

Met Council Bus Service Allocation Study

Policy-Makers Meeting

Presented by: Thomas Wittmann

April 22, 2020

TECHNOLOGY INTRODUCTION

Please make sure to download the Zoom desktop or mobile application in advance. Your functionality will be limited if you access the meeting using your web browser.

If you experience technical difficulties, please use the Zoom chat function or call (651) 333-4139.

INTRODUCTION

WORKSHOP PARTICIPATION GUIDELINES

- For full functionality use the zoom desktop or mobile applications, not the web client
- Keep yourself muted when you are not speaking
- Use video when speaking and don't forget to unmute yourself
- Type questions or comments into the chat box
- Please do not use the “raise hand” function – it will be hard to see you!

CALENDAR INVITE WILL HAVE THE FOLLOWING INFORMATION:



Title

Building PowerPoint

Start time

Thu 4/16/2020

11:45 AM

Pacific Time (US & Canada)

☐ All day

☒ Time zones

End time

Thu 4/16/2020

12:45 PM

Pacific Time (US & Canada)

[Make Recurring](#)

Location

<https://zoom.us/j/91203709922>

Inviting you to a scheduled Zoom meeting.

Join Zoom Meeting
<https://zoom.us/j/91203709922>

Meeting ID: 912 0370 9922
Password: 090576

One tap mobile
+13462487799,,91203709922#,,#090576# US (Houston)
+16699009128,,91203709922#,,#090576# US (San Jose)

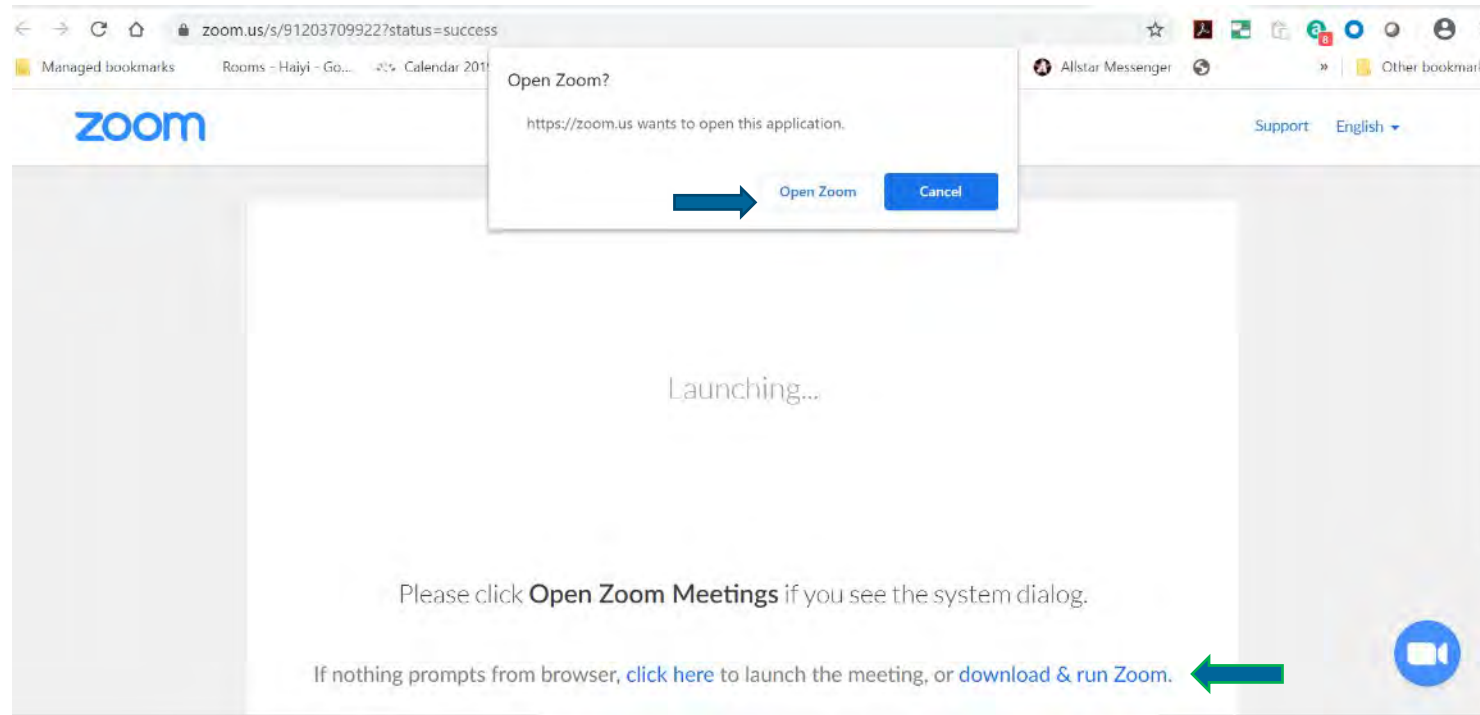
Dial by your location

+1 346 248 7799 US (Houston)
+1 669 900 9128 US (San Jose)
+1 312 626 6799 US (Chicago)
+1 646 558 8656 US (New York)
+1 253 215 8782 US
+1 301 715 8592 US

Meeting ID: 912 0370 9922
Password: 090576
Find your local number: <https://zoom.us/u/ab8hz03uO>

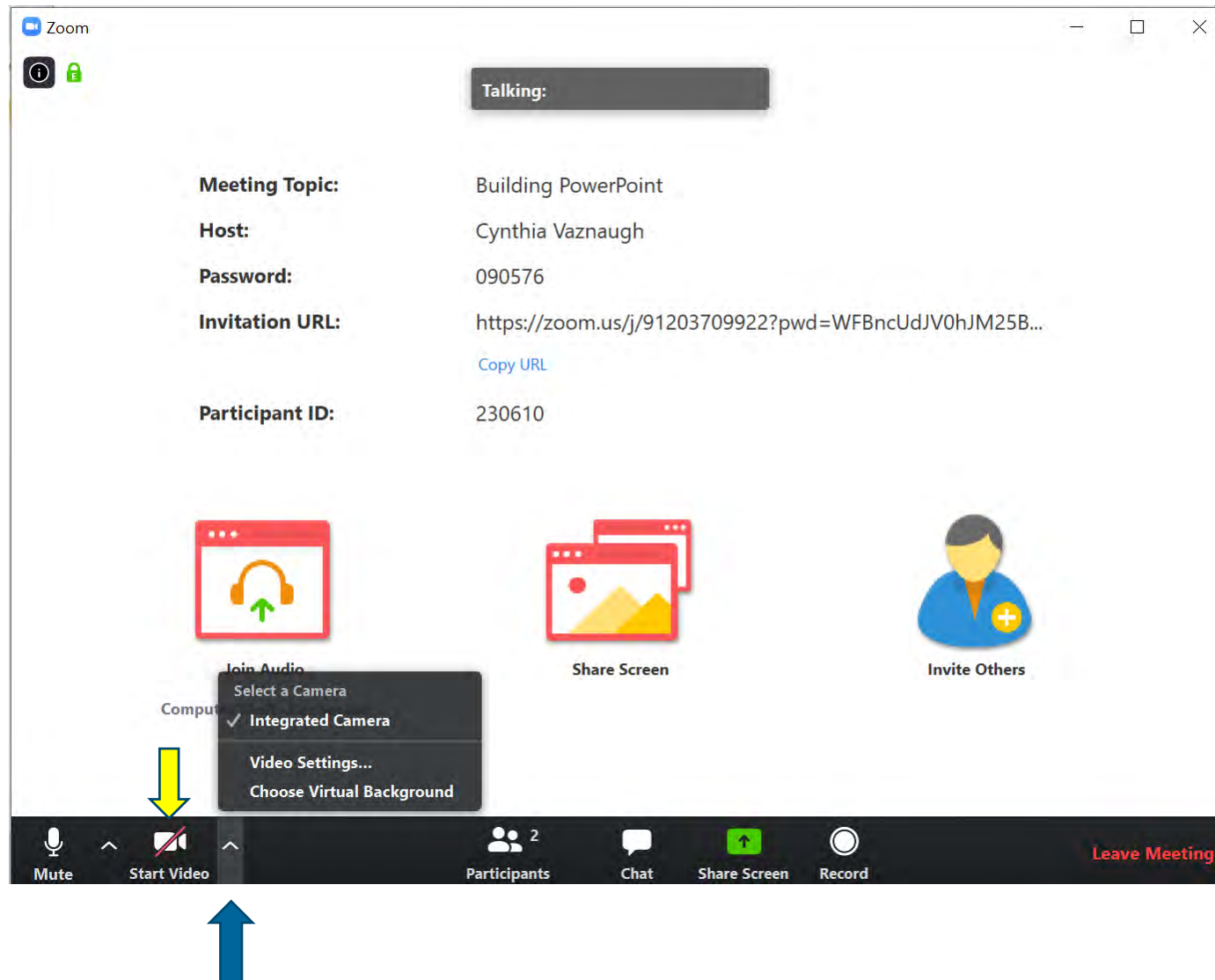
- Link to join meeting (in red)
- Password
- One tap mobile for phones
- When you join the Zoom meeting you will be asked for a password.

JOINING THE MEETING



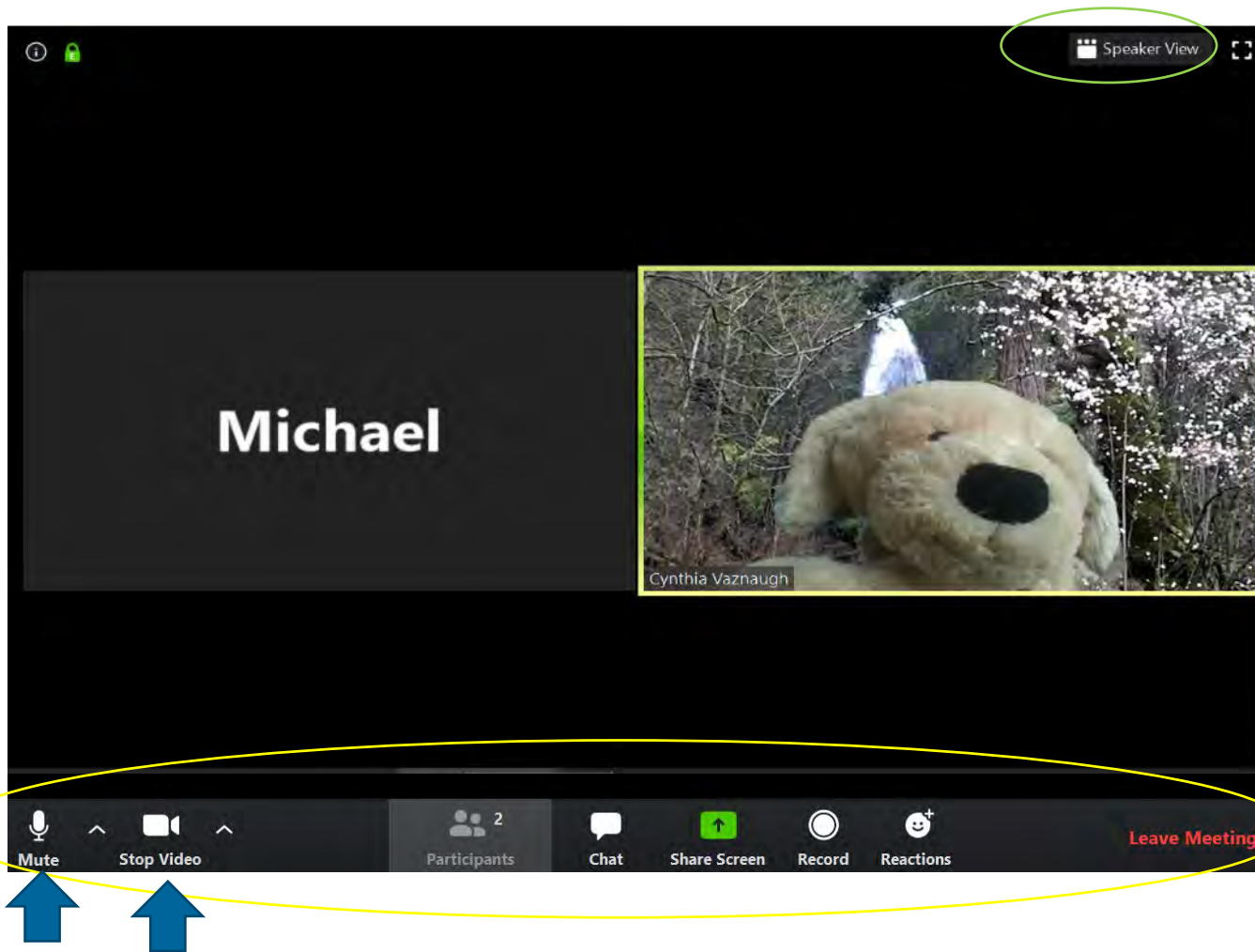
- When you click the meeting link – you will get this screen.
- Click – OPEN ZOOM
- If you do not have Zoom click [download & run Zoom](#)

STARTING YOUR CAMERA FOR VIDEO



- The Mic icon is on because there is no red line through it
- Click video icon to start your camera for the meeting. (yellow arrow)
- If you want to change you background
 - Click carrot to bring up menu
 - Choose virtual background

JOINED MEETING – VIEW AND MENU BARS FOR THE MEETING



Top Menu Bar

- To change your view from tiles to speaker view
 - click the icon in the **green circle**

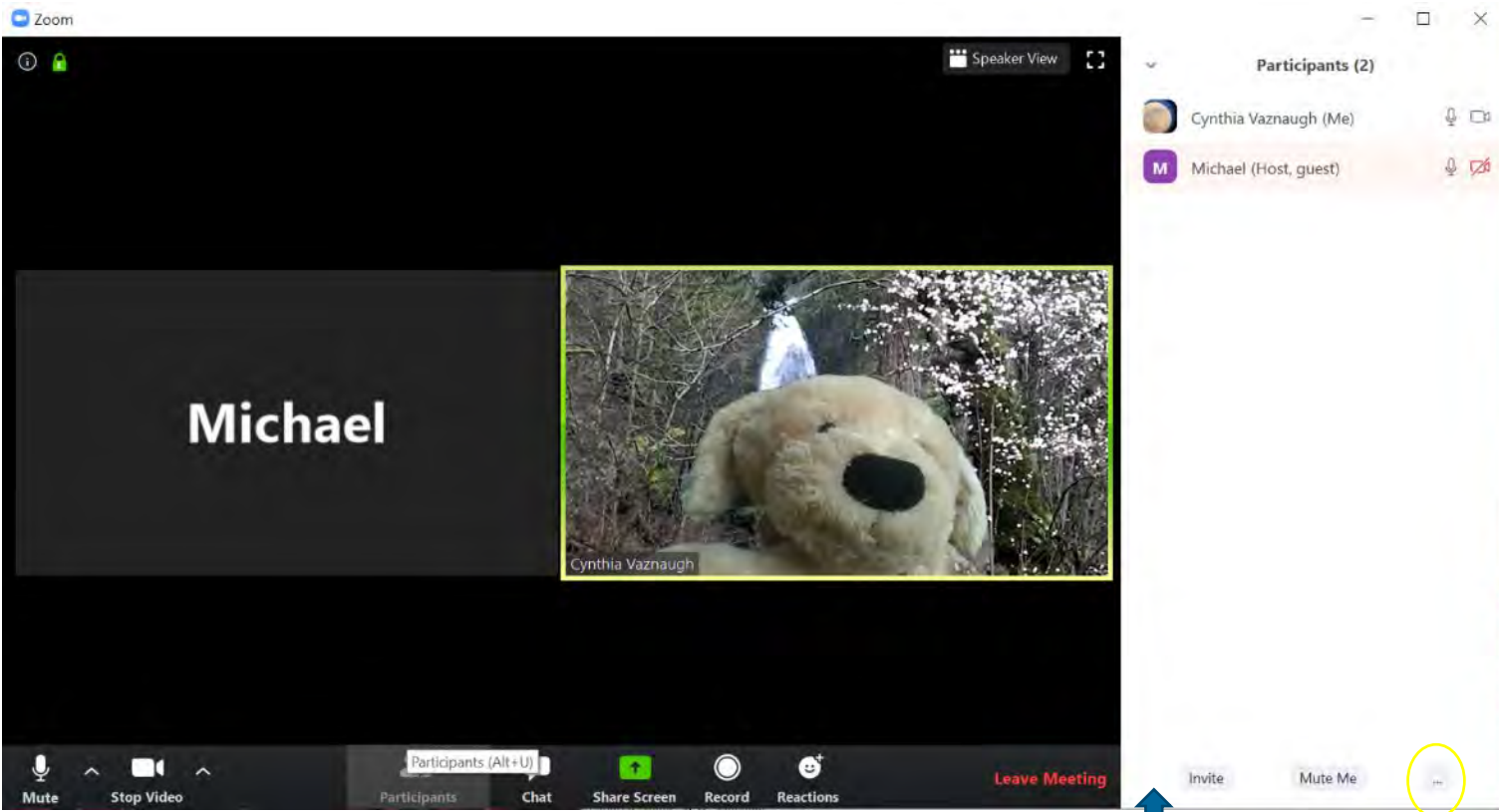
You will be able to see up to 25 participants or you may only see speaker depending on the view you chose.

