops at least 4 times per hour, on average, weekdays and Saturdays) is the proportion of the population that can walk to service that is reliable and frequent enough to support flexible and easy travel. When service becomes so frequent, our customers don't need to carefully plan around a transit schedule, the usefulness and probability that it can replace auto trips increases.

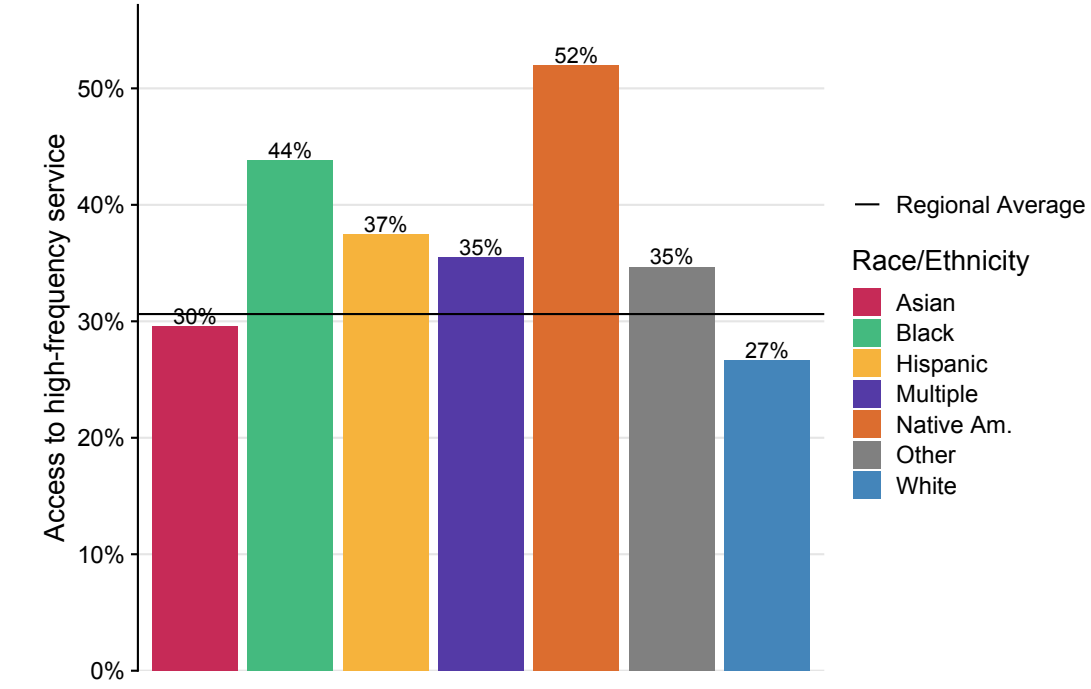

Figure 13 Percent of Population with Access to High-Frequency Service, Disaggregated by Race, Fall 2021

High-frequency service through racially segregated areas leads to significant differences in access to frequent service among racial groups. Residents identifying as Black or Native American on the ACS survey are more likely to be able to walk to a stop with service that could be described as reliable, frequent, and fast. High-frequency service decreases customer wait times and attracts more customers because residents are less dependent on a schedule and can rely on the idea that a 'bus or train will be coming soon.'

Job accessibility (jobs within a reasonable travel time) is an important proxy for the utility of transit. Transit is designed to connect community with opportunity – whether that is a job, education, health care, or social connections. Fortunately, job density is often a proxy for activity and community resources.

