

Regional Transit Service Allocation Study

September 4 Committee of the Whole



Agenda

- Introduction to Study
- Related Efforts
- Themes from July 23-24 Workshops
- Scope of Work

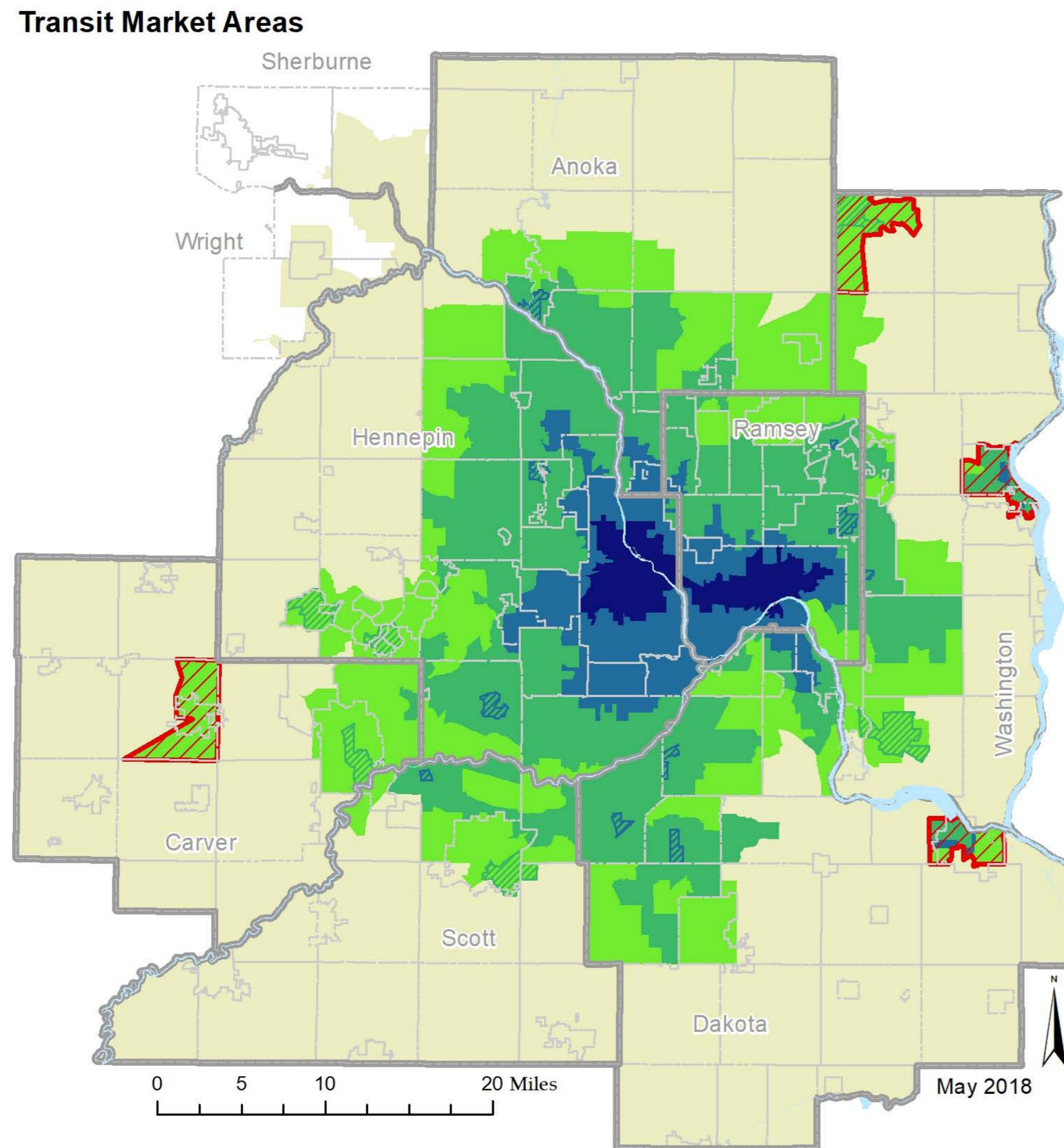
Introduction

- Understand the competing roles that transit is serving in the region
 - Geographic coverage
 - Ridership productivity
- Document and analyze the existing allocation of resources to these roles and illustrative scenarios for future allocation
- The need for this study made evident during discussions on:
 - Regional Solicitation
 - Regional Service Improvement Plan
 - Transit expansion funding discussions

Related Efforts

- Transit Planning Basics and Values Exercise (at Council and TAB on May 15)
- Transit Values Workshop (Council and TAB members on July 23rd-24th)
- Metro Transit Network Next
- Regional Solicitation Review Cycle
- Transportation Policy Plan Transit Design Guidelines and Performance Standards Appendix Review

TPP Appendix G – Regional Transit Design Guidelines and Performance Standards



Design Guidelines

- Transit Market Areas
- Route Types
- Stop Spacing
- Route Spacing*
- Span and Frequency

Performance Standards

- Passengers per In-service Hour
- Subsidy per Passenger

*Specified for Market Areas I and II only

Service Allocation Study and Network Next

Regional Policy and Strategy

Thrive MSP 2040 and Transportation Policy Plan
Transit Strategies
Transitway Investments
Appendix G

Transit Provider
Plans and Policies

Transportation Policy
Plan Studies

Network Next
Metro Transit Guiding Framework
Specific Network Improvements
BRT Improvements
Service Quality Improvements

Regional Transit Service Allocation Study
Transit Values Discussions
Technical Trade-offs Analysis
Strategic Recommendations