This meeting only has 2 participants –
Michael – joined with audio only
Cynthia – joined with audio & video

Click **Leave Meeting** to end the meet for you

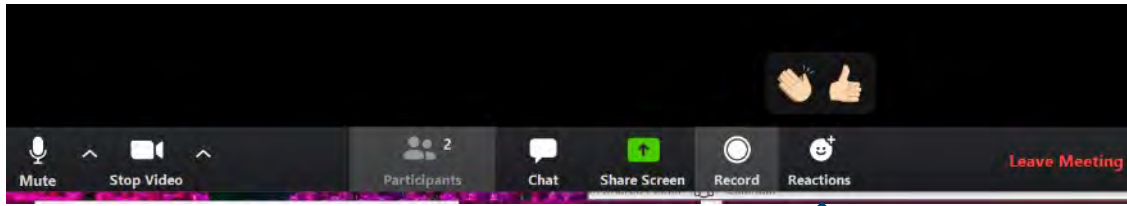
To mute or stop video press the icon a **red line** will cross over the icon so show it is off. Just click icon again to start

TO SEE PARTICIPANTS

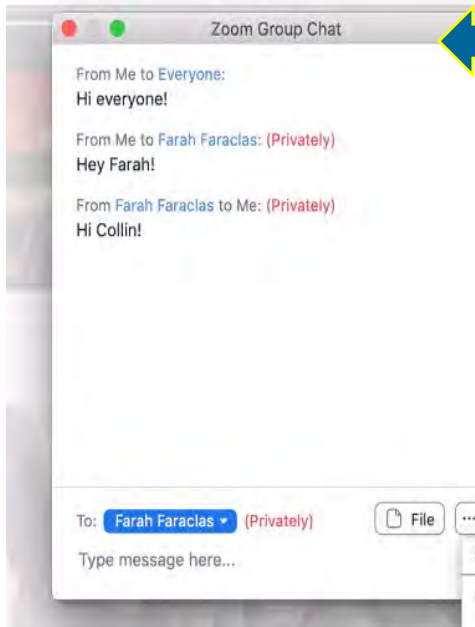


To see participants click on “Participants” and screen will appear to the right.

TO SHOW REACTION AND CHAT ICON



By clicking on the Reaction Icon.
You can give a clap or thumbs. It will appear in your attendee window at the top left.



By clicking on Chat icon – a window will appear for you to type messages

If you have the “Participants” window open the chat menu will be below it.

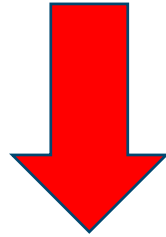
STUDY INTRODUCTION

STUDY PURPOSE

- Facilitate regional discussion with policy makers on transit priorities
- Understand region-wide need for better mobility options
- Develop and evaluate a series of expansion scenarios that reflect regional goals
- Document regional values to inform future service investment

ANTICIPATED PROCESS AND TIMELINE

We are here



Existing
Conditions /
Stakeholder
Outreach

Initial Policy
Maker
Workshop

Develop
Three Expansion
Scenarios

Second Policy
Maker
Workshop

Scenario
Evaluation &
Report

WORKSHOP DESIRED OUTCOMES

Understand service adjustment values for transit

Show existing service distribution
and documented values/priorities



Discussion Exercise:
What is important to consider when
adjusting service?



Discussion Exercise:
Define desired outcomes for transit
in the region

- Anticipated Results

- o Values from workshop will be used to develop three different service scenarios
- o Service scenarios will then be evaluated to see impact of applying values regionally

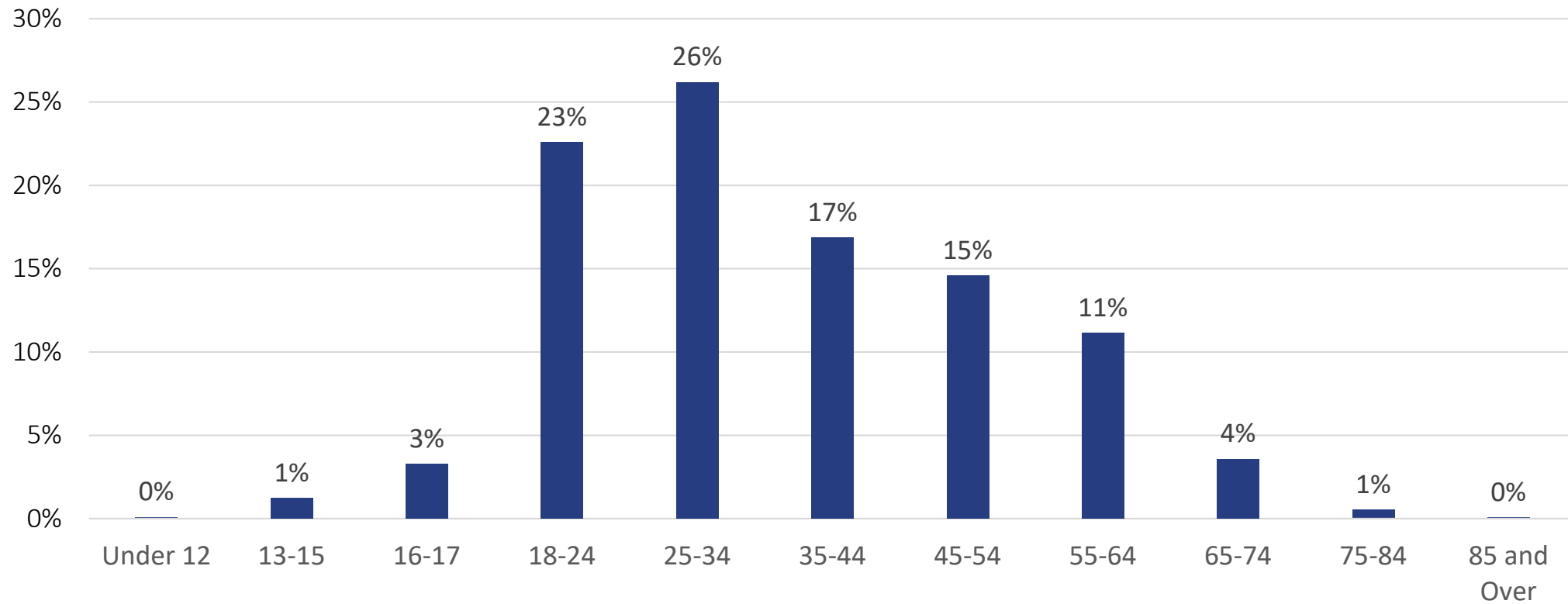
COVID-19 AND SERVICE ALLOCATION

- Transit service and use are down and will likely take time to recover, and travel patterns may be different
- Service allocation study is asking for high-level, long-term policy guidance
- The study is not intended to guide how, where, or when agencies bring services back following the peacetime emergency measures
- For today's workshop, we are focused on expansion opportunities, but will also have small group discussions about regional values if the transit system is being cut back
- The COVID crisis shows the need for considering factors such as social equity when planning for service expansion or contraction

BACKGROUND

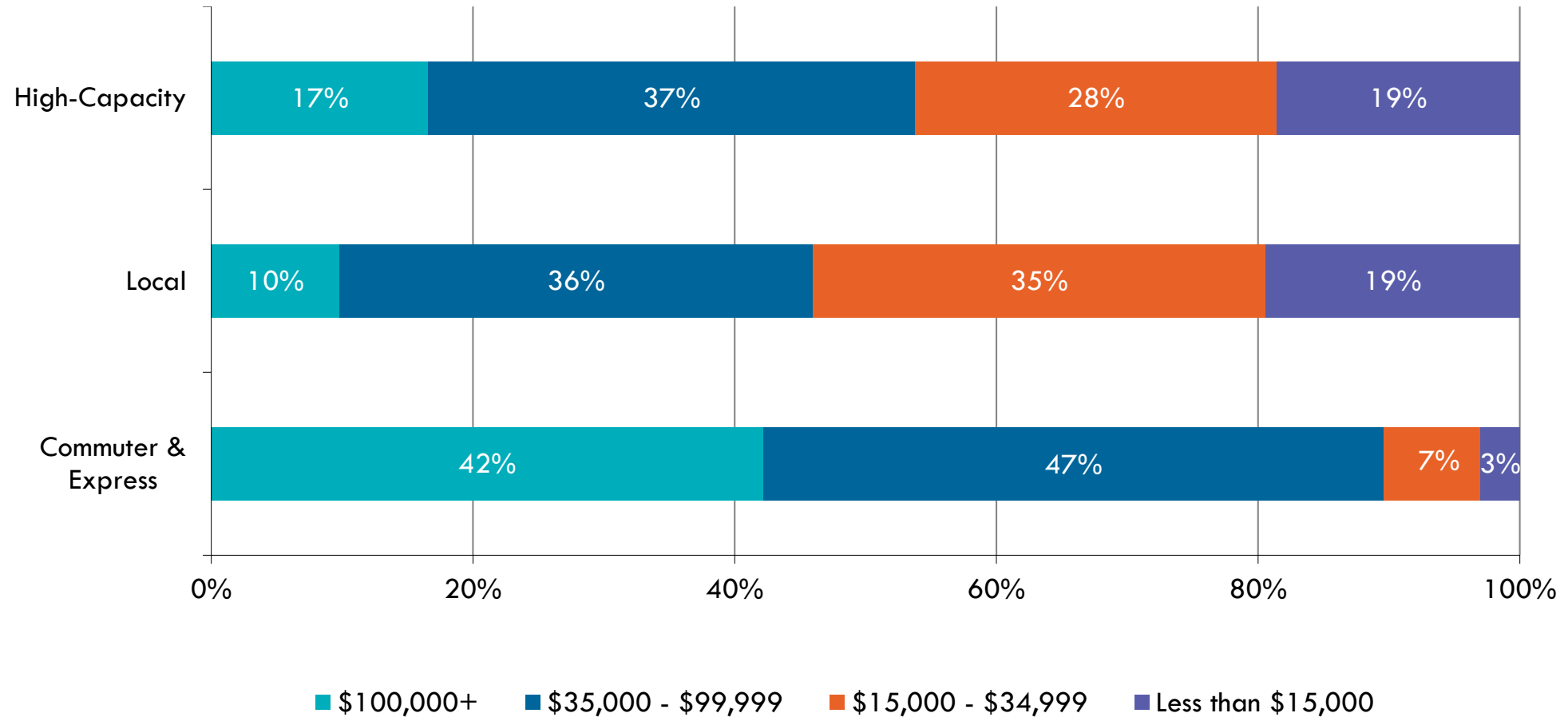
WHO RIDES TRANSIT - 2016 ON-BOARD SURVEY

Rider Age



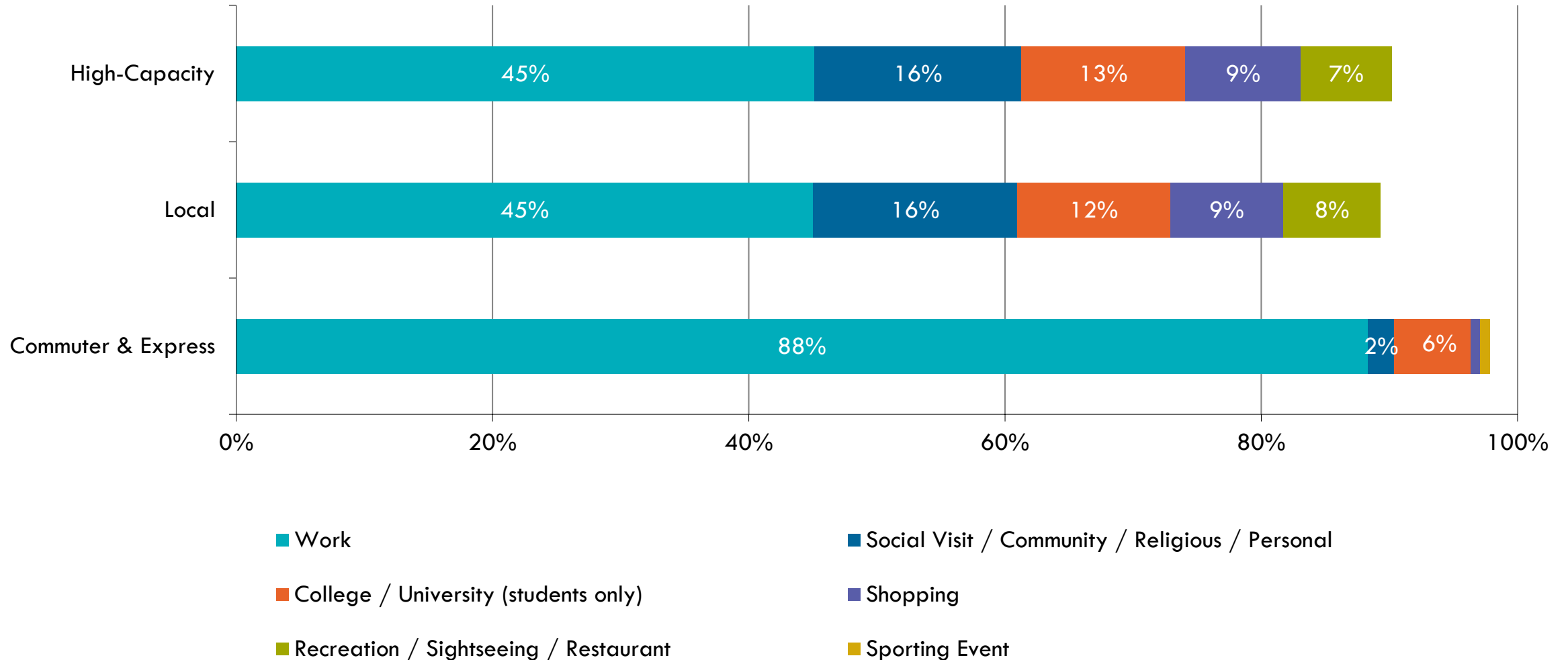
WHO RIDES TRANSIT - 2016 ON-BOARD SURVEY

