

# METRO Orange Line Connecting Bus Study

## *Concept Plan*

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# EXECUTIVE SUMMARY: METRO ORANGE LINE CONNECTING BUS STUDY

The METRO Orange Line is scheduled to open in late 2021. It will substantially replace Route 535 with frequent (every 10-15 minutes), all-day service in the I-35W South corridor between downtown Minneapolis and Burnsville. There will be 12 stations in the 17-mile corridor serving Minneapolis, Richfield, Bloomington, and Burnsville as shown on a map in **APPENDIX A - Figure 1**.

This Concept Plan builds on recommendations based on an evaluation of current transit service in the study area conducted in 2019. The Orange Line Connecting Bus Study Existing Conditions Report determined the market conditions, effectiveness, and efficiency of existing transit service and set the foundation for exploring potential new connecting service with the Orange Line, transit market opportunities, and facility needs. The report uses common transit planning terms such as “frequency” and “span.” Frequency is defined as the amount of time between trips in the same direction on a route; span is the amount of time per day a route operates, otherwise stated as the first departure on the first trip to last arrival on the last trip.

## Study area

The study area, shown in **APPENDIX A - Figure 2**, is bounded by the Mississippi River on the east, I-394 on the north, Highway 169 on the west, and the Minnesota River on the south. The Study Area is urban in the northern half, including downtown Minneapolis, and covering many neighborhoods in south Minneapolis, and suburban in the southern half, covering Bloomington, Edina, and Richfield. Although the Orange Line extends to Burnsville, this study will not include areas south of the Minnesota River because this area is served by a separate transit provider, Minnesota Valley Transit Authority (MVRTA), so it will be conducting the transit service planning there.

## Project goals

Goals of the Orange Line Connecting Bus Service Study include:

- Link significant concentrations of residents, jobs and services with the METRO Orange Line
- Retain existing customers, grow ridership. Prioritize service for communities of color, people experiencing poverty and those who rely on transit the most
- Simplify the route network by emphasizing directness and avoiding branches
- Enhance the mobility and connectivity of the transit network
- Complement existing commuter and express service in the corridor

## A note on COVID-19 and impacts on the planning process

While the long-term ridership impacts of the COVID-19 pandemic are not known, the short-term effects have been significant. The Existing Conditions Report and Concept Plan are based on ridership patterns that existed before the crisis, which may change in the long-term as people adapt and new travel needs emerge. To the extent possible and given the information available, the Concept Plan has considered potential long-term impacts to ridership and travel behavior in response to the crisis. However, the plan may need to be adjusted and the timeline for implementing certain changes may need to be modified later in the planning process based on market conditions at the time the Orange Line opens.

## Recommended Concept Plan

There are 25 routes in the study area: Routes 4, 6, 7, 11, 18, 21, 27, 46, 53,\* 146,\* 156,\* 515, 535, 537,\* 538, 539, 540, 542,\* 552,\* 553, 554,\* 558,\* 578, 579,\* and 597. Note that routes marked with an asterisk (\*) have been suspended since March 2020 due to the COVID-19 pandemic, leaving 16 routes.

- 21 routes already serve a future Orange Line station south of downtown Minneapolis. (Routes 4, 11, 18, 21, 27, 46, 53,\* 146,\* 156,\* 515, 538, 539, 540, 542,\* 552,\* 553, 554,\* 558,\* 578, 579,\* and 597)
- No changes are recommended on 13 routes in the study area, so they are not described further in this report. (Routes 4, 6, 11, 18, 21, 46, 53,\* 156,\* 552,\* 554,\* 558,\* 578, and 579\*)
- Changes to route structure, frequency or span of service are proposed on 11 routes (Routes 7, 27, 515, 535, 537,\* 538, 539, 540, 542,\* 553 and 597)

There are two scenarios outlined in this report – Scenarios A and B. Scenario A is equivalent to resources available in Fall 2020 and Scenario B represents the significantly higher Fall 2019 (pre-COVID) resources.

## Proposed Changes on Existing Routes

**Route 7:** All remaining trips will be extended from 34th Ave. S. to Cedar Point Commons Shopping Center on 66th St. at Cedar Ave. in Richfield. It will replace Route 515E between 34th Ave. and the 66th St. corridor.

**Route 27:** All trips will be extended to directly serve I-35W & Lake St. Station, providing a connection with the Orange Line and other I-35W express routes. This link will re-establish access to large employers such as Abbott Northwestern Hospital, Allina, Children's Hospital, and Wells Fargo Home Mortgage.

**Route 515:** It would be simplified from three variations to one with no branches. Route 515B service on Longfellow Rd. is proposed for elimination. The 515E branch serving VA Medical Center would be replaced with a transfer between Route 515 and METRO Blue Line at Mall of America.

**Route 535:** The route will be largely replaced by the Orange Line. Areas currently served by four local branches will be replaced by new service:

- 535B, 535C, 535D via 76th St., Penn Ave. and American Blvd., by Route 540 on 76th St.
- 535E via Lyndale Ave. in Bloomington by Route 534
- 535B, 535C, 535D via 94th St. and Lyndale Ave. by Route 534
- 535C via 94th St. and James Ave. by Route 534
- 535C, 535D via 98th St. and Normandale College by Route 539
- 535E via 102nd St. by Route 553

**Route 537:** This route is currently suspended due to the pandemic. In Scenario B service is restored along France Ave. between Southdale, Normandale College, and Valley West Shopping Center.

**Route 538:** No routing changes are proposed. With Scenario B, service would be improved from every 30/60 minutes to every 30 minutes in the midday.



**Route 539:** This route will connect Normandale College, 98th St., Old Shakopee Rd. and Mall of America with the Orange Line. Route 539 would be simplified so all trips follow the same path via 98th St. between 98th St. Station, Normandale College, and Normandale Village.

**Route 540:** The route would be simplified so all trips follow the same alignment. In Richfield, service would use the new 77th St. underpass to serve 24th Ave. S. and Mall of America. Service would be eliminated on 12th Ave. S. and on American Blvd.; alternate service is on Routes 5 and 542.

**Route 542:** This route is currently suspended due to the pandemic. The route would be restored under either scenario. It would remain south of I-494 to provide a connection with American Blvd. Station. Service would be extended west via American Blvd., E. Bush Lake Rd. and 78th St. to Hwy. 169, providing new bus access to employers located west of E. Bush Lake Rd. Scenario B would add midday, night and weekend service.

**Route 553:** This route would be re-oriented south of 98th St. to replace existing Route 535E via 98th St. Station, Lyndale Ave., 102nd St. and Portland Ave. There would be no service on 104th St. between Nicollet and Portland avenues.

**Route 597:** This route will be replaced by the Orange Line between 98th St. Station and downtown Minneapolis. New routes 547 and 548 will replace local service west of I-35W in Bloomington.

## Proposed New Routes

**Route 534:** This new route would connect with the Orange Line at both 98th St. Station and American Blvd. Station. It would serve Lyndale Ave. destinations between 98th St. and American Blvd., including peak-only service to 94th St. & James Ave. employers. Scenario B would add weekend service.

**Route 536:** This new route will serve the American Blvd. Station. It would connect Normandale College, France Ave., Valley West Center, Old Shakopee Rd., Penn Ave. and American Blvd. in Bloomington. It would replace most of existing Route 539 west of I-35W.

**Route 547:** This route would replace Route 597C and Route 597E. It will connect the Orange Line with southwest Bloomington employers on Old Shakopee Rd. and residents on Auto Club Rd., Normandale Blvd., 110th St. and 98th St. at 98th St. Station.

**Route 548:** This route would replace current Route 597B and connect residents along Hyland Greens Dr., Normandale Blvd., W. 102nd St., and Old Shakopee Rd. with the Orange Line.

## Service equity analysis

The results of the service equity analysis show no disparate impact to minority populations and no disproportionate burden to low-income populations as a result of service changes under either Scenario A or Scenario B of the Orange Line Connecting Bus Study Concept Plan. Though the quantitative results alone suggest the changes proposed in Scenario B would come close to resulting in disparate impact and disproportionate burden, this is due to limitations of the service equity analysis methodology and the current disruption of service due to the COVID-19 pandemic. Putting the analysis in this context provides further confidence in the conclusions of this service equity analysis: that neither Scenario A nor Scenario B of the Orange Line Connecting Bus Study Concept Plan would result in disparate impact to minority populations or disparate impact to low-income populations. The complete Title VI Service Equity Analysis report is available at [metrotransit.org/OLCB](https://metrotransit.org/OLCB).

## Public outreach and next steps

The Concept Plan will be brought to the public for review and comment in early 2021. There will be an official public comment period from Jan. 25 to Feb. 22 to allow transit customers and other stakeholders the opportunity to provide feedback. Due to the pandemic, most engagement will be virtual or electronic with some in-person intercept surveys. The primary engagement tool will be an online survey that will be promoted through a variety of channels to ensure we engage a diverse cross-section of existing and potential riders.

Metro Transit will use different outreach strategies to ensure broad public engagement. Information about the project and the service changes proposed in the Concept Plan will be provided to current transit riders and the general public in several ways:

- Notification of public hearings will be provided in in the *Star Tribune* and in *Connect*, Metro Transit's customer newsletter.
- Partner with community-based organizations, Normandale Community College and major employers via the I-494 Transportation Management Organization
- Website
  - Concept Plan Report
  - Video presentation
  - Map-based survey to guide feedback
- In-person intercepts at transit stops and centers
- Target ethnic and local media
  - Social Media
  - News coverage in local papers
- Invitations to virtual meetings, hearing
- Materials: one-page flyer for distribution, postcard mailer, shelter signage
- Use existing tools: *Insights*, newsletters, Metro Transit app and Go-To Card list, Riders' Club

The public hearing and two community meetings will be conducted virtually:

- Virtual community meetings Feb. 6 and 9
- Virtual public hearing on Feb. 10

The concept plan will be modified based on the feedback received in the spring and the Metropolitan Council will be asked to approve the final plan in mid-2021. These service changes are planned for implementation with the opening of the Orange Line in late 2021.

Please visit [metrotransit.org/OLCB](https://metrotransit.org/OLCB) for project updates.

# CHAPTER 1: STUDY BACKGROUND AND CONTEXT

The purpose of the METRO Orange Line Connecting Bus Service Study is to review service in the study area in conjunction with the opening of the METRO Orange Line and recommend service changes to maximize access to the Orange Line. Transit is the backbone of the Metropolitan Council's 2040 Transportation Policy Plan (TPP) to accommodate population and employment growth forecast for the region.

Transit has operated on Nicollet Avenue and other main thoroughfares in south Minneapolis since the late 1800s. After World War II, with downtown Minneapolis still the major focus of employment in the metro, service on the primary north-south bus routes were extended further south to accommodate residential development in Richfield, Bloomington, and Edina. Express service to downtown Minneapolis on I-35W was added starting in the late 1970s.

Employment patterns have shifted dramatically. While downtown Minneapolis is still a major regional employment node, many of the region's jobs are located at dispersed car-oriented suburban employment nodes with free parking and poor pedestrian infrastructure. Within the past decade, more emphasis has been placed on creating suburban nodes that integrate residential and employment development together in a pedestrian and transit friendly environment. The Penn-American development, which is located near I-494 and I-35W in Bloomington near the Orange Line's American Blvd. Station is a good example of this type of transit-oriented development.

## Scope and purpose

The Orange Line Bus Rapid Transit project is scheduled to open in late 2021. It will substantially replace Route 535 with frequent (every 10-15 minutes), all-day service in the I-35W South corridor between downtown Minneapolis and Burnsville. There will be 12 stations in the 17-mile corridor as shown on a map of the Orange Line in **APPENDIX A – Figure 1**. A large share of Orange Line riders are expected to access stations using transit, so an effective network of connecting bus service will be critical for its success. In addition, although the Orange Line will replace most of Route 535, there are four local branches that will not be covered by the Orange Line that need to be included in the local route network.

The study area is bounded by the Mississippi River on the east, I-394 on the north, Highway 169 on the west, and the Minnesota River on the south. The Study Area is urban in the northern half, including downtown Minneapolis and many neighborhoods in south Minneapolis, and suburban in the southern half, covering parts of Bloomington, Edina, and Richfield. A map of the study area is in **APPENDIX A – Figure 2**. Although the Orange Line extends into Burnsville, service in this area is operated by Minnesota Valley Transit Authority (MVTA), which will conduct a separate planning process to review connections with the Orange Line.

There are 25 routes in the study area: Routes 4, 6, 7, 11, 18, 21, 27, 46, 53,\* 146,\* 156,\* 515, 535, 537,\* 538, 539, 540, 542,\* 552,\* 553, 554,\* 558,\* 578, 579,\* and 597.

The nine routes marked with an asterisk (\*) have been suspended since March 2020 due to the COVID-19 pandemic, which has resulted in a substantial decline in ridership and disruption of transit needs and resources. Commuter routes 553, 578, 597 continue at very limited levels – one or two trips per peak, for the same reason.

- 21 routes already serve a future Orange Line station south of downtown Minneapolis. (Routes 4, 11, 18, 21, 27, 46, 53,\* 146,\* 156,\* 515, 538, 539, 540, 542,\* 552,\* 553, 554,\* 558,\* 578, 579,\* and 597)

- Changes to route structure, frequency or span of service are proposed on 11 routes. (Routes 7, 27, 515, 535, 537,\* 538, 539, 540, 542,\* 553, and 597)
- No changes are recommended on 13 routes in the study area, so they are not described further in this report. (Routes 4, 6, 11, 18, 21, 46, 53,\* 156,\* 552,\* 554,\* 558,\* 578, and 579\*)

For complete information regarding existing transit service and markets in the Orange Line Corridor Study Area, please refer to the Orange Line Connecting Bus Service Study Existing Conditions Report at [metrotransit.org/Data/Sites/1/media/existingconditionsreport-ol-full-report-with-cover.pdf](https://metrotransit.org/Data/Sites/1/media/existingconditionsreport-ol-full-report-with-cover.pdf).

## Goals/objectives

Goals of the Orange Line Connecting Bus Service Study include:

- Link significant concentrations of residents, jobs and services with the Orange Line
- Retain existing customers and grow ridership. Prioritize service for communities of color, people experiencing poverty, and those who rely on transit the most
- Simplify the route network by emphasizing directness and avoiding branches
- Enhance mobility and connectivity of the transit network
- Complement existing commuter and express service in the corridor

## Planning considerations

These proposed service changes are designed to meet the goals outlined above. Productivity, social equity, and connectivity were considered when reviewing and prioritizing specific service changes and the investment of limited resources. These factors are supported by the direction laid out by the Metropolitan Council in Thrive MSP 2040 and the 2040 TPP.

- Improved route structure and network
  - More direct, simpler service with fewer variations
  - Schedule reliability and network efficiency
  - Faster off-peak travel time between downtown, south Minneapolis, and the south suburbs, particularly Bloomington
- Service performance
  - Meet regional standards for service productivity (passengers per in-service hour)
  - Grow ridership by attracting new and retaining existing riders, encourage transfer rides
- Equity and market considerations
  - Residential concentrations of, and destinations visited by, low-income persons, communities of color, and persons with disabilities
  - Geographies with lower auto availability rates as measured by the number of vehicles registered in an area compared to those old enough to drive
  - Population and employment density data, especially access to lower wage jobs paying less than \$40,000 a year

## A note on COVID-19 and impacts on the planning process

While the long-term ridership impacts of the COVID-19 pandemic are not known, the short-term effects have been significant. The Orange Line Connecting Bus Study's Existing Conditions Report and Concept Plan are based on ridership patterns that existed before the crisis, which may change in

the long-term as people adapt and new travel needs emerge. To the extent possible and given the information available, the Concept Plan has considered potential long-term impacts to ridership and travel behavior in response to the crisis. However, the plan may need to be adjusted and the timeline for implementing certain changes may need to be modified later in the planning process based on market conditions at the time the Orange Line opens.

Other than routes 537, 542, and 597, the Concept Plan is silent on the future of routes that are currently suspended. The future of suspended routes throughout the region will be determined through a separate public process.

## Relevant transit plans and projects in the study area

Changes proposed in this study are consistent with and have been influenced by Council policy and other projects in the study area. The Transportation Policy Plan sets priorities for the regional transportation system based on the goals and objectives in Thrive MSP 2040, the region's development guide. Metro Transit's Service Improvement Plan (SIP) builds on the TPP by identifying and prioritizing specific local and express bus improvements.

Metro Transit continually reviews and updates individual bus routes to reflect the changing nature of development and travel in the Twin Cities. In addition, Metro Transit occasionally performs transit sector studies, which review a group of routes at a sub-regional level to comprehensively evaluate transit service and needs, determine market opportunities and restructure service and facilities to better address those needs and opportunities.

There are currently four transitway projects underway or in planning in, or adjacent to, the study area: METRO Green Line light rail extension and METRO B, D, and E bus rapid transit lines. Changes proposed in this study will meet not only the near-term needs in the study area but will also be flexible enough to be compatible with these transitway projects.

## 2040 Transportation Policy Plan

The 2040 TPP is the region's long-range transportation policy and investment plan. In addition to transit, it addresses highway, aviation, and other forms of surface transportation for at least a 20-year planning horizon. The region's transportation priority is to preserve, maintain, and operate the existing transit network. It also establishes a framework from which to evaluate potential transit changes, improvements, and investments.

TPP objectives that influenced the service changes proposed in this study:

- Operate the regional transportation system to efficiently and cost-effectively connect people to destinations
- Increase the availability of multimodal travel options
- Increase transit travel time reliability and predictability
- Improve multimodal travel options to jobs and other opportunities
- Provide equitable access to opportunity for people of all ages, abilities, races, socio-economic groups

The TPP also identifies the region's transit market areas, which help guide decisions about the types and level of transit service most appropriate for a given area. They are determined by using an index of population density, employment density, pedestrian network and automobile availability. Market

Areas I, II and III are represented in the Orange Line Study area. For a map of the relevant market areas, please see **APPENDIX A – Figure 3**.

More information about the 2040 Transportation Policy Plan is available at [metro council.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan.aspx](https://metro council.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan.aspx).

## 2015-2030 Service Improvement Plan/Network Next

Metro Transit's SIP identified and prioritized local and express bus route improvements to be considered if additional operating dollars are available. The SIP identified opportunities to add new routes and improve the frequency and span of service on the existing route network. It includes a prioritized list of improvements, identifies the evaluation factors and measures used to prioritize these bus service investments, and the timing and resources needed to make them. More information about the SIP is available at [metrotransit.org/sip](https://metrotransit.org/sip).

Metro Transit is currently working on its Network Next project, which will replace the SIP. Network Next is a 20-year plan to guide the expansion and improvement of the bus network in 2040. It will build on the existing network strengths and identify improvements in local and express routes, arterial Bus Rapid Transit and integrated shared mobility. More information about Network Next is available at [metrotransit.org/network-next](https://metrotransit.org/network-next).

## Central-South (Sector 5) Sector Study Plan

The Central-South Sector 5 Transit Plan was implemented in 2004 with the opening of the region's first light rail transit line, the Hiawatha Line (now the METRO Blue Line). This plan focused on making connections at new light rail stations, but also included substantial restructuring of bus service along I-35W in south Minneapolis and the southern suburbs. Most of this plan's route structure still exists today in the Orange Line Connecting Bus Study area. Two facilities built as part of this plan – the South Bloomington Transit Center at 98th St. and the Knox Ave. Park & Ride – will be incorporated into Orange Line stations.