Suburban Provider Plans
Service Improvements
Goals, Strategies, Metrics



Transit Planning Basics Workshops



Workshop Planning Game

25 participants

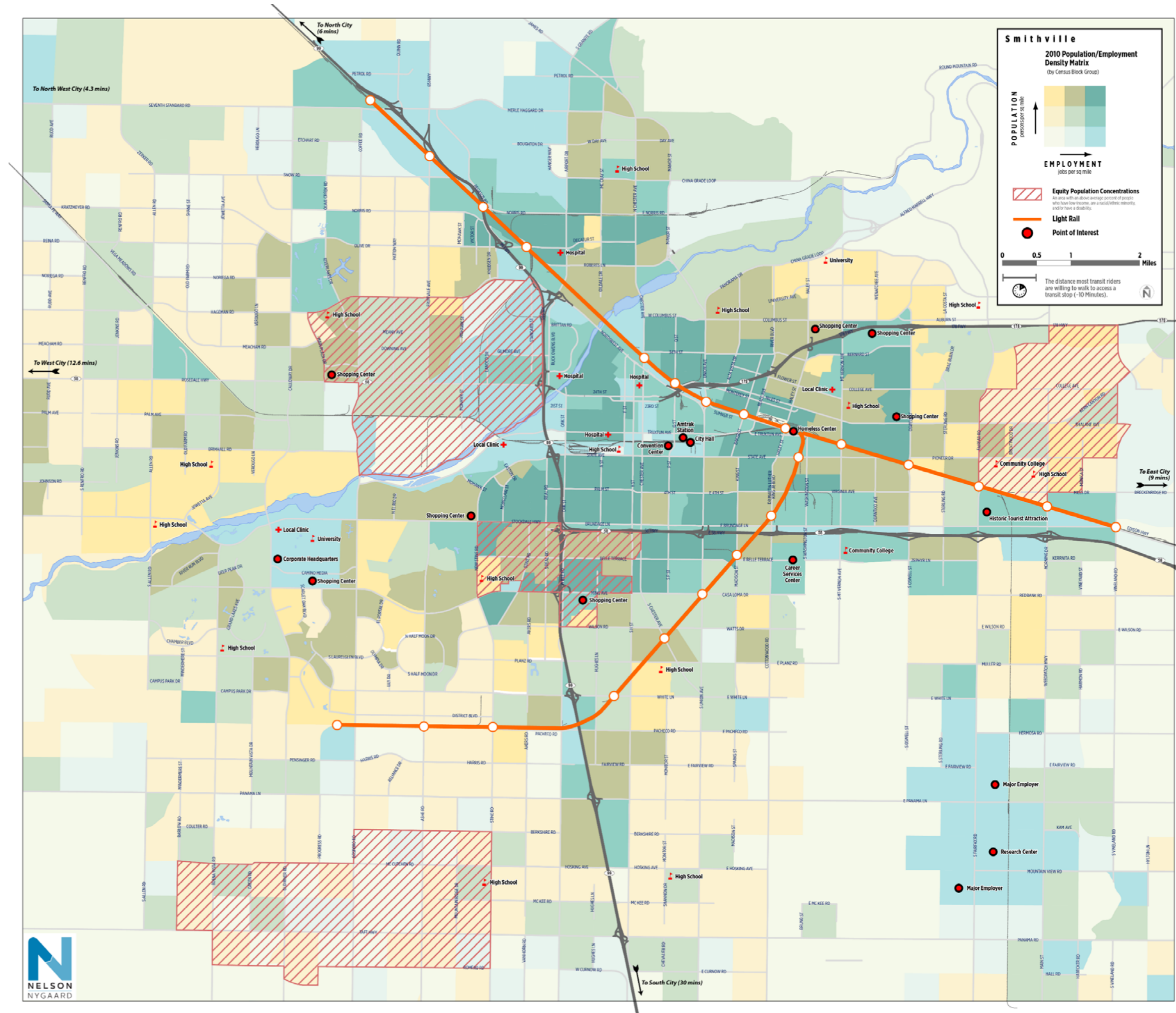
- 10 Council Members
- 15 TAB Members (7 elected officials)
- **The challenge:** Design the bus network in Smithville, USA
- **The process:** Discuss priorities as a group, draw routes on a map, check to see if routes meet priorities, and go back to drawing board as necessary
- **The tools:** a map, colored strings, a facilitator, and a recorder
- **The budget:** fixed

Planning Game: Map

- Major roads
- Population and employment densities
- Existing light rail lines and stations (light rail operates frequently)
- Activity centers
- Equity population concentrations

Workshop Planning Game – Process

- Selecting alignments
- Selecting a frequency:
 - 15 minutes = red
 - 30 minutes = blue
 - 60 minutes = green
 - Commuter = yellow
- Placing strings on the map
- Trade strings based on value
 - 1 red = 2 blue
 - 1 blue = 2 green
 - 1 green = 1 yellow

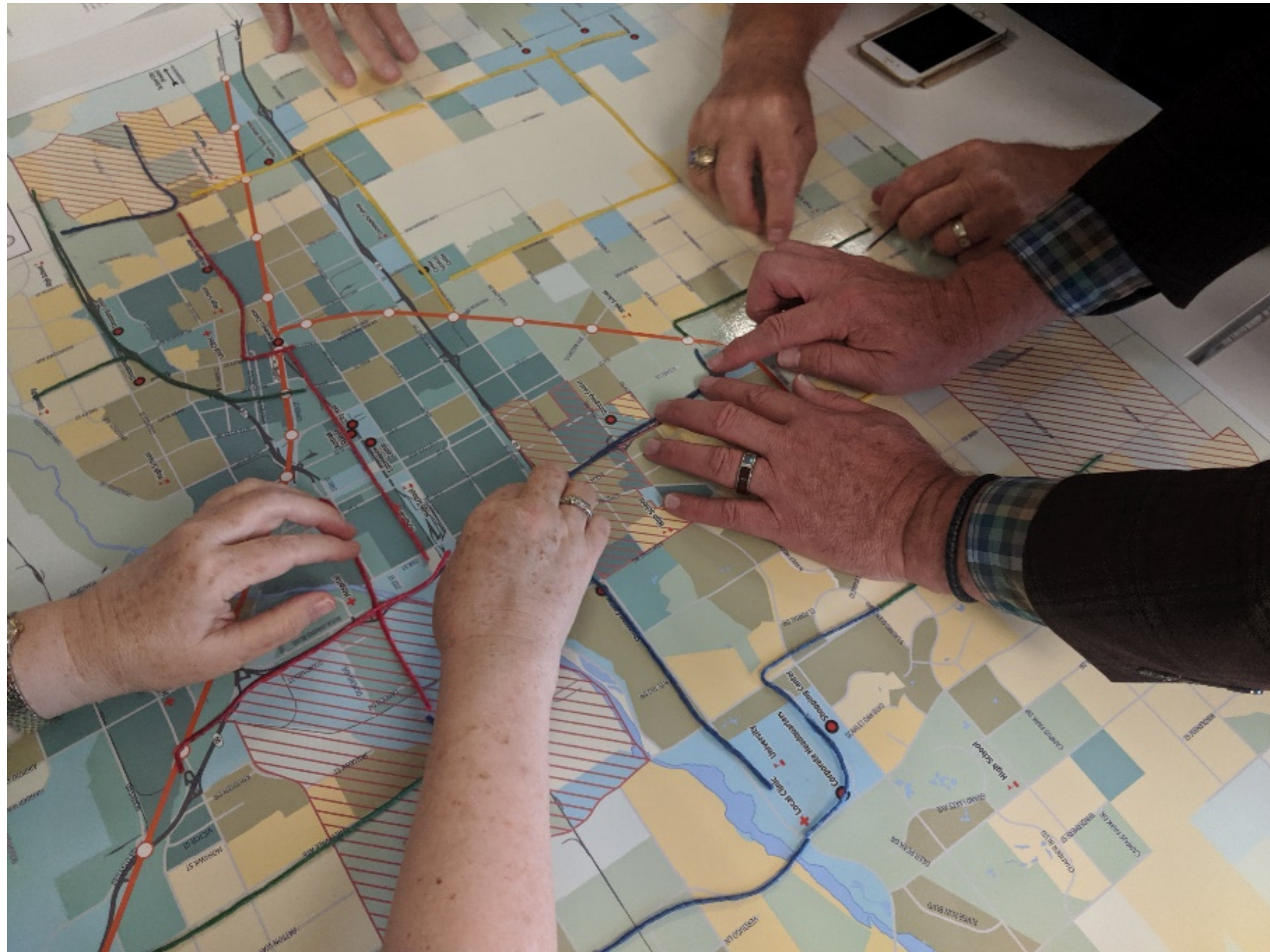


Workshop Planning Game – Common Themes

- Leveraging investment in light rail, its connection to downtown
- Focus on equity, recognizing some areas needed more service than others
- Commuter-only service to outlying job concentrations, connecting to light rail
- Focus on serving major destinations (higher education, medical facilities)
- Frequent service in and around downtown