Income By Service Classification



WHO RIDES TRANSIT - 2016 ON-BOARD SURVEY

Top 5 Trip Purpose by Service Classification



JULY 2019 SERVICE TRADEOFF WORKSHOP

- Service allocation workshop with Met Council and TAB members
- Developed route network using limited resources in hypothetical city
- Key themes:
 - Leveraged rail network
 - Focus on equity
 - Job access to outlying suburban areas
 - Focus on medical and higher education destinations
 - 15-minute service frequency in core areas



AGENCY OUTREACH



OUTREACH OBJECTIVES

- Transit agencies provide an overview of their services
- Understand factors that inform service allocation decisions
- Future planning and service development priorities
- General project input

KEY TAKEAWAYS FROM INTERVIEWS

- All transit agencies use similar industry standard performance to measure:
 - Service efficiency
 - Revenue effectiveness
 - Cost effectiveness
- All transit agencies focus on quality service to areas with highest ridership potential
- All transit agencies noted challenges in providing service in areas with need, but lower ridership demand
- Social equity is important, but applied inconsistently in existing service allocation processes
- Not all agencies have written service allocation processes, but all agencies engage in service allocation annually

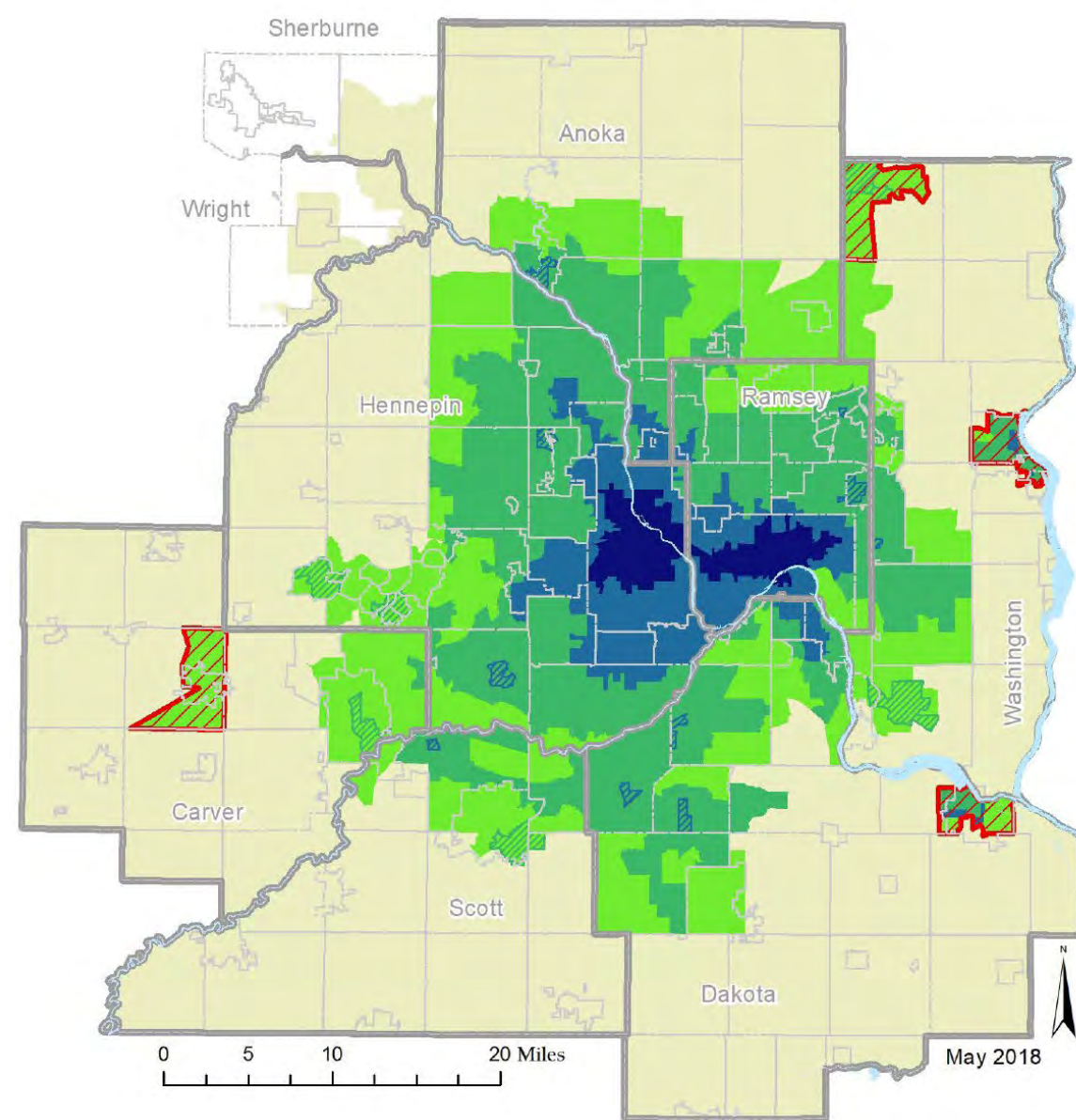
EXISTING FIXED-ROUTE DISTRIBUTION

QUESTIONS FOR PARTICIPANTS TO CONSIDER

- The following slides map the distribution of population, employment, and demographic factors in relation to existing services.
- Which service classification coverage areas stand out to you?
 - Areas without basic service?
 - Areas without high frequency service?
 - Areas without commuter & express service?
- Which types of destinations need more service?
 - Areas with high population density? job density? both?
 - Areas with dispersed jobs and population?
- Which demographic group opportunities should be prioritized, if any?
 - Low-income, non-white, seniors, etc.

MARKET AREAS

- The seven-county metro region is divided into Transit Market Areas representing different levels of potential transit demand
 - Market Area 1 = highest level of transit demand
 - Anticipated demand in Market Area 2 = half of Area 1
 - Anticipated demand in Market Area 3 = half of Area 2



PROPOSED ANALYSIS ROUTE CLASSIFICATIONS

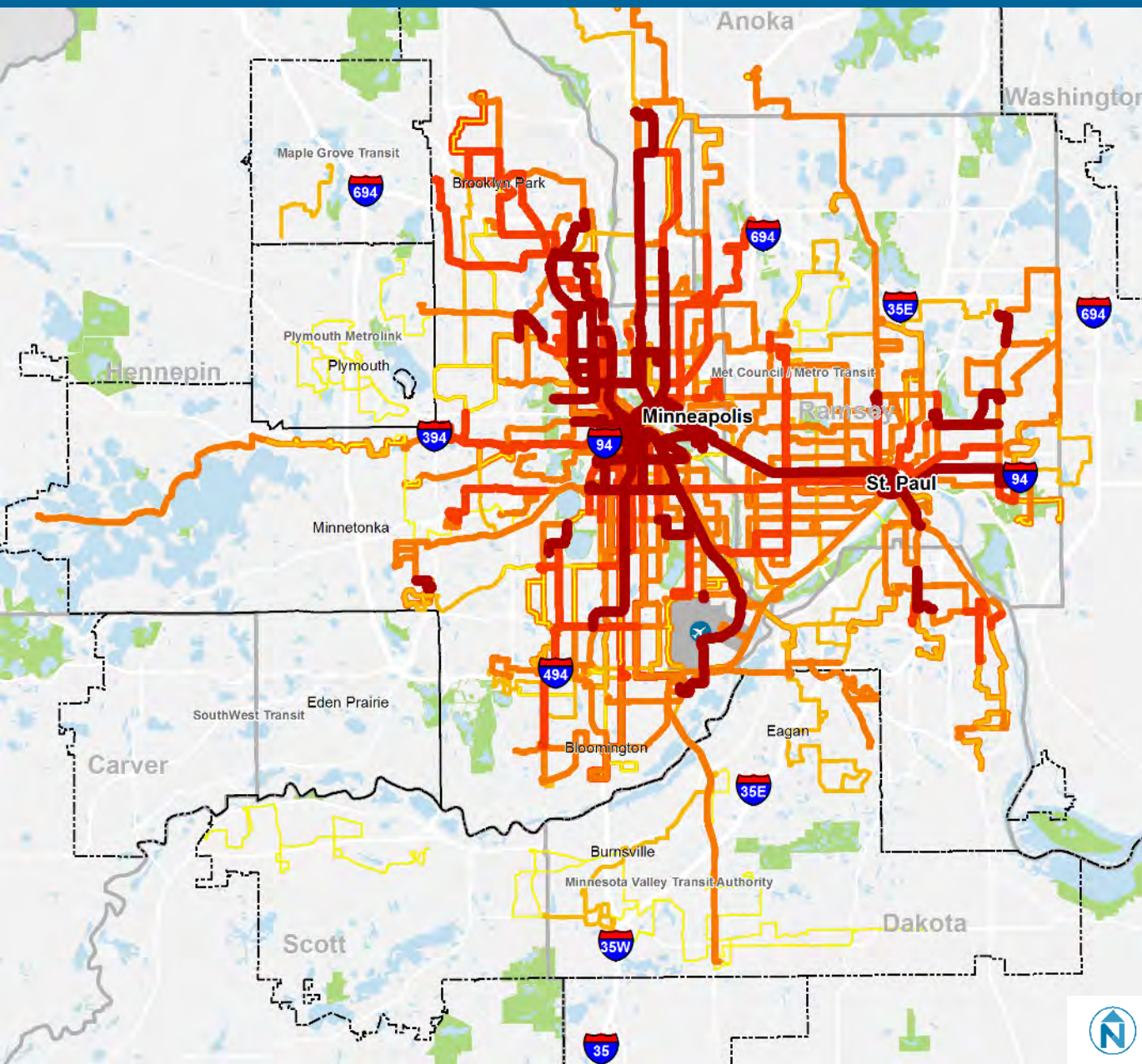
- **High Frequency Network**
 - Service every 15 minutes or better
 - Includes bus, Bus Rapid Transit, and Light Rail
 - Convenient for all trip types, no schedule necessary
- **Local Service**
 - Service at least every 30 minutes
 - Requires a schedule
 - Less flexible than high frequency service, but will support discretionary trips
- **Basic Service**
 - Service more than every 30 minutes
 - Requires a schedule
 - Not conducive to convenient trip making
- **Commuter & Express Service**
 - Any service that has long, non-stop segments
 - Includes peak service to CBD's, reverse commute, and all-day service

Note: Demand-response/dial-a-ride service is not included in this analysis. While these services are an important part of the transit system, the purpose of this study is to assess fixed-route services and allow these other, flexible service types to fill in where fixed-route doesn't make sense.

KEY TAKEAWAYS FROM PRODUCTIVITY ASSESSMENT

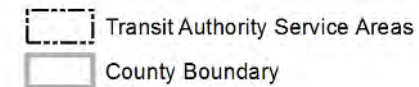
- Almost all routes operate at productivity levels (boardings per service hour) you would expect given the underlying development patterns
- Commuter & express service ridership per trip is good across the system, with just a few exceptions

HIGH FREQUENCY, LOCAL, AND BASIC SERVICE PRODUCTIVITY

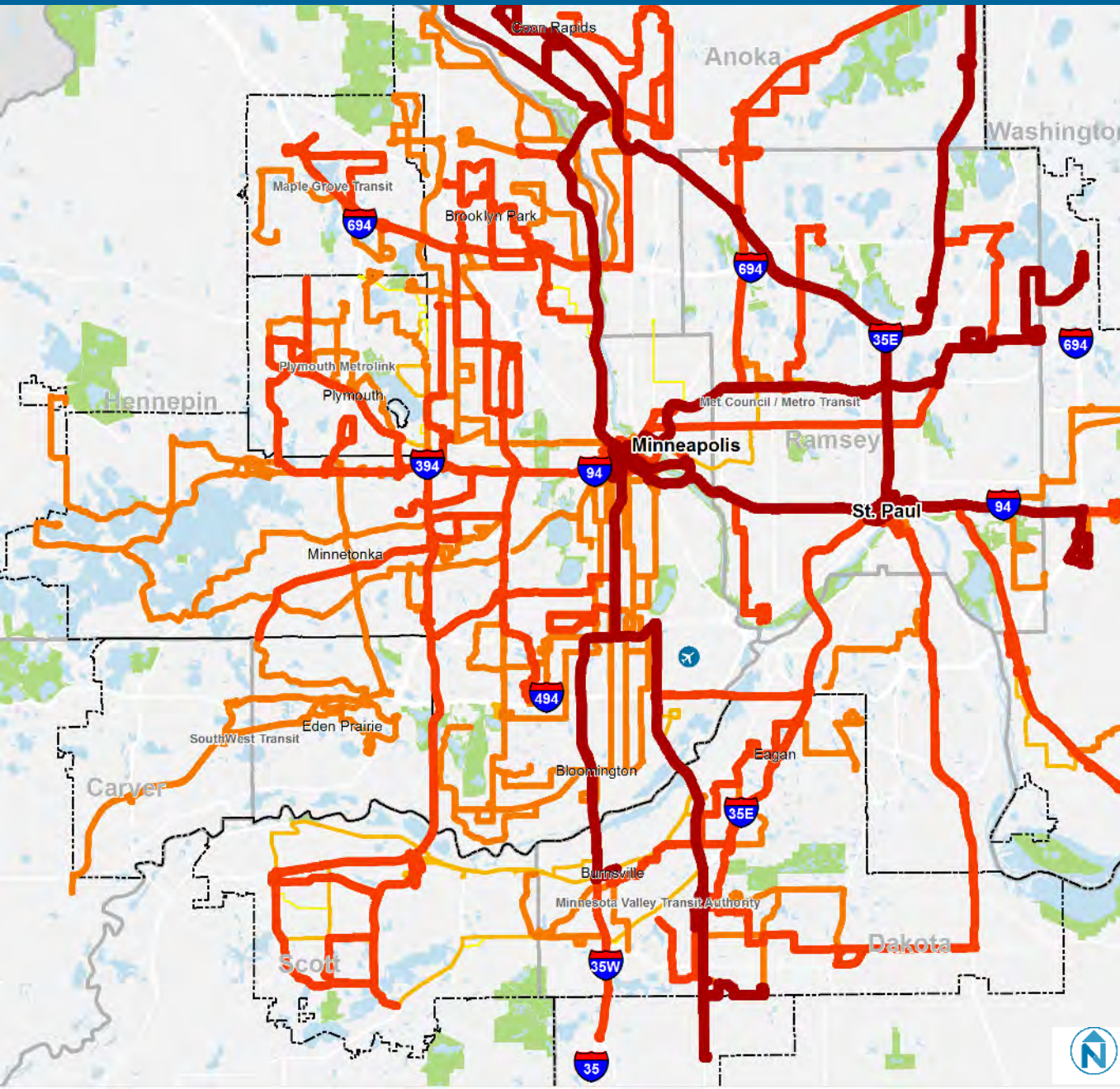


Productivity by Segment for High Frequency Transit, Local, and Basic Transit Service

Boardings per In Service Hour

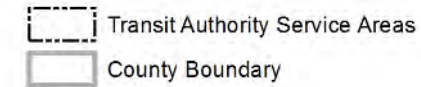
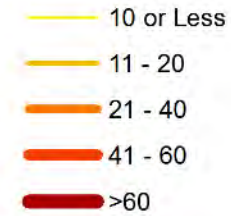