## METRO Green Line Extension-Southwest Corridor Light Rail

The extension of the Green Line between downtown and Uptown Minneapolis, the southwest suburbs and Eden Prairie is currently under construction. There may be opportunities for improved bus connections between the study area and new light rail stations in south Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie when the Green Line extension opens in 2024.

A separate connecting bus study will be conducted prior to the opening of the extension. More information about the Green Line extension is available at [metro council.org/Transportation/Projects/Light-Rail-Projects/Southwest-LRT.aspx](https://metro council.org/Transportation/Projects/Light-Rail-Projects/Southwest-LRT.aspx).

## METRO arterial Bus Rapid Transit lines

Three arterial bus rapid transit lines are proposed within the Study Area and each include a package of transit enhancements that add up to faster trips and an improved experience.

The next project planned for construction is the METRO D Line, which will operate in today's Route 5 corridor – one of Metro Transit's busiest bus routes. The D Line will operate between Mall of America, downtown Minneapolis and Brooklyn Center on Chicago Avenue, Emerson/Fremont avenues and 44th Ave. N. Construction will start in spring 2021 with a targeted late 2022 opening. More information about the D Line is available at [metrotransit.org/d-line-project](https://metrotransit.org/d-line-project).

The lines following next are the METRO B and E lines, on two more of Metro Transit's busiest bus routes. The B Line would operate in today's Route 21 corridor between West Lake St. Station, the METRO Green Line, Uptown, and downtown St. Paul direct via Lake St., Marshall Ave., Snelling, and Selby Ave. The B Line is fully funded and scheduled to open in 2024. More information about the B Line is available at [metrotransit.org/b-line-project](https://metrotransit.org/b-line-project).

The METRO E Line would operate in today's Route 6 corridor between Southdale, Uptown, downtown Minneapolis and the University of Minnesota via France Ave., 44th St., Sheridan, Hennepin, and University Ave./4th St. SE. Construction could start as early as 2023, pending full project funding. More information about the E Line is available at [metrotransit.org/e-line-project](https://metrotransit.org/e-line-project).



## CHAPTER 2: PRE-CONCEPT PLAN OUTREACH AND ENGAGEMENT

Public outreach and engagement were done in Fall 2019 to inform the development of the Concept Plan. The goals of the outreach work were to educate transit customers about the Orange Line and this study and to better understand the travel demand and transit needs of transit riders and stakeholders with the Orange Line when it opens in late 2021. The results of this engagement were also compared to the findings of Metro Transit's Listening and Learning Through Crisis outreach in summer 2020, which determined that this project's 2019 engagement work is still valid.

### Outreach process

Metro Transit used several ways to communicate with transit riders and other stakeholders. A project website, survey, and flyer were developed, electronic rider alerts were distributed, and staff spent time at key bus stops and riding many Route 535 trips talking with riders. The study was covered in Metro Transit's newsletter, the Orange Line newsletter and using social media channels. In addition, three open houses were held in south Minneapolis, Richfield, and Bloomington. Stakeholders such as community groups, neighborhood associations, key employers, the I-494 Commuter Services organization, and city staff and officials were informed of the project launch and survey and were asked to share this information with others in their networks.

### Survey results

More than 500 surveys were received and provided insights, information and data used to develop the Concept Plan:

- 65% have heard of the Orange Line
- 62% ride every day or most days
- 70% work trips, 70% peak period trips
- Most rode Route 535 and the Blue and Green Line. Other routes mentioned include routes 4, 18, 46, 539 and 597
- Most said Orange Line would "favorably affect" their travel, so long as quality connecting service is provided
- Key destinations that need to be connected to Orange Line stations include:
  - Normandale College
  - Lyndale and Penn Ave. in Bloomington and Richfield
  - 94th/James area employers

The complete Outreach, Communications and Feedback Summary report is available at [metrotransit.org/metro-orange-line-connecting-bus-service](https://metrotransit.org/metro-orange-line-connecting-bus-service)

## CHAPTER 3: PROPOSED CONCEPT PLAN

### Proposed service changes

The Orange Line Connecting Bus Study proposes route and service changes on Routes 7, 27, 515, 535, 537, 538, 539, 540, 542, 553, and 597 to be implemented when the Orange Line opens in late 2021. New routes 534, 536, 547, and 548 would be implemented at the same time. A map showing the proposed structure of all the existing, restructured, and new routes in the study area is in **APPENDIX A – Figure 4**.

For detailed individual route maps and summary of service for the Orange Line (Route 535 replacement) and Routes 7, 27, 515, 534, 536, 537, 538, 539, 540, 542, 547, 548, 553, and 597 please see **APPENDIX B**. These are referred to as “key routes” in this concept plan under two scenarios, A – equivalent to resources available in Fall 2020 or B – equivalent to resources that were available in Fall 2019.

Please note that there are additional routes that will serve an Orange Line station outside downtown where no changes are proposed. These routes are listed below with the Orange Line stations. The report uses common transit planning terms such as “frequency” and “span.” Frequency is defined as the amount of time between trips in the same direction on a route; span is the amount of time per day a route operates, otherwise stated as the first departure on the first trip to last arrival on the last trip.

Also, while the long-term ridership impacts of the COVID-19 pandemic are not known, the short-term impacts have been significant. The proposed changes outline here in Chapter 3 are based on ridership patterns that existed before the crisis, which may change in the long-term as people adapt and new travel needs emerge. To the extent possible and given the information available, the Concept Plan has considered potential long-term impacts to ridership and travel behavior in response to the crisis. However, the plan may need to be adjusted and the timeline for implementing certain changes may need to be modified later in the planning process based on market conditions at the time the Orange Line opens.

Other than routes 537, 542, and 597, the Concept Plan is silent on the future of routes that are currently suspended. The future of suspended routes throughout the region will be determined through a separate public process.

### METRO Orange Line

The METRO Orange Line will provide daily, high frequency service from about 5 a.m. to midnight, replacing much of existing Route 535. All I-35W express routes and many local routes will provide connections at Orange Line stations outside downtown Minneapolis:

- **Lake Street:** 21, 27, 53,\* 146,\* 156,\* 552,\* 554,\* 558,\* 578, 579\*
- **46th Street:** 11, 18, 46, 146,\* 578, 579\*
- **66th Street:** 515, 558\*
- **76th Street:** 540
- **American Blvd:** 4, 534, 536, 538, 542\*
- **98th Street:** 18, 534, 539, 547, 548, 553

The eight routes marked with an asterisk(\*) have been suspended since March 2020 due to the COVID-19 pandemic, which has resulted in a substantial decline in ridership and disruption of transit needs and resources. Commuter routes 553, 578, 597 continue at very limited levels – one or two trips per peak, for the same reason.

Frequencies for individual key routes are included in **APPENDIX A – Figures 5, 6 and 7**. The Orange Line will offer weekend service, which is not available on Route 535 today. Service under *Scenarios A and B* are the same except where noted.

### Orange Line estimated statistics - 2021

Service Day	Revenue Hours	Revenue Trips	Peak Buses	Off-Peak Buses	Peak Frequency	Midday Frequency	First Trip	Last Trip
Weekday	110.0	154	10	6	10 min.	15 min.	5:00 AM	12:00 AM
Saturday	92.3	134	6	6	15 min.	15 min.	5:00 AM	12:00 AM
Sunday	92.3	134	6	6	15 min.	15 min.	5:00 AM	12:00 AM

### Key route change details

A table listing frequencies for each of the key routes is included in **APPENDIX A – Figures 5, 6, and 7**. A map and details for each key route is included in Appendix B. Frequencies are defined as the following time periods:

- Peak: 6 - 9 a.m. and 3 - 6:30 p.m.
- Midday: 9 a.m. - 3 p.m.
- Evening: 6:30 - 9 p.m.
- Saturday and Sunday: 9 a.m. - 6 p.m.

### Route 7

All remaining trips on this route will be extended to serve Cedar Point Commons, providing a direct connection between the Nokomis East neighborhood and Route 515 and the 66th St. corridor. This extension would replace Route 515E on weekdays and Saturdays between 34th Ave. and Richfield with service seven days a week.

Route 7 will run every 30 minutes on weekdays and weekends in both scenarios.

### Route 27

Route 27 will directly serve the new Lake St. Station, providing a direct connection with the Orange Line and many express routes operating on I-35W. This link will re-establish access to large employers in south Minneapolis such as Abbott Northwestern Hospital, Allina, Children's Hospital and Wells Fargo Home Mortgage.

The route will run every 30 minutes on weekdays during the midday and rush hour in both scenarios.

### Route 515

This route has a critical role serving the Orange Line at 66th St. Station. The route would be simplified from three variations to one with no branches. The routing will not change in Edina, but in Richfield it would be modified to travel via 66th St., Richfield Pkwy., 68th St., Bloomington Ave., 76th St., Richfield Pkwy., 77th St. and 24th Ave. S. to Mall of America. This route change requires that the 77th St. underpass at Hwy. 77 is open.

In Scenario A Route 515 will continue to operate every 20 minutes. With Scenario B, “High Frequency” service every 15 minutes on weekdays and would be restored, remaining every 20 minutes on Sunday.

### *Areas of Route 515 proposed for elimination*

Service is proposed to be eliminated on Longfellow Ave. between 66th and 77th streets. This would affect about nine rides per day, with most commuters likely walking from Longfellow Ave. to the Fed Ex and UPS air cargo facilities at MSP Airport. Rides to Fed Ex and UPS are higher than rides returning, likely because bus commuters are carpooling with co-workers when leaving work due to variable actual work end times. No alternate bus service exists.

Service on Route 515 is also proposed to be eliminated in the Nokomis neighborhood between 28th Ave./ Hwy. 62 and VA Medical Center on 58th St., 34th Ave. and 54th St. About 80 weekday and 30 Saturday rides are affected. Alternate service is available two blocks away on Route 22, and Route 7 with the extension between this area and Cedar Point Commons will make connections with Route 515 for service along 66th St.

Finally, Route 515 would not operate on 12th Ave. and American Blvd. south of 76th St. Routes 5 and 542 will continue to serve this area.

## **New Route 534**

This new route would serve both 98th St. Station and Knox Ave. & American Blvd. Station. The route will travel on 98th St., 94th St., Lyndale Ave., and American Blvd. in Bloomington. Select trips will also serve employers near 94th and James (peak only). Service every 30 minutes during the off-peak is a significant upgrade over today’s Route 535 service.

In Scenario A, the route runs every 20 minutes in the peak period and 30 minutes in the midday and evenings. Scenario B adds weekend service every 30 minutes.

## **Route 535**

This route will be largely replaced by the METRO Orange Line at stations in Minneapolis, Richfield, and Bloomington. The local branches of Route 535 will be replaced by new service proposed as follows:

- B branch will be covered by Route 536 on American Blvd., Route 540 on 76th St., and Route 534 on 94th St and Lyndale Ave.
- C branch will be covered by Route 536 on American Blvd., Route 540 on 76th St, Route 534 on James Ave., 94th St. and Lyndale Ave., and Route 539 on 98th St.
- D branch will be served by Route 536 on American Blvd., Route 540 on 76th St., Route 534 on 94th St. and Lyndale Ave., and Route 539 on 98th St.
- E branch on Lyndale Ave will be served by Route 534 and on 102nd St. by Route 553. There will be no service replacing the area south of 102nd St.

## **New Route 536**

This new route would serve Knox Ave. & American Blvd. Station. The route will connect Normandale College, France Ave., Valley West Center, Old Shakopee Rd., and Penn Ave. with American Blvd. in Bloomington. Route 536 would replace most of existing Route 539 west of I-35W.

In both scenarios, on weekdays the route will run every 30 minutes in the peak periods and hourly in the midday, evenings and on weekends.

### Route 537

In Scenario A, this route will continue to be suspended. With Scenario B, the route would be restored, and frequency would be improved to every 30 minutes during peak hours. This is an improvement over the hourly service available prior to the pandemic.

### Route 538

No changes are planned, but there is a frequency improvement in Scenario B. In Scenario A trips will run every 30 minutes during peak periods and every 30/60 minutes at other times. Weekday midday service is upgraded to every 30 minutes in Scenario B.

### Route 539

Route 539 would connect Normandale College, 98th St. and E. Old Shakopee Rd. with the Orange Line at 98th St. Station. It will be simplified so that all trips follow the same routing via 98th St. between the Orange Line station, Normandale College, and Normandale Village. The route would replace most of existing Route 535 west of I-35W, providing a direct link between the Orange Line and Normandale College for the benefit of about 200 one-way rides.

In scenarios A and B, the route will operate every 20 minutes during the AM Peak, every 30 minutes in the midday and PM Peak, and every 30/60 minutes in the evening and on weekends.

#### *Areas of Route 539 proposed for elimination*

90th St. between France and Penn avenues would no longer have transit service. About nine weekday, four Saturday and three Sunday rides are affected by the elimination of this segment. Of these, two on weekdays, six on Saturdays and four on Sundays are more than ¼ mile from alternate service.

Some segments of the existing Route 539 would be served by other routes:

- Route 536 will serve Penn Ave. south of American Blvd., Old Shakopee Rd. between Penn and France avenues, Valley West Center, and France Ave. between Old Shakopee Rd. and to 98th St.
- With Scenario B, Route 537 would continue to serve France Ave. between 90th and 98th streets. Weekdays only.
- Route 4 will continue to serve Penn Ave. north of American Blvd. daily.
- Route 540 will continue to serve 76th St. between Penn and Knox avenues daily.

### Route 540

This route has a critical role serving Knox Ave. & 76th St. Station. The route would be simplified from four variations to one with no branches. In Richfield, Route 540 would travel on 77th St. and 24th Ave. S. going to and from Mall of America using a new 77th St. underpass at Hwy. 77. In Edina, all trips will follow the same routing via Metro Blvd., 74th St., Dewey Hill Rd., Cahill Rd., 78th St., and E. Bush Lake Rd. to the Normandale Lake Office Park in Bloomington daily.

In Scenario A, the route will run every 20 minutes during peak periods, every 30 minutes in the middle of the day and every 30/60 minutes in the evening and on weekends. Weekend service is improved to every 30 minutes in Scenario B.

### *Areas of Route 540 proposed for elimination*

Service is proposed to be eliminated on 12th Ave. S. and on American Blvd. Alternate service is available on routes 5 and 542. This change affects about 80 weekday, 50 Saturday, and 35 Sunday rides.

Route 540 is also proposed to be eliminated on 78th St. and Picture Dr. between Edina Industrial Blvd. and E. Bush Lake Rd. This would affect fewer than 10 riders, who would have to walk about 2,000 feet through a parking lot to Edina Industrial Blvd. Limited service would remain in this area on Route 6.

## **Route 542**

This route is currently suspended but would be restored under both Scenario A and B. Route 542 would be streamlined via American Blvd. between Lyndale and Penn avenues, staying south of I-494 and no longer serving 76th St. It would provide an important link with Knox Ave. & American Blvd. Station. All trips will follow the same routing, and would be extended west via American Blvd., E. Bush Lake Rd. and 78th St. to Hwy. 169 to providing new bus access to employers located west of E. Bush Lake Rd. SouthWest Transit would be invited to adjust their Golden Triangle circulator to connect with Route 542 at the new western terminal.

In Scenario A the route operates every 30-60 minutes only in the rush hour. Service is expanded in Scenario B to every 30 minutes during the peak periods, every 30/60 minutes in the midday and on weekends, and every 90 minutes on weekday evenings.

### *Areas of Route 542 proposed for elimination*

Route 542 would no longer serve the B branch on 84th St. and on Penn Ave. south of American Blvd. This area is also served by Route 558, which is currently suspended. There are 2-3 riders traveling westbound in the early afternoon who are not able to use Route 558 as an alternative.

## **New Route 547**

This route will provide a connection at 98th St. Station for access to southwest Bloomington employers on Old Shakopee Rd. It would also transport residents from Auto Club Rd., Normandale Blvd., and 110th St. to 98th St. Station for connections with the Orange Line as a replacement for Route 597 express.

New Route 547 would run every 30 minutes during peak periods under both scenarios.

## **New Route 548**

This local route would replace Route 597B branch, connecting residents along 102nd St. with 98th St. Station. The route would be streamlined via Hyland Greens Dr., Normandale Blvd., W. 102nd St. and Old Shakopee Rd.

New Route 548 would run every 30 minutes during peak periods under both scenarios.

## **Route 553**

The route would be extended south of 98th St. to replace existing Route 535E branch, connecting 98th St. Station with Lyndale Ave. and 102nd St. to Portland Ave.

In Scenario A, service would consist of two trips during each peak period. With Scenario B, span improves with five trips in the AM and six trips in the PM.

## Route 597

In both scenarios this commuter and express route would be replaced by routes 547, 548 and the Orange Line. Timed transfers will be scheduled at 98th St. Station. Route 539 would replace service on W. 98th St. There will be no alternate service on Xerxes Ave. S. between 102nd and 98th streets.

Travel time between 98th St. Station and downtown Minneapolis will be about four minutes longer on the Orange Line as compared to Route 597. Timed transfers of about five minutes between routes 547, 578, and the Orange Line will ensure solid connections.

## Projected budget and resources

The Orange Line Connecting Bus Study Concept Plan, not including the Orange Line itself, proposes nearly a break-even budget as compared to the September 2020 service under Scenario A. There would be a slight savings in weekday revenue hours and an increase in weekend revenue hours. Revenue hours include in-service time for all revenue trips plus recovery time at terminals.

Scenario B annual revenue hours are higher than Scenario A, but below the September 2019 level.

A summary of the estimated changes in resources in revenue hours and buses by key route is shown in **Tables 1, 2, 3, 4, and 5.**

**Table 1. Comparison of estimated Weekday Revenue Hours on key routes:**

Route #	Fall 2019	Fall 2020	Scenario A	Scenario B
<b>7</b>	91.5	81.1	90.1	90.1
<b>27</b>	12.1	12.1	12.1	12.1
<b>515</b>	74.2	68	68	74.7
<b>534</b>	0	0	18.1	18.1
<b>535</b>	93.3	82.5	0	0
<b>536</b>	0	0	27.5	27.5
<b>537</b>	15.1	0	0	15.7
<b>538</b>	36	36	36	40.1
<b>539</b>	58.7	50	35.8	35.8
<b>540</b>	47.6	44.4	53.2	53.2
<b>542</b>	19	0	12.6	34.3
<b>547</b>	0	0	9.3	10.3
<b>548</b>	0	0	2.2	2.2
<b>553</b>	10	1.7	3.6	9.1
<b>597</b>	20.9	1.8	0	0
<b>Totals =</b>	478.4	377.6	368.5	423.2
<b>Net =</b>	n/a	n/a	-9.1	-55.2
<b>Annual =</b>	n/a	n/a	-2,320	-14,076

Annual Hours are the sum of Weekday Hours X 255 Weekdays plus Saturday Hours X 52 Saturdays plus Sunday Hours X 58 Sundays and Holidays per year.



