Metro Transit Service Equity Evaluation

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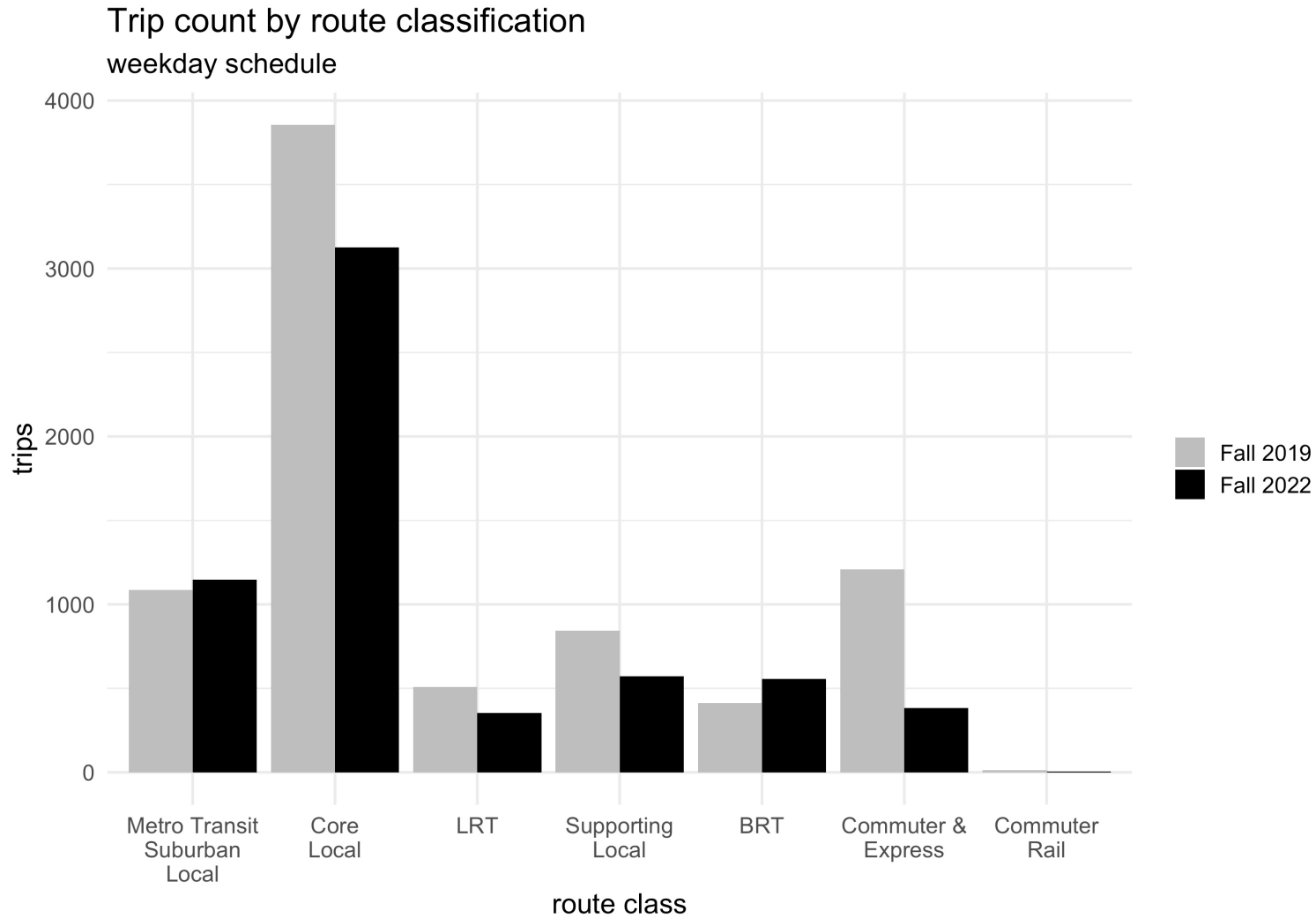
Service Equity Evaluation

- How have we changed our service since 2019?

- How have ridership patterns changed due to pandemic and operator shortages?

- Do our service changes meet Title VI thresholds?

- How do different racial and ethnic groups experience our service?
  - Service availability
  - Service quality
  - Service outcomes

- How do Metro Transit's practices promote equitable service planning?
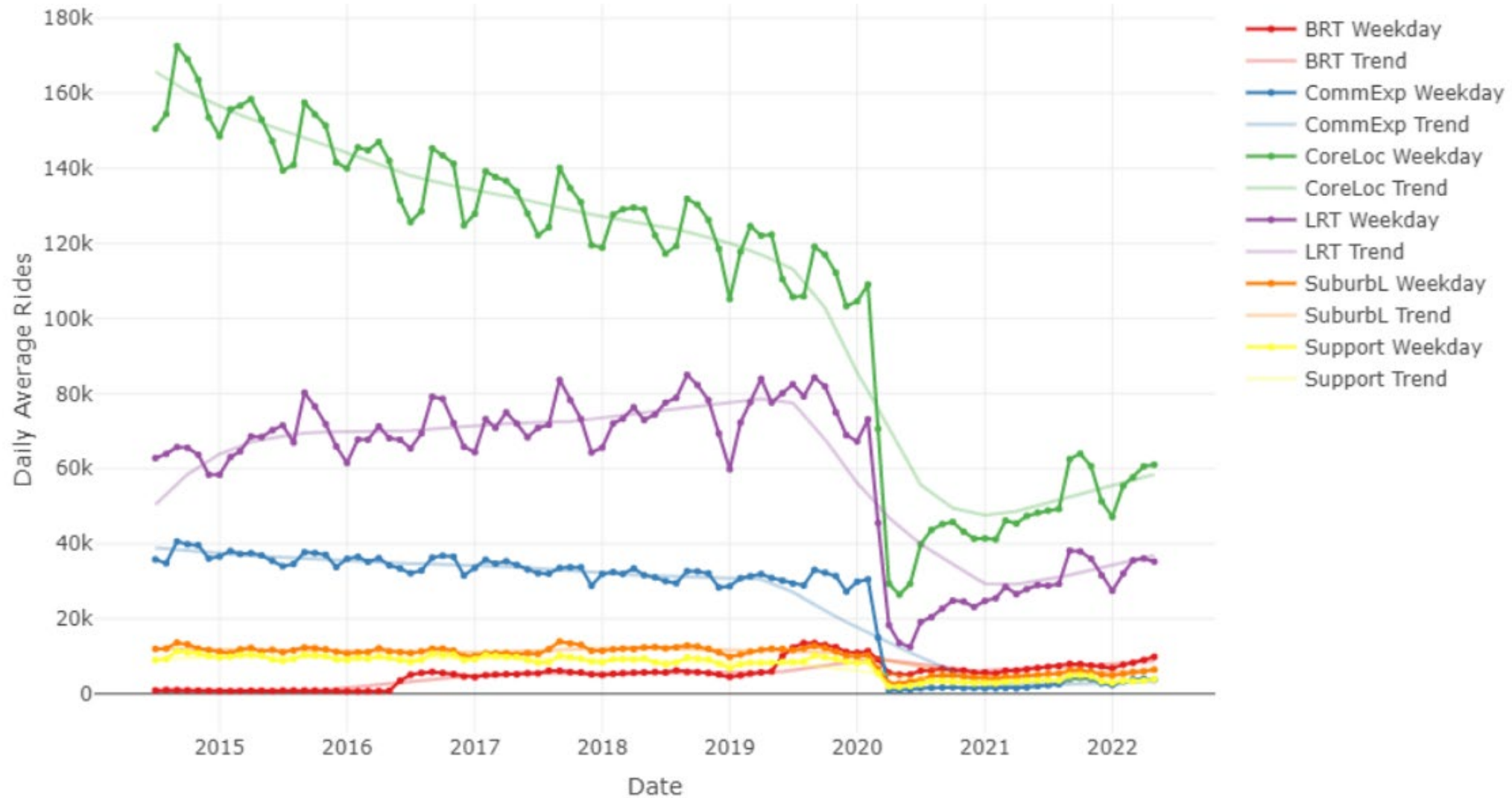
Workforce Shortage Emerges in 2018 and Persists Today