Workshop Planning Game – Unique Themes

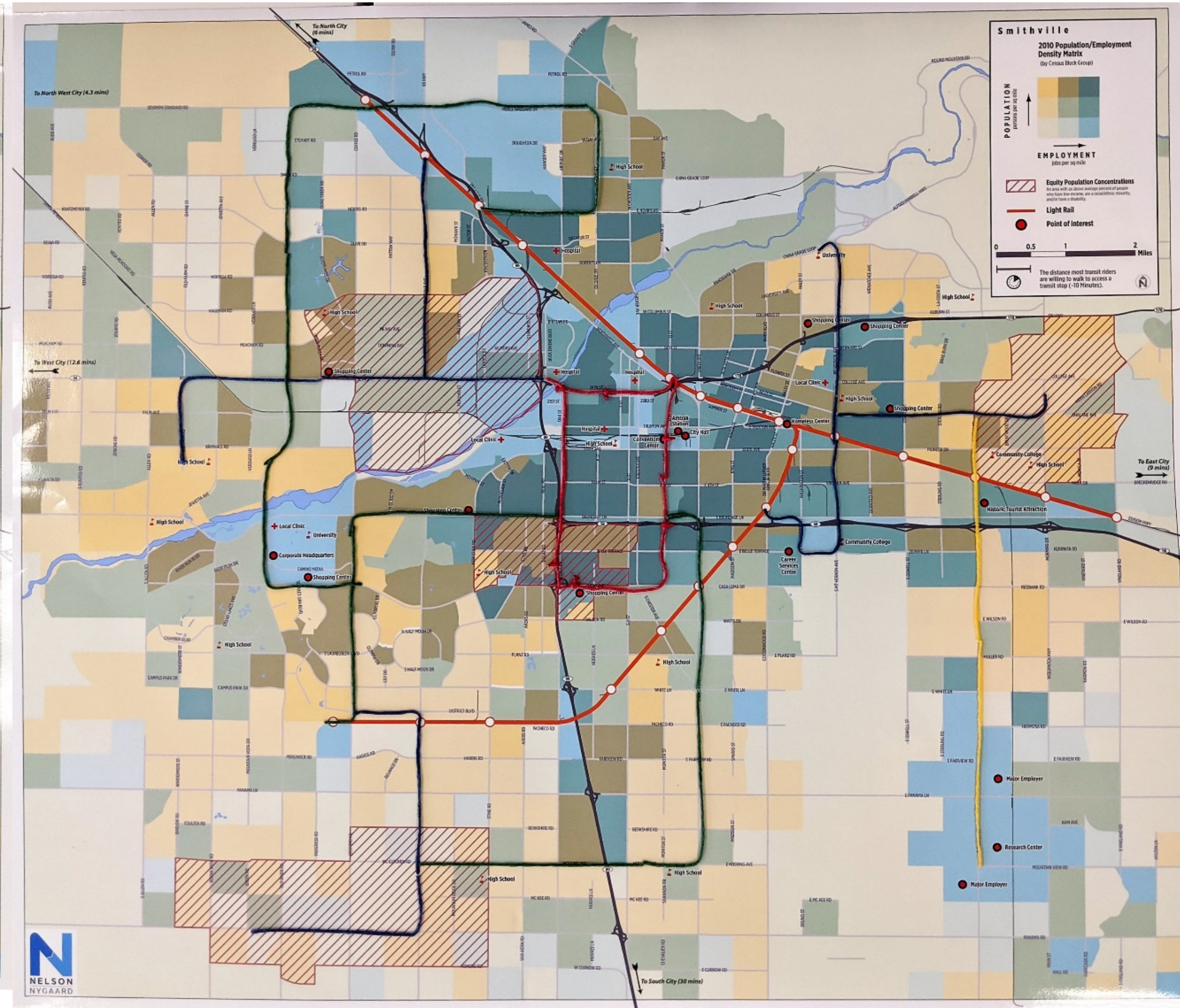
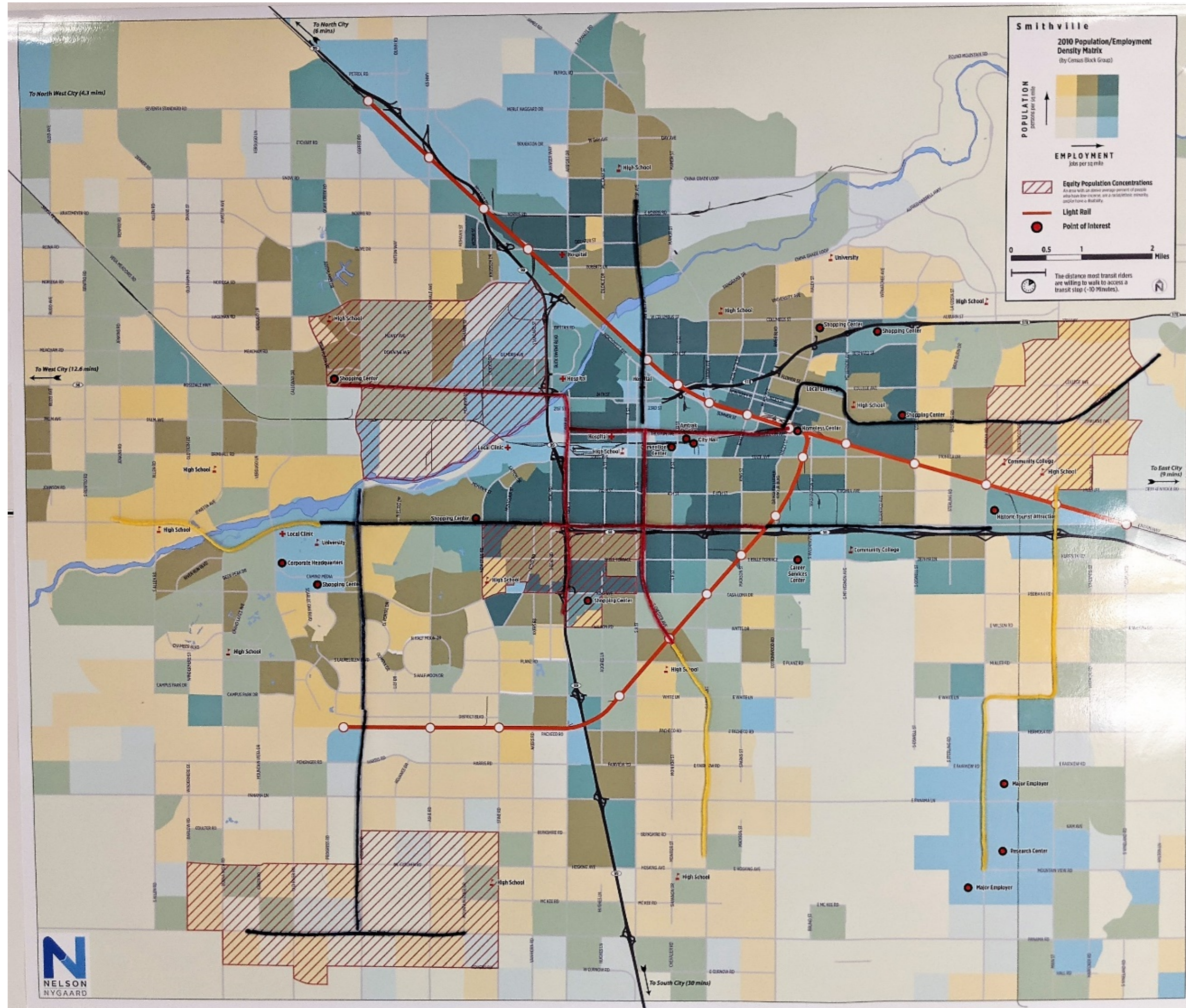


- Outside-in approach, coverage to outlying areas decided first
- Core focus with frequent service network
- Trading of route resources (e.g. one red for two blue) went both ways, depending on the group