**Table 2. Comparison of estimated Saturday Revenue Hours on key routes:**

Route #	Fall 2019	Fall 2020	Scenario A	Scenario B
7	87.0	75.3	75.3	75.3
515	59.6	57.6	57.6	61.9
534	0	0	0	7.3
536	0	0	16.5	16.5
538	26.2	26.2	26.2	26.2
539	31.8	31.8	21.2	21.2
540	14.7	15.2	36.6	39.5
542	0	0	0	26.5
<b>Totals =</b>	219.3	206.1	233.4	274.4
<b>Net =</b>	n/a	n/a	27.3	55.1
<b>Net Annual =</b>	n/a	n/a	1,420	2,865

**Table 3. Comparison of estimated Sunday Revenue Hours on key routes:**

Route #	Fall 2019	Fall 2020	Scenario A	Scenario B
7	76.7	69.2	69.2	73.2
515	40.2	40.2	40.2	40.2
534	0	0	0	7.3
536	0	0	13.0	13.0
538	21.0	21.0	21.0	21.0
539	23.5	23.5	16.9	16.9
540	13.9	13.9	24.1	32.6
542	0	0	0	22.4
<b>Totals =</b>	175.3	167.8	184.4	226.6
<b>Net =</b>	n/a	n/a	16.6	51.3
<b>Net Annual =</b>	n/a	n/a	963	2,975

**Table 4. Net annual Revenue Hours on key routes**

	Scenario A compared to Fall 2020	Scenario B compared to Fall 2019
<b>Weekday Annual Hours:</b>	-2,320	-14,076
<b>Saturday Annual Hours:</b>	1,420	2,865
<b>Sunday/Holiday Annual Hours:</b>	963	2,975
<b>Total Annual Hours:</b>	63	-8,236

**Table 5. Comparison of estimated Weekday Peak Buses on key routes**

Route #	Fall 2019	Fall 2020	Scenario A	Scenario B
7	5	5	6	6
27	1	1	1	1
515	5	4	4	5
534	0	0	2	2
535	10	9	0	0
536	0	0	2	2
537	1	0	0	2
538	3	3	3	3
539	4	4	4	4
540	6	4	5	5
542	3	0	2	3
547	0	0	2	2
548	0	0	1	1
553	3	1	2	3
597	6	1	0	0
Totals =	47	32	34	39

## CHAPTER 4: ACCESSIBILITY IMPROVEMENTS

The Concept Plan meets the project goals and objectives identified in Chapter 1 of this report. The changes proposed will build on the new Orange Line and enhance accessibility and mobility in the study area by providing a high-quality connecting bus network. With either scenario, 17 routes will link neighborhoods and employers with Orange Line stations south of downtown Minneapolis, and the overall route network will be updated to reflect existing travel demand and patterns.

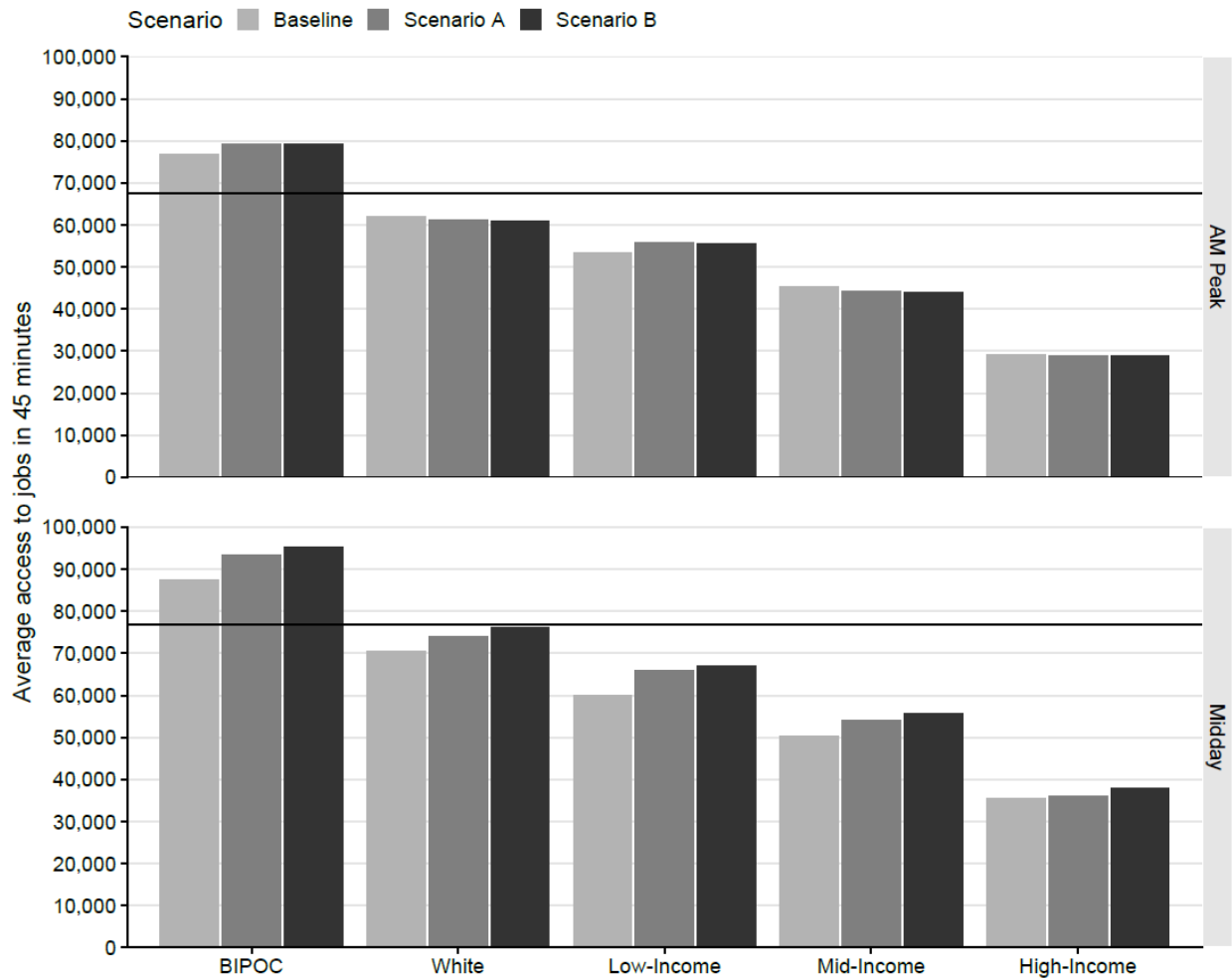
Five routes will be simplified with one consistent routing: 7, 515, 539, 540, and 542. Five routes – 534, 536, 539, 540, and 542 – will form a grid-like network in the suburbs and provide crosstown service on Lyndale, Penn, 98th St. and along the I-494 frontage road system (American Blvd. and 76th/77th/78th St.) Fewer variations and turn movements make routes easier to understand and use.

The Orange Line will be easily accessible with one transfer from many parts of south Minneapolis, Bloomington, Richfield, and Edina. These improvements will enhance mobility and connectivity, and link residents, jobs, and services. The concept plan will include four new routes – 534, 536, 547, and 548 – making connections at an Orange Line station. Overall, including the Orange Line, with Scenario A, there will be 58% more trips weekly compared to the number in Fall 2020. Scenario B improvements increase the number of weekly trips by 83% compared to Fall 2020.

Access to jobs in the Orange Line Study Area improves during both peak and off-peak hours. It is most notable for low-wage jobs that tend to be more often part-time, with start or end times in the midday, as evidenced in **Table 6**. On average, a resident in the study area can access about the same number of low-wage jobs during the AM peak, but Black, Indigenous, People of Color (BIPOC) residents gain access to more jobs than white residents. All demographic groups see an increase of access to jobs in the midday with the largest improvement experienced by BIPOC communities.

Both Scenarios distribute transit access better to suburban jobs in Burnsville, near Mall of America, along I-494, and in southwest Bloomington. With Scenario B, midday access to these areas is improved the most, as is evident on the maps shown in **APPENDIX A-Figure 8**.

**Table 6 - Change in access to jobs in 45 minutes**



Better span and/or frequency of service on five routes in Scenario A will make these areas even easier to access and improve connections between routes. With Scenario B, Metro Transit's High Frequency Network will be expanded to include the entire Route 515 between Southdale and Mall of America. Routes 537 (Scenario B) and 539 will have additional rush-hour service. Also, routes 538 and 542 will provide more trips in the midday. Evening service will be improved on routes 540 and 542, and there will be new weekend service on Route 534 and additional weekend trips on Route 540.

The proposed changes improve connections with jobs and resources in the study area. All I-35W express routes will once again serve the new I-35W & Lake St. Station, providing suburban residents access to jobs in the Lake St./Midtown corridor and south Minneapolis residents with express options to suburban jobs. The American Blvd. and 98th St. stations will also be important transfer hubs served by five different routes plus the Orange Line. All Route 540 trips will serve Normandale Lake Office Park employers and routes 542 and 547 will be tailored to serve specific work shifts in the I-494 corridor and southwest Bloomington, respectively. The streamlining of Route 539 will provide a faster, more direct connection between the Orange Line and Normandale Community College, and new Route 534 will offer more service to Volunteers Enlisted to Assist People (VEAP) community services on Lyndale Ave. Neither Scenario A nor B precludes any commuter express service in the I-35W corridor. All local segments of Route 535 are covered. Route 597 is replaced between downtown and 98th St. Station by the Orange Line, the C and E branches by Route 547 and the B branch by Route 548.

## CHAPTER 5: TITLE VI AND ENVIRONMENTAL JUSTICE

The Federal Transit Administration (FTA) requires recipients of federal funding, including Metro Transit, to conduct a Title VI service equity analysis for any proposed service change that meets the agency's major service change threshold, which the addition of the Orange Line does. The purpose of the analysis is to evaluate service changes at the planning stage to determine whether those changes might have a discriminatory impact based on race, color, national origin, or income status. The following is a summary of the analysis conducted, which fulfills this requirement as it relates to the service changes and additions included in the proposed Orange Line Connecting Bus Study Concept Plan.

### Legislation and Federal Guidance

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. 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." Moreover, FTA guidance recognizes the inherent overlap between Title VI and environmental justice principles, which extend protections to low-income populations. 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." Through this Executive Order, Title VI was identified as one of several Federal laws that should be applied "to prevent minority communities and low-income communities from being subject to disproportionately high and adverse environmental effects."

To provide direction to recipients of federal funding, the FTA issued Circular 4702.1B *Title VI Requirements and Guidelines for Federal Transit Administration Recipients* in 2012. This document outlines Title VI evaluation procedures for recipients of FTA-administered transit program funds and includes guidance for a variety of equity evaluations. In accordance with this guidance, this service equity analysis for the Orange Line Connecting Bus Study Concept Plan tests for disparate impact to minority populations and for disproportionate burden to low-income populations.

### FTA Definitions

*A note on the language and terminology used in this chapter:* Some of the terms used in this chapter of the report such as "minority" and "low-income" may not be consistent with efforts by Metro Transit and the Metropolitan Council to use respectful and inclusive language, such as communities of color or people experiencing poverty, for example. However, the former terms are used in this report to match the terminology used in the FTA Title VI Circular and other federal guidance.

FTA defines a minority person as one who self-identifies as American Indian/Alaska Native, Asian, Black or African American, Hispanic or Latino/a/x, and/or Native Hawaiian/Pacific Islander. For the purposes of this evaluation, non-minority persons were defined as those who self-identify as non-Hispanic white. All other persons, including those identifying as two or more races and/or ethnicities, were defined as minority persons. The distribution of minority populations within the Title VI service area is shown in **APPENDIX A – Figure 9**.

While low-income populations are not an explicitly protected class under Title VI, FTA recognizes the inherent overlap between Title VI and Environmental Justice principles and requires transit providers to evaluate the impact of service and fare changes to low-income populations and to identify any disproportionate burden placed on those populations by the proposed changes. FTA defines a low-income person as one whose household income is at or below the poverty guidelines set by the

Department of Health and Human Services (DHHS). However, FTA Circular 4702.1B also allows for low-income populations to be defined using other established measures that are at least as inclusive as those developed by DHHS. Correspondingly, this Title VI service equity analysis use 2018 U.S. Census Bureau poverty thresholds (100% of threshold), a more sophisticated and inclusive measure of poverty than the poverty guidelines set by DHHS. The distribution of low-income and non-low-income populations within the Title VI service area is shown in **APPENDIX A – Figure 10**.

## Disparate impact, disproportionate burden, and the four-fifths threshold

FTA defines “disparate impact” as facially neutral policies or practices that disproportionately affect members of a group identified by race, color, or national origin, and where the recipient’s policy or practice lacks a substantial legitimate justification. Similarly, FTA defines “disproportionate burden” as a neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations.

FTA directs transit agencies to set thresholds to be used as evidence of impacts severe enough to meet the definition of disparate impact or disproportionate burden. Established through a public engagement process, Metro Transit defined its disparate impact and disproportionate burden thresholds in 2013 using the “four-fifths rule,” which states that there may be evidence of disparate impact/disproportionate burden if:

- Benefits are being provided to *minority (or low-income)* populations at a rate less than 80% (four-fifths) of the benefits being provided to *non-minority (or non-low-income)* populations, or
- Adverse effects are being borne by *non-minority (or non-low-income)* populations at a rate less than 80% (four-fifths) of the adverse effects being borne by *minority (or low-income)* populations.

The four-fifths rule originates from employment law but is applied in this setting to compare the distribution of benefits and/or adverse impacts among various population groups.

If the quantitative results of the service equity analysis indicate that the service changes in the Orange Line Connecting Bus Study Concept Plan would create disparate impact and/or disproportionate burden, Metro Transit must conduct additional analysis to evaluate alternatives and mitigate burdens.

## Evaluation

### Methodology

Impacts of the proposed service changes on residents of the study area are determined based on the change in access to transit as a result of the Orange Line Connecting Bus Study Concept Plan. The current service levels are representative of Fall 2020, while proposed service levels are those outlined in the Orange Line Connecting Bus Study Concept Plan. Scenarios A and B are compared to current service levels separately.

Access to transit is measured as the number of weekly scheduled bus trips available to a given population. This transit service data is then combined with population data from the U.S. Census Bureau to determine and compare the distribution of impacts and benefits – that is, average percent change in transit service – to minority, non-minority, low-income, and non-low-income populations based on where they live. Population data used in this analysis came from the U.S. Census Bureau’s 2014-2018 American Community Survey (ACS) five-year estimates and 2010 Decennial Census, presented at the census block level through a process of areal interpolation.

This Title VI analysis measured transit service at the stop/station level within the study area boundaries from study area routes. Measuring transit service at the stop/station level assigns service only to areas near where a bus may pick up and drop off passengers, disregarding non-stop route segments. The number of weekly scheduled bus trips at each stop or station was assigned to Census divisions (census blocks) as a means of quantifying the amount of transit service available in a given area. A census block was considered served by a bus stop if the center of the census block was within ¼ mile of the stop, and it was considered served by a transit station if it was within ½ of the station.

Since Census data are used for this analysis, service change impacts are determined by Census division level – in this case, census blocks – then summarized. In the analysis, the number of weekly scheduled bus trips serving each census block (service level) is calculated for both the current service (Fall 2020) and the proposed Concept Plan. The average percent change in service level for each target population – total population, minority population, non-minority population, low-income population, and non-low-income population – is then calculated and weighting by the target population served in that census block. For example, the average percent change in service level for minority populations is achieved by multiplying each census block’s minority population by the percent change in service level for that same census block, summing the results for all blocks in the service change area, and dividing that sum by the total minority population for all blocks in the Title VI service area. The formulas used for these analyses is shown below.

$$\text{Percent Change in Service}_i = \frac{(\text{Proposed Trips}_i - \text{Current Trips}_i)}{\text{Current Trips}_i}$$

$$\text{Avg \% } \Delta = \frac{\sum (\text{Population}_i \times \text{Percent Change in Service}_i)}{\sum \text{Population}_i}$$

Where:

*Percent Change in Service<sub>i</sub>* = Percent change in total weekly scheduled bus trips for census block *i*

*Proposed Trips<sub>i</sub>* = Total proposed weekly scheduled bus trips (modified/planned bus routes) serving census block *i*

*Current Trips<sub>i</sub>* = Total current weekly scheduled bus trips (existing bus routes) serving census block *i*

*Avg % Δ* = Population-weighted average percent change in weekly scheduled bus trips for target population

*Population<sub>i</sub>* = Target population of census block *i*.

Using this method, the effects of the service changes on different population groups are proportionate to both the demographics of the census blocks and the degree of service level change.

## Evaluation of impacts

The average percent change in service levels for each target population group under Scenarios A and B are summarized in **Table 7**. The percent change in service levels by census block under Scenarios A and B are illustrated **APPENDIX A – Figure 11** and **APPENDIX A – Figure 12**, respectively.



**Table 7. Average percent change in service level by scenario by population group**

Scenario	Population Group	Population of Service Area	Average Percent Change in Service	Comparison Index*	Disparate Impact/ Disproportionate Burden (Index <0.80)
A	Minority	113,693	+20.2%	0.84	No
A	Non-Minority	180,653	+24.1%	-	-
A	Low-Income	43,283	+19.8%	0.86	No
A	Non-Low-Income	243,652	+23.1%	-	-
A	Total	294,346	+22.6%	-	-
B	Minority	113,665	+24.3%	0.82	No
B	Non-Minority	180,984	+29.7%	-	-
B	Low-Income	43,295	+22.9%	0.80	No
B	Non-Low-Income	243,943	+28.6%	-	-
B	Total	294,649	+27.6%	-	-

\*Example:  $20.2\%/24.1\% = 0.84$

Under Scenario A, the proposed service changes result in an increase of 22.6%% in transit service availability, regardless of minority or low-income status (Table 7). The average minority resident in the service area would experience a 20.2%% increase in transit service under Scenario A, while non-minority residents would receive a slightly greater increase of 24.1%%, on average (Table 7). However, the corresponding comparison index of 0.84 ( $20.2\%/24.1\% = 0.84$ ) does not surpass the threshold for disparate impact (0.80, four-fifths). Therefore, this analysis identifies no disparate impact to minority populations as a result of the proposed service changes under Scenario A. Results are similar based on income status. The average low-income resident in the service area would experience a 19.8%% increase in transit service under Scenario A, while non-low-income residents would receive a slightly greater increase of 23.1%%, on average (Table 7). However, the corresponding comparison index of 0.86 does not surpass the threshold for disproportionate burden (0.80, four-fifths). Therefore, this analysis identifies no disproportionate burden to low-income populations as a result of the proposed service changes under Scenario A.

Analysis conducted based on Scenario B shows results similar to those from Scenario A, though the average percent change in service is greater in Scenario B. The proposed service changes under Scenario B result in an average increase of 27.6%% in transit service availability, regardless of minority or low-income status (Table 7). The average minority resident in the service area would experience a 24.3%% increase in transit service under Scenario B, while non-minority residents would receive a slightly greater increase of 29.7%%, on average. However, the corresponding comparison index of 0.82 does not surpass the threshold for disparate impact. Therefore, this analysis identifies no disparate impact to minority populations as a result of the proposed service changes under Scenario B. Like Scenario A, the results under Scenario B based on income status are similar based on minority status. The average low-income resident in the service area would experience a 22.9% increase in transit service under Scenario B, while non-low-income residents would receive a slightly greater increase of 28.6%, on average (Table 7). However, the corresponding comparison index of 0.80, narrowly, does not surpass the threshold for disproportionate burden, as it is not less than 0.80 or four-fifths. Therefore, this analysis identifies no disproportionate burden to low-income populations as a result of the proposed service changes under Scenario B.