MT Bus Operators Scheduled vs. Actual
2011-2022
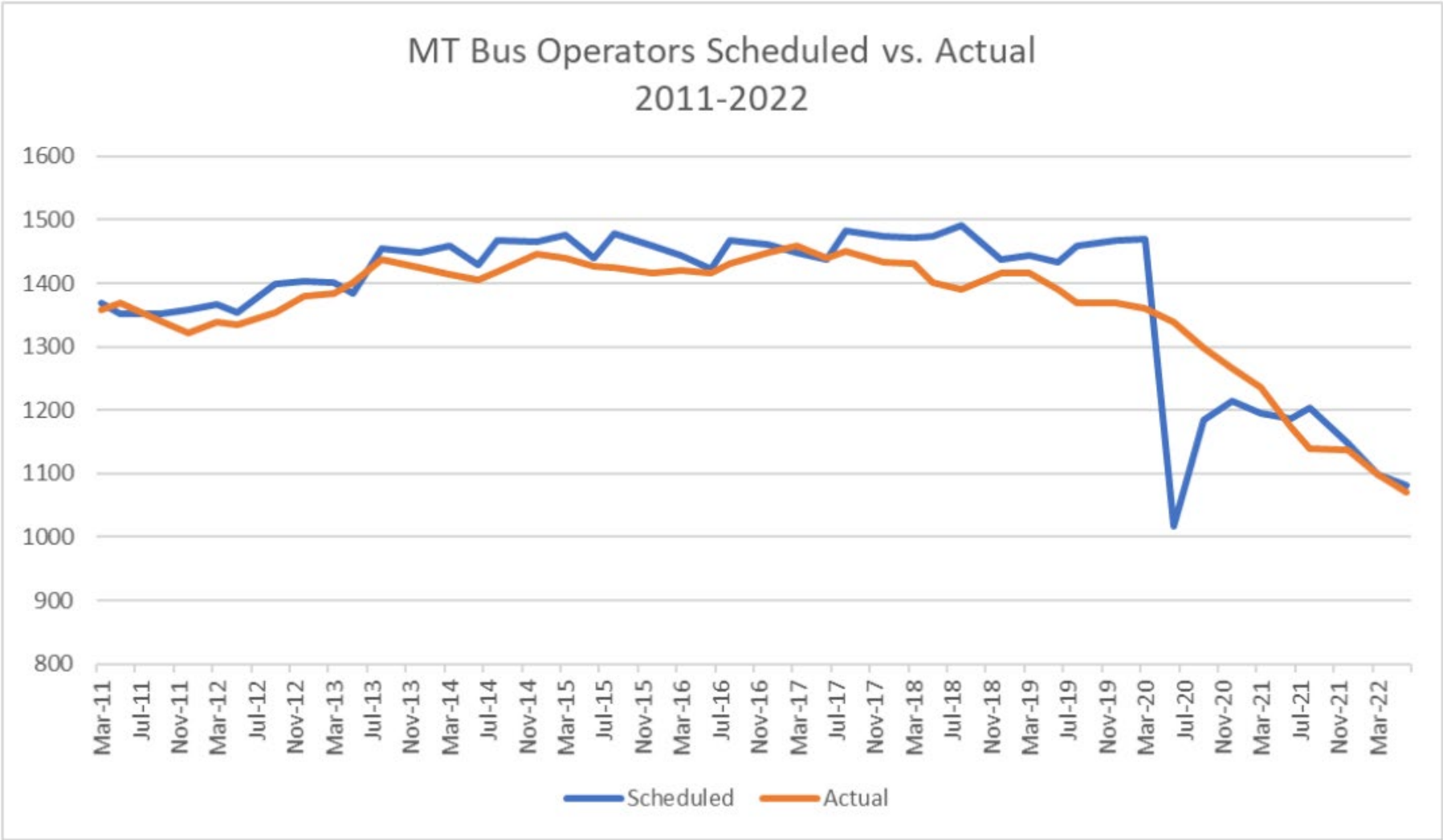
BRT, Local and LRT Service Remains the Focus

Trip count by route classification
weekday schedule

4

Ridership has Increased Year-over-Year for all Routes

Title VI Service Equity Analysis (SEA)

- Federal law requires transit agencies to show they are not discriminating when providing transit service

  - Black, Indigenous and People of Color (BIPOC) groups

  - Low-income communities

- SEA reviews how access to transit has changed over time

  - Change in how much service is available for average resident in a given area

  - Review how the impacts of those changes differ based on race and income
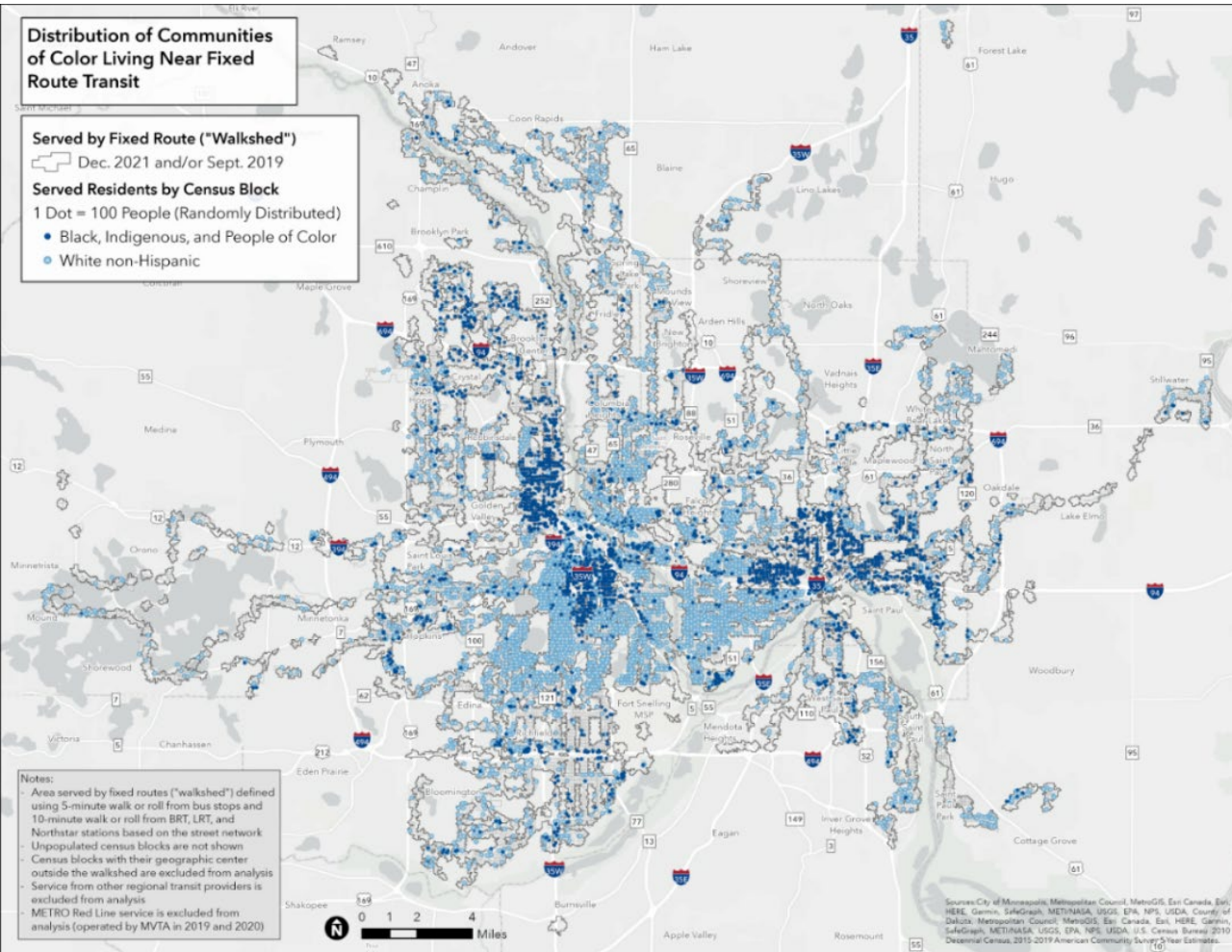
  - Non-home trips are a challenge