COMMUTER & EXPRESS PRODUCTIVITY



Productivity by Route for Commuter & Express Service

Boardings per Trip



KEY TAKEAWAYS FROM DENSITY ASSESSMENT

- The areas with the highest potential to use transit have access to quality transit
- In Market Area 1, about 95% of the population and employment groups are covered by at least local, 30-minute weekday service
- In Market Area 2, about 85% of all population and employment groups are served by local transit service
- In outlying areas, fixed-route transit access is more limited

GUIDELINES FOR TRANSIT SERVICE LEVELS



45+ residents
per acre
25+ employees
per acre



30–45 residents
per acre
15–25 employees
per acre



15–30 residents
per acre
10–15 employees
per acre



10–15 residents
per acre
5–10 employees
per acre



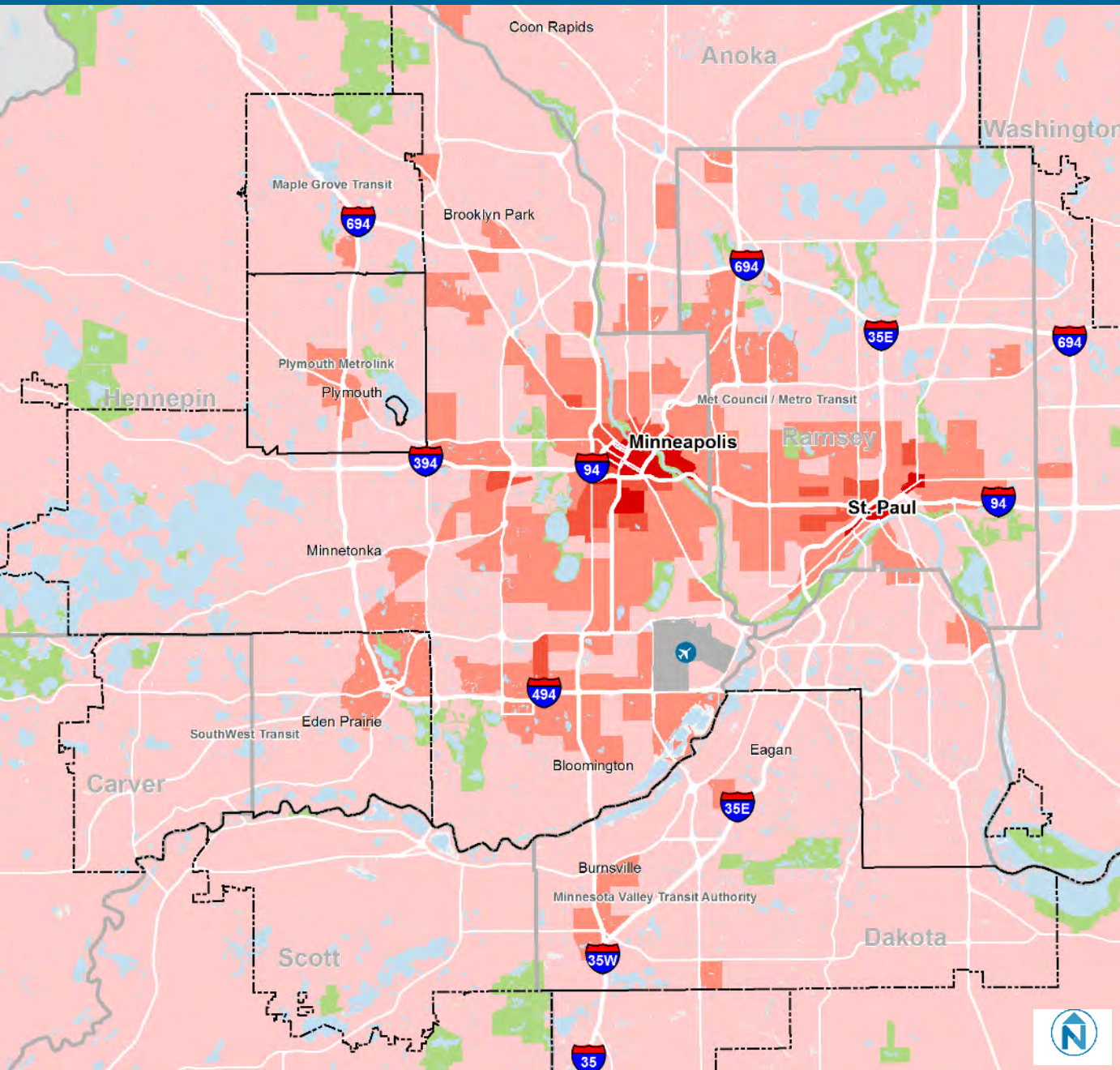
Flexible
and demand
response services



<10 residents
per acre
<5 employees
per acre

Source: Thresholds are based on research by Nelson\Nygaard.

POPULATION AND EMPLOYMENT DENSITY



Residents and jobs per acre (service frequency supported)

- Less than 10 (flexible and demand response services)
- 10 - 25 (service every 30 - 60 minutes)
- 25 - 45 (service every 15 - 30 minutes)
- More than 45 (service every 15 minutes or better)

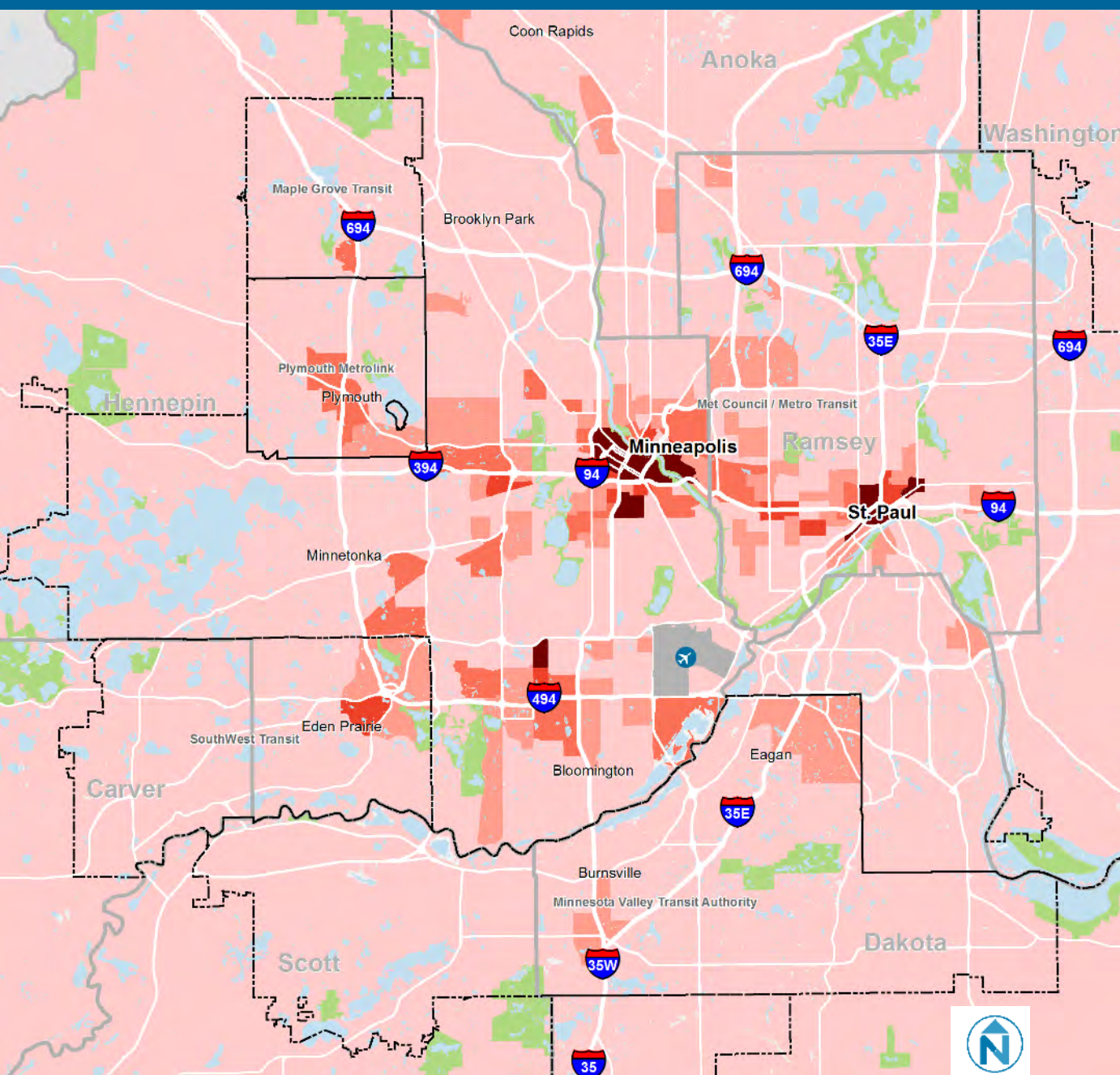
- Transit Authority Service Areas
- County Boundary

TOTAL POPULATION

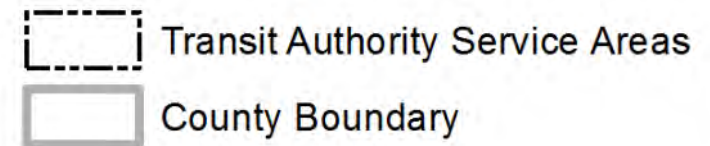
Percent of total population served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	72%	25%	1%	0%	0%
Local Service (<30-min frequency)	97%	84%	21%	<1%	0%
Basic Service (>30-min frequency)	97%	87%	41%	6%	<1%
Commuter & Express Transit	97%	89%	57%	16%	1%
Demand Response Transit Access Only	3%	11%	43%	84%	99%

TOTAL EMPLOYMENT DENSITY

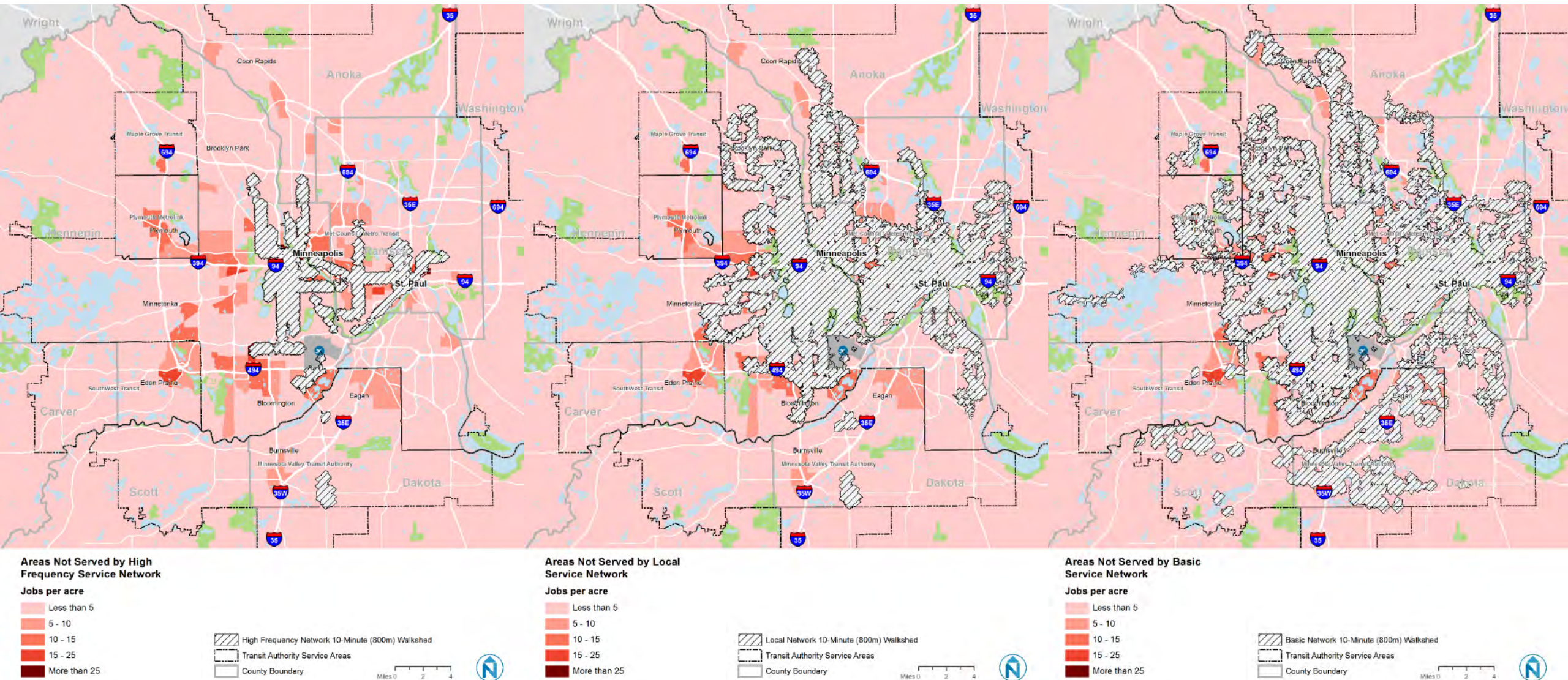


Jobs per acre



TOTAL EMPLOYMENT

Total jobs not served by fixed-route transit



TOTAL EMPLOYMENT

Percent of total jobs served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	80%	21%	2%	0%	0%
Local Service (<30-min frequency)	96%	78%	19%	<1%	0%
Basic Service (>30-min frequency)	96%	82%	43%	14%	1%
Commuter & Express Transit	97%	85%	59%	23%	3%
Demand Response Transit Access Only	3%	15%	41%	77%	97%