## Interpretation & conclusions

The results of the service equity analysis show no disparate impact to minority populations and no disproportionate burden to low-income populations under either Scenario A or Scenario B of the

Orange Line Connecting Bus Study Concept Plan. Though the comparison indices (Table 7) are above the threshold for disparate impact and disproportionate burden (0.80), suggesting no adverse impacts to minority or low-income populations, they are close in some instances, especially disproportionate burden under Scenario B. However, upon further investigation, the differences between the positive outcomes for minority and non-minority residents and between low-income and non-low-income residents appear to be inflated in part due to limitations of the service equity analysis methodology and the disruption of service from the COVID-19 pandemic.

Given data limitations, the service equity methodology only accounts for the demographics of the population living near stops and stations served by study area routes, as opposed to the actual riders of those routes. Further, unlike the preceding accessibility analysis (Chapter 4), this service equity analysis fails to capture the change in access to jobs and destinations and the benefits of such to those living elsewhere in or outside of the study area. For example, the purpose of proposed Route 547 is to provide a connection to the Orange Line that enables reverse commute trips to jobs and destinations based in southwest Bloomington. There are relatively greater proportions of non-minority and non-low-income residents living near Route 547 compared to other parts of the study area (**APPENDIX A – Figure 11, APPENDIX A-Figure 12**). Despite the legitimate justification of providing access to jobs and destinations, the service change would appear to benefit non-minority and non-low income disproportionately. This exemplifies the limitations of the service equity analysis methodology and using Census data based on place of residence.

The impacts of the COVID-19 pandemic on service levels must also be put in context. This analysis compares service levels from proposed Scenarios A and B to those from Fall 2020, and the results are reported as percent change in service. However, multiple existing study area routes (e.g., 537, 542, 578, 597, etc.) were either suspended or operating at limited levels in Fall 2020 in response to COVID-19. As such, the percent change in service to areas where these routes operate shows up as a greater increase than it would be under more typical, pre-COVID-19 service conditions. Additionally, the population living near the routes suspended or operating at limited levels in Fall 2020 are more likely to be non-minority or non-low-income residents when compared to the study area as a whole. As such, comparing proposed service levels from Scenarios A and B to non-existent or significantly reduced service from Fall 2020 artificially inflates the average percent increase in service for non-minority and non-low-income residents. In turn, this reduces the comparison index closer to 0.80 than would otherwise occur had the representation of “current” service been more typical.

Putting the analysis in this context provides further confidence in the conclusions of this service equity analysis: that neither Scenario A nor Scenario B of the Orange Line Connecting Bus Study Concept Plan would result in disparate impact to minority populations or disparate impact to low-income populations. The complete Title VI Service Equity Analysis report is available at [metrotransit.org/metro-orange-line-connecting-bus-service](https://metrotransit.org/metro-orange-line-connecting-bus-service).

## CHAPTER 6: PUBLIC ENGAGEMENT AND NEXT STEPS

A commitment to community engagement is one of Metro Transit's guiding principles and public involvement is at the core of the Orange Line Connecting Bus Service Study. In addition to the outreach actions outlined below, a Public Engagement Plan (PEP) is available on the project webpage with more information regarding outreach and engagement opportunities related to the project.

### Concept Plan outreach

Metro Transit will use different outreach strategies to ensure broad public engagement. Information about the project and the service changes proposed in the Concept Plan will be provided to current transit riders and the general public in several ways:

- Notification of public hearings will be provided in the *Star Tribune* and in *Connect*, Metro Transit's customer newsletter.
- Partner with community-based organizations, Normandale Community College and major employers via the I-494 Transportation Management Organization
- Website
  - Concept Plan Report
  - Video presentation
  - Map-based survey to guide feedback
- In-person intercepts at transit stops and centers
- Target ethnic and local media
- Invitations to virtual meetings, hearing
- Materials: one-pager for distribution, postcard mailer, shelter signage
- Use existing tools: *Insights*, newsletters, Metro Transit app and Go-To card list, Riders' Club

There will be several ways for individuals to ask questions and to provide feedback. Due to COVID-19 all public meetings will be virtual. Special effort will be made to make sure that communities of color, people experiencing poverty, those relying on transit the most and riders who have stopped using transit during the pandemic are included in the process. Tactics include mailing a postcard along routes with proposed changes, doing in-person outreach at key stops (especially those used by communities of color), translating the survey into several languages and targeting ethnic and social media. The project has a goal to have at least 30% of the surveys completed by Black, Indigenous, and People of Color communities.

The public will have opportunities to learn about the proposed changes and the rationale for making them. They will have the opportunity to testify and provide public comments verbally, in writing or via e-mail.

#### Virtual Community Meetings:

Saturday, Feb. 6, 11 a.m.-noon

Tuesday, Feb. 9, noon – 1 p.m.

#### Virtual Online Public Hearing:

Wednesday, Feb. 10, 5:30-6:30 p.m.

Metro Transit staff will be available to make virtual presentations of the Concept Plan to neighborhood associations and community organizations if invited to receive feedback from stakeholders.

All stakeholders may submit comments by email at [service.development@metrotransit.org](mailto:service.development@metrotransit.org) or by phone at 651-602-1500 (Council Public Comment Line). All comments are weighted the same, regardless of the format or how they are submitted.

The formal public comment period will close at 5 p.m. on **Monday, Feb. 22, 2021**.

## Next steps

Once public review is complete, feedback will be used to make modifications to the proposed service plan. The Modified Plan will be presented to the Council for final approval in mid-2021. Implementation is planned for late 2021 with the opening of the Orange Line.

As noted earlier in the report, the long-term ridership impacts of the COVID-19 pandemic are not known. To the extent possible given the information available, the Concept Plan has considered potential long-term impacts to ridership and travel behavior in response to the crisis. However, the plan may need to be adjusted and the timeline for implementing certain changes may need to be modified later in the planning process based on market conditions and available budget at the time the Orange Line opens. Scenario B offers more service but has higher costs than Scenario A.

## Future considerations

As demand and resources rebound additional improvements may be appropriate beyond the Concept Plan's Scenario B. Under a higher investment option, improvements could include wider hours of service and more frequent service:

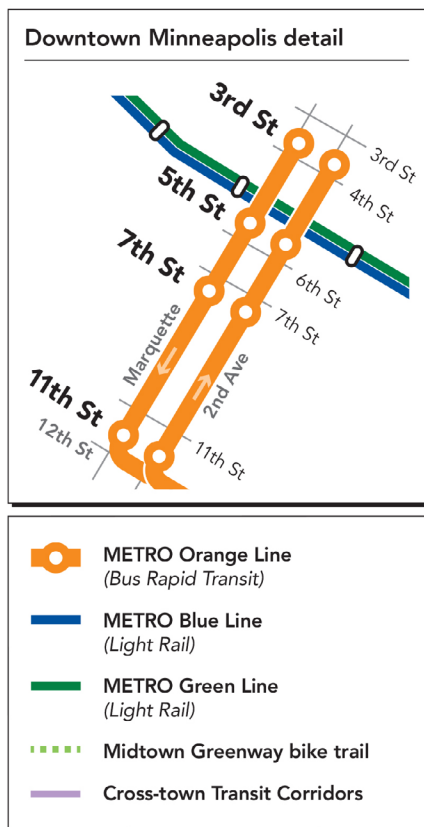
- **Route 7:** Later night service
- **Route 27:** Improve to 20-minute frequency in peaks, add later service
- **Route 534:** Add night service on weekends
- **Route 536:** Improve midday frequency to every 30 minutes
- **Route 537:** Add weekend service every 60 minutes
- **Route 539:** Improve PM peak service from every 30 to 20 minutes
- **Route 542:** Improve midday service to every 30 minutes, add weekend service every 30 minutes
- **Route 547:** Additional trips for more work shift coverage

# APPENDIX A

Figure 1 – Map of Orange Line



**i** METRO Orange Line will replace Route 535 limited stop in late 2021.

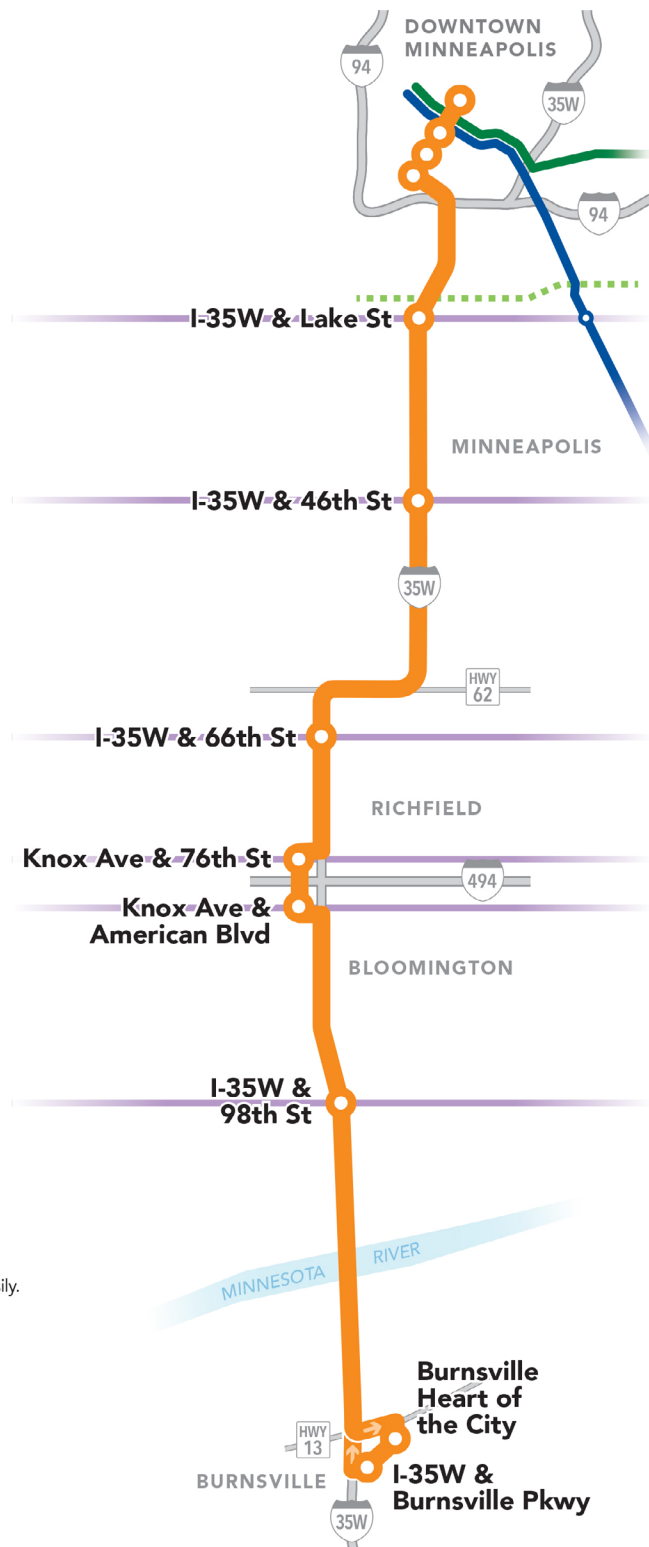


## METRO Orange Line Features

- Unique, recognizable buses with wider aisles and additional doors so more people can get on and off easily.
- Buses stop **ONLY** at stations shown.
- You'll pay your fare before you get on for faster boarding and wait at enhanced stations.

### Frequent Daily Service

The Orange Line is expected to run every 10 minutes during rush hour and every 15 minutes during midday, evenings and weekends, with less frequent service in the early morning and late at night. During rush hour, express buses will supplement Orange Line service.



[metrotransit.org/metro-orange-line](http://metrotransit.org/metro-orange-line)