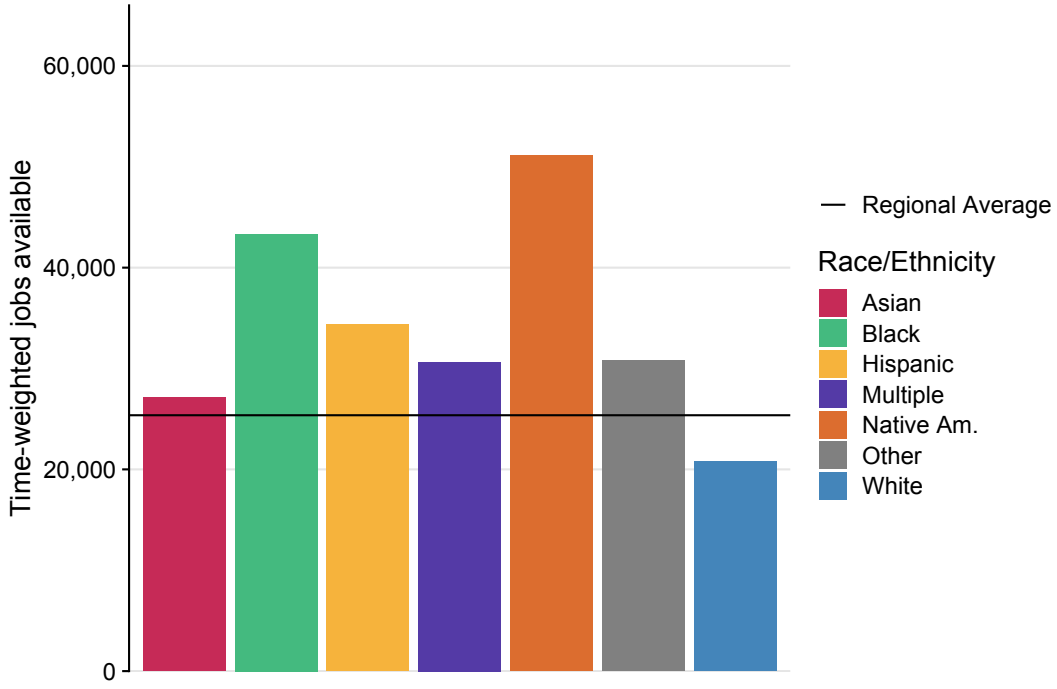

Figure 14 Weekday-Midday Access to Jobs by Race/Ethnicity for Fall 2021

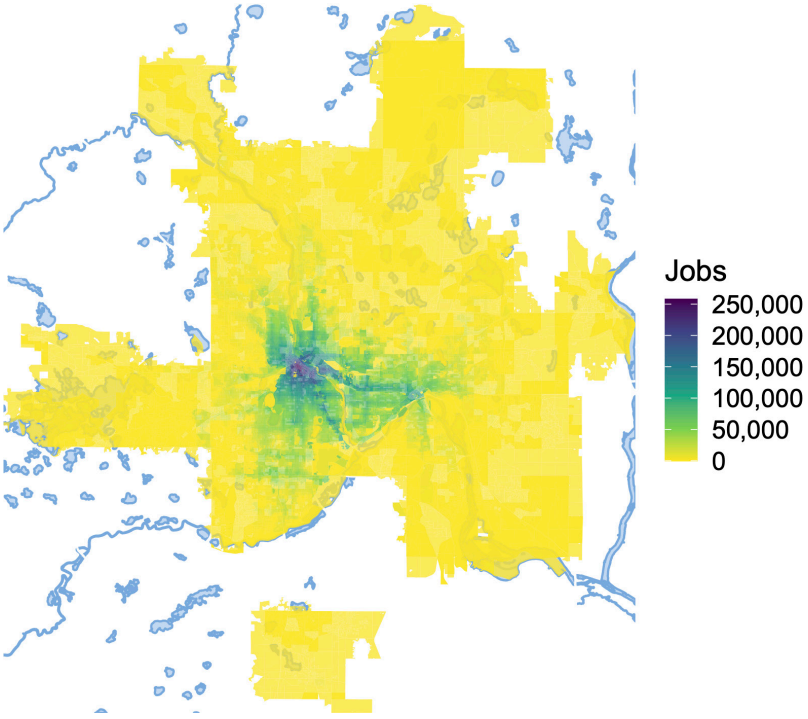

Figure 15 Weekday-Midday Access to Jobs for Metro Transit Service Area, Fall 2021

The concentration of jobs in the downtowns of St. Paul and Minneapolis combined with the transit network result in significant differences across the region with access to jobs via transit. Figure 15 (map) demonstrates that living near the downtowns and within walking distance of high-frequency transit network will provide the most access to jobs, a proxy for the residents' opportunities to connect to important destinations in the region. The differences among racial groups show similar patterns to 'access to frequent service' for similar reasons.

Service Reliability

Several metrics are used to understand our transit system's reliability; on-time performance, cut trips and the percent of scheduled service delivered.

On-time performance is the percent of times our vehicles depart the transit stop within five minutes of the transit schedule and is a common approach to estimating service reliability.