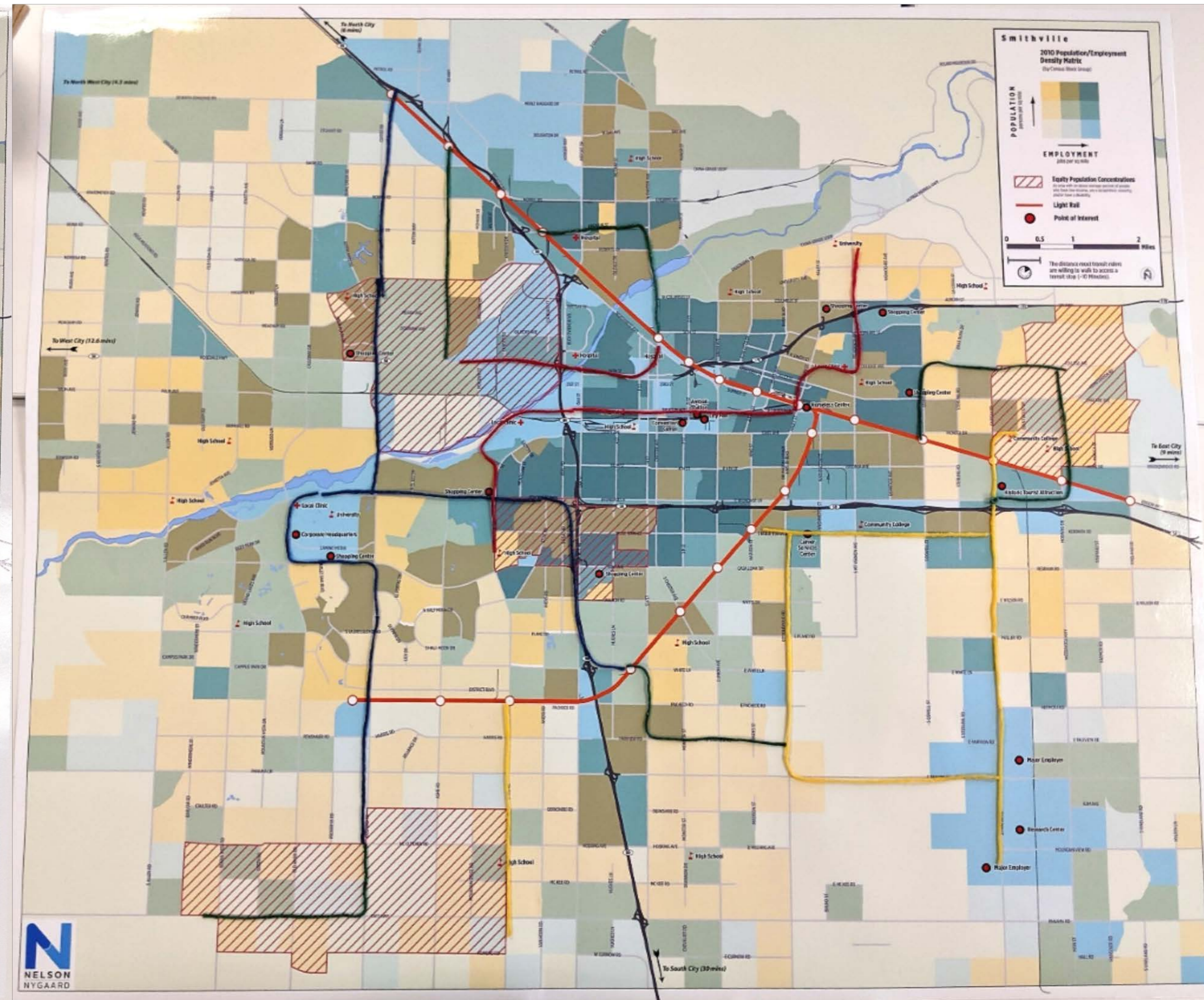
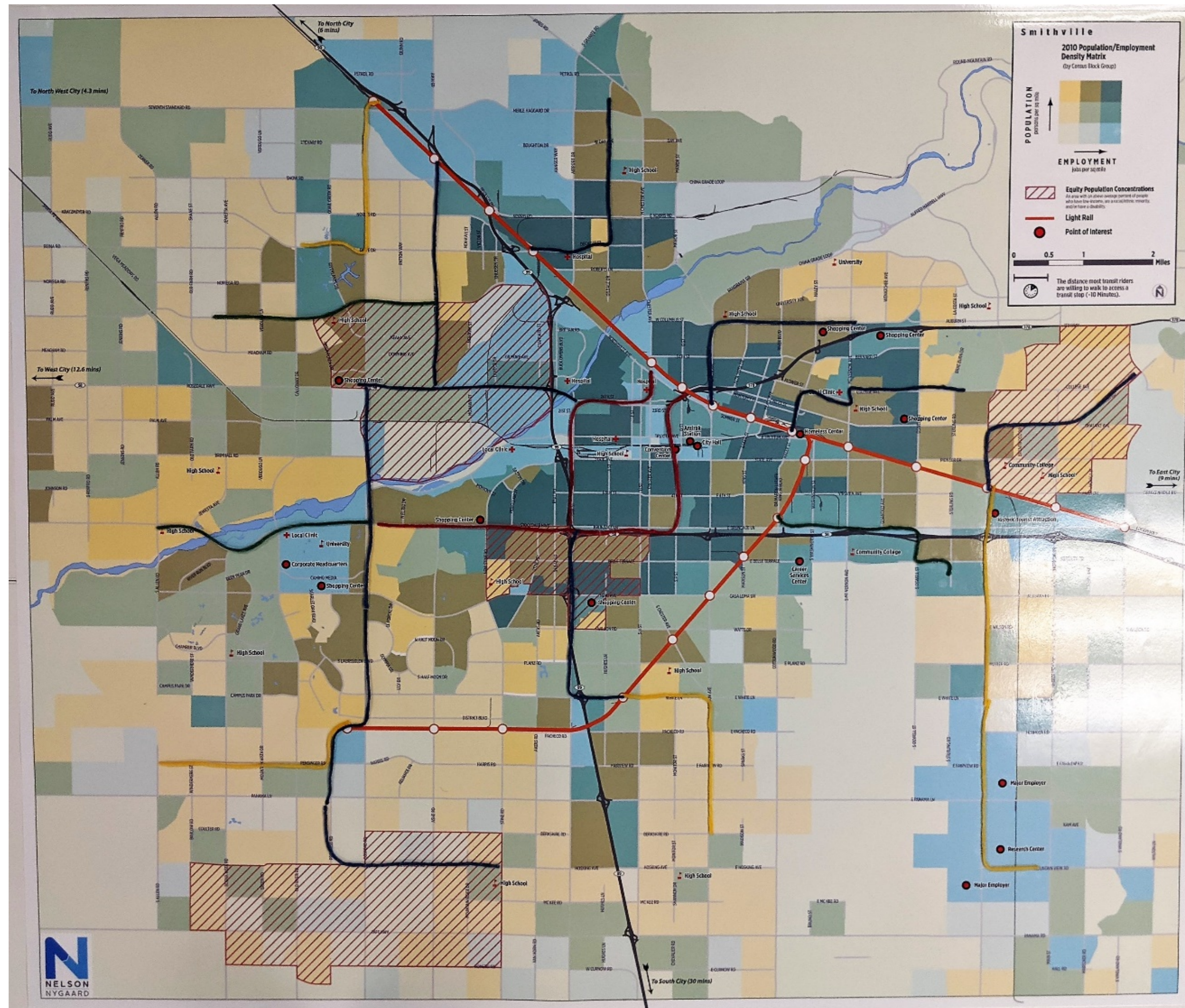
Workshop Planning Game – Game Feedback

- Hard, fun, good discussion
- Appreciation for service planning complexity and effort
- Appreciation that given the same game rules, all results were different
- Acknowledgement that existing biases played a role in the input offered
- Reinforced the disconnect between land use and transit planning
- Game would have been easier with more resources
- Equity not specifically defined, transit's influence on equity not described
- More information needed (e.g. senior housing, trip destinations)

Workshop Planning Game – Final Maps



Workshop Planning Game – Final Maps cont.