Title VI Service Equity Analysis

- Required for all major service changes
  - 25% change in hours on a route or in an area
  - New routes and eliminated service

- Disparate Impact and Disproportionate Burden threshold
  - Determines when a difference is significant enough to result in a potential for discrimination
  - Met Council policy is "80% rule*"
    - BIPOC, low-income groups must receive at least 80% of the benefits that White (non-Hispanic) or non-low-income populations receive
    - White (non-Hispanic) or more affluent residents must bear at least 80% of the adverse effects that BIPOC, low-income groups experience
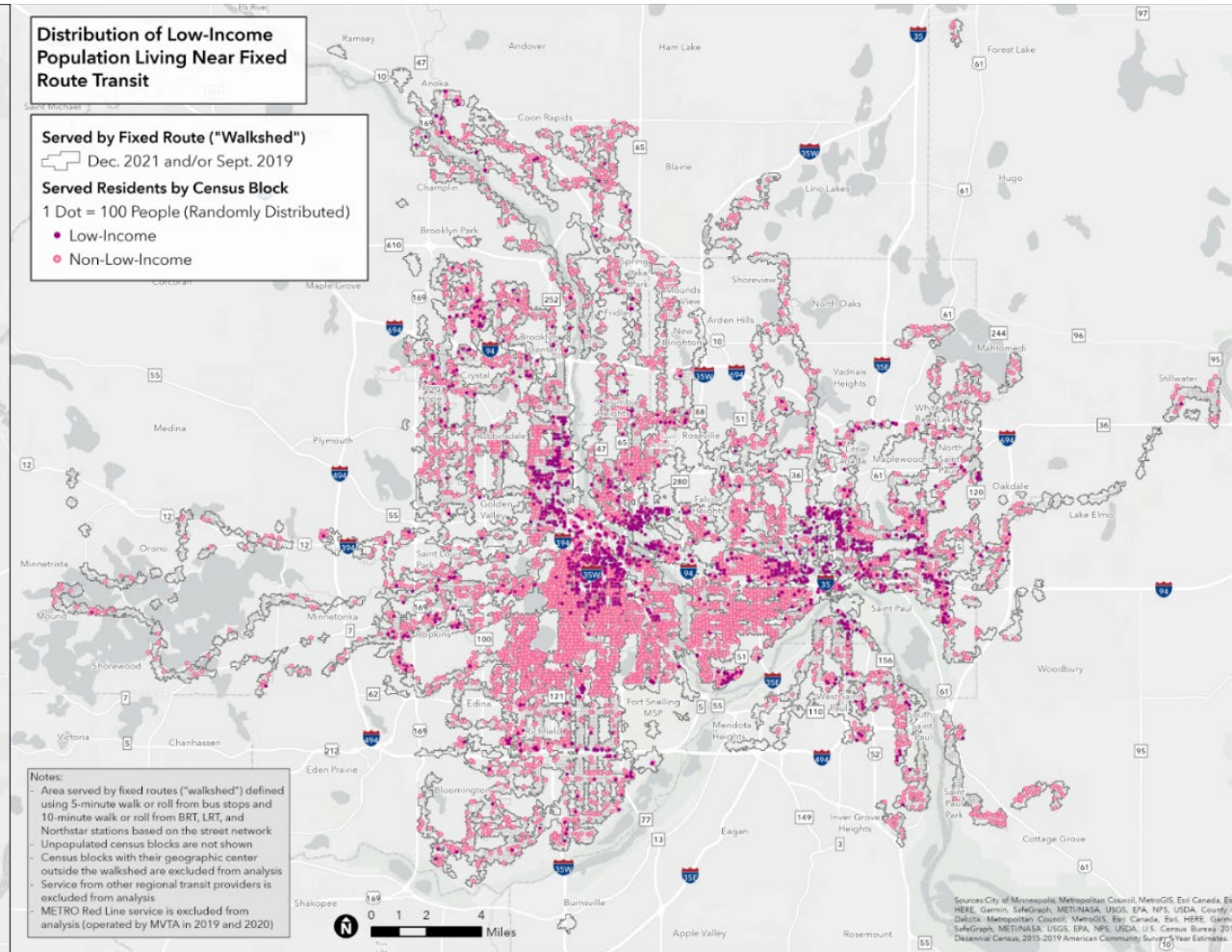
  * Currently soliciting feedback for a proposed policy change to a 10% rule (or 90%) visit www.metrotransit.org/titlevi
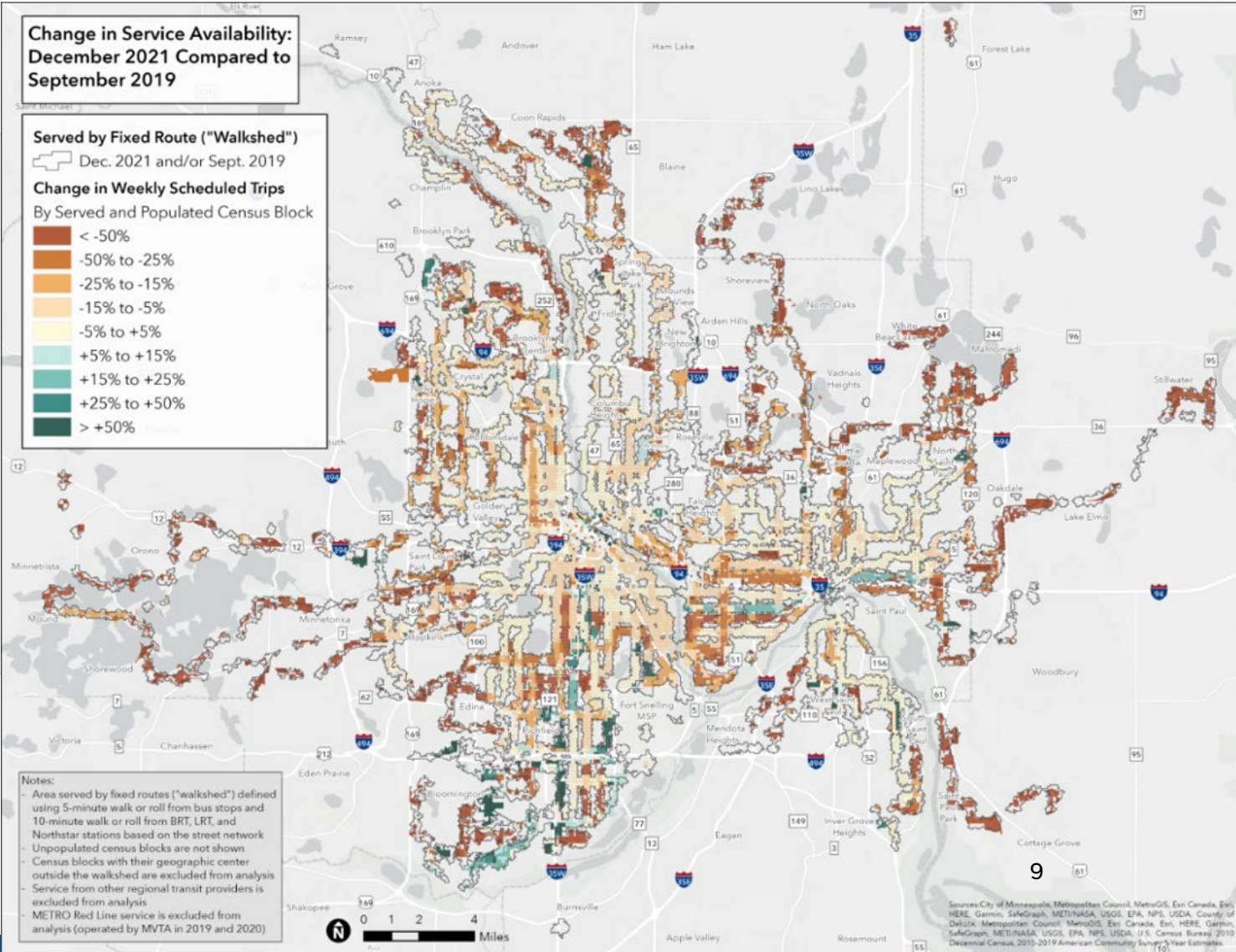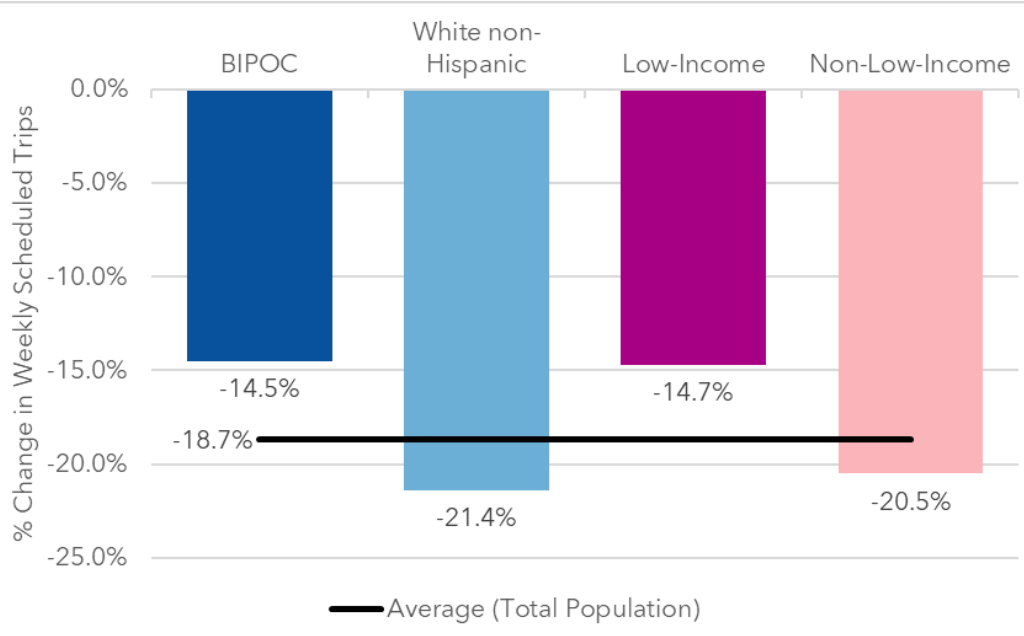
Communities Living Near Transit