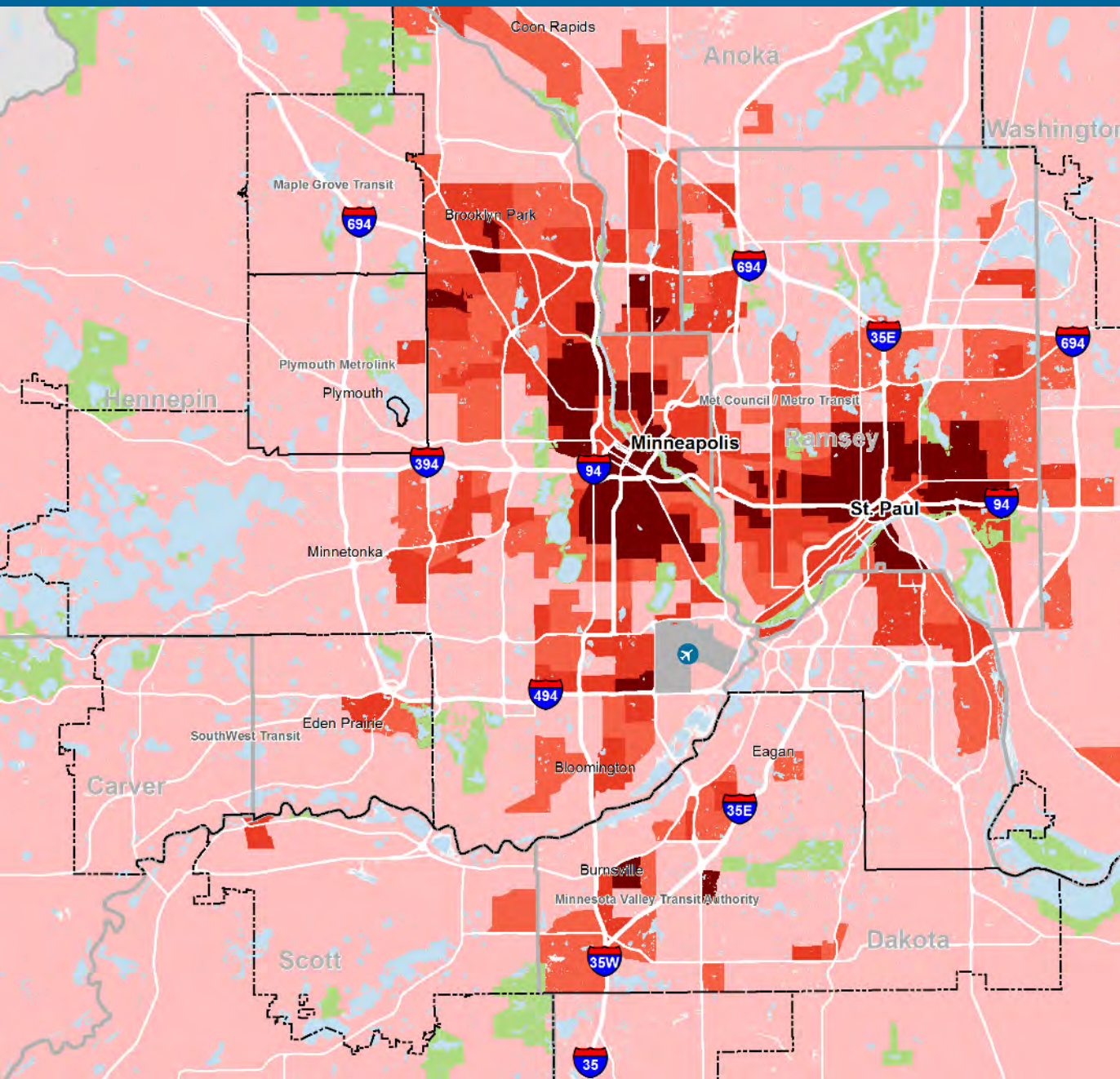
SOCIOECONOMIC FACTORS INTRODUCTION

- Purpose:
 - Show areas of potential service opportunity in the region
- How to read the maps:
 -  “Above Average” reflects the top third of tracts with the highest concentration
 -  “Much higher than average” reflects top 17 percent with the highest concentration
- Note: Results of the service distribution analysis do not implicitly suggest that there is a sustainable market for transit in any given area

KEY TAKEAWAYS FROM SOCIOECONOMIC ASSESSMENT

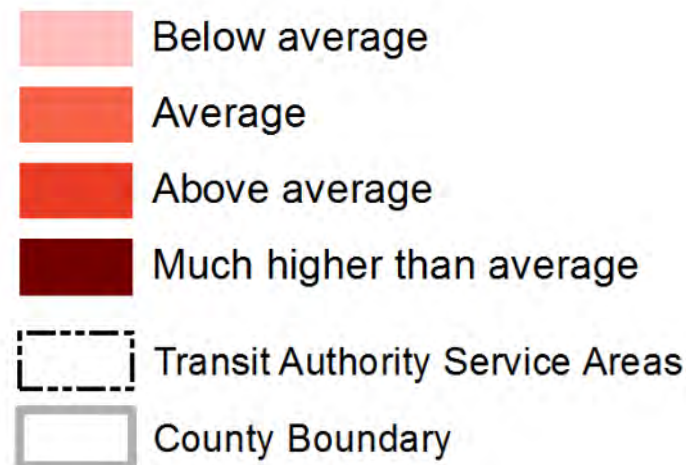
- The vast majority of key socioeconomic populations have good access to transit
- In Market Area 1, about 95% of analysis populations are covered by at least local, 30-minute weekday service
- In Market Area 2, about 80% of analysis populations are served by local transit service
- In outlying areas, access is more limited
- Patterns for low-income job coverage are different than most socioeconomic factors. Low-income job coverage in outlying market areas is lower

LOW INCOME POPULATION DENSITY



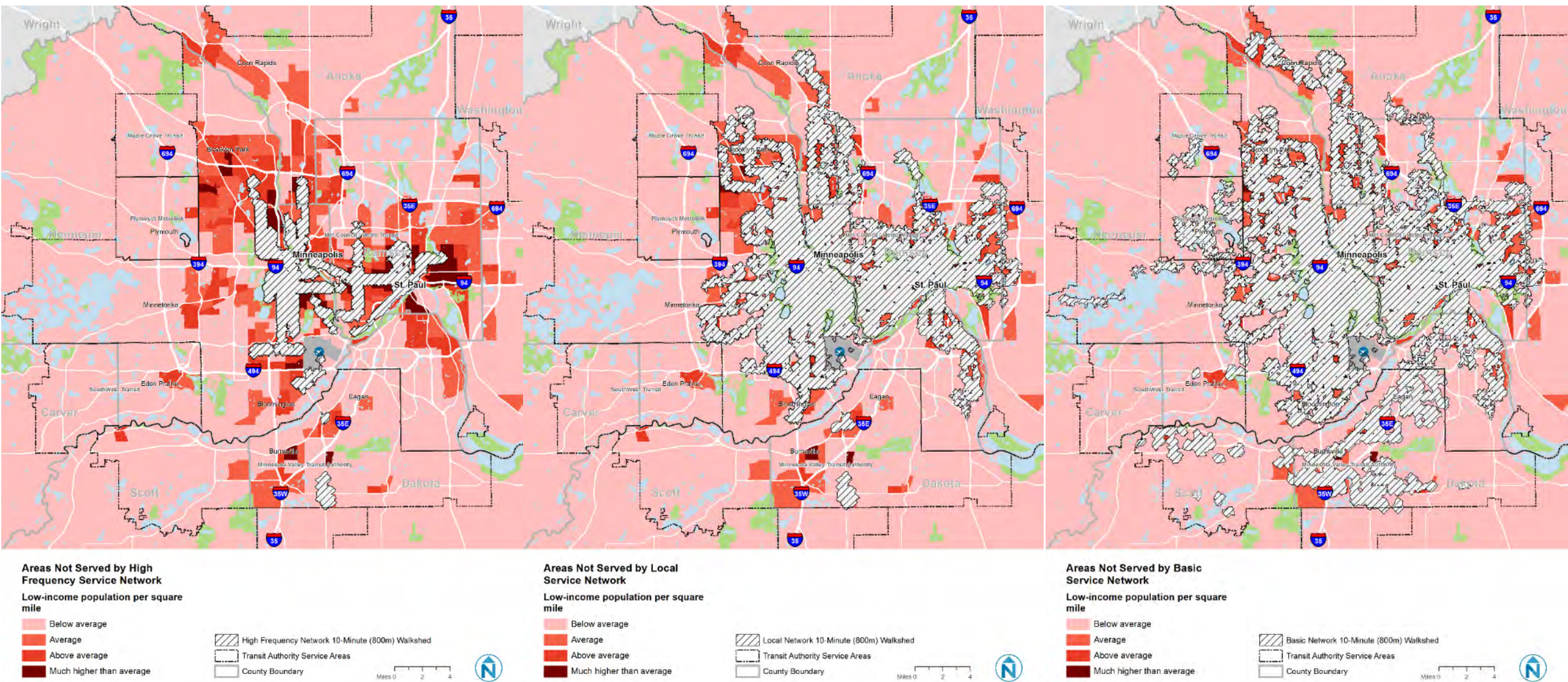
Population Density below 185% of Federal Poverty Line

Low-income population per square mile



LOW-INCOME POPULATION

Population below 185% of Federal Poverty Line not served by fixed-route transit

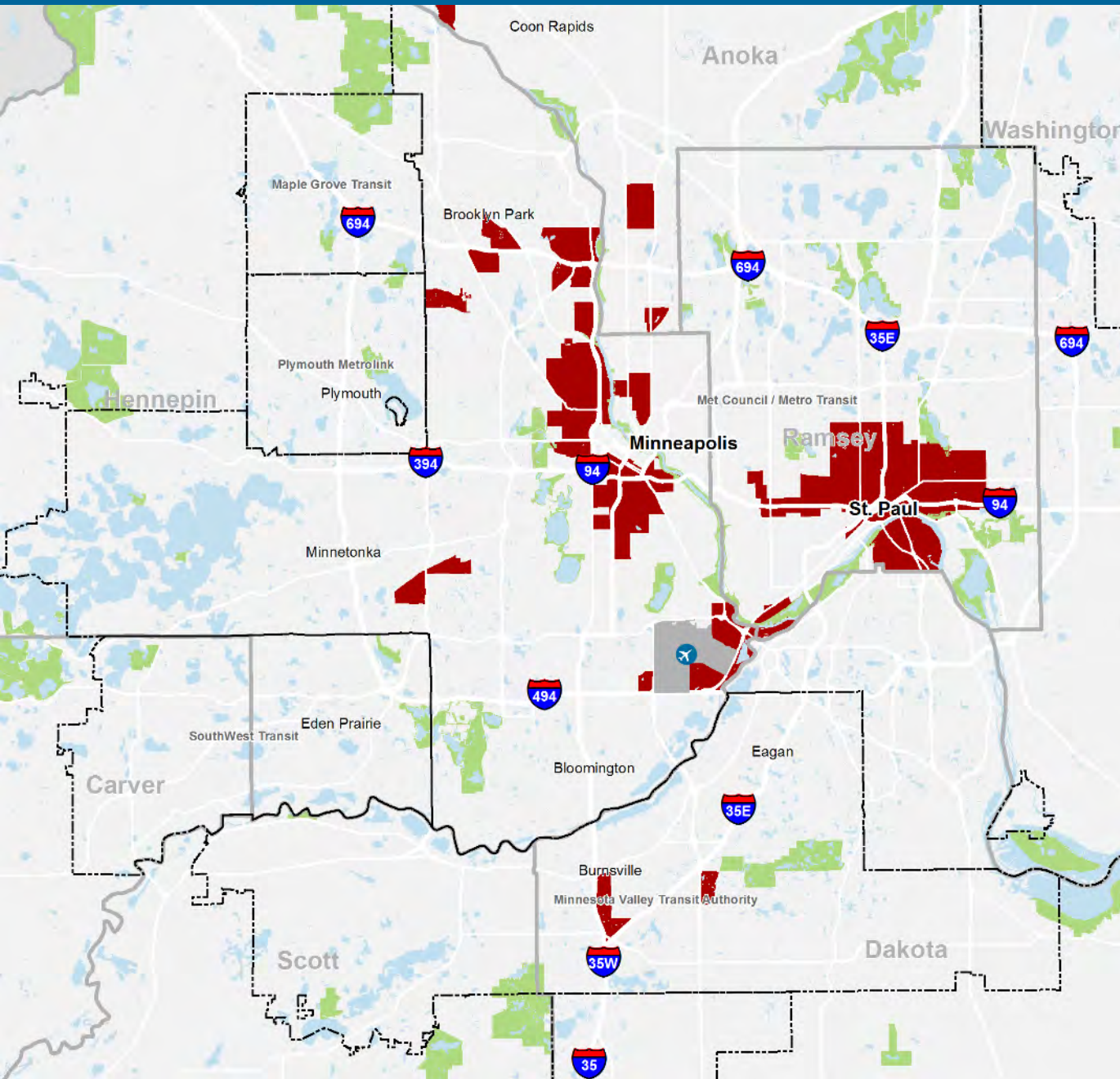


LOW-INCOME POPULATION

Percent of population below 185% of poverty line served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	74%	26%	1%	0%	0%
Local Service (<30-min frequency)	97%	85%	27%	<1%	0%
Basic Service (>30-min frequency)	97%	87%	49%	7%	<1%
Commuter & Express Transit	98%	89%	63%	16%	2%
Demand Response Transit Access Only	2%	11%	27%	84%	98%

AREAS OF CONCENTRATED POVERTY

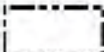


Areas of Concentrated Poverty

- Census tracts where 40% or more of the residents have family or individual incomes that are less than 185% of the federal poverty threshold