Figure 2 – Key Routes in the Study Area

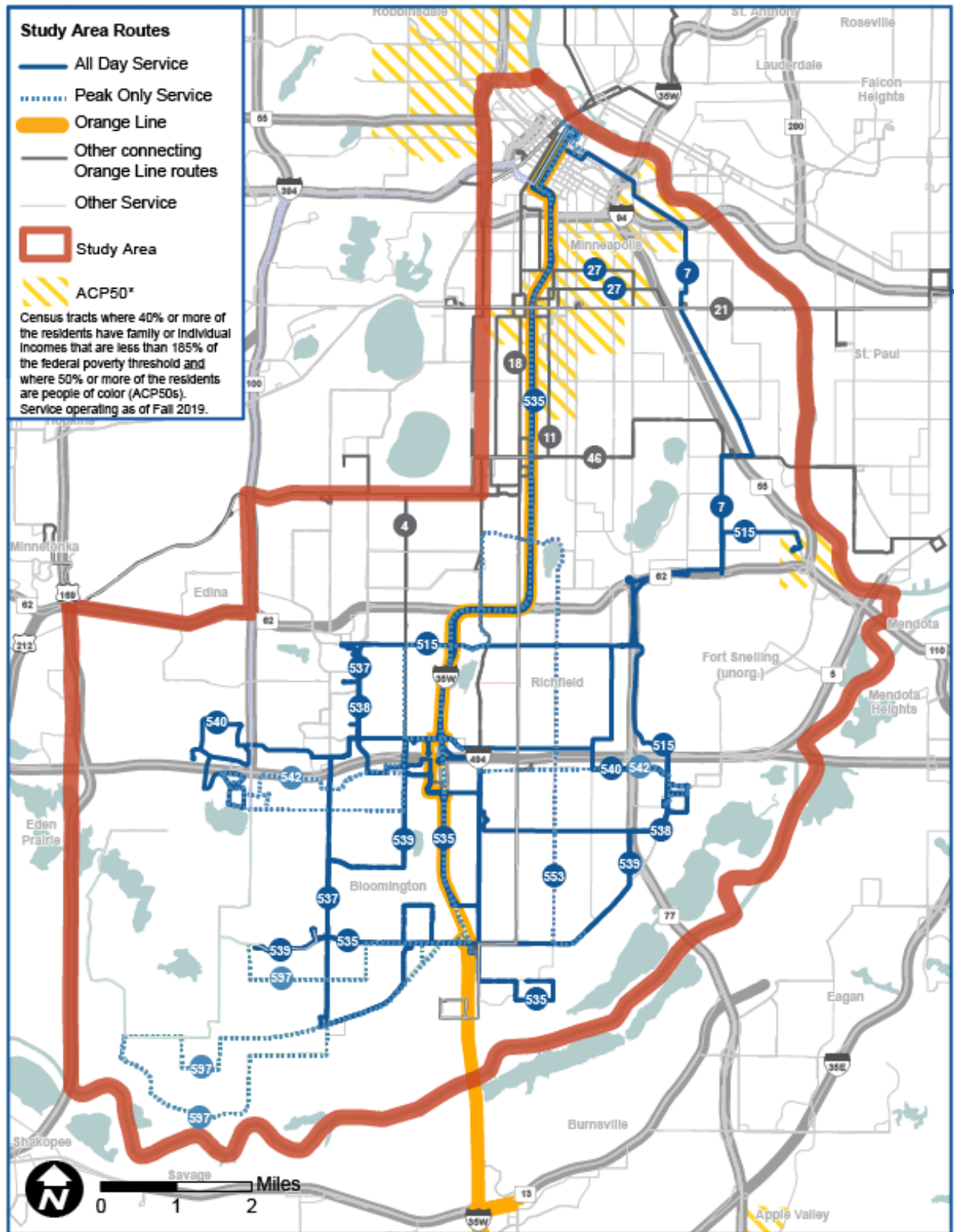




Figure 3 – Map of Transit Market Areas

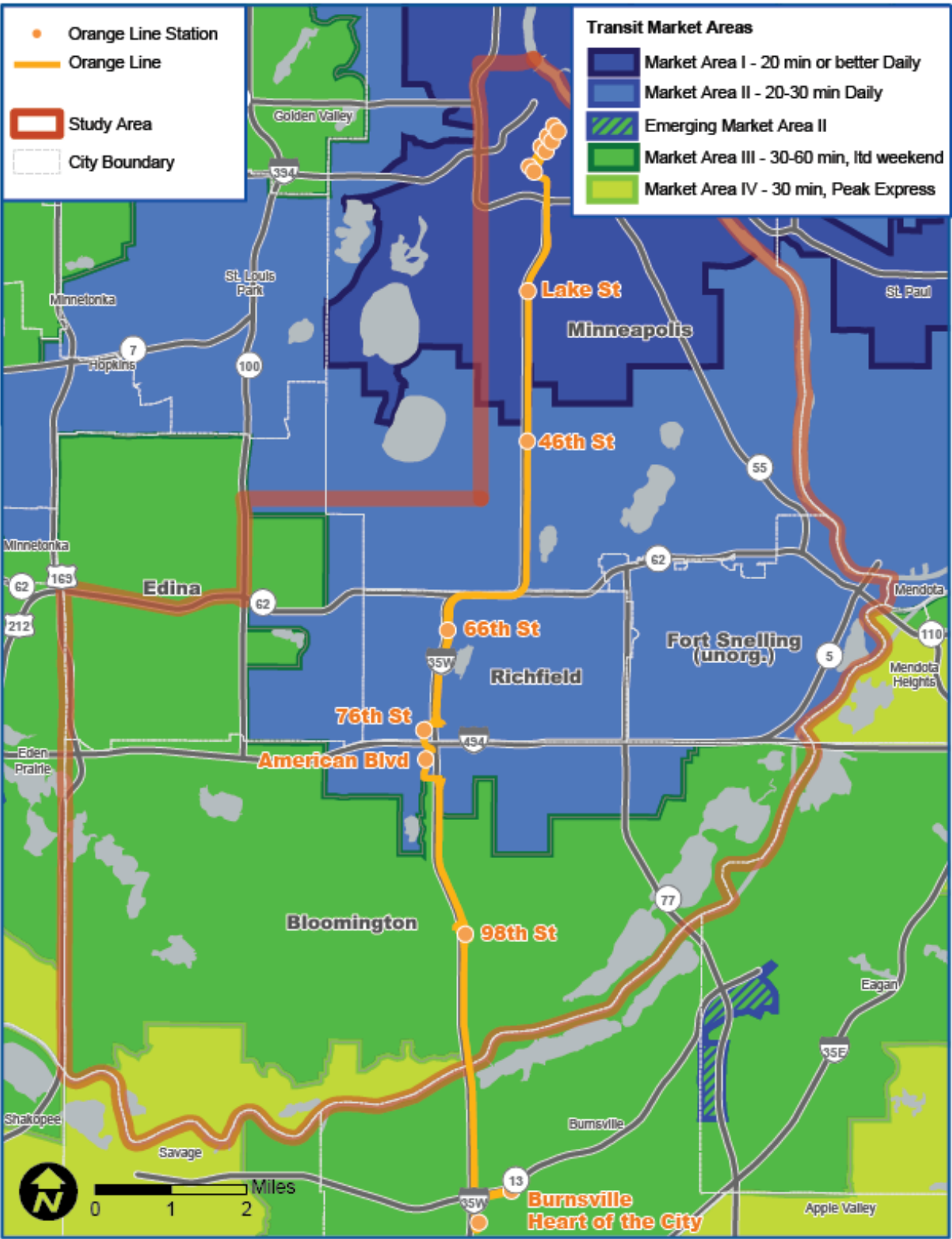
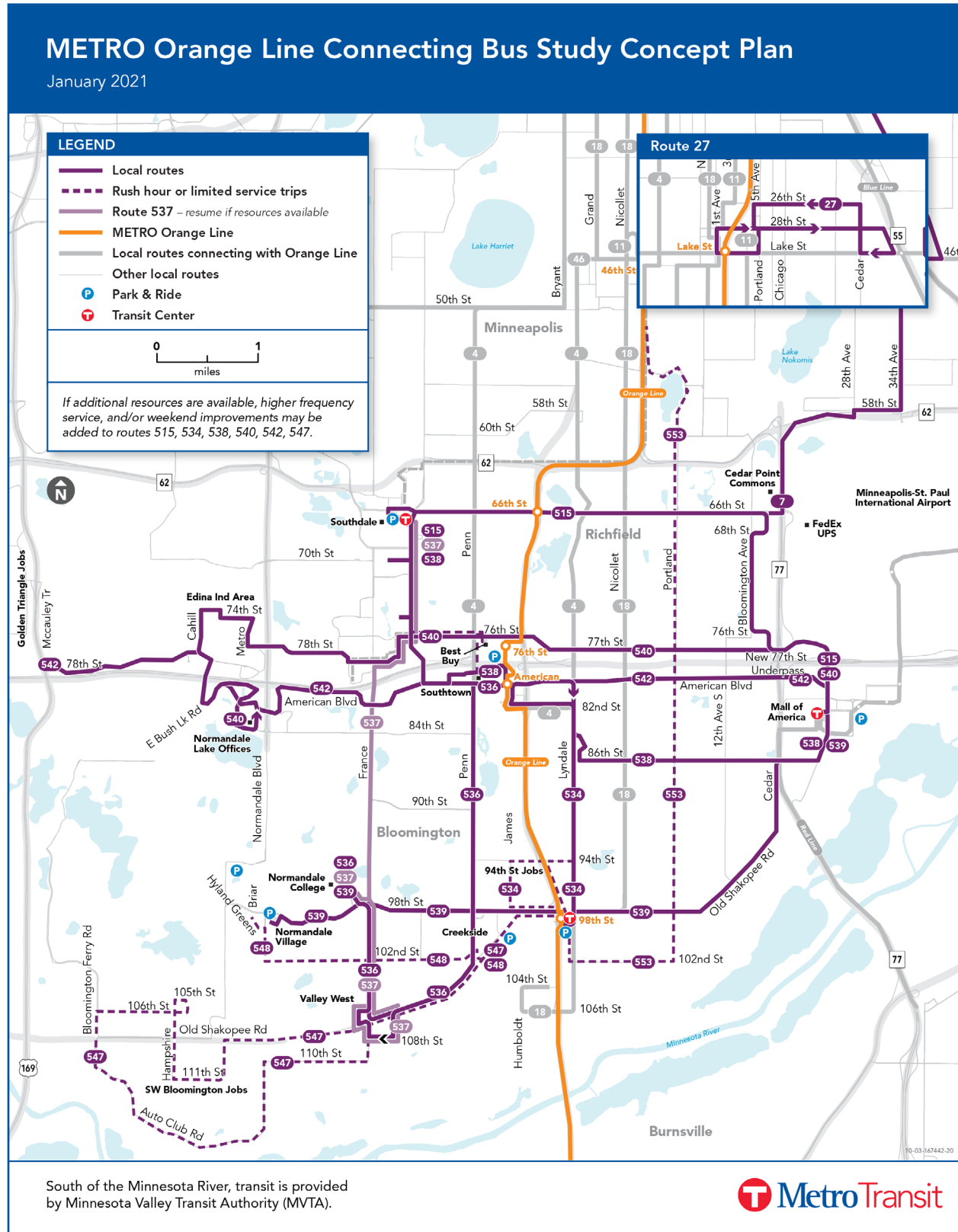




Figure 4 – Proposed Concept Plan Map



**Figure 5 – Weekday frequency on key routes**

Route #	Scenario A Peak	Scenario B Peak	Scenario A Midday	Scenario B Midday	Scenario A Night	Scenario B Night
7	30	30	30	30	30	30
27	30	30	30	30	n/a	n/a
515	20	15	20	15	20	20
534	20	20	30	30	n/a	n/a
536	30	30	30	30	30	30
537	n/a	30	n/a	60	n/a	n/a
538	30	30	30 / 60	30	30 / 60	30 / 60
539	20	20	30	30	30 / 60	30 / 60
540	20	20	30	30	30 / 60	30 / 60
542	30 / 60	30	n/a	30 / 60	n/a	30 / 60
547	30	30	n/a	ltd	n/a	ltd
548	30	30	n/a	n/a	n/a	n/a
553	30	30	n/a	n/a	n/a	n/a
Orange Line	10	10	15	15	15	15

30 / 60 indicates alternating frequency every 30 and 60 minutes.

Figures shaded in green indicate a frequency improvement.

**Figure 6 – Frequency by key routes on Saturday**

Saturday Route #	Scenario A Morning	Scenario B Morning	Scenario A Midday	Scenario B Midday	Scenario A Night	Scenario B Night
7	30	30	30	30	30	30
515	20	15	20	15	20	20
534	n/a	n/a	n/a	30	n/a	n/a
536	60	60	60	60	60	60
538	30 / 60	30 / 60	30 / 60	30 / 60	n/a	n/a
539	60	60	30 / 60	30 / 60	60	60
540	30 / 60	30	30	30	90	90
542	n/a	30 / 60	n/a	30 / 60	n/a	90
Orange Line	15	15	15	15	15	15

30 / 60 indicates alternating frequency every 30 and 60 minutes.

Figures shaded in green indicate a frequency improvement.

**Figure 7 – Frequency by key routes on Sunday**

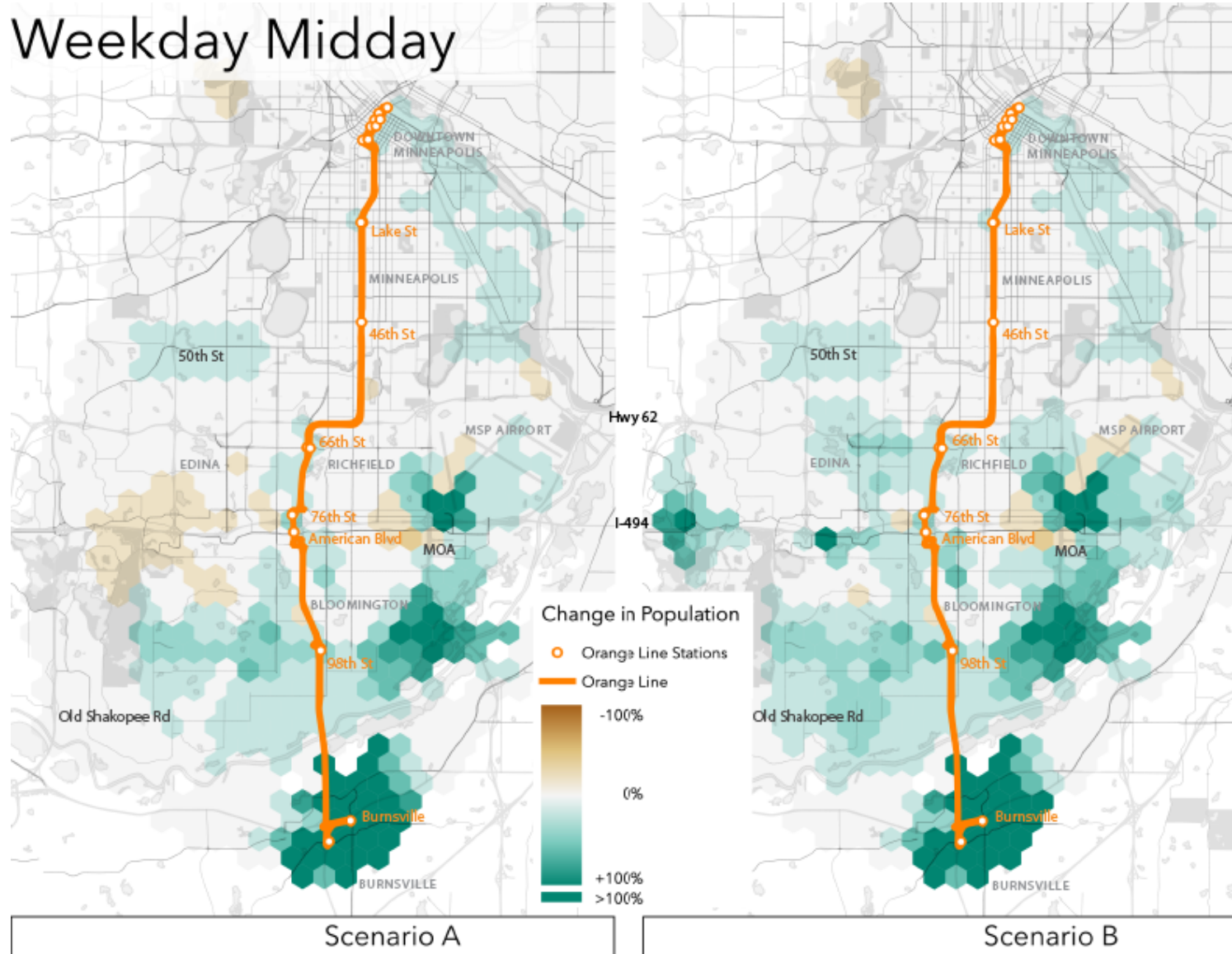
Sunday Route #	Scenario A Morning	Scenario B Morning	Scenario A Midday	Scenario B Midday	Scenario A Night	Scenario B Night
7	30	30	30	30	30	30
515	20	20	20	20	20	20
534	n/a	n/a	n/a	30	n/a	n/a
536	60	60	60	60	n/a	n/a
538	n/a	n/a	30 / 60	30 / 60	n/a	n/a
539	60	60	30 / 60	30 / 60	60	60
540	90	90	30 / 60	30	90	90
542	n/a	90	n/a	30 / 60	n/a	90
Orange Line	15	15	15	15	15	15

30 / 60 indicates alternating frequency every 30 and 60 minutes.

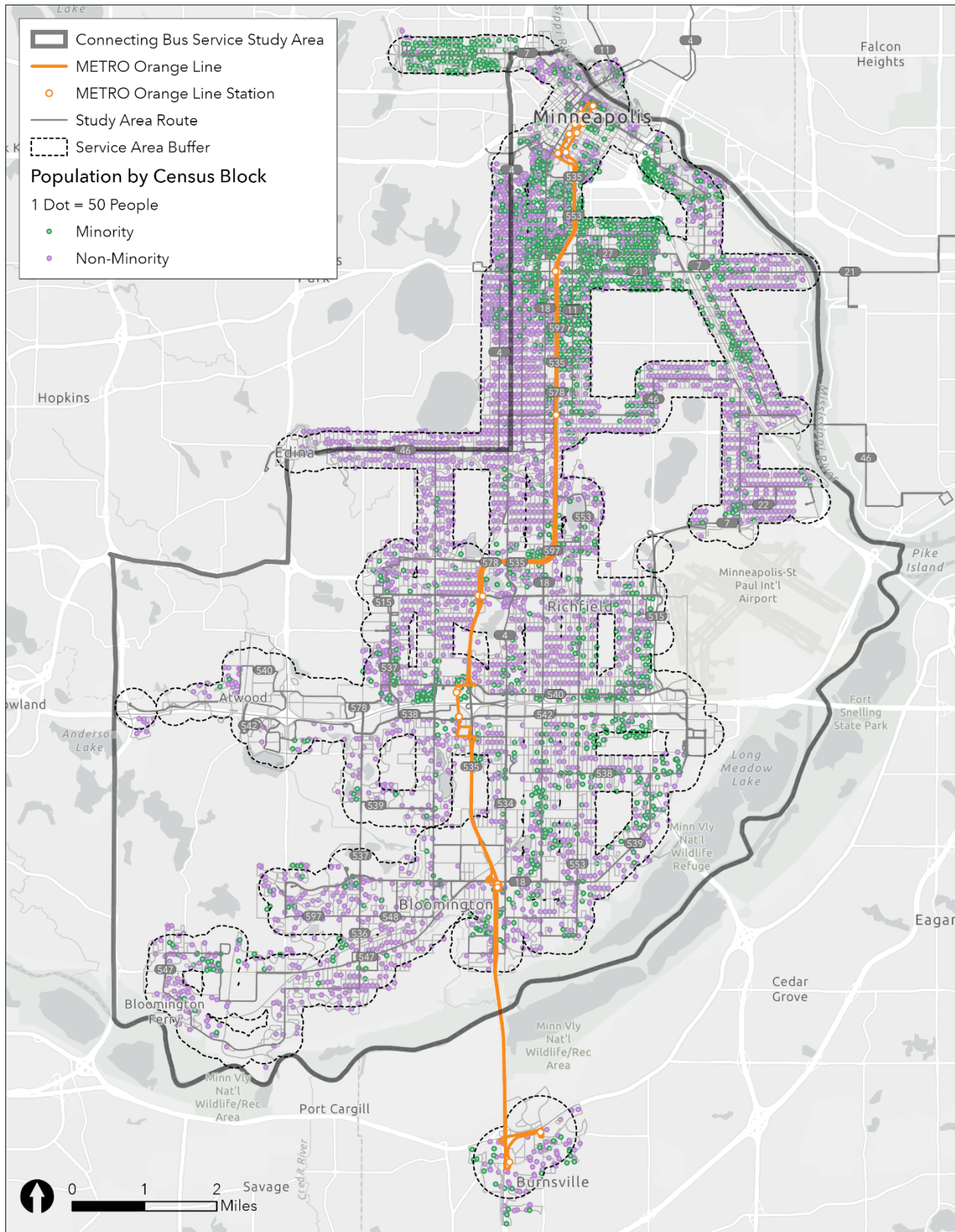
Figures shaded in green indicate a frequency improvement.