Distribution of Communities of Color Living Near Fixed Route Transit

Served by Fixed Route ("Walkshed")
Dec. 2021 and/or Sept. 2019

Served Residents by Census Block
1 Dot = 100 People (Randomly Distributed)
• Black, Indigenous, and People of Color
• White non-Hispanic

Notes:
- Area served by fixed routes ("walkshed") defined using 5-minute walk or roll from bus stops and 10-minute walk or roll from BRT, LRT, and Northstar stations based on the street network
- Unpopulated census blocks are not shown
- Census blocks with their geographic center outside the walkshed are excluded from analysis
- Service from other regional transit providers is excluded from analysis
- METRO Red Line service is excluded from analysis (operated by MVTA in 2019 and 2020)

Distribution of Low-Income Population Living Near Fixed Route Transit

Served by Fixed Route ("Walkshed")
Dec. 2021 and/or Sept. 2019

Served Residents by Census Block
1 Dot = 100 People (Randomly Distributed)
• Low-Income
• Non-Low-Income

Notes:
- Area served by fixed routes ("walkshed") defined using 5-minute walk or roll from bus stops and 10-minute walk or roll from BRT, LRT, and Northstar stations based on the street network
- Unpopulated census blocks are not shown
- Census blocks with their geographic center outside the walkshed are excluded from analysis
- Service from other regional transit providers is excluded from analysis
- METRO Red Line service is excluded from analysis (operated by MVTA in 2019 and 2020)
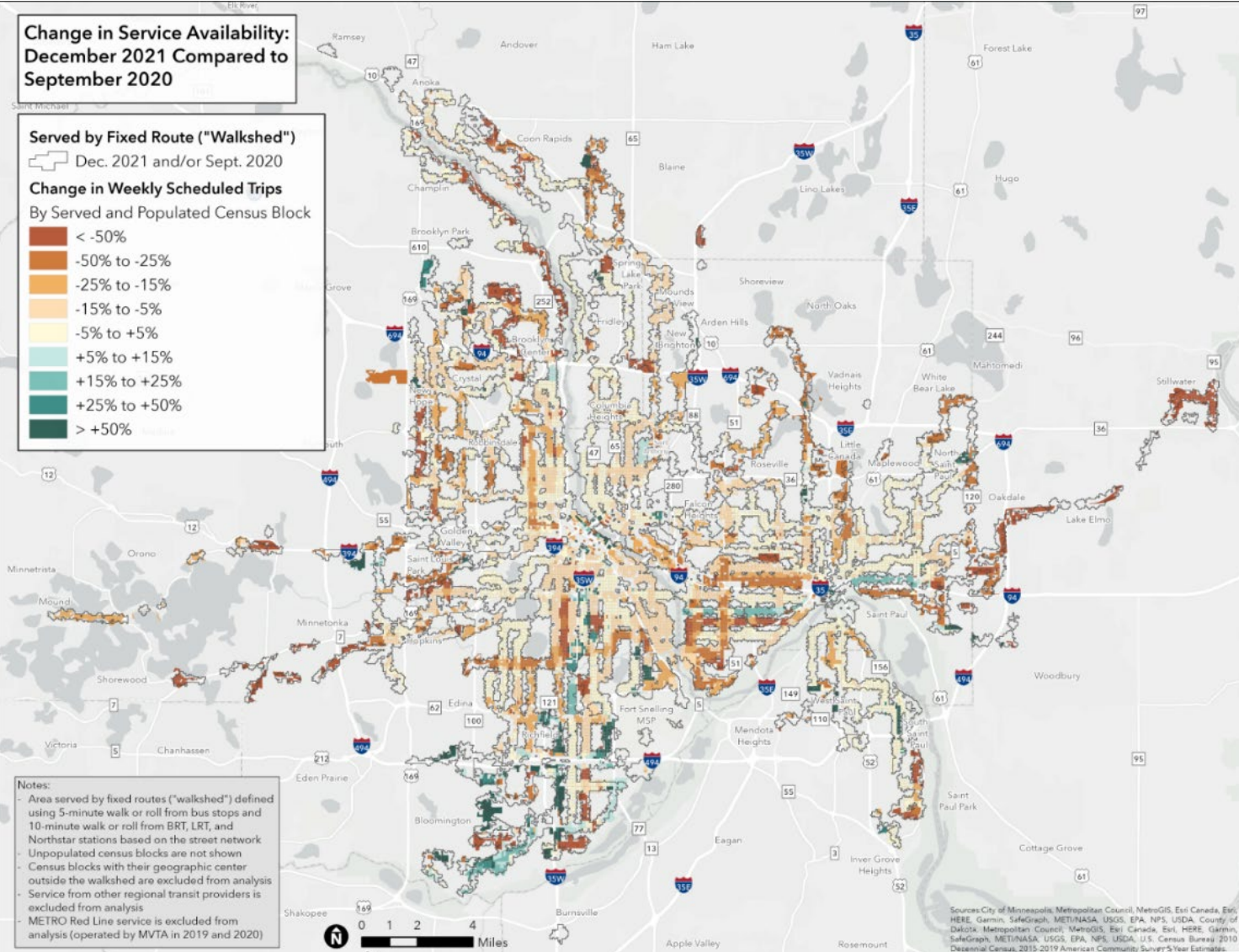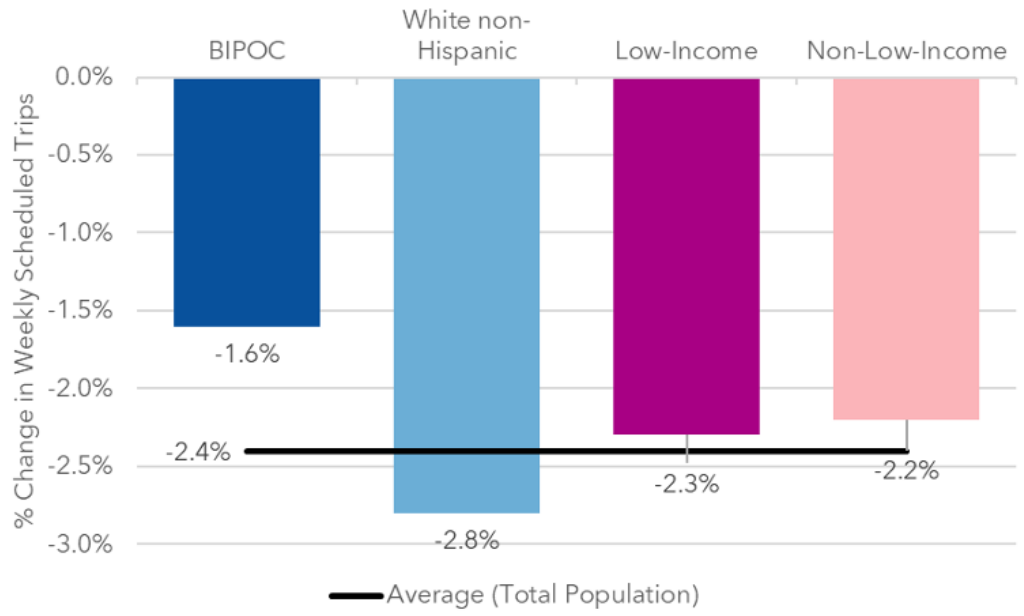
Communities of Color　　　　　*Low-income communities*

Change in Service Availability (Dec 2021 vs Sept 2019)

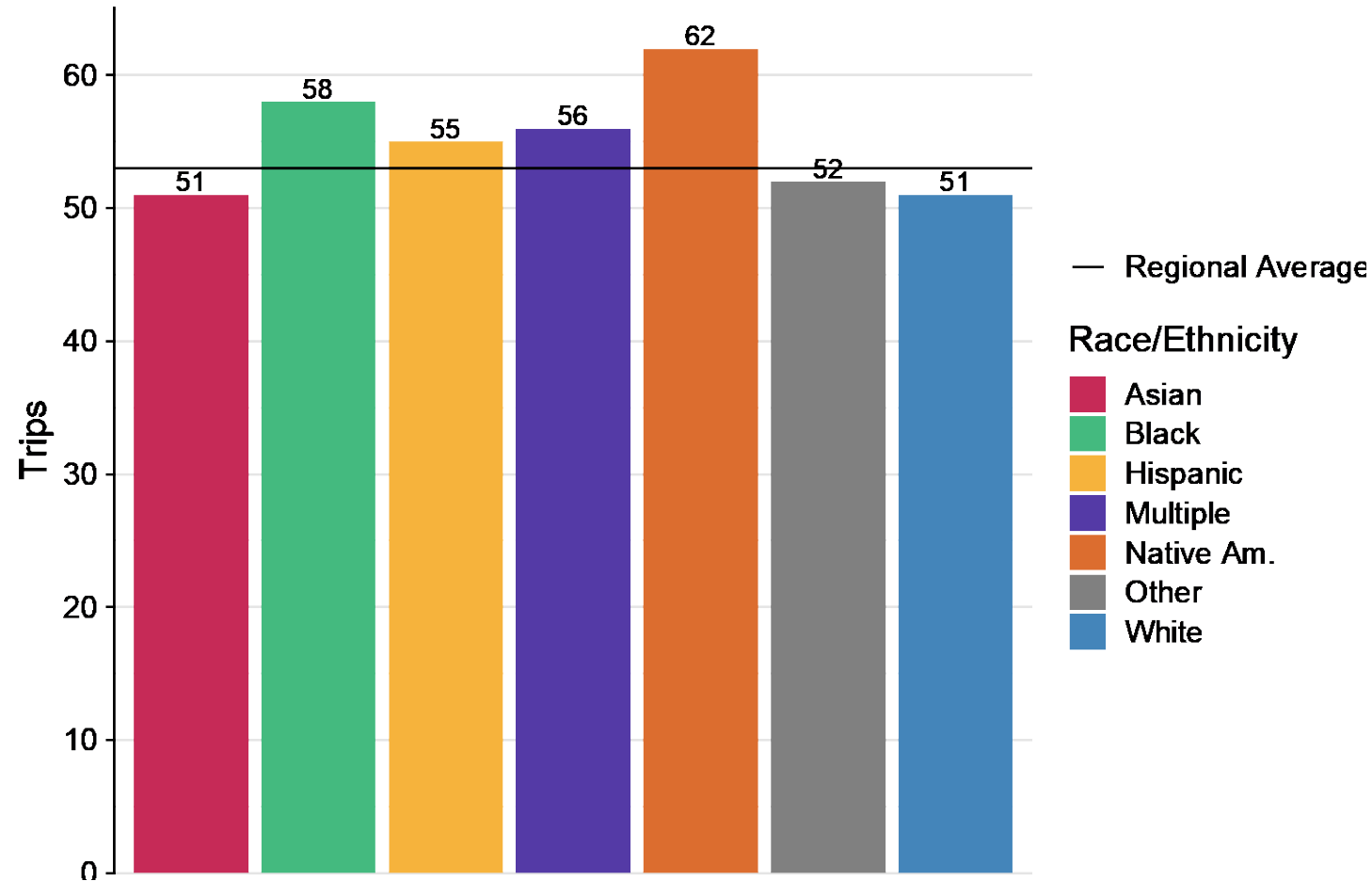# Change in Service Availability (Dec 2021 vs Sept 2020)