Areas of Concentrated Poverty

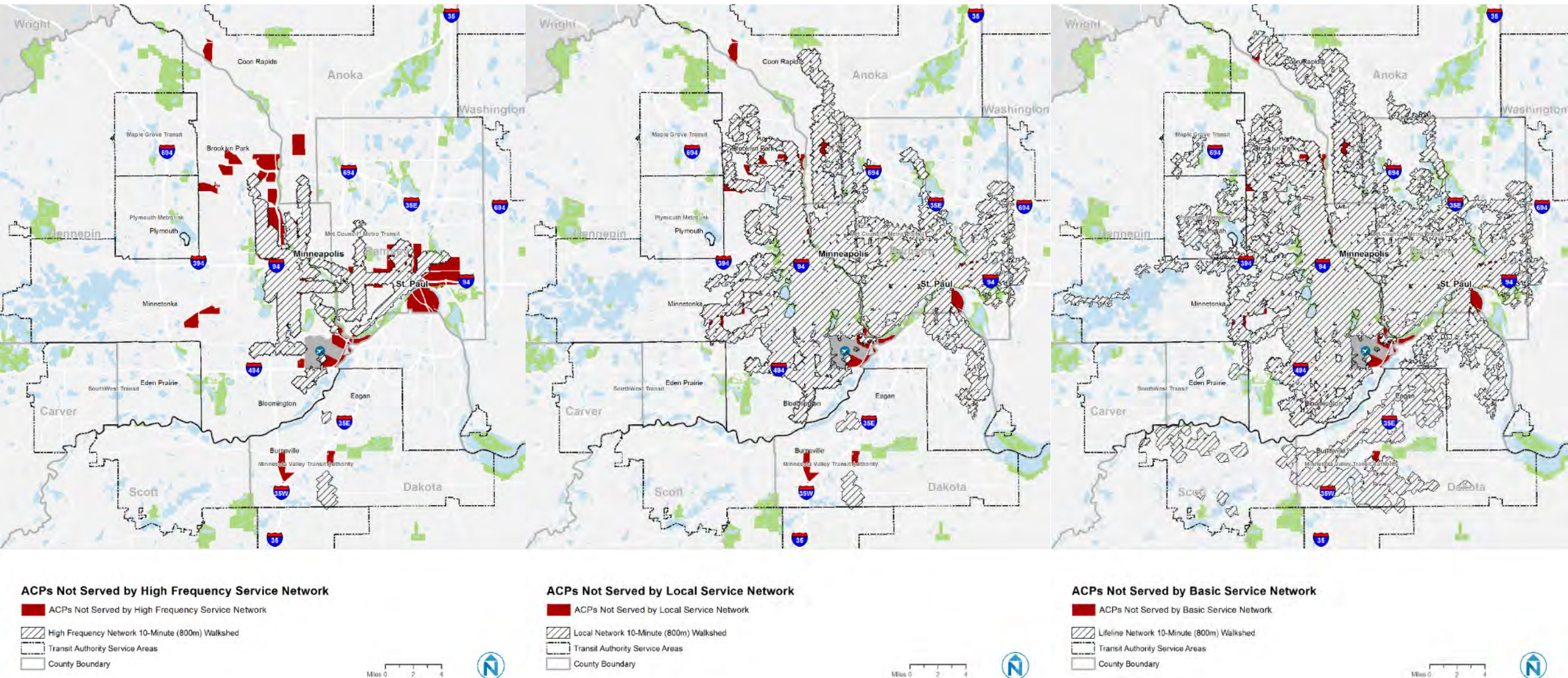
 Areas of Concentrated Poverty

 Transit Authority Service Areas

 County Boundary

AREAS OF CONCENTRATED POVERTY

Areas of Concentrated Poverty (ACPs) not served by fixed-route transit

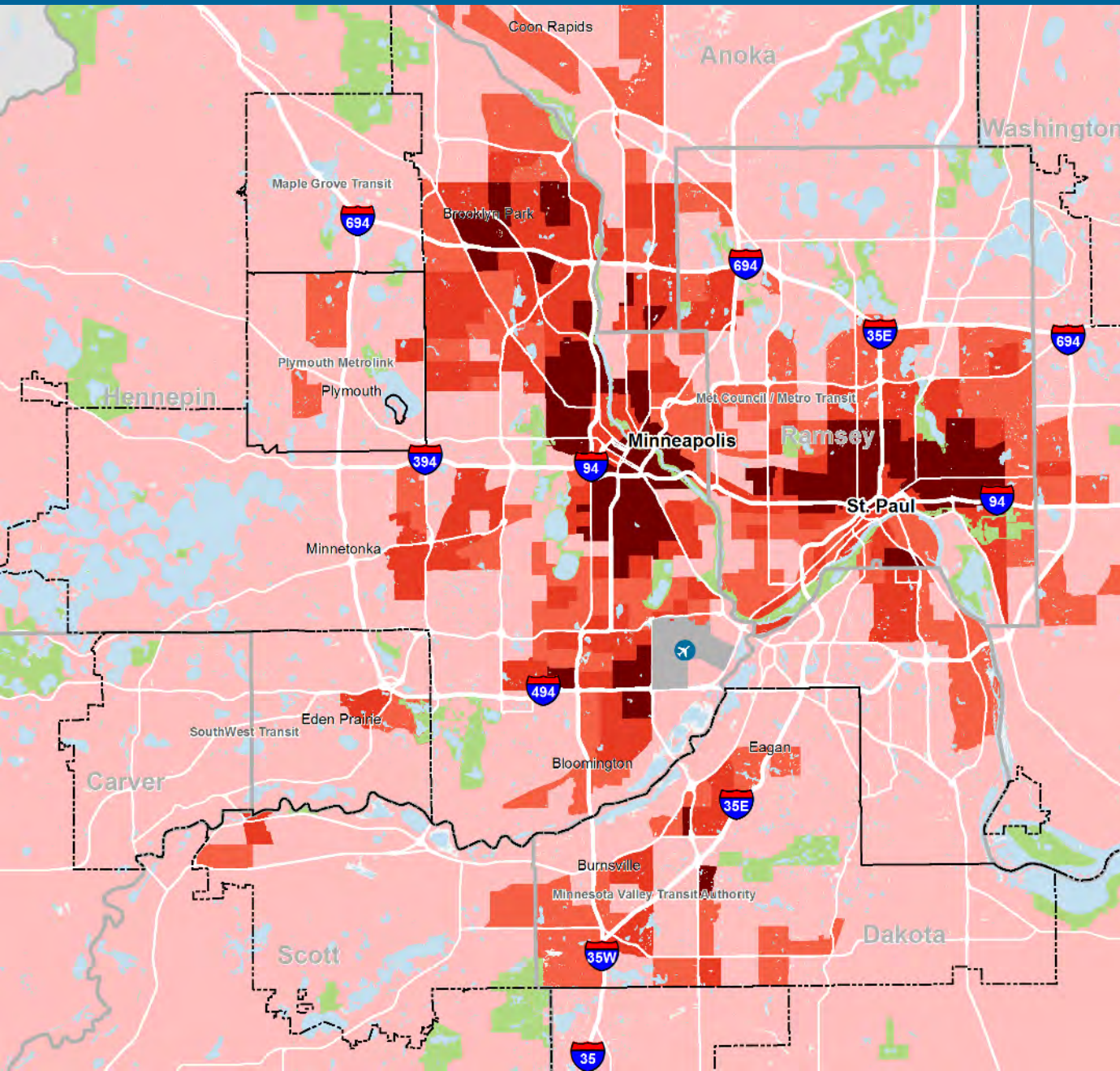


AREAS OF CONCENTRATED POVERTY (ACPS)

Percent of low-income population within ACPs served by transit

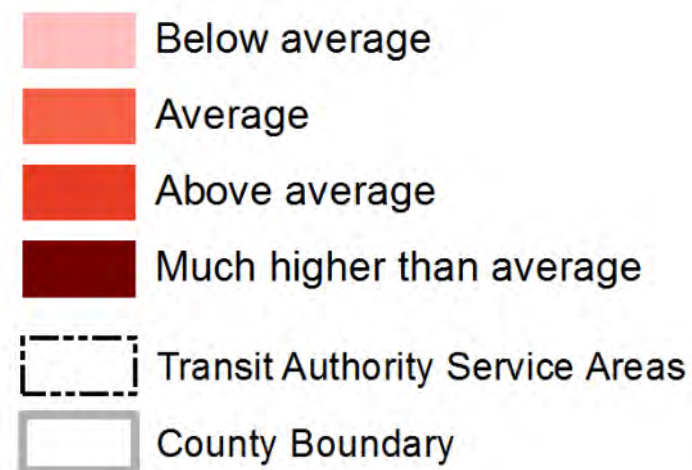
	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	79%	31%	1%	0%	N/A
Local Service (<30-min frequency)	98%	87%	54%	0%	N/A
Basic Service (>30-min frequency)	98%	89%	79%	37%	N/A
Commuter & Express Transit	98%	89%	87%	37%	N/A
Demand Response Transit Access Only	2%	11%	23%	63%	N/A

NON-WHITE POPULATION DENSITY



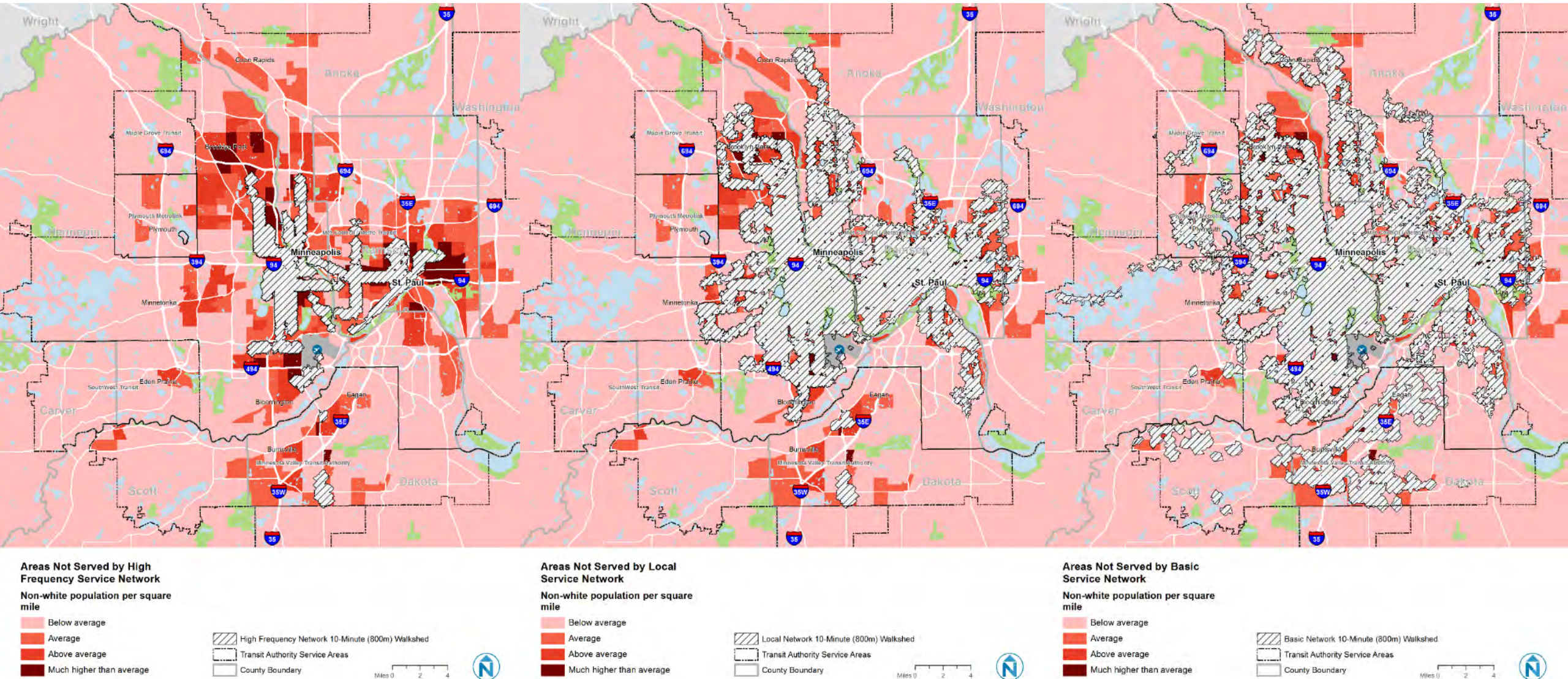
Non-White Population Density

Non-white population per square mile



NON-WHITE POPULATION

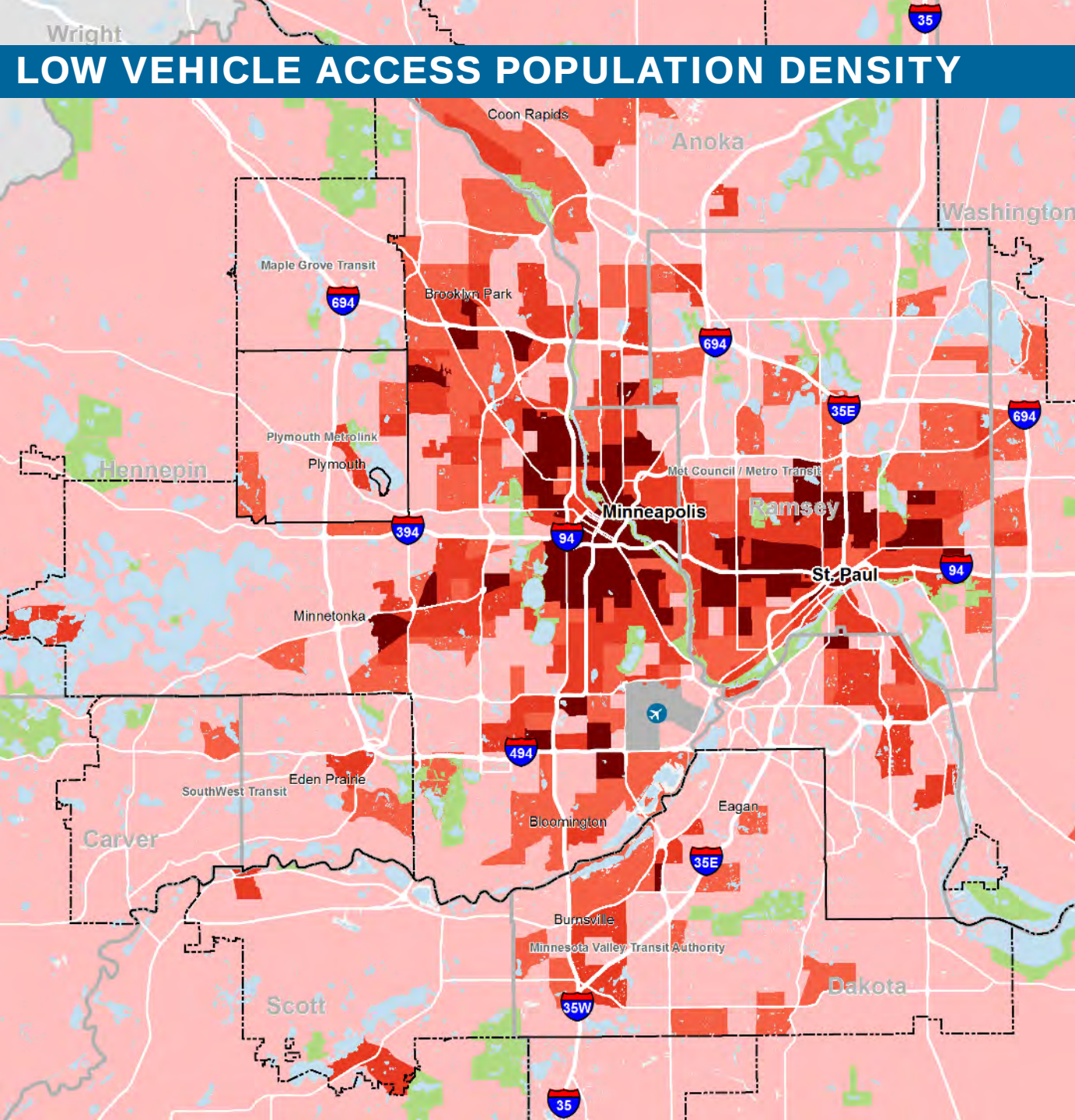
Non-white population not served by fixed-route transit



NON-WHITE POPULATION

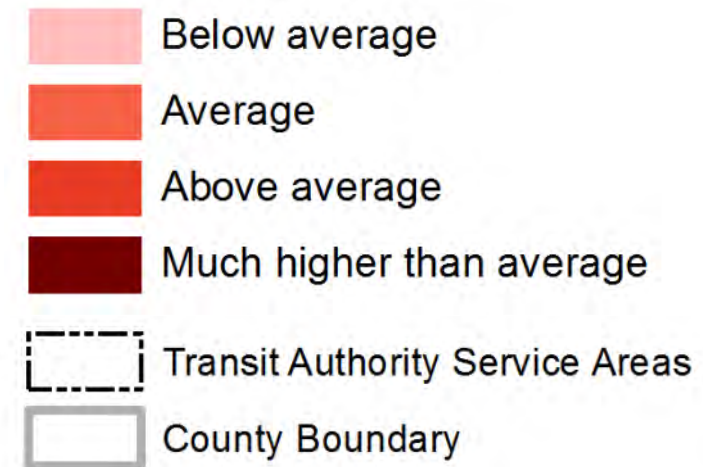
Percent of non-white population served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	76%	25%	2%	0%	0%
Local Service (<30-min frequency)	98%	85%	26%	<1%	0%
Basic Service (>30-min frequency)	98%	88%	48%	7%	<1%
Commuter & Express Transit	98%	90%	62%	17%	1%
Demand Response Transit Access Only	2%	10%	28%	83%	99%