Regional Transit Service Allocation Study



Scope of Work

- Public Outreach Analysis
- Existing Conditions Analysis and Study Framework
- Alternative Scenario Development and Analysis
- Coverage Service Guidelines
- Implementation Plan
- Stakeholder Engagement

Existing Conditions and Study Framework

- Analysis and documentation of the existing regional transit system
- What routes are serving what roles?
- Who's affected by the existing system and how?
- Develop understanding of how resources are allocated between roles and geographies
- Evaluation framework to be developed, with metrics
 - Access to transit
 - Impacts to specific areas or populations
 - TBD...

Existing Conditions

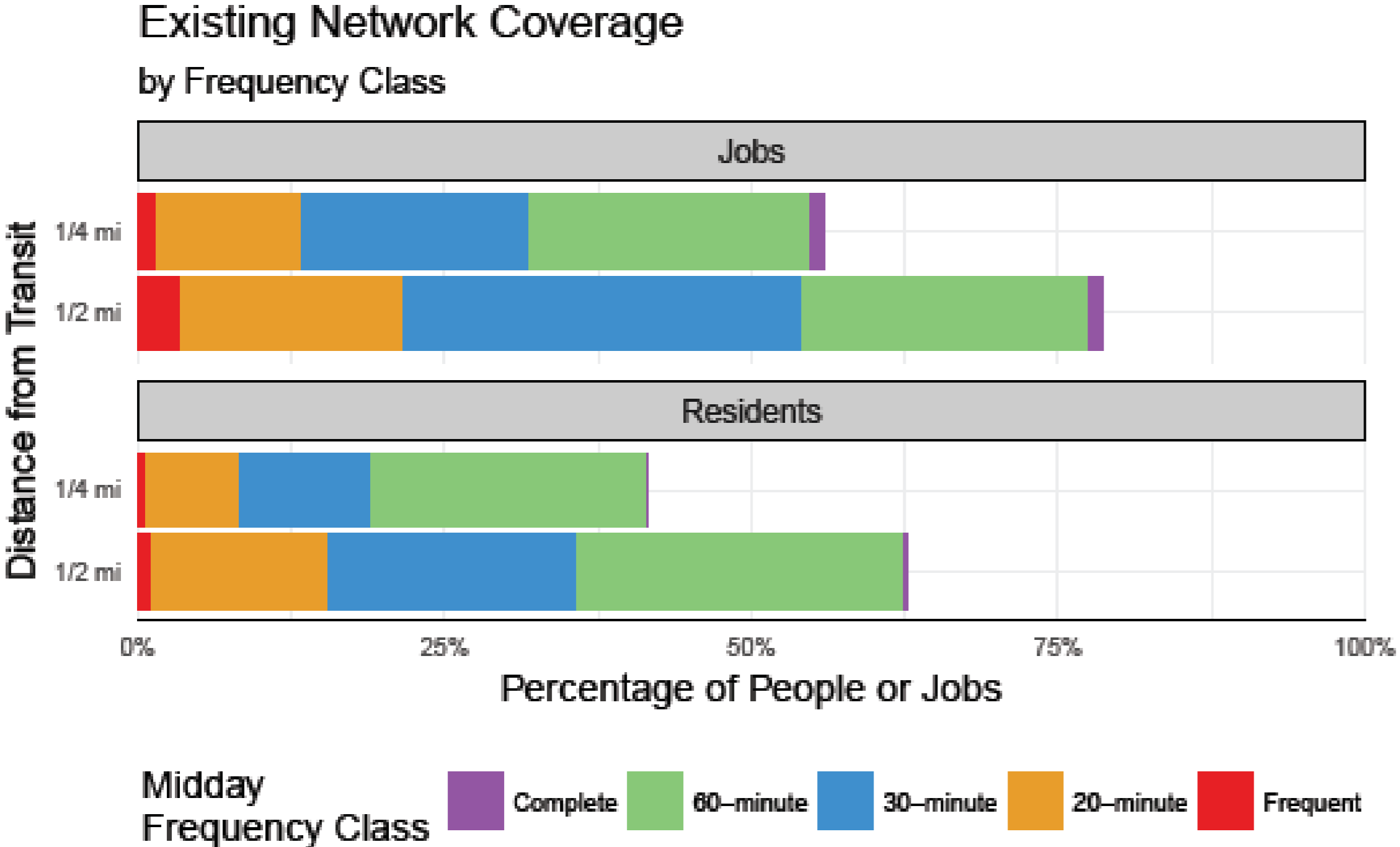
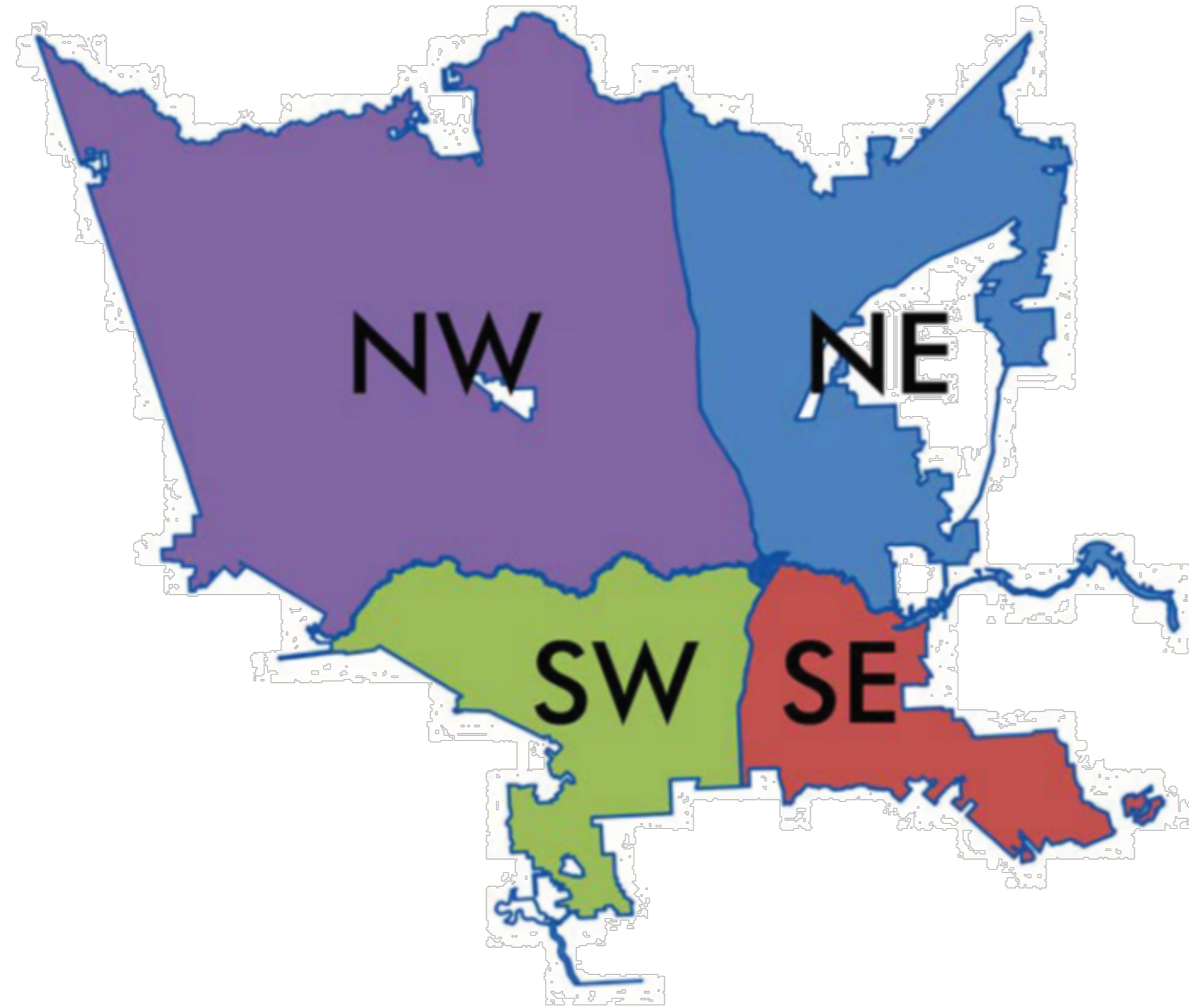
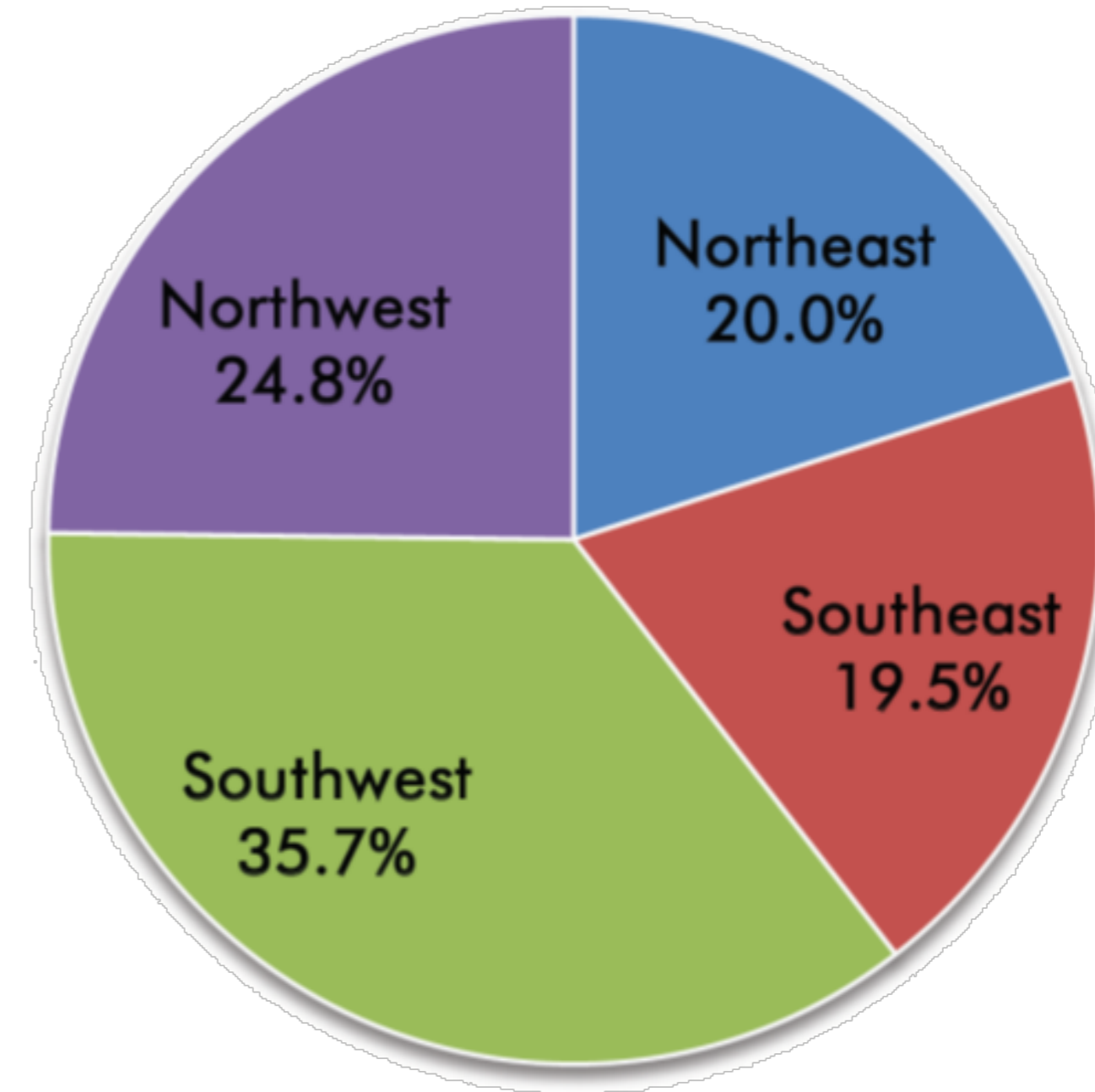