Service Metrics by Race & Ethnicity

- Service Availability and Utility
  - Trip Count
  - Frequent Service
  - Access to Jobs

- Service Reliability
  - On-time Performance
  - Trip Cuts

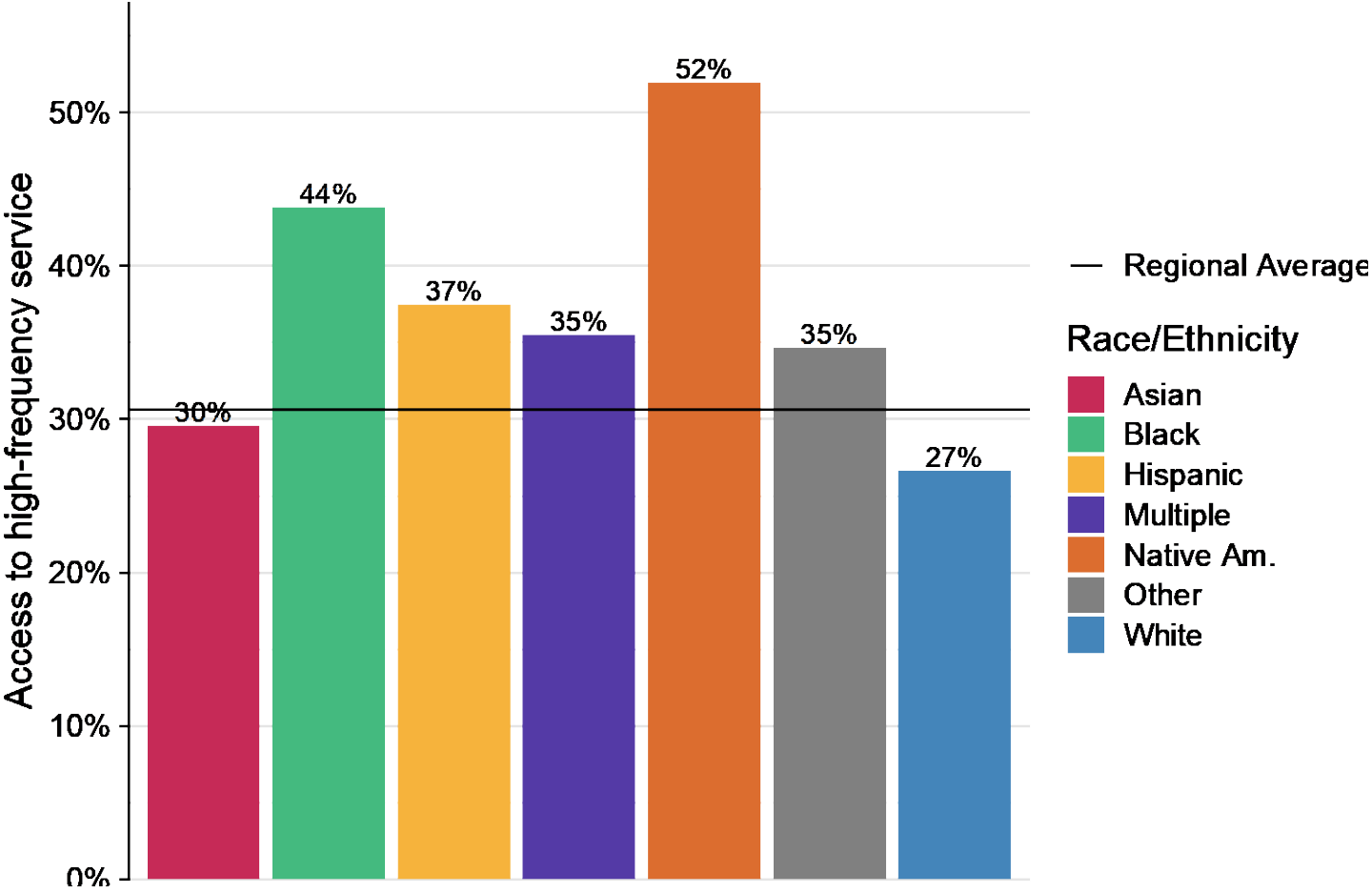# Service Availability by Race & Ethnicity: Trip Count

Metric: average number of trips serving a stop

Results: Black and Native American residents live near more service

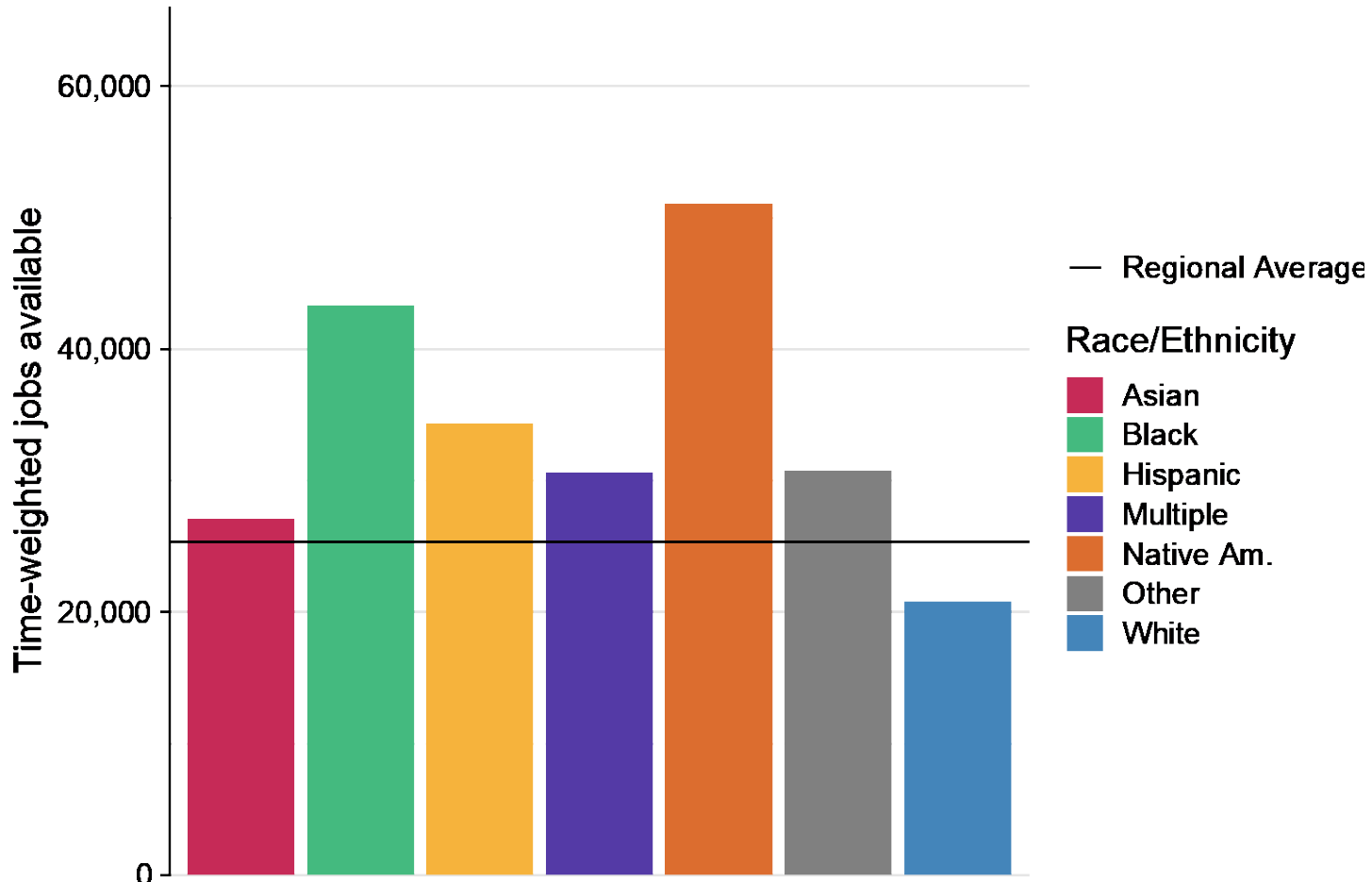# Service Utility by Race & Ethnicity: High Frequency Service