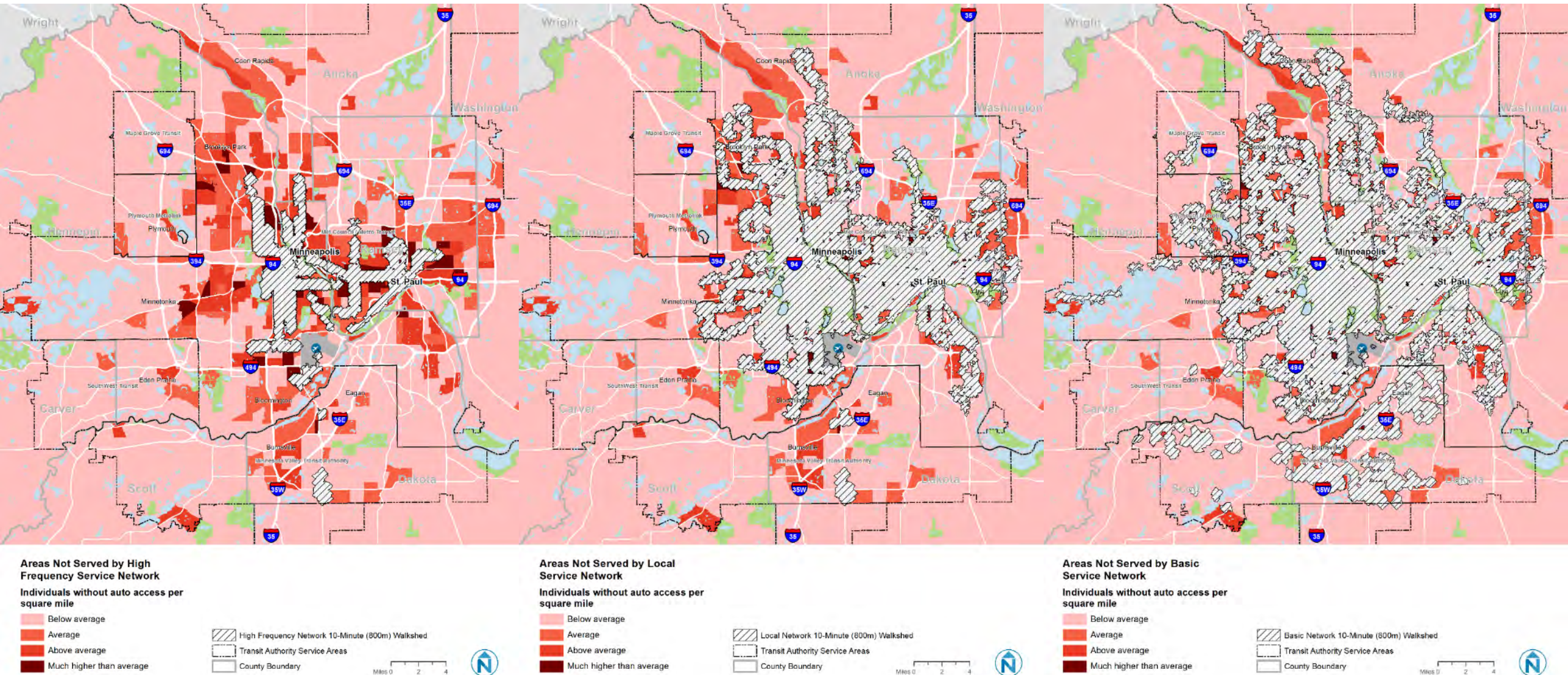


16+ Population without Auto Access Density

Population without access to vehicle per square mile



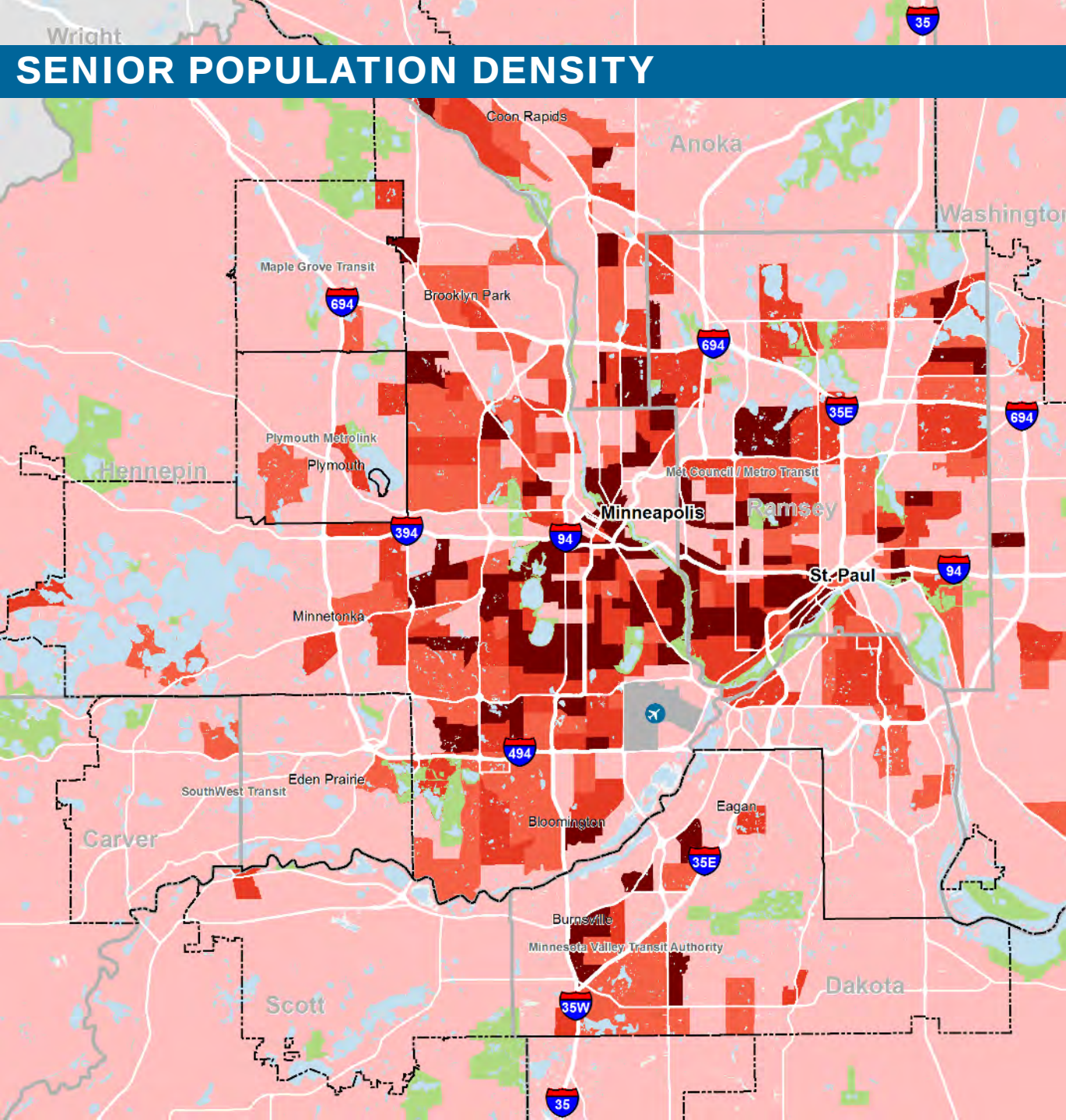
16+ population without auto access not served by fixed-route transit



LOW VEHICLE ACCESS POPULATION

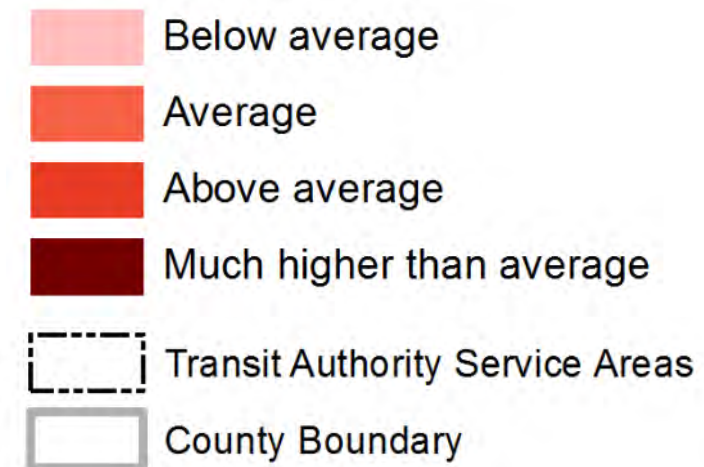
Percent of 16+ population without auto access served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	79%	28%	1%	0%	0%
Local Service (<30-min frequency)	97%	85%	27%	<1%	0%
Basic Service (>30-min frequency)	98%	88%	49%	7%	<1%
Commuter & Express Transit	98%	90%	63%	16%	1%
Demand Response Transit Access Only	2%	10%	37%	84%	99%



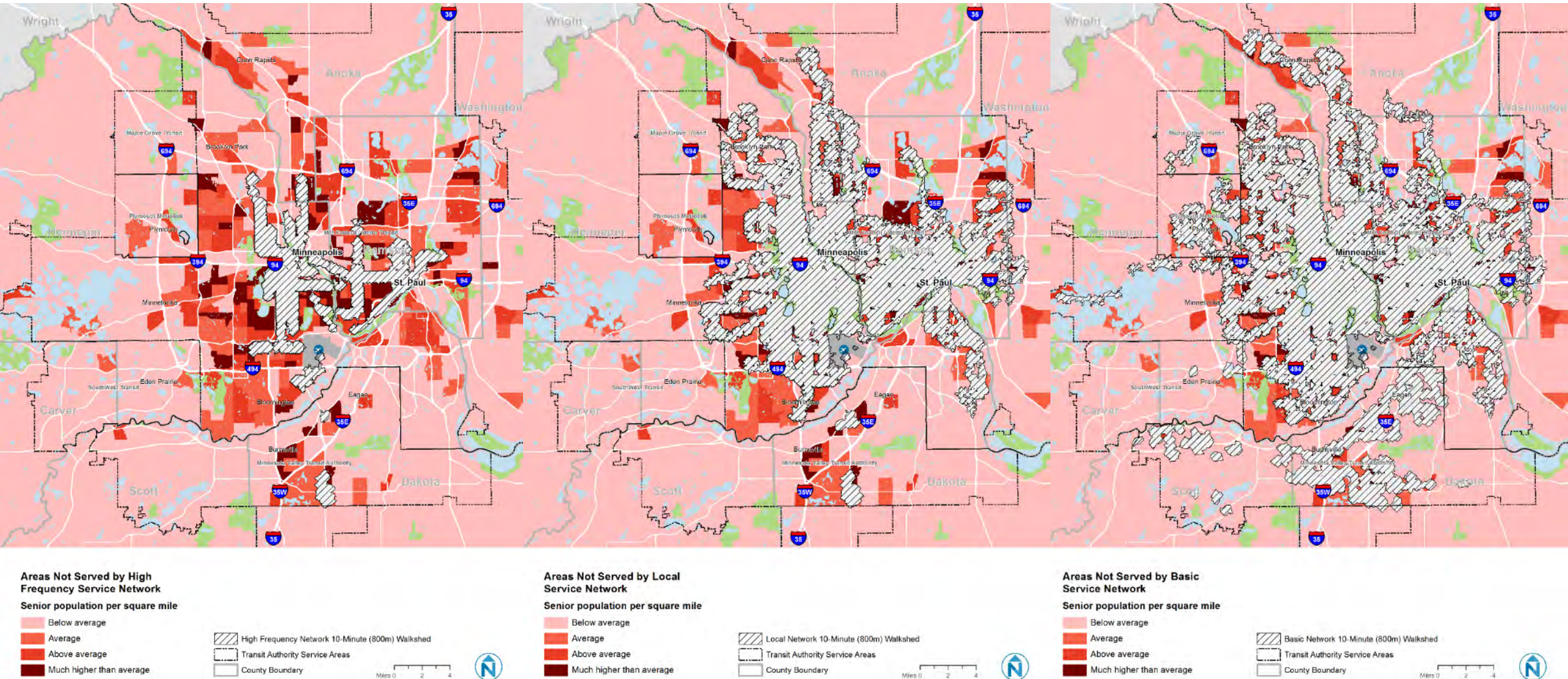
65+ Population Density

Senior population per square mile



SENIOR POPULATION

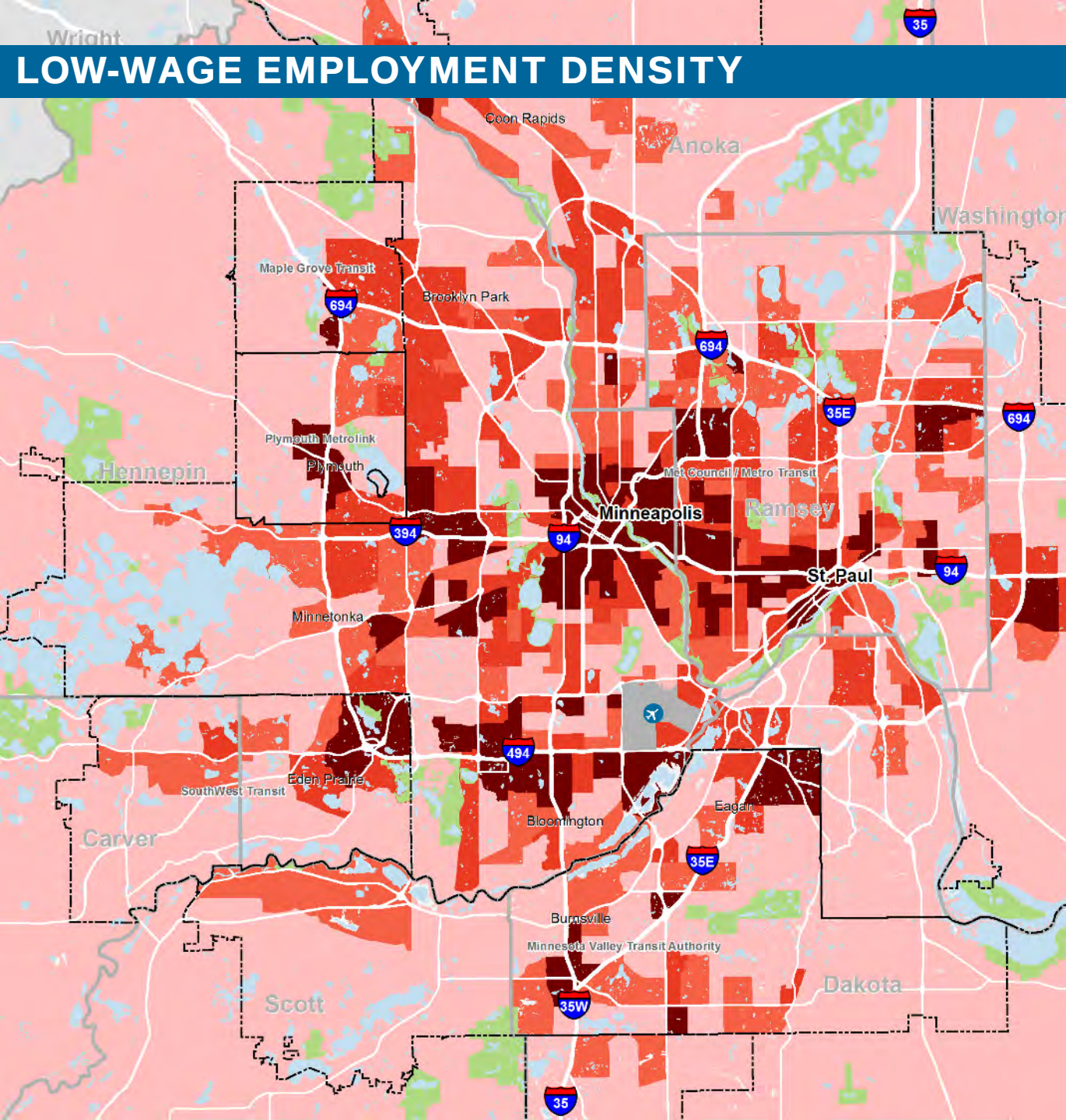
65+ population not served by fixed-route transit