Figure 8 – Change in Access to Jobs

## Weekday Midday

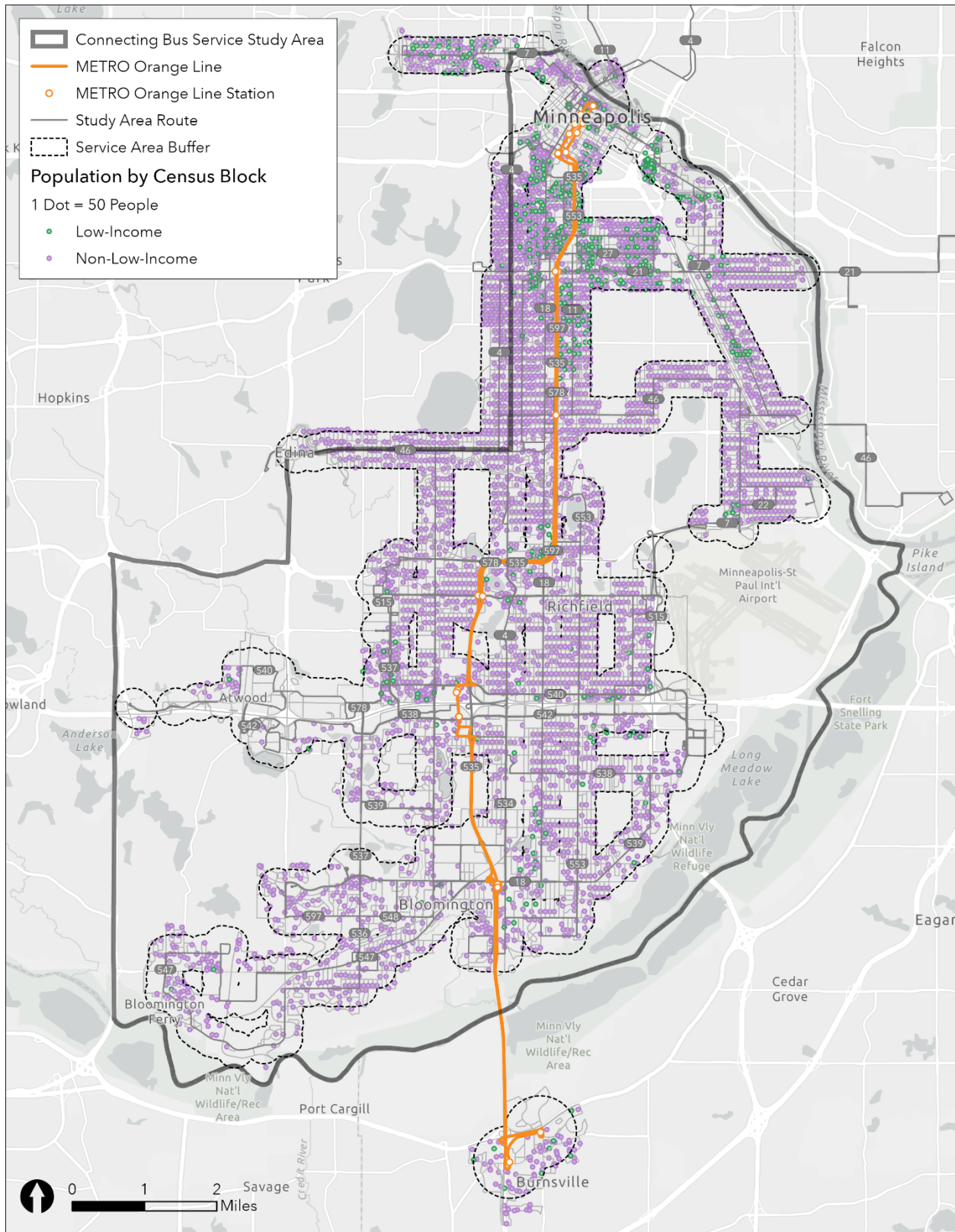


**Figure 9 – Distribution of communities of color within ¼ mile of route alignments**

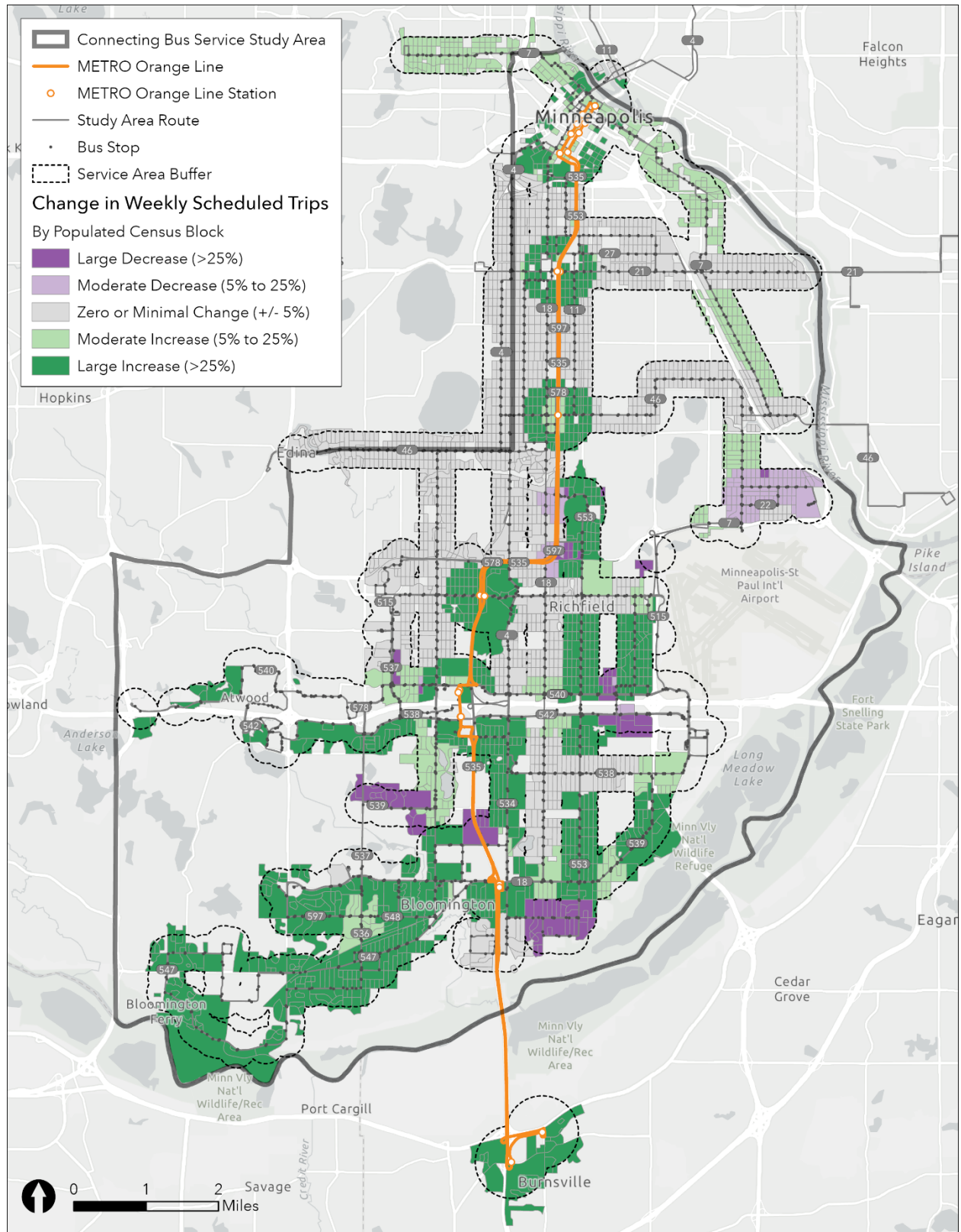




**Figure 10 – Distribution of low-income populations within ¼ mile of route alignments**



**Figure 11 – Percent change in service levels – Scenario A**



**Connecting Bus Service Study Area**

- METRO Orange Line
- METRO Orange Line Station
- Study Area Route
- Bus Stop
- Service Area Buffer

**Change in Weekly Scheduled Trips**  
By Populated Census Block

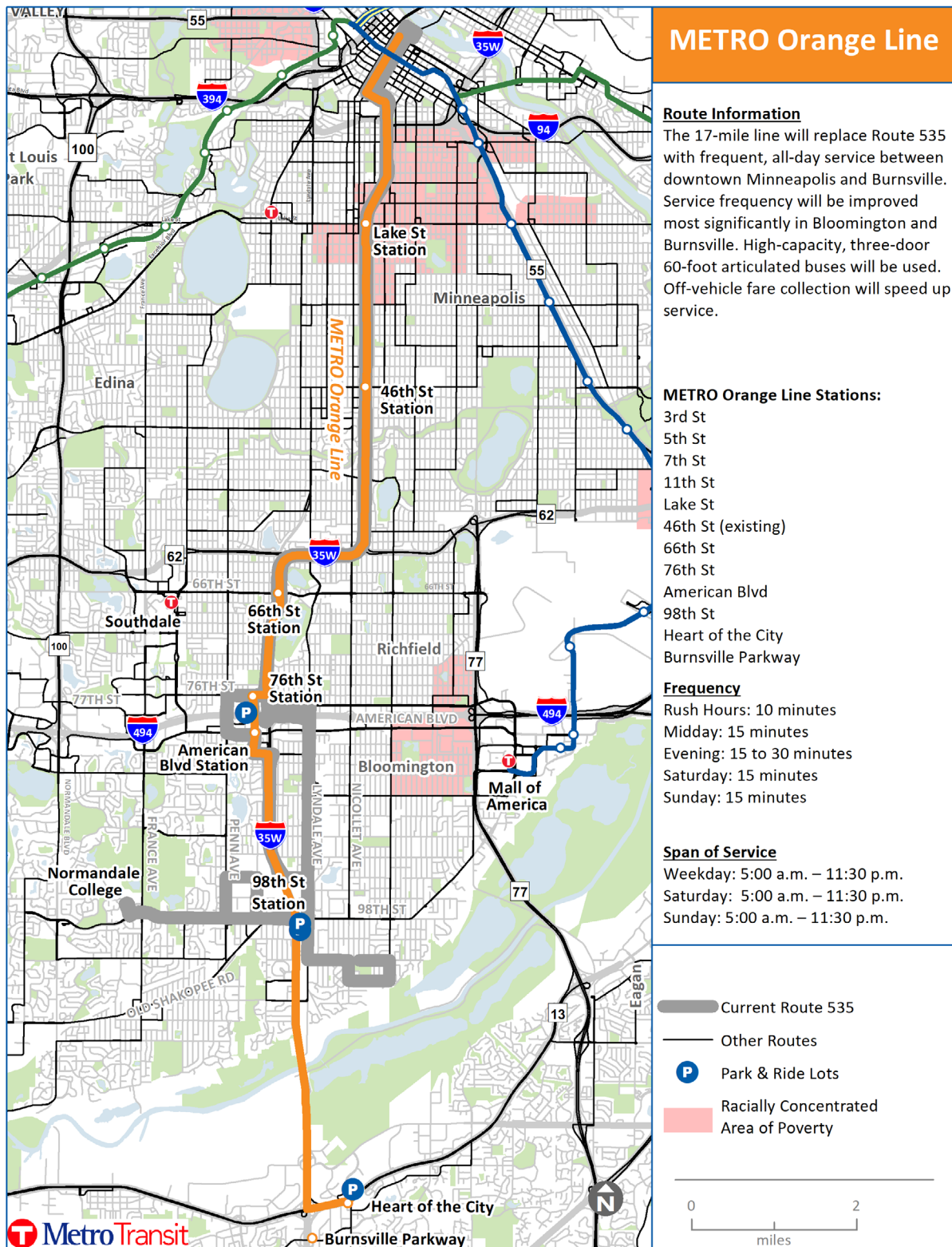
- Large Decrease (>25%)
- Moderate Decrease (5% to 25%)
- Zero or Minimal Change (+/- 5%)
- Moderate Increase (5% to 25%)
- Large Increase (>25%)

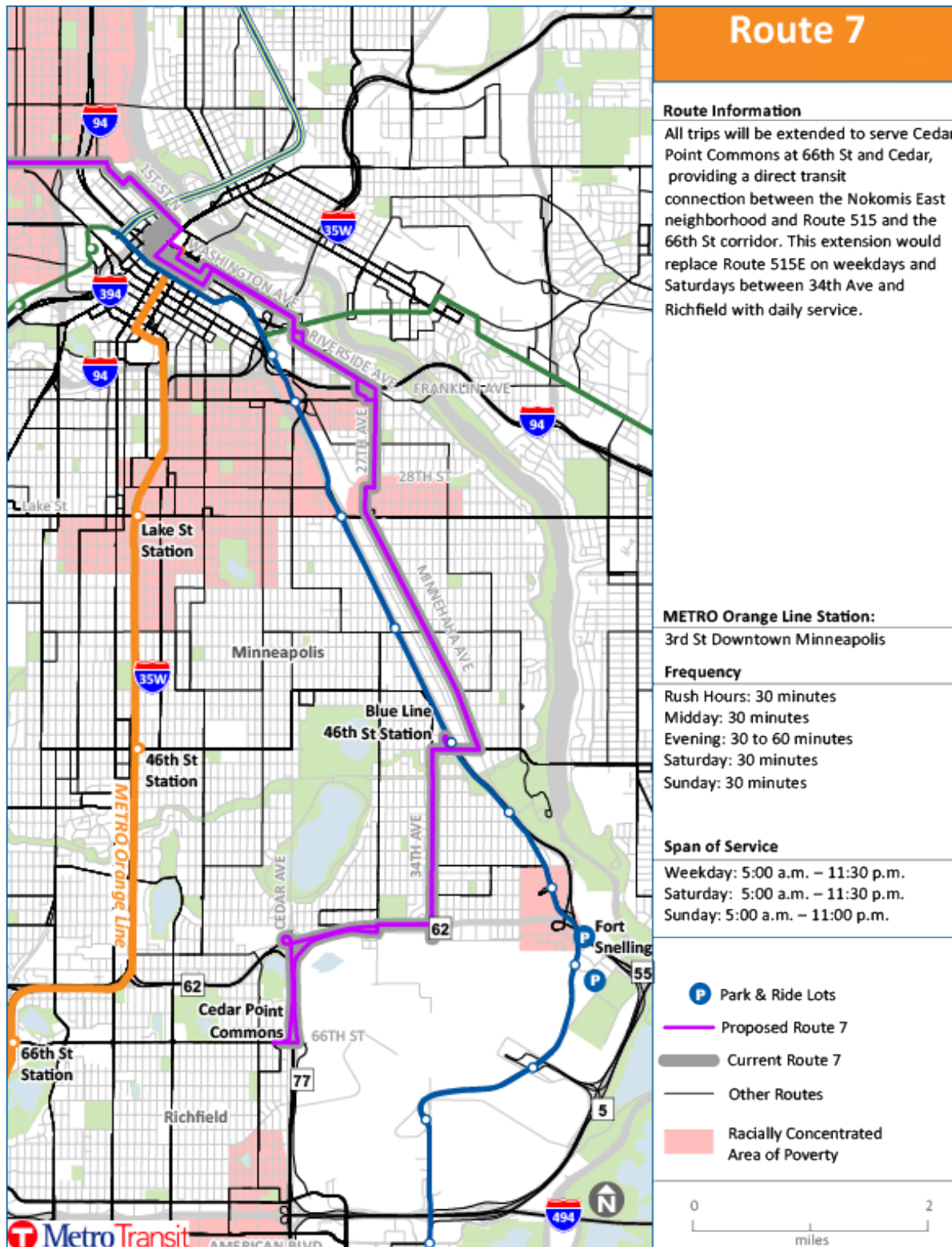
Map labels include: Minneapolis, Edina, Richfield, Bloomington, Burnsville, Falcon Heights, Hopkins, Anderson Lake, Long Meadow Lake, Minn Vly Nat'l Wildlife/Rec Area, Port Cargill, Cedar Grove, Eagan, and Pike Island. Highway numbers 4, 7, 18, 21, 27, 46, and 55 are also shown.