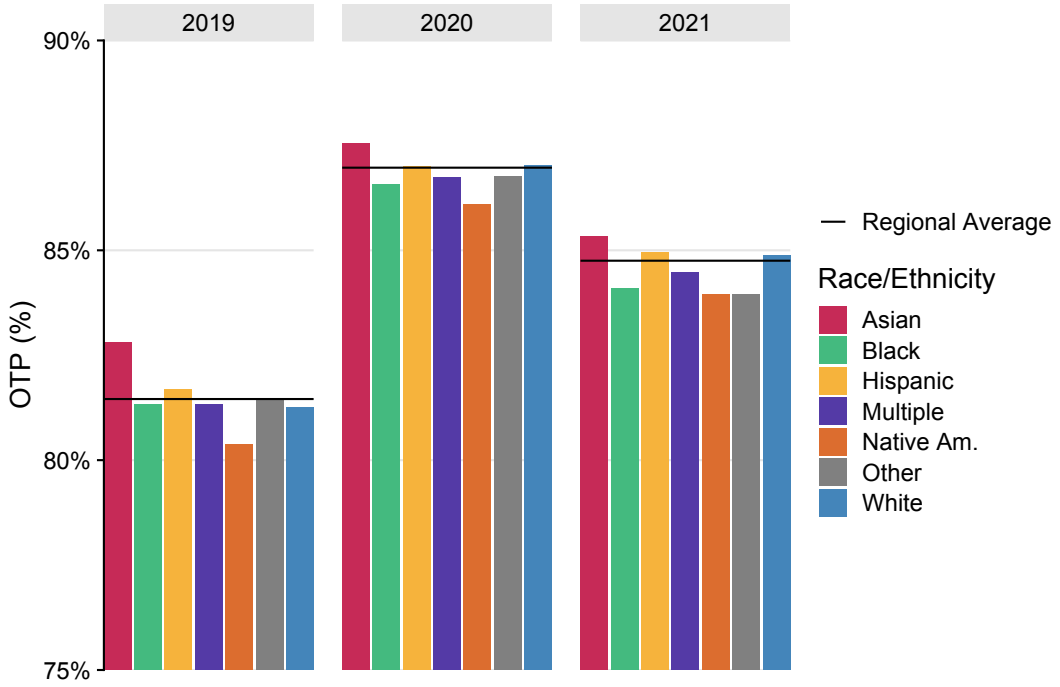

Figure 16 On-Time Performance of Service Near Residents, Disaggregated by Race (2019-2021)

Metro Transit service reliability is often related to traffic volumes and construction detours. The unprecedented increase in on-time performance in 2020 is associated with the drastic drop in vehicle travel and customers, resulting in more reliable trips. Navigating traffic and stopping to pick up customers increases the variability of travel times.

Trips and customers began to return in 2021 and construction detours caused recent on-time performance to look more like pre-pandemic levels. We also see more variation in on-time performance across racial groups with residents identifying as Black or Native American with the worst reliability, on average, across the entire system. Routes with the most scheduled stops have the largest impact on this metric; there are several high-frequency routes that became less reliable in 2022 and served stops with a higher proportion of BIPOC residents relative to the regional average.

Every **cut trip** means a bus or train did not show up at the scheduled time. This is the worst kind of unreliability and has a greater impact on our customers than a late bus or train. During Fall 2021, there were more than 100 trips cut, on average, for residents living near transit. Black and Native American residents were more likely to live near stops with cut trips compared to other racial groups (Figure 16). Similarly, the percent of service delivered (Figure 17) also varied among racial groups with Black residents seeing approximately 1 out of 40 trips near their home being cut. In comparison, 1 out of 51 trips were not served for the White residents, on average.