Metric: proportion of the population that can walk/roll to service running at least 4 trips/hour

Result: Native American residents have twice the access to high-frequency service compared to white residents
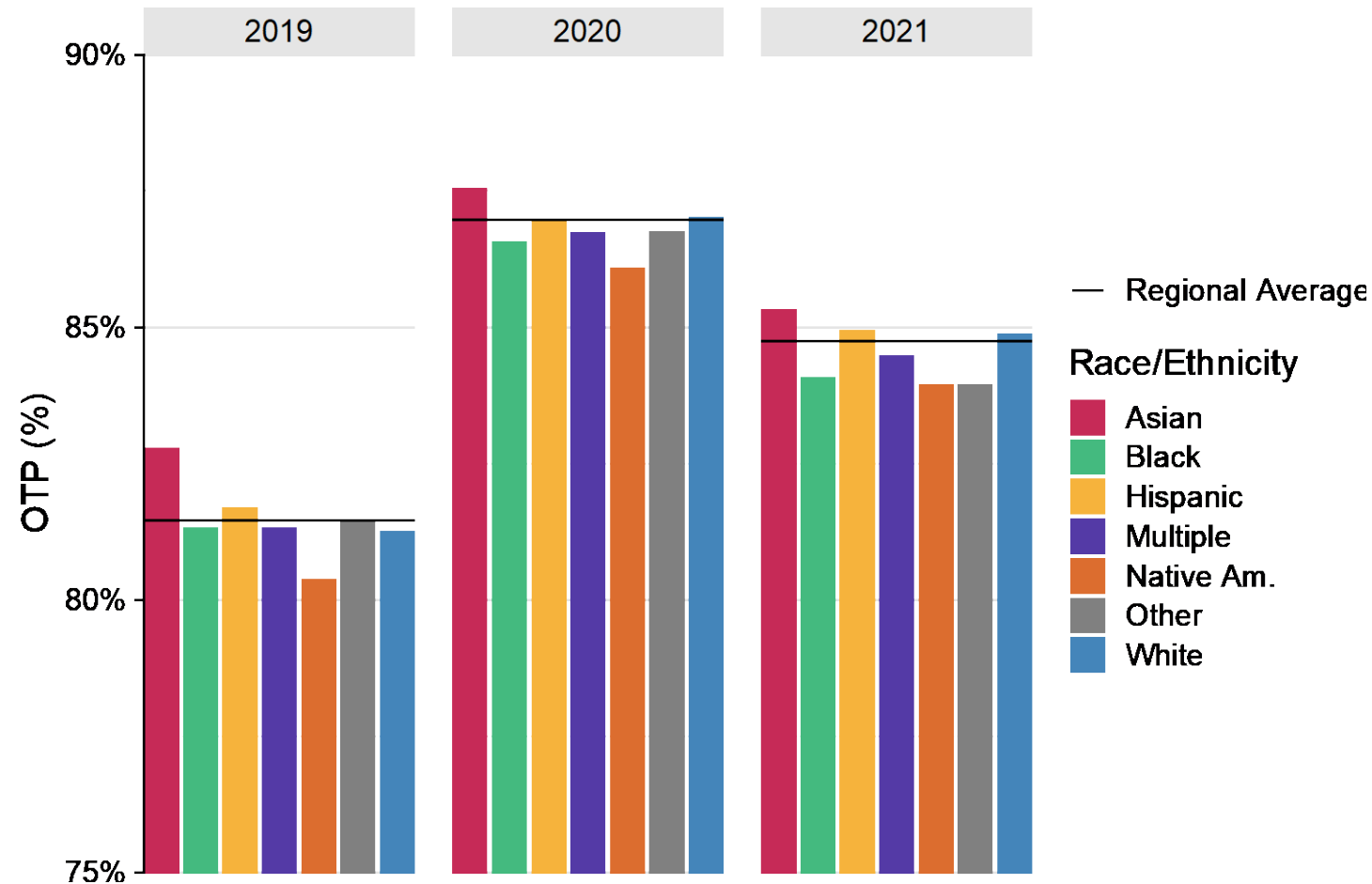
Service Utility by Race & Ethnicity: Access to Jobs

Metric: # jobs accessible within 45 minutes in the midday

Result: Native American residents have twice the access to jobs in a reasonable travel time compared to white residents

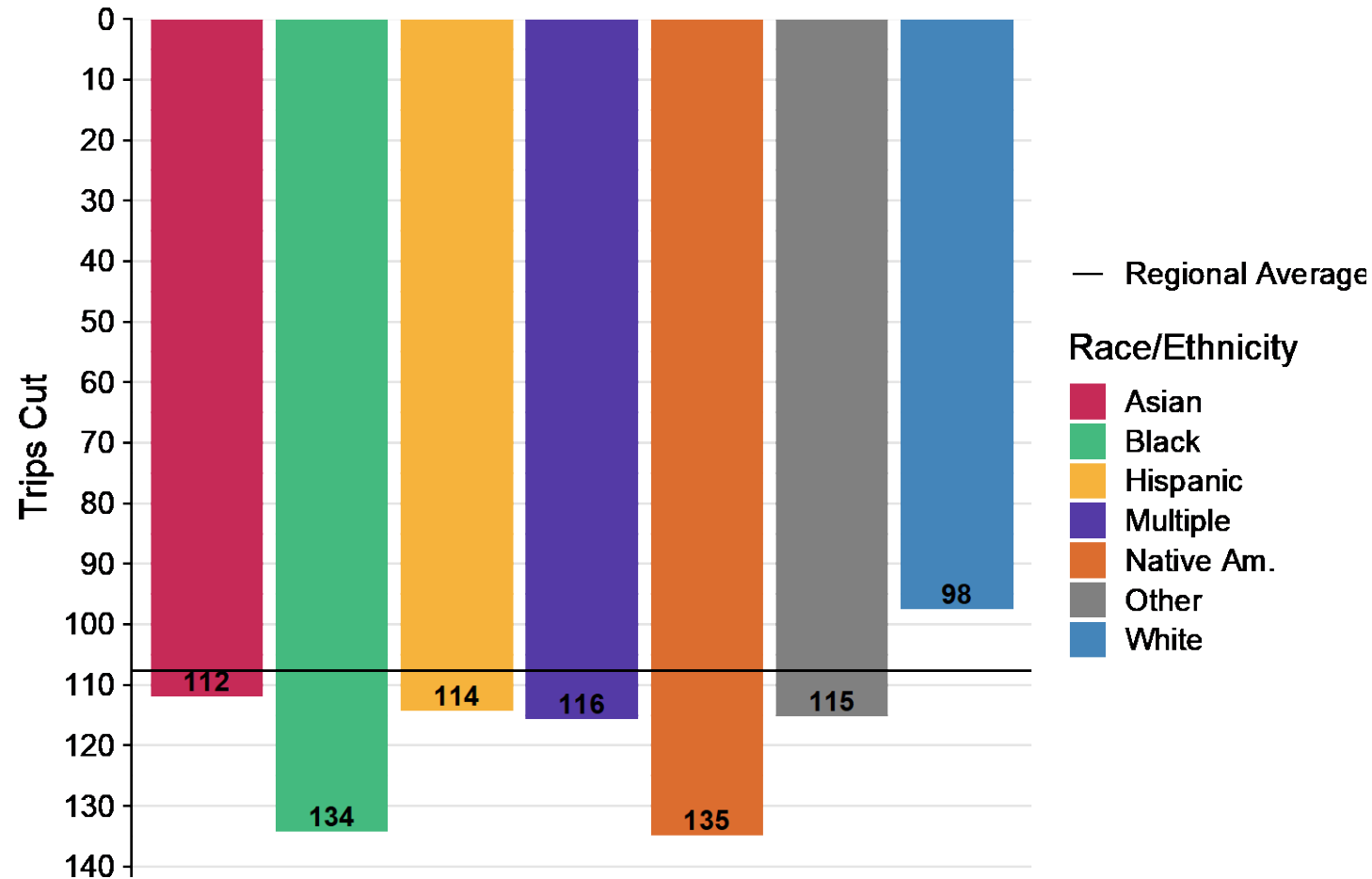# Service Reliability by Race & Ethnicity: On-Time Performance