Table 3.2 Current Coverage Estimates						
Coverage Area	Population	Pop %	Jobs	Jobs %	Service Area Higher Population Density ³	High Pop. Density %
METRO Service Area	3.5 Million	100%	1.8 Million	100%	1.1 Million	100%
Within 1/4 mile of all-day stop	1.6 Million	46%	1.2 Million	65%	752,000	70%
Within 1/4 miles of local stop, 5 miles P&R¹	4.0 Million	115%	2.5 Million	111%	1.05 Million	97%
Within 1/2 mile of 2014 light rail	105,700	3%	302,000	16%	54,000	5%
Within 1/4 mile of all-day frequent² stop	289,500	8%	475,000	26%	156,000	15%

Existing Conditions



Percent



Stakeholder Engagement

Engage Council Members, TAB members, advisory committees, and other transit policy groups

Knowing some base information about the existing system...

- What existing conditions do we want to know more about?
- What shared values should we evaluate as metrics?
- What values should scenarios reflect?

Scenario Analysis

What is it?

- Analysis of high-level scenarios of networks with different allocations of resources to ridership- and coverage-based services
- Each scenario will be analyzed under same evaluation framework as existing conditions
- Scenarios developed via collaboration between consultant and regional staff, following direction from policymakers
- Will be presented to policymakers to aid in the development of resource allocation goals and strategies

What is it not?

- Restructure of the existing transit system
- Detailed and specific route planning exercise
- Replacement for transit provider service planning processes

Scenario Example

RTA System Redesign Study Alternatives

Like all transit agencies, RTA is asked to pursue opposite goals:

Ridership means attracting as many riders as possible. When we do this, we also achieve these goals:

- Reduced air pollution from car and truck traffic, including emissions that cause climate change.
- Lower tax subsidy per rider.
- Better bus service for anyone in denser areas with more people.
- More economic activity without more traffic congestion.
- Support dense and walkable development and community reinvestment near bus service.

Coverage means being available in as many places as possible, even if not many people ride. When we do this, we also achieve these goals:

- Bus service to emerging suburban employment and residential areas.
- Mobility options for people who are located in hard-to-serve places and can't drive or don't have access to a car.
- Bus service to every city, town or neighborhood in Cuyahoga County.

These alternatives are designed to illustrate what RTA's network could look like if it were designed to focus more heavily on these goals.

High Frequency Alternative

This alternative is designed to focus on the ridership goal, with 85% of the budget spent where ridership potential is high, and 15% spent covering places where ridership would be low but transit is needed.

The High Frequency Alternative concentrates service so that lines run more frequently, reducing waiting times and making travel by transit more convenient. The network would reach fewer places, but where it does reach, trips would be faster than with the Existing Network.

Design Principle

Concentrate convenient, frequent service in the places with the largest potential market. These places are:

- ▶ Dense - many people are near each stop.
- ▶ Walkable - the street network and pedestrian infrastructure make it possible to reach nearby destinations by walking.
- ▶ Linear - so that transit doesn't have to make time-consuming deviations to reach destinations.
- ▶ Proximate to other dense areas, so that transit doesn't have to run through long stretches of empty space where few people want to travel.