SENIOR POPULATION

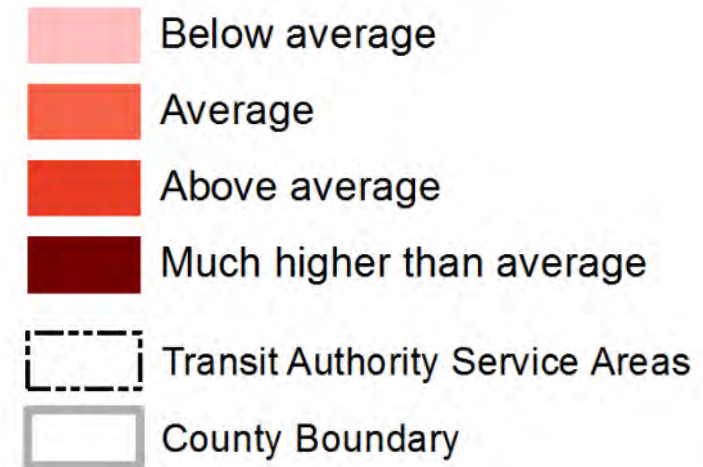
Percent of 65+ population served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	71%	25%	2%	0%	0%
Local Service (<30-min frequency)	95%	82%	21%	<1%	0%
Basic Service (>30-min frequency)	95%	86%	43%	7%	1%
Commuter & Express Transit	96%	88%	59%	18%	2%
Demand Response Transit Access Only	4%	12%	41%	82%	98%

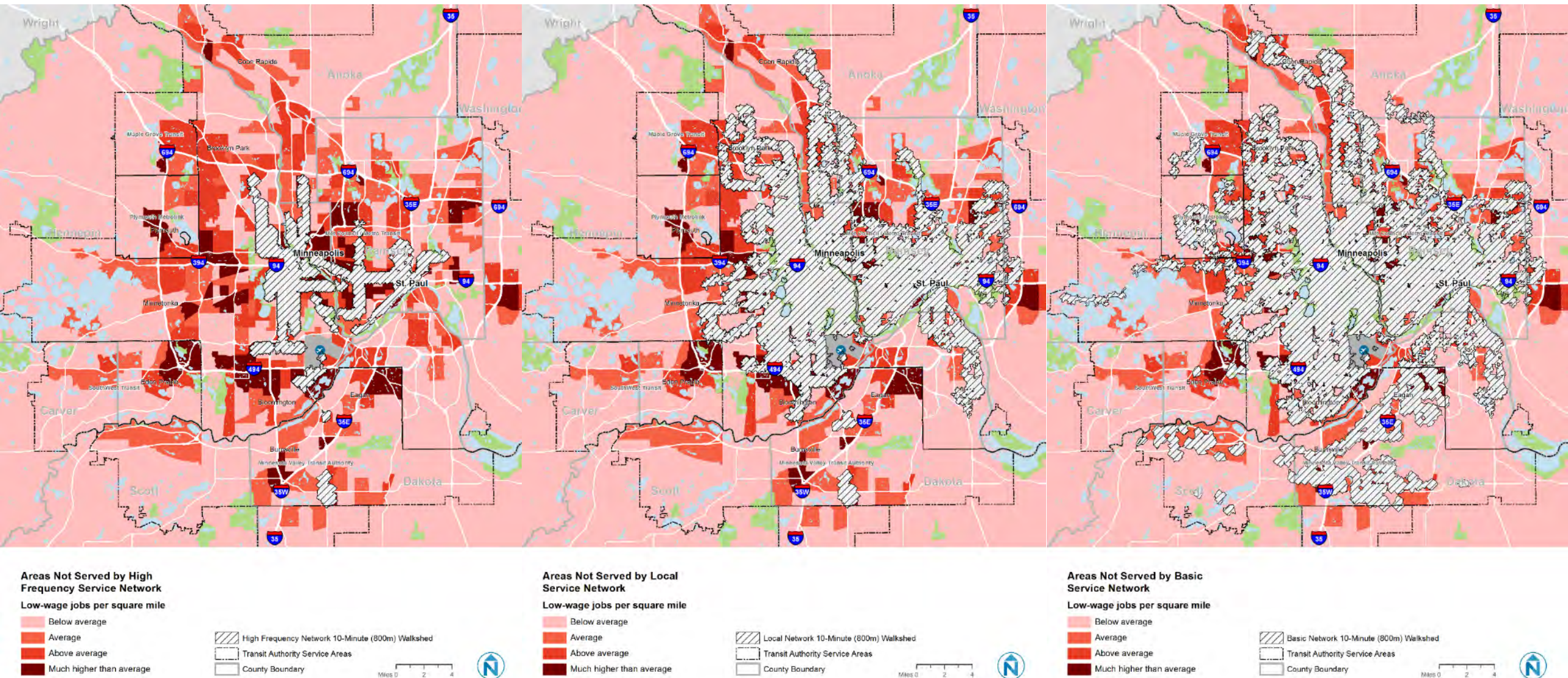


Density of Jobs Earning less than \$40,000 per Year

Low-wage jobs per square mile



Jobs earning <\$40,000 per year not served by fixed-route transit



LOW-WAGE EMPLOYMENT

Percent of jobs earning <\$40,000 per year served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	79%	24%	2%	0%	0%
Local Service (<30-min frequency)	96%	79%	20%	<1%	0%
Basic Service (>30-min frequency)	96%	83%	43%	14%	1%
Commuter & Express Transit	97%	85%	58%	23%	3%
Demand Response Transit Access Only	3%	15%	42%	77%	97%

DISCUSSION

QUANTIFYING FUTURE INVESTMENT PRIORITIES

PURPOSE AND METHODOLOGY

- Purpose:
 - Understand how to balance potential investment strategies
- Methodology:
 - Each tradeoff question includes a link to www.menti.com and a code
 - Using a smart phone or your computer, access menti.com and enter the code
 - Please answer the question as best as you can
 - Enter a percentage support for each set of priorities
 - Total should add up to 100%
 - Results will be displayed to all workshop attendees and are anonymous

TRADEOFF:

Add New Routes vs. Improve Existing Routes

- Add New Routes

- Expands geographic coverage to new areas
- Provide fixed-route service to residents who have none
- Serve job centers that are out of reach of current fixed-route network



- Improve Existing Routes

- Add additional trips to existing routes, making service more convenient
- Generally will result in higher ridership

Add New
Routes



Improve
Existing Routes

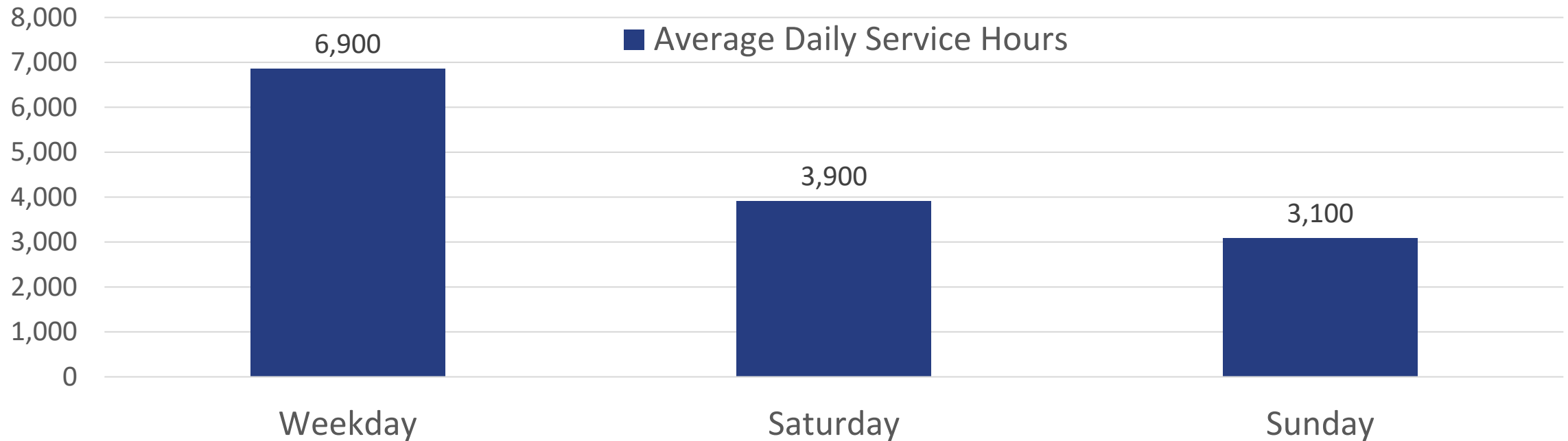
TRADEOFF:

Add New Routes vs. Improve Existing Routes

- Results

TRADEOFF:

Weekday Service vs. Weekend Service



Invest in More
Weekday
Service



Invest in more
Weekend
Service

TRADEOFF:

Weekday Service vs. Weekend Service

- Results

TRADEOFF:

More Frequency vs. Earlier/Later Service

- Invest in more frequency

- Examples:

- More weekday routes upgraded to every 15-minutes
- More Sunday routes upgraded every 15-minutes
- Hourly service is upgraded to 30-minute service

- Invest in earlier/later Service

- Examples:

- More routes start before 5 a.m.
- More routes operate until midnight
- Service begins earlier/later on Sundays

Invest in More
Frequency



Invest in
Earlier/Later
Service

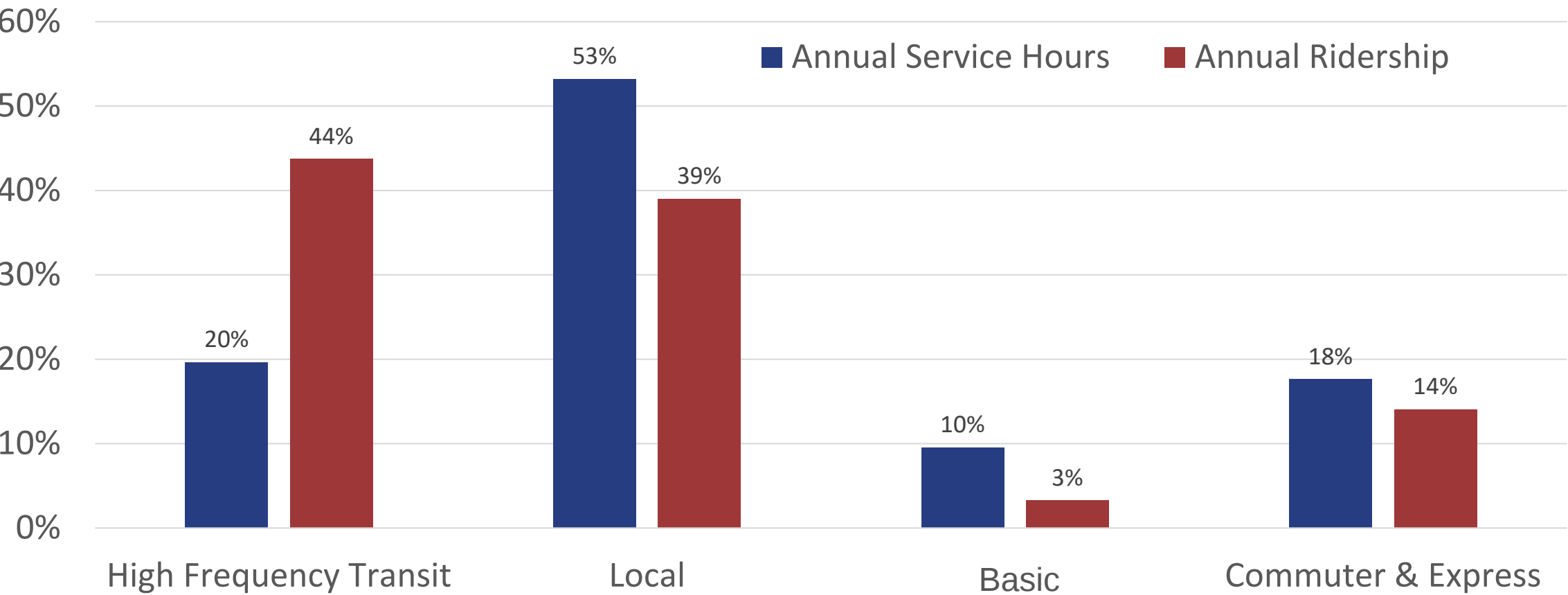
TRADEOFF:

More Frequency vs. Earlier/Later Service

- Results

HOW WOULD YOU DISTRIBUTE NEW FUNDING?

Current Service Distribution by Service Type



TRADEOFF:

How Would You Distribute New Funding?

- Results

SMALL GROUP DISCUSSIONS

SMALL GROUP DISCUSSION TOPICS

Discussion Guide

1. Should new funding resources be allocated to maximize ridership?
2. How should the region invest in better bus service? (e.g. increase weekday frequency, more Saturday service, more commuter service, etc.)
3. What does success look like for area transit?
4. Would your answers change if you were allocating resources under a funding reduction scenario?

RECONVENE LARGER GROUP AND REPORT OUT

- High level themes from discussion

GROUP RANKING EXERCISE

Rank What Success might look like?

- o Using a smart phone or your computer, access menti.com and enter the code
- o Anonymized results will be displayed to all respondents
- o What does success look like for area transit? (rank these three options)
 - More lines on the map (more coverage)
 - More ridership (more productivity, more frequent service on key routes)
 - More service to those who need it most (equity neighborhoods)
- o If there are other measures that should be considered, please enter them in the zoom chat box

GROUP RANKING EXERCISE

Rank the different roles of coverage service (more routes)

- o Using a smart phone or your computer, access menti.com and enter the code
- o Anonymized results will be displayed to all respondents
- o Rank the different roles of coverage service (rank the 9 options) in order of importance:
 - Suburb to suburb job access
 - Reverse commute – connecting urban areas to suburban jobs
 - Low-income or high-need neighborhoods
 - Retail and entertainment, including grocery stores
 - Medical services
 - Secondary schools
 - Post-secondary schools/college
 - Visiting friends and family
 - Mobility for seniors
- o If there are other measures that should be considered, please enter them in the zoom chat box

SERVICE EXPANSION EVALUATION FRAMEWORK

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Brief Definitions

- Improved operations
 - Direct resources to corridors/routes to address on-time performance or overloads
- Productivity
 - Direct resources to those corridors/routes that would generate the highest ridership
- Geographic balance
 - Direct resources in proportion of contribution to regional transit
- Access to major destinations
 - Direct resources to provide connections to major ridership generators such as schools, regional hubs, freestanding town center
- Access to jobs
 - Direct resources to focus on job access, including reverse commute service, and low-wage job access

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Brief Definitions

- Social equity – low-income population
 - Direct resources to areas with higher proportions of low-income residents
- Social equity – senior population
 - Direct resources to areas with higher proportions of senior residents
- Social equity – non-white population
 - Direct resources to areas with higher proportions of non-white residents

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Other Considerations?

GROUP RANKING EXERCISE

Possible Evaluation Framework Considerations

- Instructions
 - Using a smart phone or your computer, access [menti.com](https://www.menti.com) and enter the code
 - Anonymized results will be displayed to all respondents
- Rank the relative importance of potential options
 - Social equity – low-income population
 - Geographic balance
 - Productivity
 - Social equity – senior population
 - Access to major destinations
 - Social equity – non-white population
 - Access to jobs
 - Addressing operational issues
 - Other

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Discussion of Results

- Results

NEXT STEPS

NEXT STEPS

- Values from workshop will be used to develop three different service scenarios
- Service scenarios will then be evaluated to see impact of applying values regionally
- Report back on investment strategies and anticipated results

THANK YOU!



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