Metric: number of trips leaving a stop less than 5 min late, tied to race of residents living near the stop

Result: Black and Native American residents have access to service with slightly worse OTP than other residents.
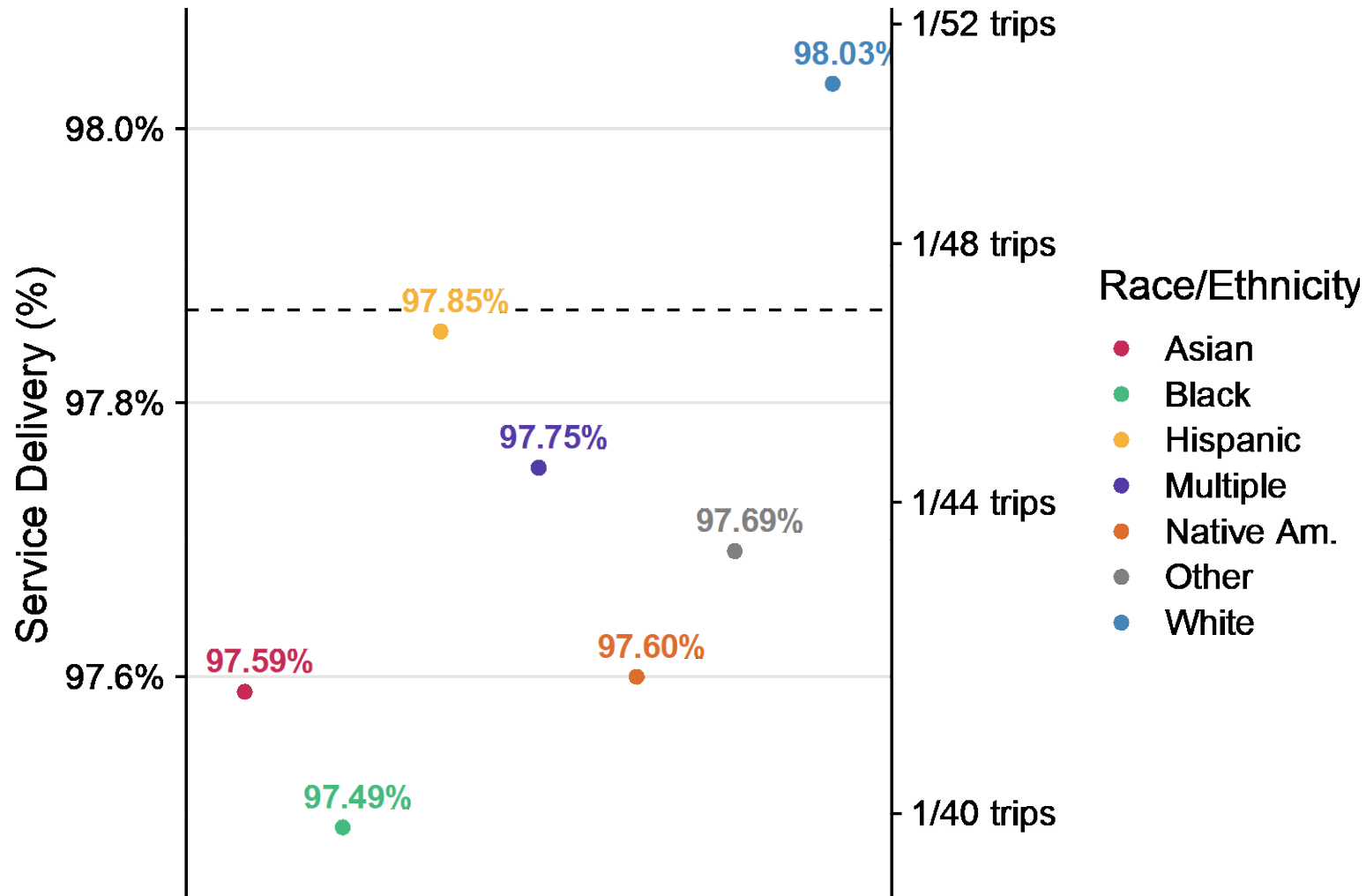
15

Service Reliability by Race & Ethnicity: Cut Trips

Metric: number of trips cut, on average, between mid-August through November 2021 for residents living near transit

Results: Black and Native American residents experience more cut trips, on average, compared to White residents.

Service Reliability by Race & Ethnicity: Service Delivered

- Metric: percent of scheduled trips that operated, on average, between mid-August through November 2021 for residents living near transit

- Results: Asian, Black and Native American residents experience more cut trips as a proportion of total trips available, compared to White residents.

17

What We've Learned

- Builds consensus among staff across service planning, operations and maintenance about what has happened and the results of our decisions

- Helps us focus on trends and our goals, not specific moments in time without context

- Metrics, data or methodology may not be perfect, but can help contextualize anecdotal information and bring attention to concerns or reasons to celebrate

- It tell us what happened, but it doesn't tell us what to do, but we need to get to what we DO...

What We Are Doing: Equity Practices in Service Planning

- Title VI Practices
  - Service Monitoring Study every three years
  - SEA for corridor changes (METRO Orange Line, D Line)
  - SEA Peer and methodology review

- Practices
  - Vehicle assignment (during peak of pandemic)
  - Customer surveys
  - Prioritizing speed and reliability improvements
  - Scheduling levels related to operator availability

Questions for Discussion

- What are the relevant metrics that we should be using when assessing equity impacts of service decisions?

- Is there additional data that needs to be considered when doing a SEE? If so, what?

- What does the EAC want to see as part of the Equity Metrics Program?

- What information would be helpful to present to the committee to further understand the impact of our transit decisions in the region?

Thank you

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Assigning Demographics

Block-group	Walkshed in block-group	BIPOC in Isochrone	White in Isochrone
1	50%	0.50 x 100 = 50	0.50 x 1000 = 500
2	50%	0.50 x 500 = 250	0.50 x 500 = 250
3	33%	0.33 x 1000 = 333	0.33 x 100 = 33
Walkshed:		50 + 250 + 333 = **633**	500 + 250 + 33 = **783**