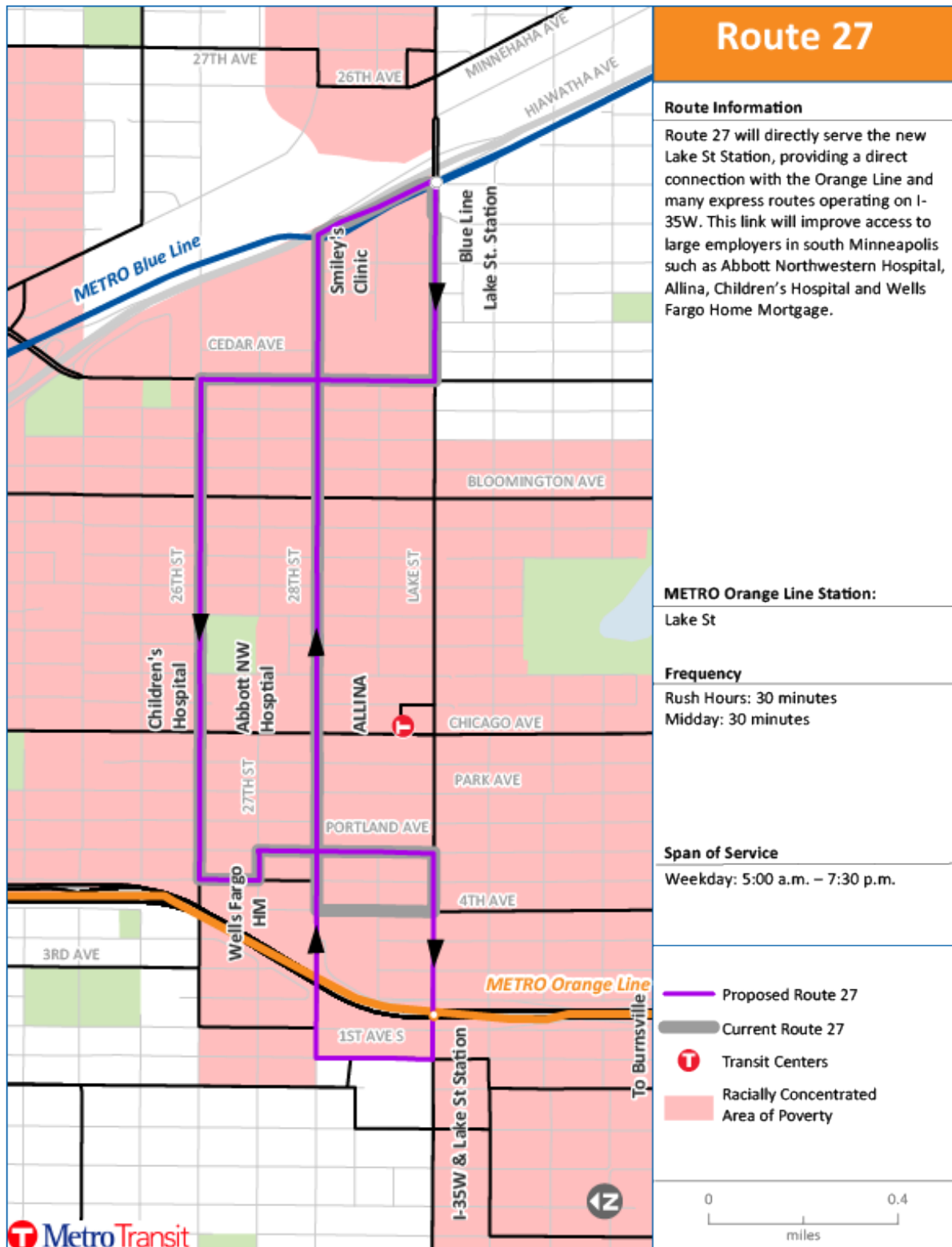
Scale: 0 1 2 Miles



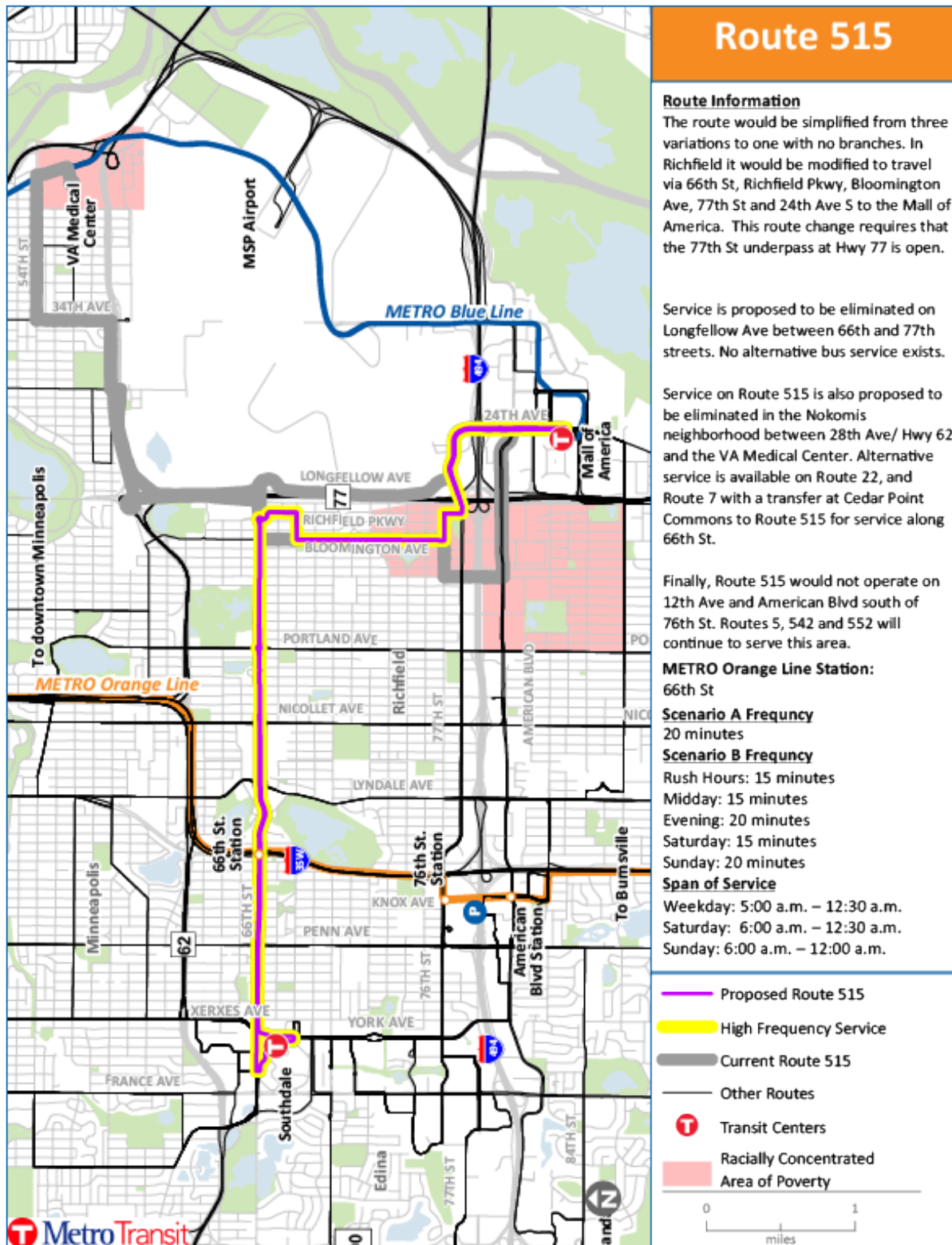
## APPENDIX B

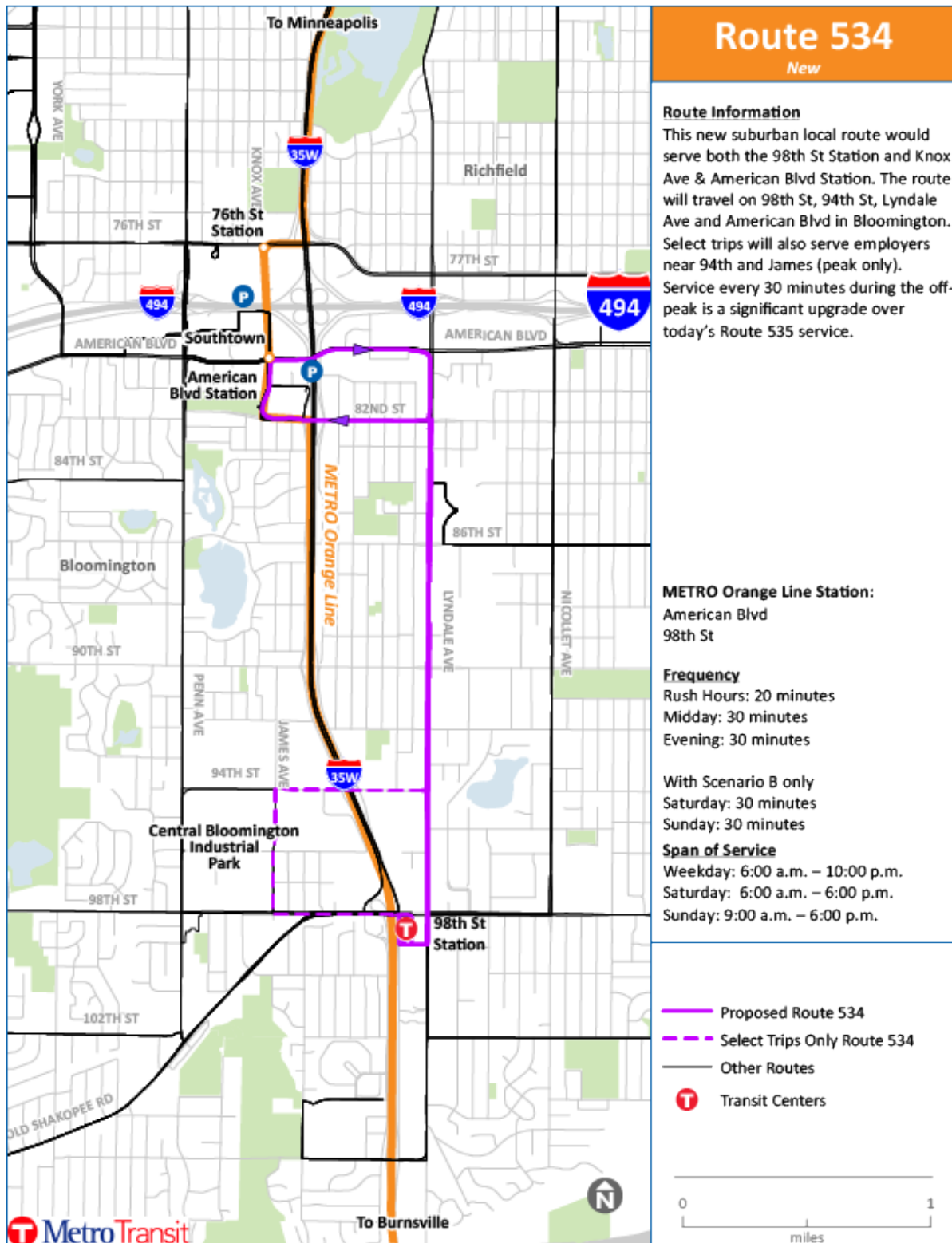


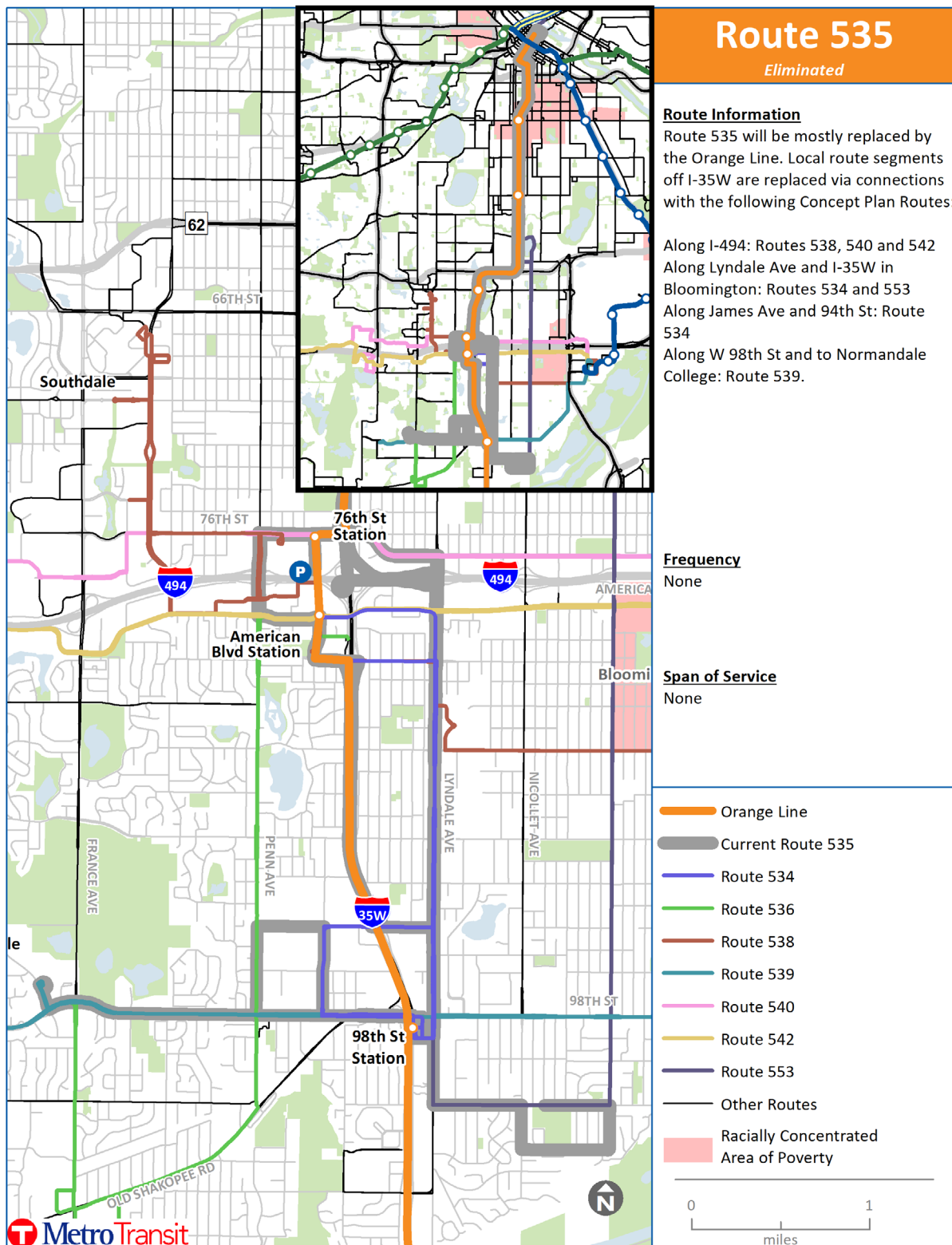


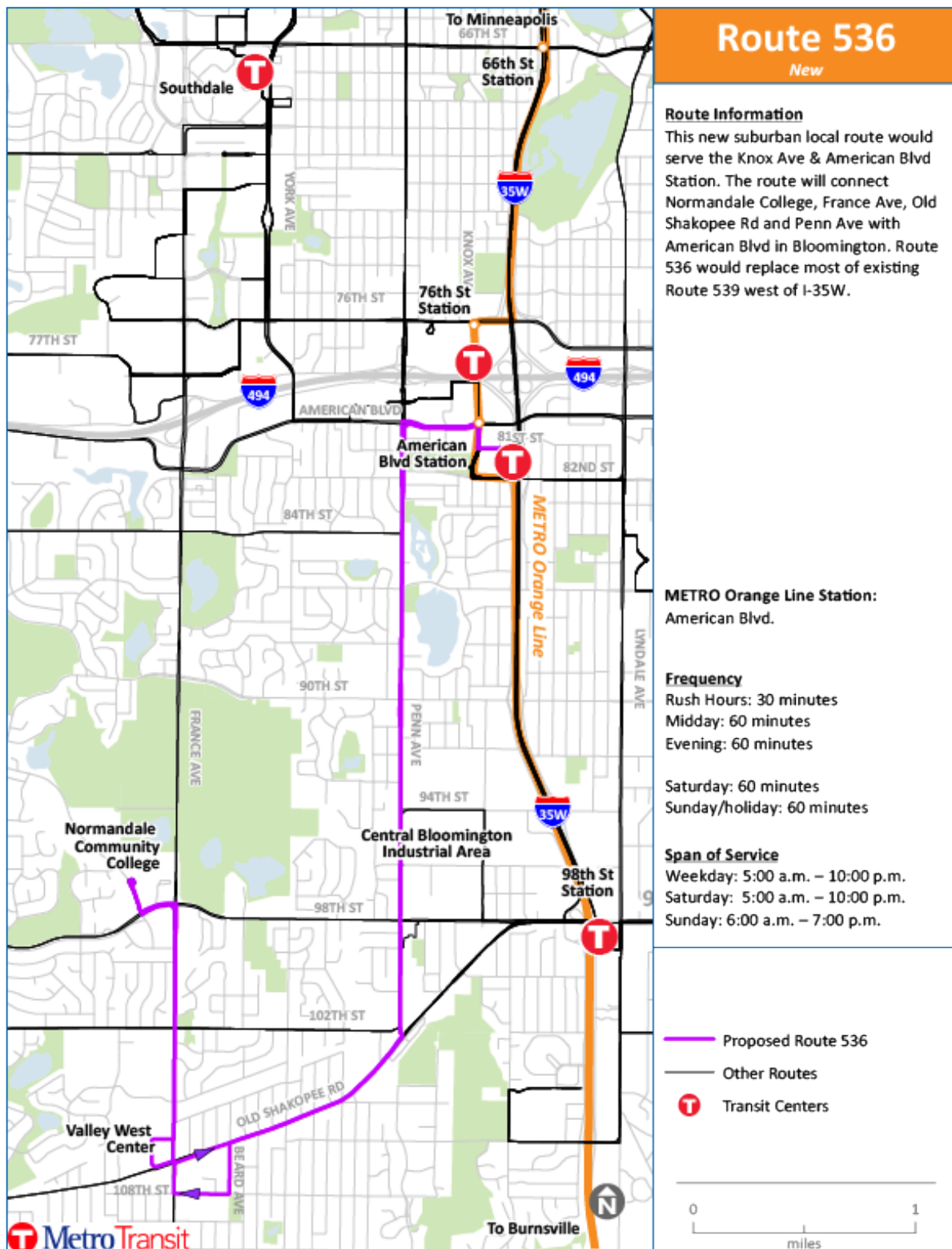






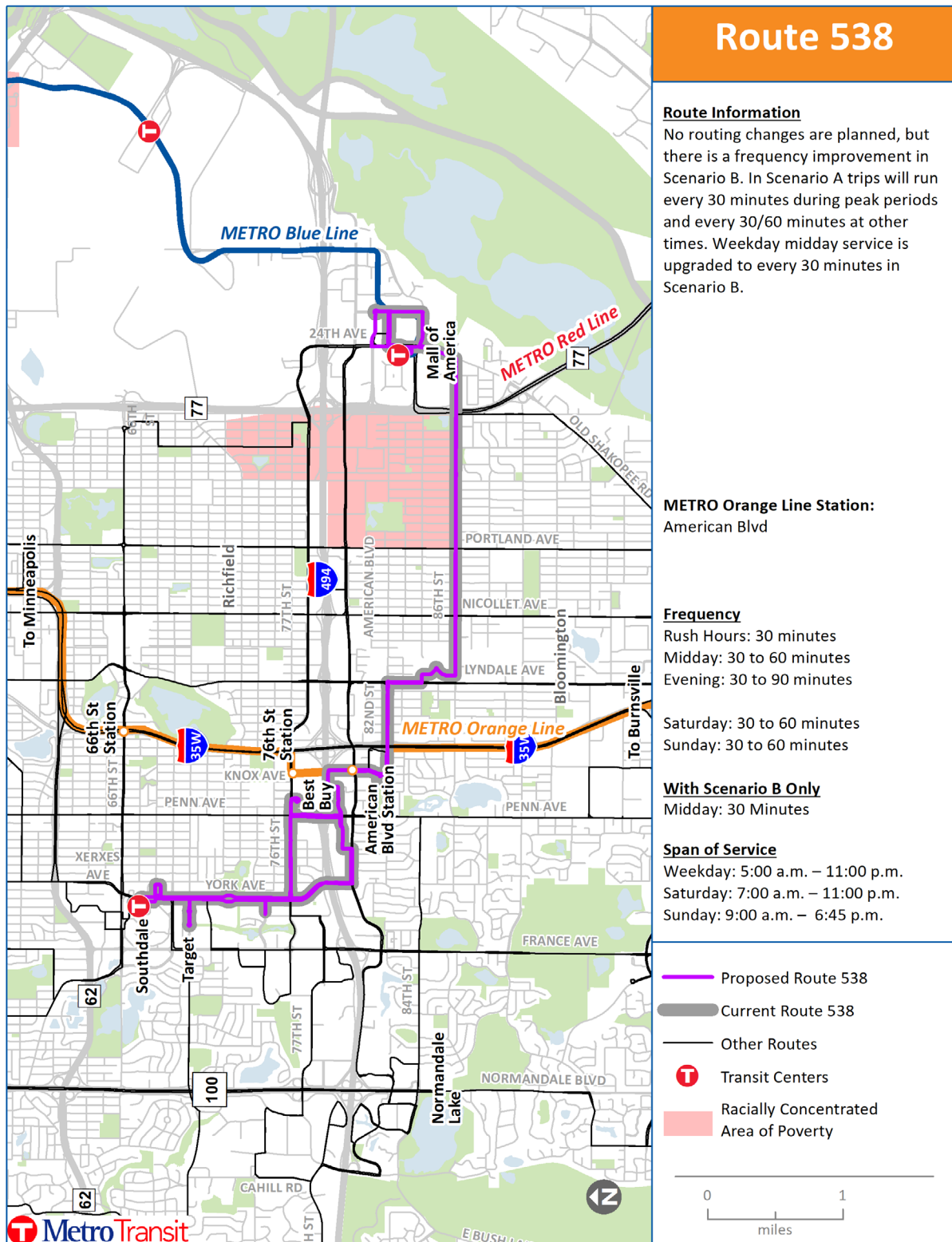












### Route Information

See Routes 536, 537 and 540 for service on Penn Ave, Old Shakopee Rd and France Ave. 90th St between France and Penn avenues would no longer have transit service.