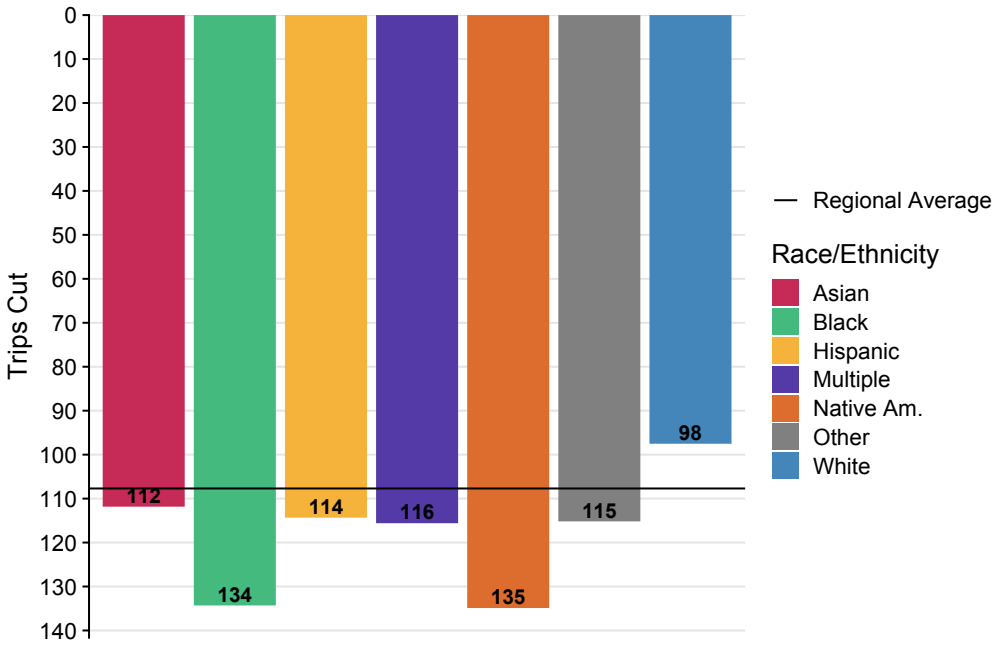

Figure 17 Cut Trip Count, Disaggregated by Race, Fall 2021

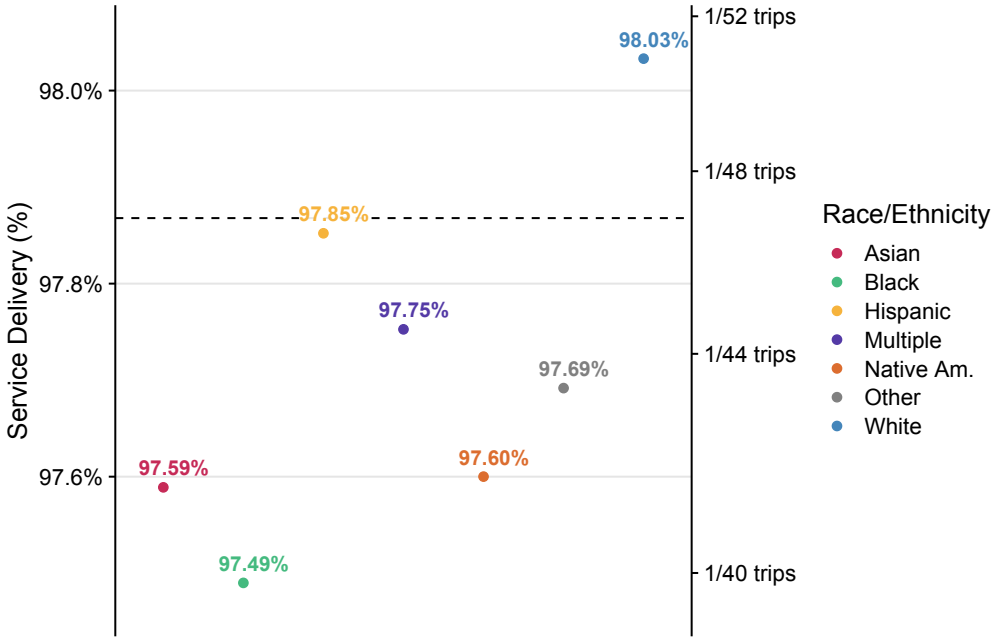

Figure 18 Percent of Service Delivered, Disaggregated by Race, Fall 2021

When there are not enough operators available to fill all work assignments, staff prioritize and coordinate assignments on the fly. Staff work to minimize trip cuts that would be more impactful, for instance, trips serving youth or routes with fewer alternatives. We know a cut trip typically means customers are waiting for a vehicle that never comes and that seeking an alternative costs money or causes significant delay. The practices in place are designed to minimize negative outcomes for our customers.

Although the percent of cut service is very small and the difference across racial groups is also small, the focus should be on eliminating cut service in every location. Metro Transit is right-sizing the schedules to the amount of operators available to significantly decrease the amount of service cut in 2022 to improve reliability. Prior to the pandemic and severe workforce shortages, cut trips were an anomaly and happened so infrequently it was not regularly reported. Our goal is for cut trips to be a highly unusual occurrence.

Current Equity Practices in Service Planning

Metro Transit incorporates equity in all aspects of transit service planning, ranging from individual route-level service changes to corridor-level projects and Title VI anti-discrimination work required by the FTA.

Title VI Practices

Title VI is just one aspect of Metro Transit's equity work, but it is an important part of complying with federal requirements for transit agencies. There were two required projects in 2021.