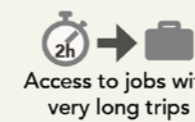
Key Outcomes of the High Frequency Alternative:



Access to jobs with typical trips

5,700 more jobs are accessible in 45 minutes for the average person, a **36% increase** over the Existing Network

12,800 more jobs are accessible in 60 minutes for the average person, a **29% increase** over the Existing Network



Access to jobs with very long trips

37,300 fewer jobs are accessible within 2 hours of travel time for the average person, a **16% decrease** compared to the Existing Network



People near high-frequency transit

250,000 more people are within 1/2 mi walk of high-frequency service, a **285% increase** over the Existing Network

94,000 more jobs are within 1/2 mi walk of high-frequency service, a **151% increase** over the Existing Network



People near any transit

209,000 fewer people are near a transit stop served at any frequency, a **24% decrease** compared to the Existing Network.

109,000 fewer jobs are near a transit stop served at any frequency, a **22% decrease** compared to the Existing Network.

RTA System Redesign Study Alternatives

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These alternatives are designed to illustrate what RTA's network could look like if it were designed to focus more heavily on these goals.

Coverage Alternative

This alternative's goal is to offer service almost everywhere, with 50% of the budget spent where ridership potential is high, and 50% spent covering places where ridership would be low but transit is needed.

The Coverage Alternative spreads out service across the county, but **spreading it out means spreading it thin**. Frequencies would be lower throughout the network. This means that the network reaches more places but some trips would take much longer.

Design Principles

- Reduce duplication (where multiple routes serve the same street or go to the same place) and use savings to extend coverage area.
- Where possible, reduce some frequencies and reallocate to new coverage areas.
- Reach more people and jobs, even if some routes would operate less frequently than they do today, and routes in newly-served areas would operate only every 45 or 60 minutes.

Key Outcomes of the Coverage Alternative:



Access to jobs with typical trips

About the same number of jobs would be accessible in 45 minutes for the average person.

1,600 fewer jobs would be accessible in 60 minutes for the average person, a **4% decrease** compared to the Existing Network



Access to jobs with very long trips

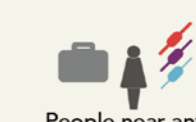
18,000 more jobs would be accessible within 2 hours of travel time for the average person, an **8% increase** over the Existing Network



People near high-frequency transit

28,000 fewer people would be within 1/2 mi walk of high-frequency service, a **21% decrease** compared to the Existing Network

5,200 fewer jobs would be within 1/2 mi walk of high-frequency service, a **3% decrease** compared to the Existing Network



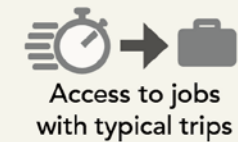
People near any transit

25,600 more people would be near a transit stop served at any frequency, a **3% increase** over the Existing Network

25,000 more jobs would be near a transit stop served at any frequency, a **5% increase** over the Existing Network

Scenario Example

Key Outcomes of the High Frequency Alternative:



5,700 more jobs are accessible in 45 minutes for the average person, a **36% increase** over the Existing Network

12,800 more jobs are accessible in 60 minutes for the average person, a **29% increase** over the Existing Network



37,300 fewer jobs are accessible within 2 hours of travel time for the average person, a **16% decrease** compared to the Existing Network



250,000 more people are within 1/4 of high-frequency service, a **285% increase** over the Existing Network

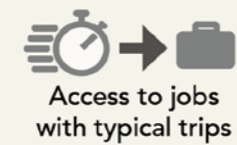
94,000 more jobs are within 1/2 mile of high-frequency service, a **151% increase** over the Existing Network



209,000 fewer people are near a transit stop served at any frequency, a **24% decrease** compared to the Existing Network.

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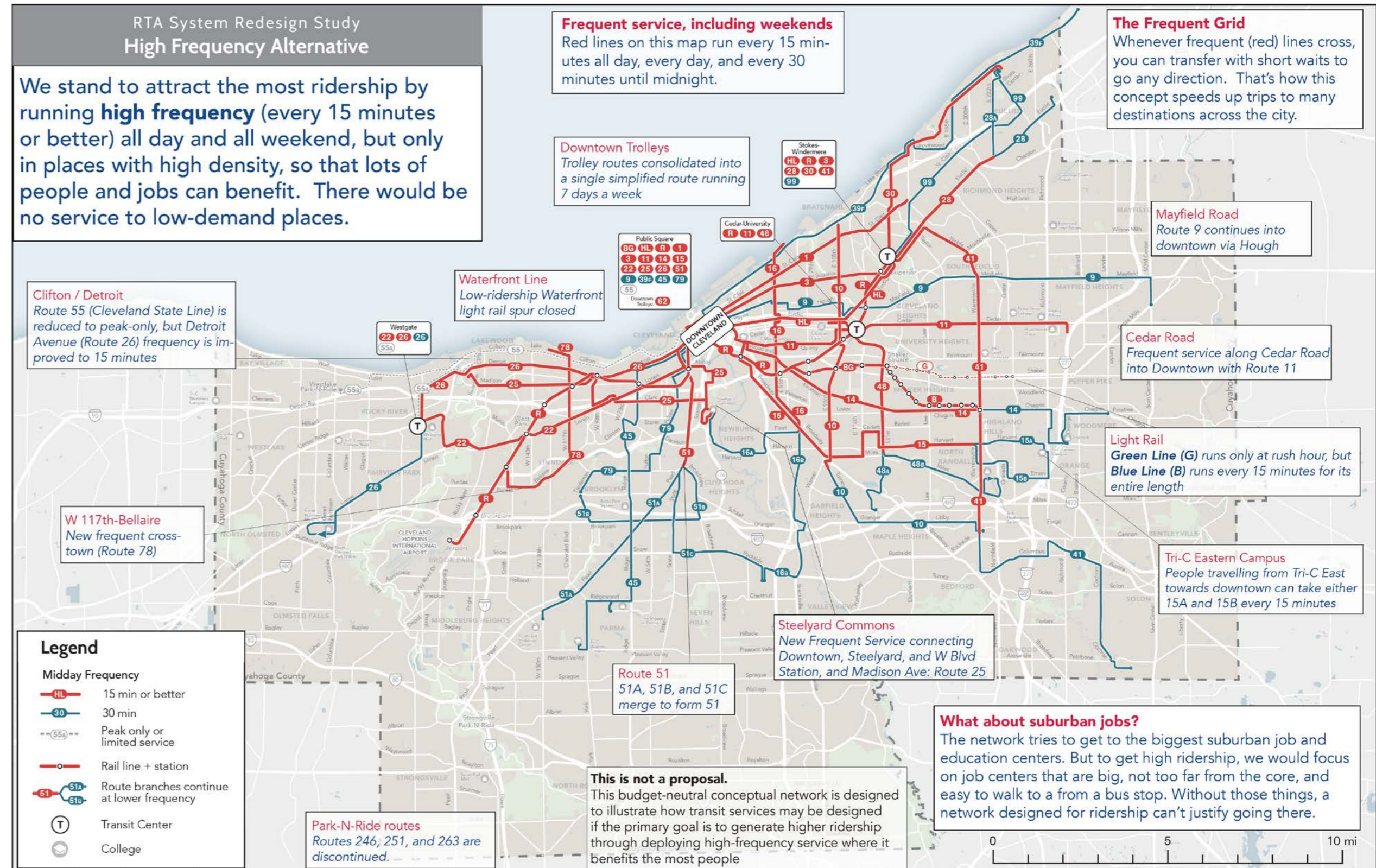
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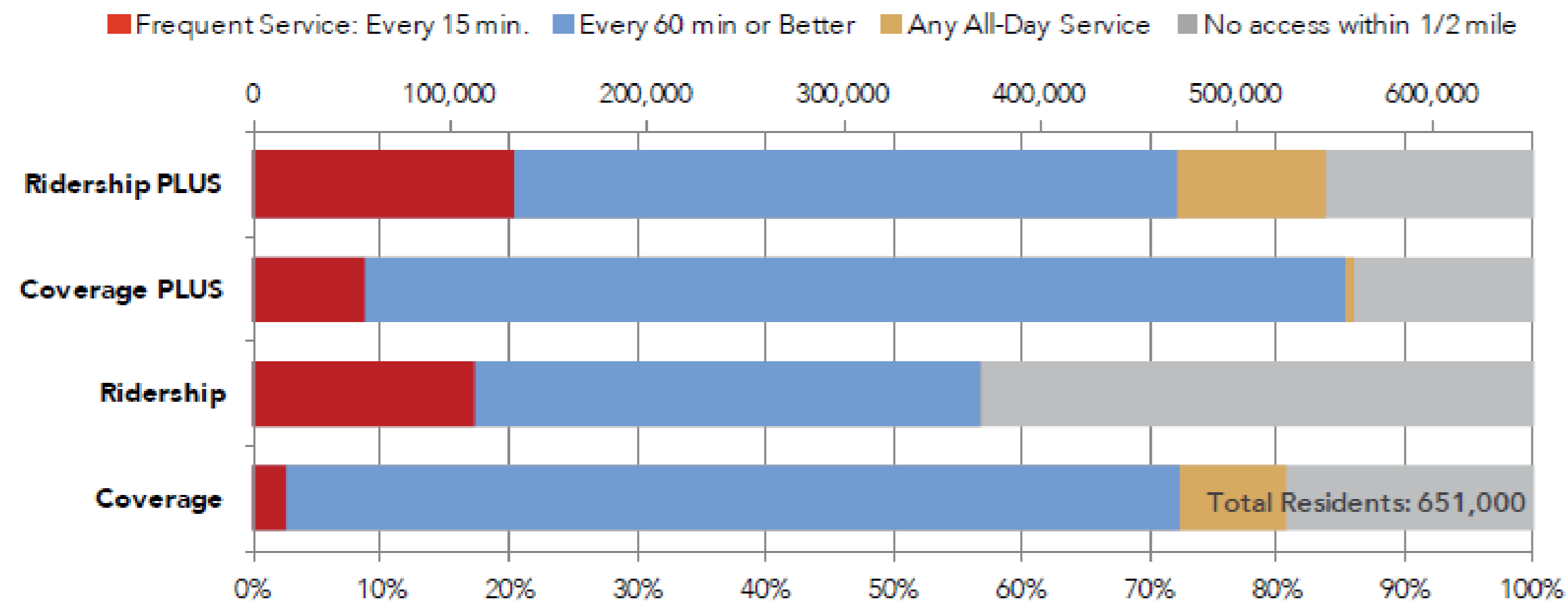
We will not be producing route maps for public review for the scenarios! Illustrative; too confusing to stakeholders.