**Frequency**

Saturday: 30 to 60 minutes  
Sunday: 30 to 60 minutes

### Span of Service



— Proposed Route 539

 Current Route 539

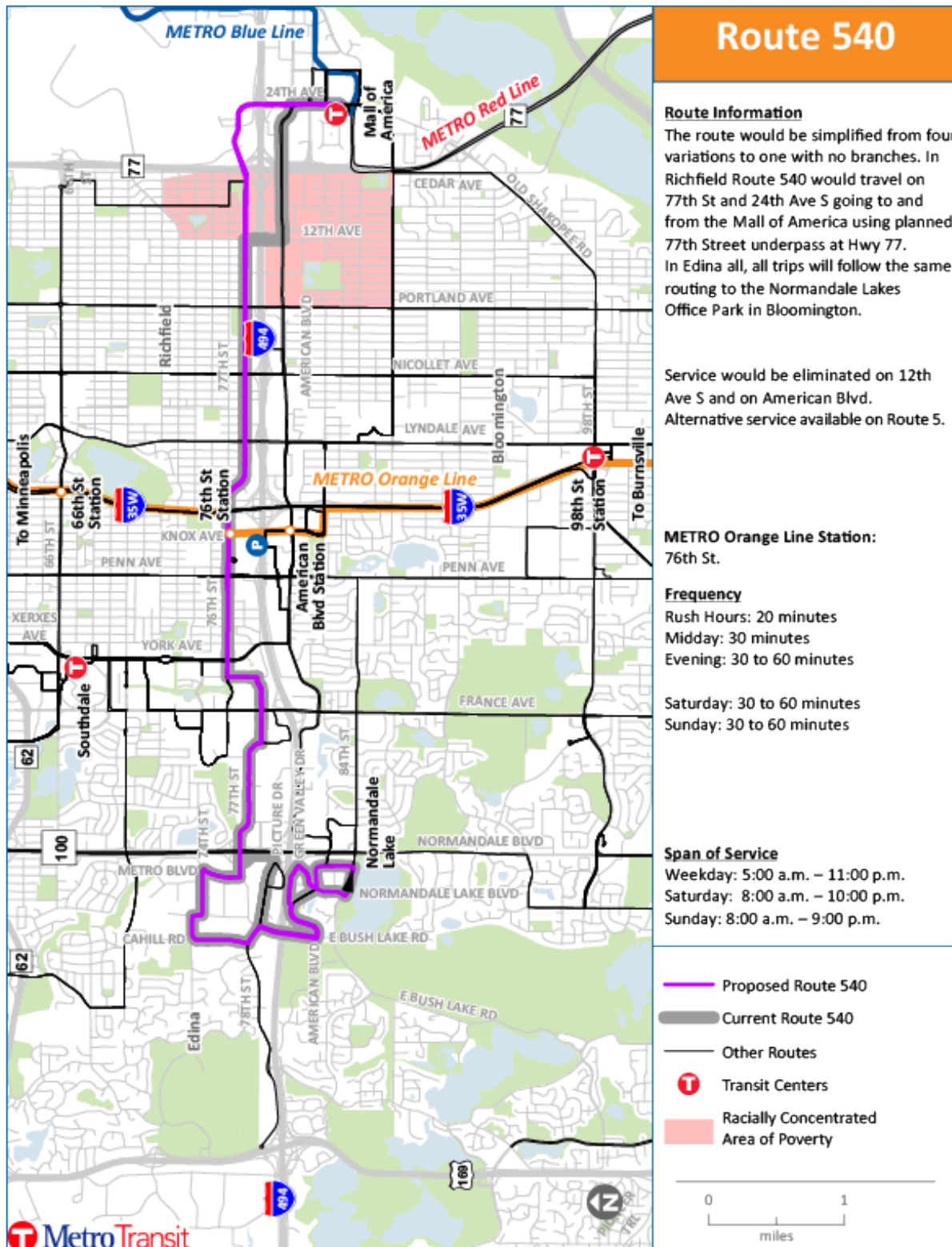
—— Other Routes

**T** Transit Centers

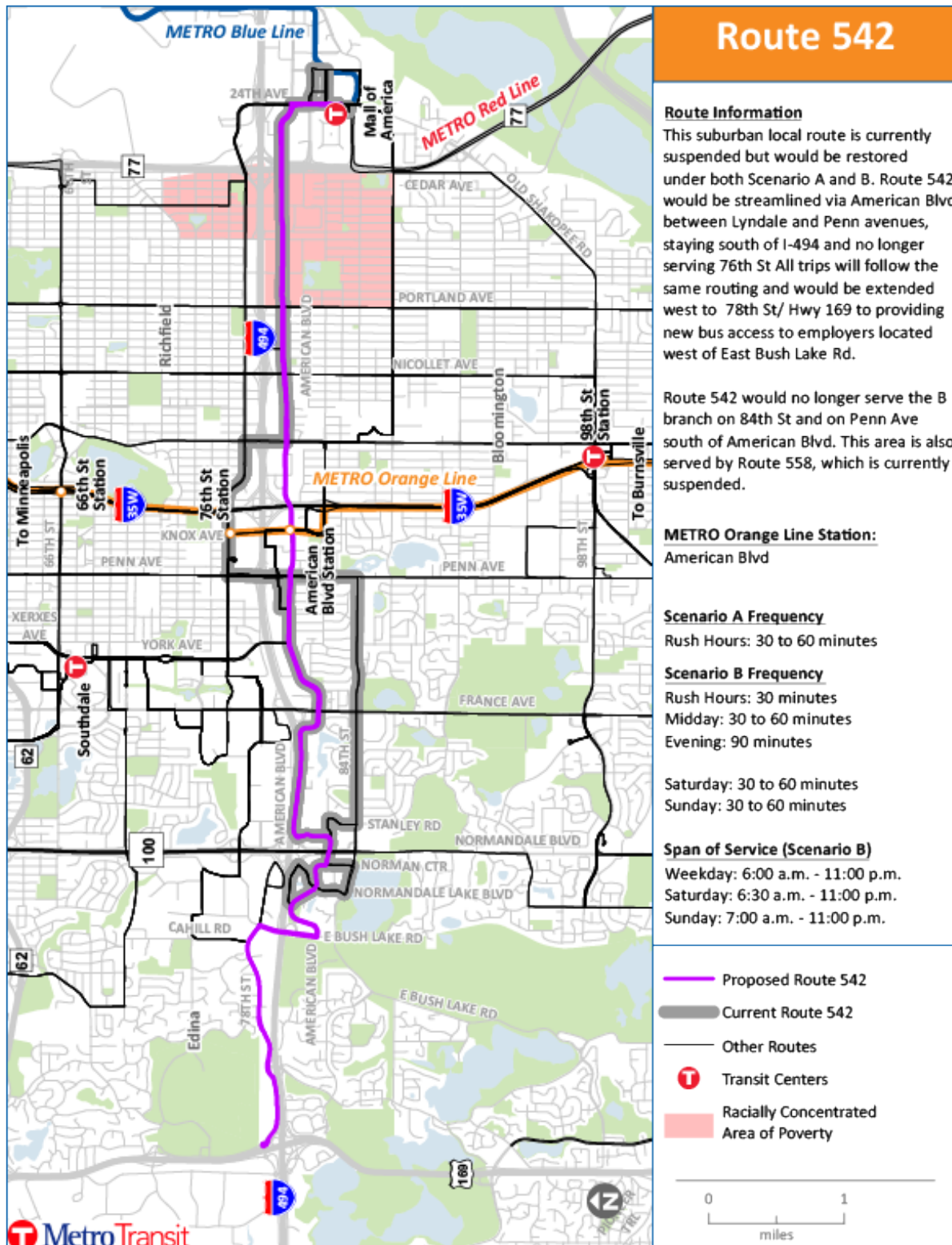
**P** Park & Ride Lots

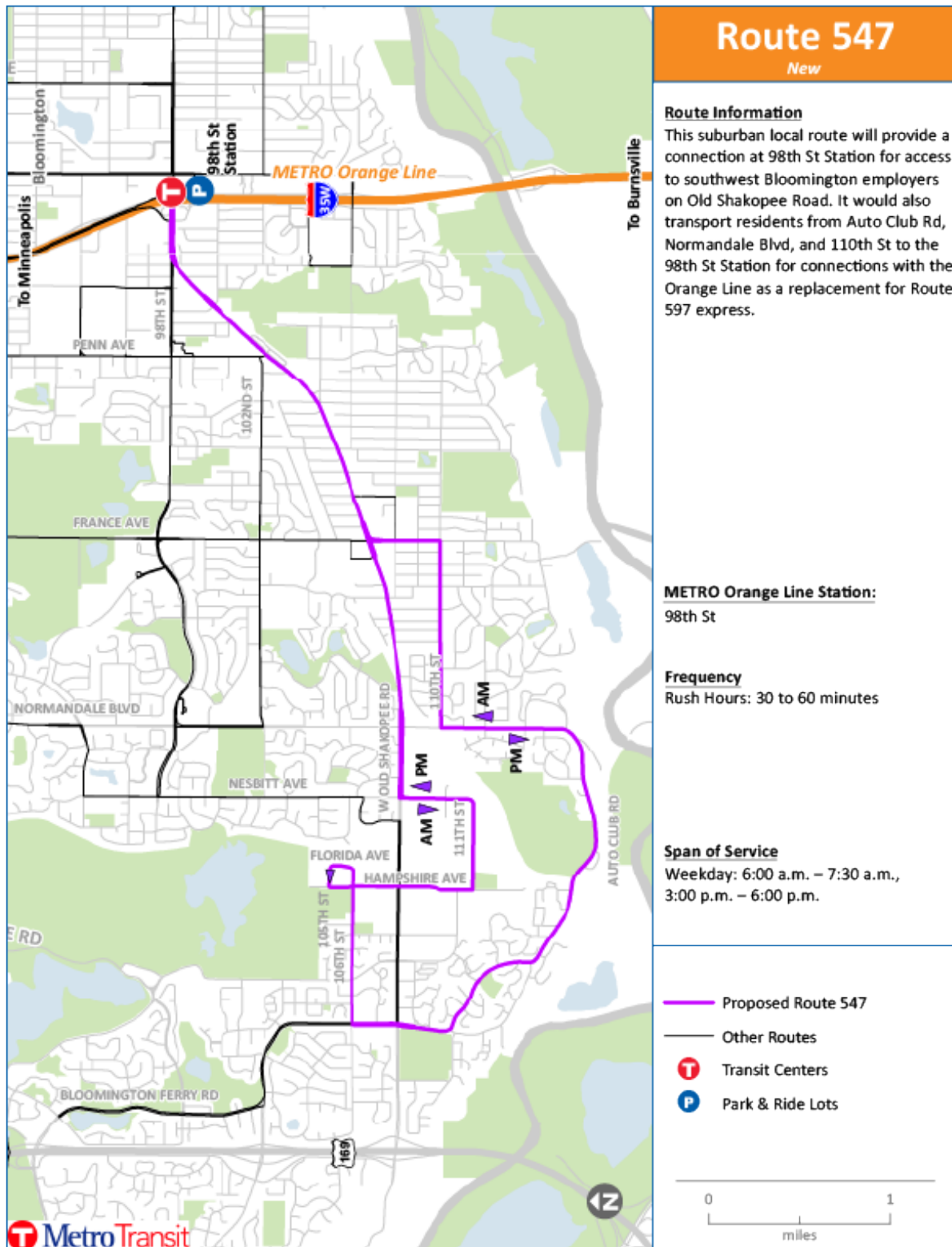
 Racially Concentrated Area of Poverty

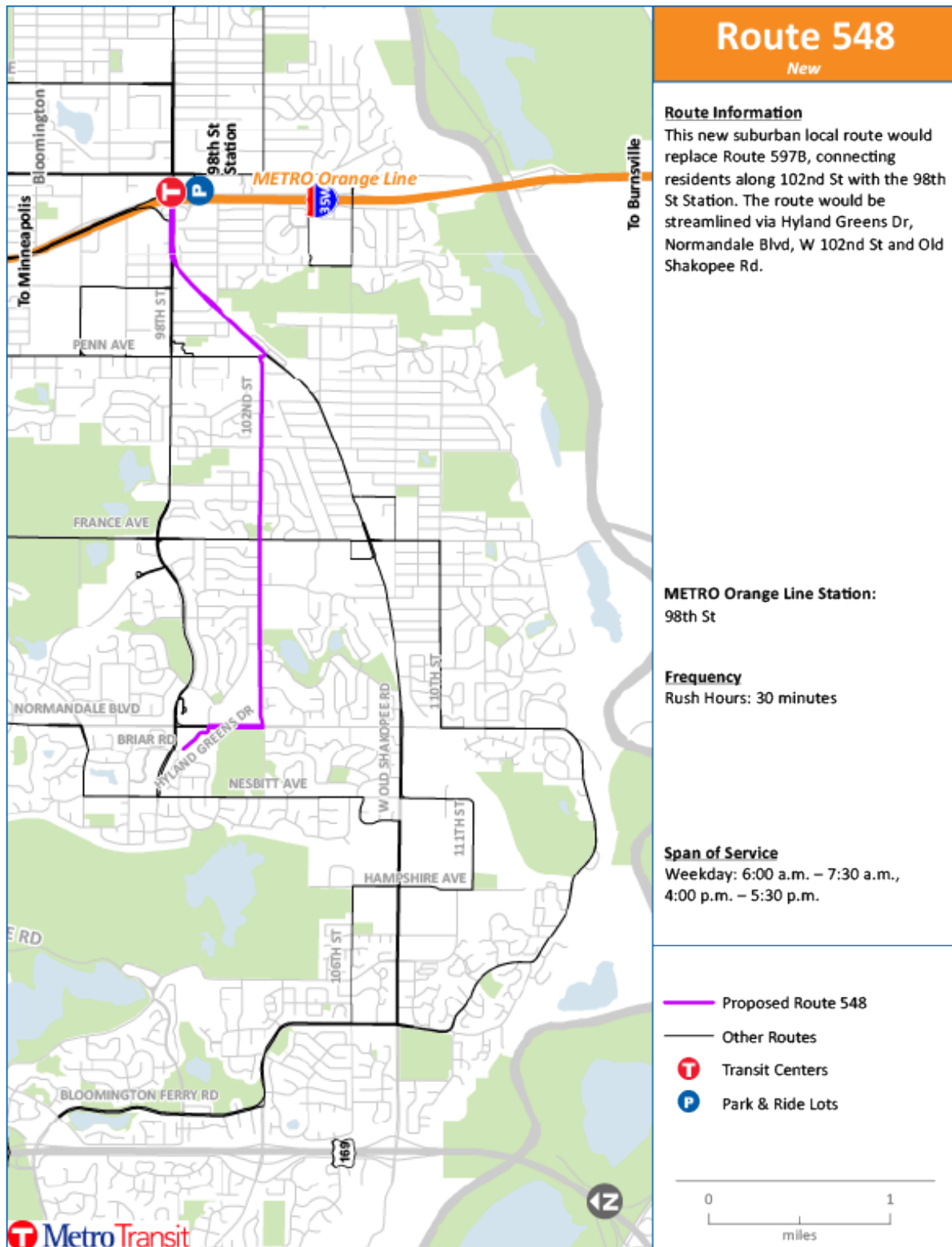


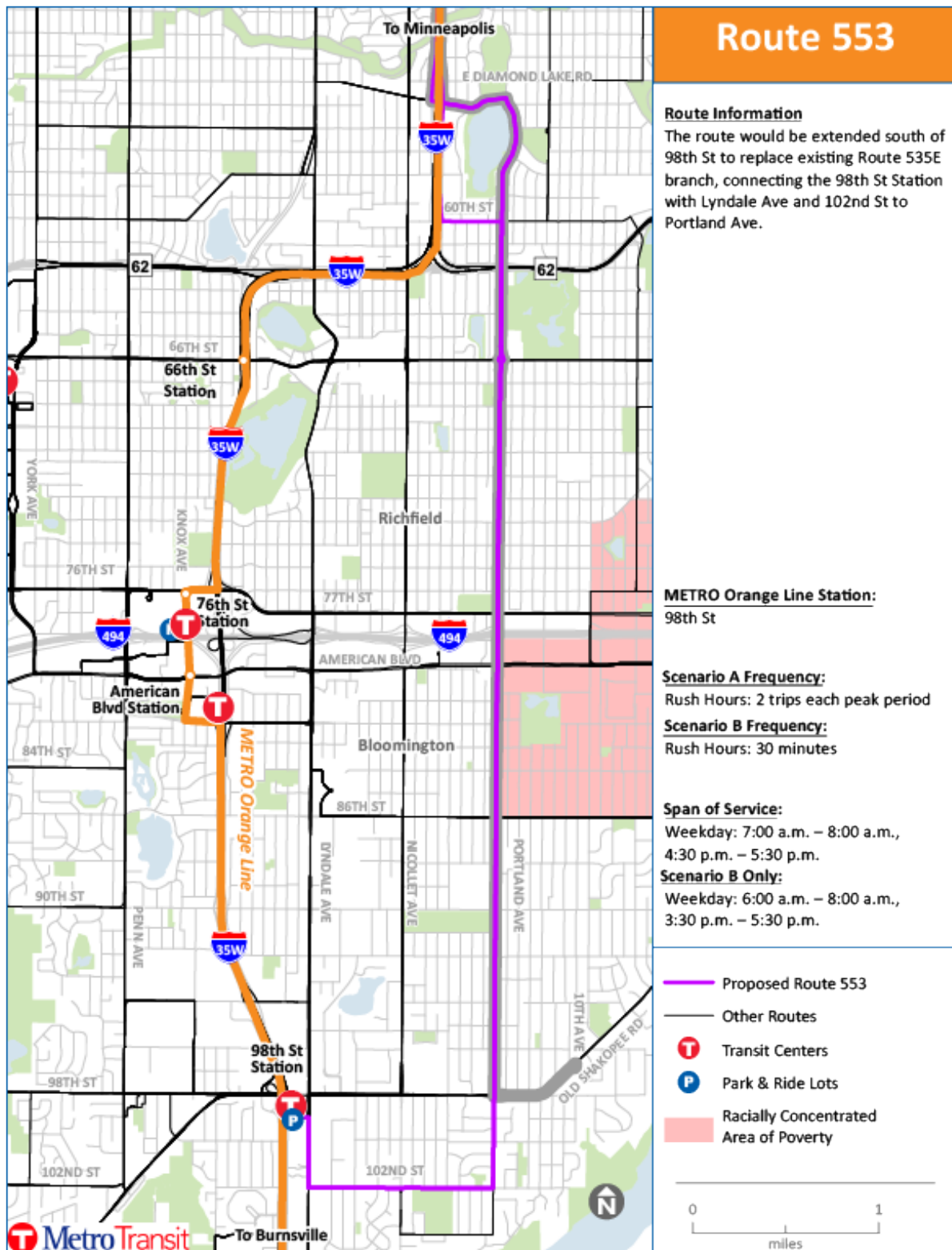




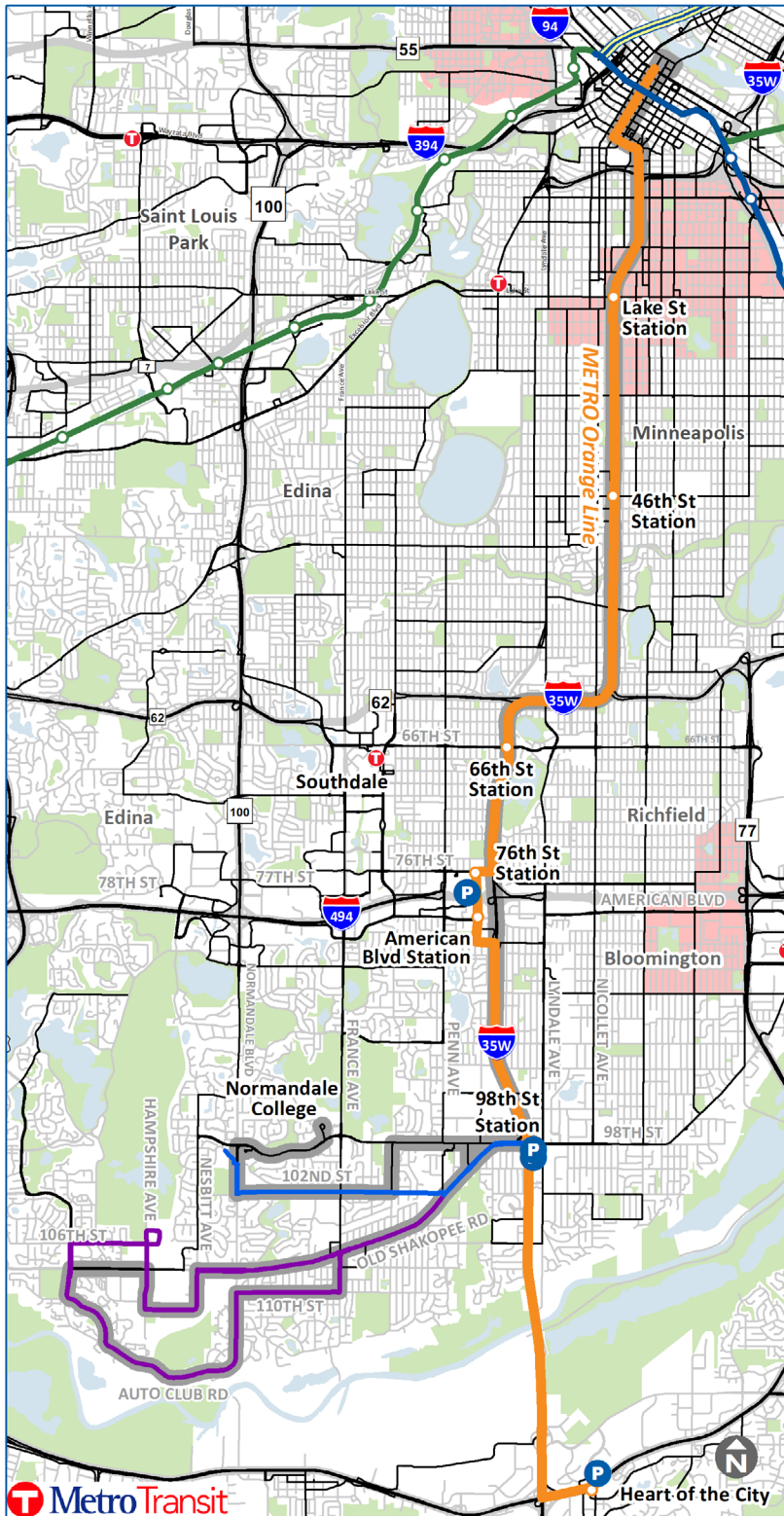












## Route 597

*Eliminated*

### Route Information

In both scenarios this commuter and express route would be replaced by routes 547, 548 and the Orange Line. Timed transfers will be scheduled at the 98th St. Station. Route 539 would replace service on W 98th St. There will be no alternative service on Xerxes Ave S between 102nd and 98th streets.

Travel time between 98th St Station and downtown Minneapolis will be about 4 minutes longer on the Orange Line as compared to Route 597. Timed transfers of about 5 minutes between routes 547, 578 and the Orange Line will ensure solid connections.

### Frequency

Rush Hours: 30 to 60 minutes

### Span of Service

Weekday: 6:00 a.m. – 7:30 a.m.  
3:00 p.m. – 6:00 p.m.

- Route 547
- Route 548
- Current Route 597
- Other Routes
- P Park & Ride Lots
- Racially Concentrated Area of Poverty