Service Monitoring Study

Every three years most transit agencies must review six performance standards and design guidelines to see how well they meet these standards in communities of color and/or in low-income areas as compared to the rest of the system. The Study showed no concerns with potential for disparate impact or disproportionate burden. The Study results were approved by the Met Council in January 2022.

METRO Orange Line and Connecting Bus Study

A Service Equity Analysis (SEA) was done because the Orange Line and changes to routes connecting with the new BRT service met the agency's definition of a major service change. The analysis reviewed the change in service (number of weekly trips) and whether communities of color and/or lower-income groups shared equitably in the service improvements. Additional work focusing on who uses transit to access key destinations in the project area emphasized that BIPOC and lower-income riders benefitted more than White residents from the changes. The results of the analysis were shared with the Met Council and were included in their approval of the service plan changes in June 2021.

Service Equity Analysis (SEA) Methodology Review

In 2021 Metro Transit also did an in-depth review of the methodology used to perform a SEA. This work included reviewing how peer transit agencies conduct SEAs, measure transit access and define important concepts such as "poverty", "major service change" and "threshold for disparate impact or disproportionate burden." As a result of this work, Metro Transit has modified the increased the amount used to determine poverty as 185% of the federal poverty level, has started using the street network to determine reasonable walk or roll distance to transit, and is now incorporating actual rider data to supplement U.S. Census data when possible.

Routine Practices

Equity is also reflected in our work through day-to-day decisions and processes.

Service Change Documentation

In late 2020, the internal service change process was revised to include explicit documentation of equity considerations for planned changes. Staff review race and income demographics, as well as data on low-wage jobs and vehicle availability, when determining how sensitive populations are impacted by a planned change.

Vehicle Assignment

Throughout the pandemic, larger buses with higher seating capacity have been assigned to many high-ridership local routes in Minneapolis and St. Paul to allow space for social distancing. These routes tend to serve areas with higher proportions of low-income and BIPOC residents. While specific pandemic-related load restrictions have been lifted, Metro Transit has continued this practice to provide a more comfortable on-board environment.

Customer Surveys

It is important to ensure that feedback is collected from a representative cross-section of the public so that the needs of traditionally under-represented populations are being heard. When doing survey work, responses are analyzed to make sure that there is fair representation from the demographic groups most likely to ride transit. If it appears that a group is under-represented, staff makes extra effort to "meet our riders where they are." For example, in Fall 2021 Metro Transit did a survey asking whether buses should operate on Minnesota or Robert streets in downtown St. Paul. Early results showed that most of the respondents were White, had moderate or high income and did not use transit on a regular basis. Therefore, staff redoubled efforts to do additional in-person surveying at bus stops and partnered with community-based organizations to increase the number of surveys received from communities of color, lower-income groups, and existing riders. This work ensured that the opinions of those most-affected by the decisions made because of the survey were fully taken into consideration.

Prioritizing Speed and Reliability Improvements

Metro Transit's Speed and Reliability projects are designed to make transit faster and more reliable, which are key factors to attracting customers. Projects may include transit advantages (bus-only lanes, traffic signal priority that extends a green light at key locations) and other strategies such as combining bus stops, improving stop facilities, and simplifying routes to make transit more attractive. Along with other evaluation factors, priority is given to improvements on routes that serve areas with high percentages of BIPOC residents, low-income residents, and renters, as well as larger numbers of low wage jobs.

Appendix

Methodology for Disaggregating Performance by Race

To determine the racial demographics of our community, we look at who can access a transit stop by walking to it within 10 minutes (the 'walk-shed'). We compare the walk-shed to the U.S. Census block-group geographies. We scale the population of each race in each census block-group by the area of the block-group within the walk-shed. For example, if half of a block-group A is in a walkshed and block-group A contains 40 White residents and 60 Black residents, then block-group A contributes half of those residents to the walk-shed, or 20 White residents and 30 Black residents. We add the contributions of each Census block-group within the walk-shed to get the total number of residents of each race who are within walking distance of the transit stop.

Performance data is assigned at the transit stop. For example, the on-time performance of a stop is calculated by summing the total number of 'on-time' vehicles departing that stop over the total number of vehicles departing that stop. The performance at that stop is associated with the community living near that stop. This means we have 'population-weighted' performance. If there are many people living near a stop that has 80% on-time performance, it has more impact on the community and the performance than if only a few people live near a stop with 90% on-time performance.