Analysis Example

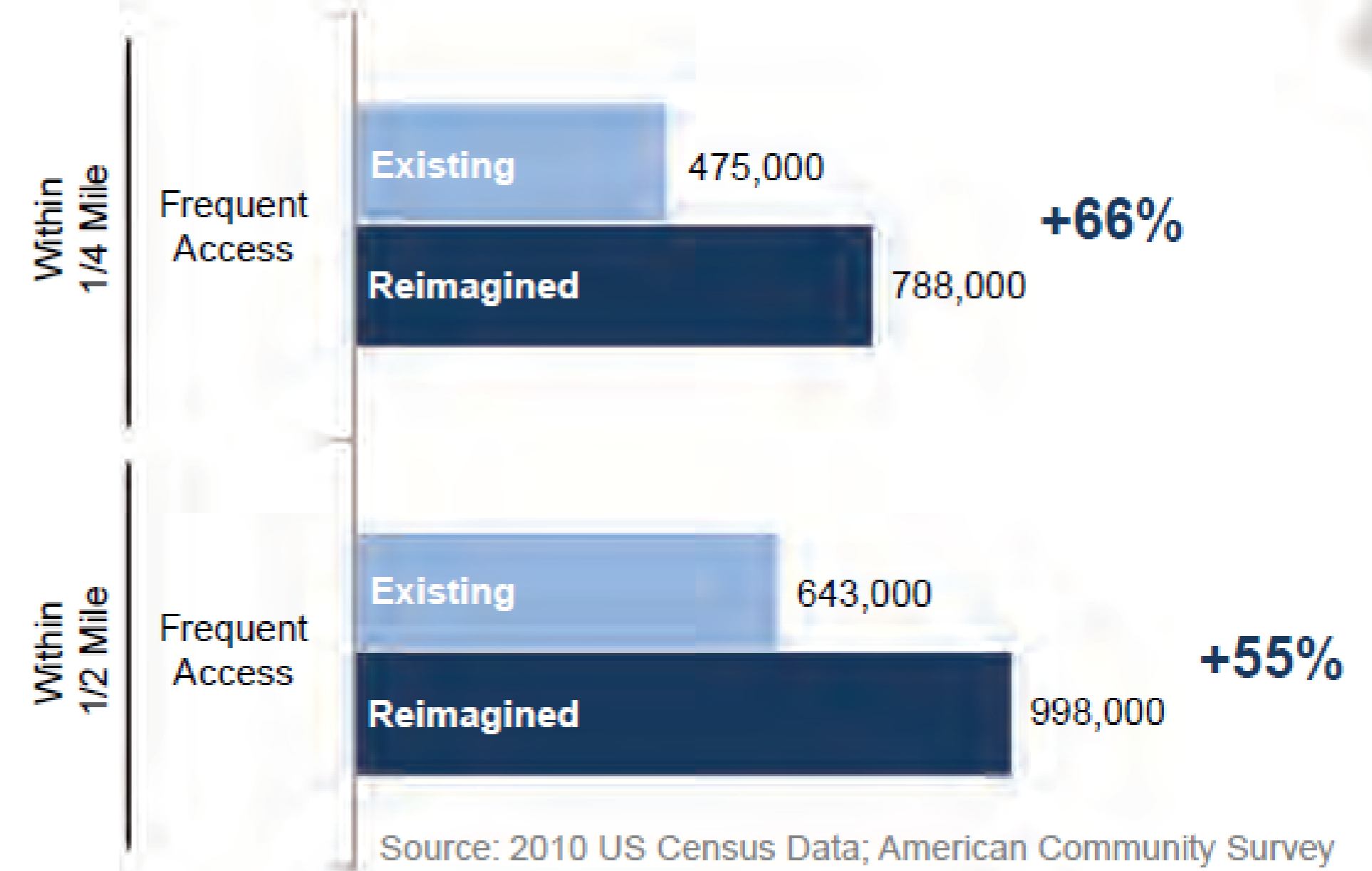
Residents with Access to Transit

within 1/2 mile of a Transit Route in Memphis, TN



Frequent Access: Jobs

Total METRO Service Area Employment: 1.8 Million



Stakeholder Engagement

Engage Council Members, TAB members, advisory committees, and other transit policy groups

- What do the scenarios tell us about how to improve transit implementation in the region?
- What shared values about improving transit can be put into action and how?
- What other considerations could the region be doing to advance transit's role?

Coverage Service Guidelines

- What goals should we have for coverage services in the region?
- How do we evaluate and achieve those goals?
- What are emerging strategies for providing transit service in areas not served by fixed route services?

Final Report & Implementation Plan

- Summarizes project efforts
- Implementation Plan will outline strategies for implementing stakeholder feedback from the Service Allocation Study
- Implementation strategies include:
 - Service design guidelines
 - Regional transit performance metrics
 - Investment prioritization concepts

Deliverables

- Existing Conditions Report
- Regional Transit Values Memo
- Scenario Analysis Report
- Coverage Service Design Technical Memo
- Implementation Plan

Project Timeline

- Existing Conditions Analysis: October – December 2019
- Scenario Development and Analysis: December 2019 – April 2020
- Implementation Plan/Final Report: April – June 2020

Questions

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