CHAPTER 6
TRANSIT INVESTMENT DIRECTION AND PLAN

Residents and businesses view a strong public transit system as an essential part of a transportation system that will serve a prosperous, livable, equitable region. The federal government, state government, and the region have all acknowledged that a sustainable future must include a variety of options for travel within urban areas. Transit service and facilities must be located where they will bring a strong return on the investment. Park-and-ride facilities are best located in suburban and developing areas, while high-frequency bus service is best located in urban neighborhoods. In order to be good stewards of public investments, the region must invest in transit strategically with solutions that broadly strive toward this plan's regional goals and objectives, and integrate with land use and other regional systems. In this way, transit benefits the entire region, including places with no or limited service.

The region's transit investment plan plays a role in realizing all of the goals of the *Transportation Policy Plan*. However, the transit investment plan also plays roles in addressing the specific performance-based objectives. The objectives provide the foundation for investment factors that are used to set transit investments priorities. Table 6-1 helps link to parts of the transit investment plan that summarize investments or guide investment decision-making.

Table 6-1: Linking Transit Investment Direction and Plan to Goals and Objectives

Goal	Objectives Guiding Investments	How are these objectives reflected in the plan?
Transportation System Stewardship	A. Efficiently preserve and maintain the regional transportation system in a state of good repair. B. Operate the regional transportation system to efficiently and cost-effectively move people and freight.	This plan fully funds the existing transit system and has tools to ensure that it is managed to be efficient and cost-effective. Investments in expansion and modernization will also consider cost-effectiveness as an investment factor to get the most out of new project.
Safety and Security	A. Reduce fatal and serious injury crashes and improve safety and security for all modes of passenger travel and freight transport. B. Reduce the transportation system's vulnerability to natural and man-made incidents and threats.	Safety and security are essential elements of the transit system. Their consideration should be integrated with all investments. Specific investments opportunities are also discussed in the plan.

Access to Destinations	A. Increase the availability of multimodal travel options, especially in congested highway corridors. B. Increase travel time reliability and predictability for travel on highway and transit systems. D. Increase transit ridership and the share of trips taken using transit, bicycling and walking. E. Improve multimodal travel options for people of all ages and abilities to connect to jobs and other opportunities, particularly for historically under-represented populations.	Providing access is a fundamental role of the transit system. This plan has multiple considerations for increasing ridership and the availability of transit throughout the investment factors. There are a number of investment discussions that would improve reliability for transit, including transitways, transit advantages, and technology. Equity is also an important investment factor to address gaps in access to opportunity that exist in the region.
Competitive Economy	A. Invest in a multimodal transportation system to attract and retain businesses and residents. B. Improve multimodal access to regional job and activity centers identified in *Thrive MSP 2040*.	This plan includes transitway system investments that will make the region a more attractive place to live and do business. The plan also includes an Increased Revenue Scenario that will broaden the investments to include more bus service, allowing transit to serve more parts of the region. Connecting to jobs is an important emphasis on the investment factors.
Healthy and Equitable Communities	A. Reduce transportation-related air emissions. C. Increase the availability and attractiveness of transit, bicycling and walking to encourage healthy communities and active car-free lifestyles.	This plan includes investment factors that consider the impacts on the environment, particularly pollution related to congestion. Additional impacts could be related to land use planning that encourages car-free lifestyles.
Leveraging Transportation Investments to Guide Land Use	A. Focus regional growth in areas that support the full range of multimodal travel. C. Encourage local land use design that integrates highways, streets, transit, walking and bicycling.	This plan is intended to help shape the growth of the region with transit investments as catalysts for livable places. Investment factors help guide transit to areas that are adequately planning for high-density, livable places.

The Existing Transit System

The regional transit system consists of different types of services, programs, and related infrastructure that serve a variety of roles.

Types of Services

Six types of public transit service currently operate in the Twin Cities area:

- Regular-route bus service is provided on a fixed, published schedule along specific routes, with riders getting on and off at designated bus stops. Regular-route service is provided using a variety of bus types that operate local service and express service. Some providers also operate a deviated fixed route, or flex service. The 12 bus routes in the high-frequency network (figure 6-4 in the Bus and Support System Investment Plan shows existing and potential high-frequency routes) carried about 27% of the region's riders in 2018.
- Light rail transit (LRT) service is provided by electrically powered trains operating at high frequencies in primarily an exclusive right-of-way. Light rail uses specially designed transit stations and amenities. The region's two light rail lines carried about 29% of the region's riders in 2018
- Bus rapid transit (BRT) service is provided at high frequencies with unique buses and specially designed facilities and amenities similar to light rail.
- Commuter rail lines operate on traditional railroad track powered by diesel trains with limited stops. Commuter rail typically serves morning and evening commuters.
- Dial-a-ride is a shared-ride service that that allows customers to schedule pickup times. There are two types of dial-a-ride service in the region: general public dial-a-ride and Metro Mobility service mandated by state and federal law.
- Public vanpools are made up of five to fifteen people, including a volunteer driver, commuting to and from work destinations throughout the region on a regular basis in a subsidized van. Vanpools typically serve origins and destinations not served by regular-route bus service.

Currently 211 regular bus routes operate in the region: 115 local and 96 express. Also in service are two light rail lines (Blue Line and Green Line), three BRT lines (the A Line, the C Line and Red Line), and one commuter rail line (Northstar). These services are shown in Figure 6-1.

Transit Service Providers

A number of providers operate transit service in the region. The size, geographic service area, and service types of these providers vary, but the Metropolitan Council works with each provider to ensure the transit system is integrated and cohesive in addressing the region's needs. Providers include:

- Metropolitan Council
  - Metro Transit is the largest transit provider in the region and operates most of the region's regular-route bus service, and all light rail and commuter rail lines.
  - Metropolitan Transportation Services manages a variety of contracted services including regular-route bus, Metro Mobility Americans with Disabilities Act (ADA) service, Transit Link general public dial-a-ride, and the Metro Vanpool service.
- Suburban transit providers operate regular route and, in some cases, dial-a-ride service for 12 suburban communities. These providers are: Minnesota Valley Transit Authority, SouthWest Transit, and the cities of Maple Grove and Plymouth.
- University of Minnesota provides regular-route bus service and ADA service around and between the Minneapolis and Saint Paul campuses.
- There are transit services in the Twin Cities urbanized portions of Wright and Sherburne counties. Tri-CAP currently provides weekday dial-a-ride and deviated rural-route service within the City of Elk River and Trailblazer provider similar services within St. Michael and Albertville. More information on these services can be found in MnDOT's Annual Transit Report.
- Small transit services or individual routes are occasionally operated by other local communities as unique or demonstration services.

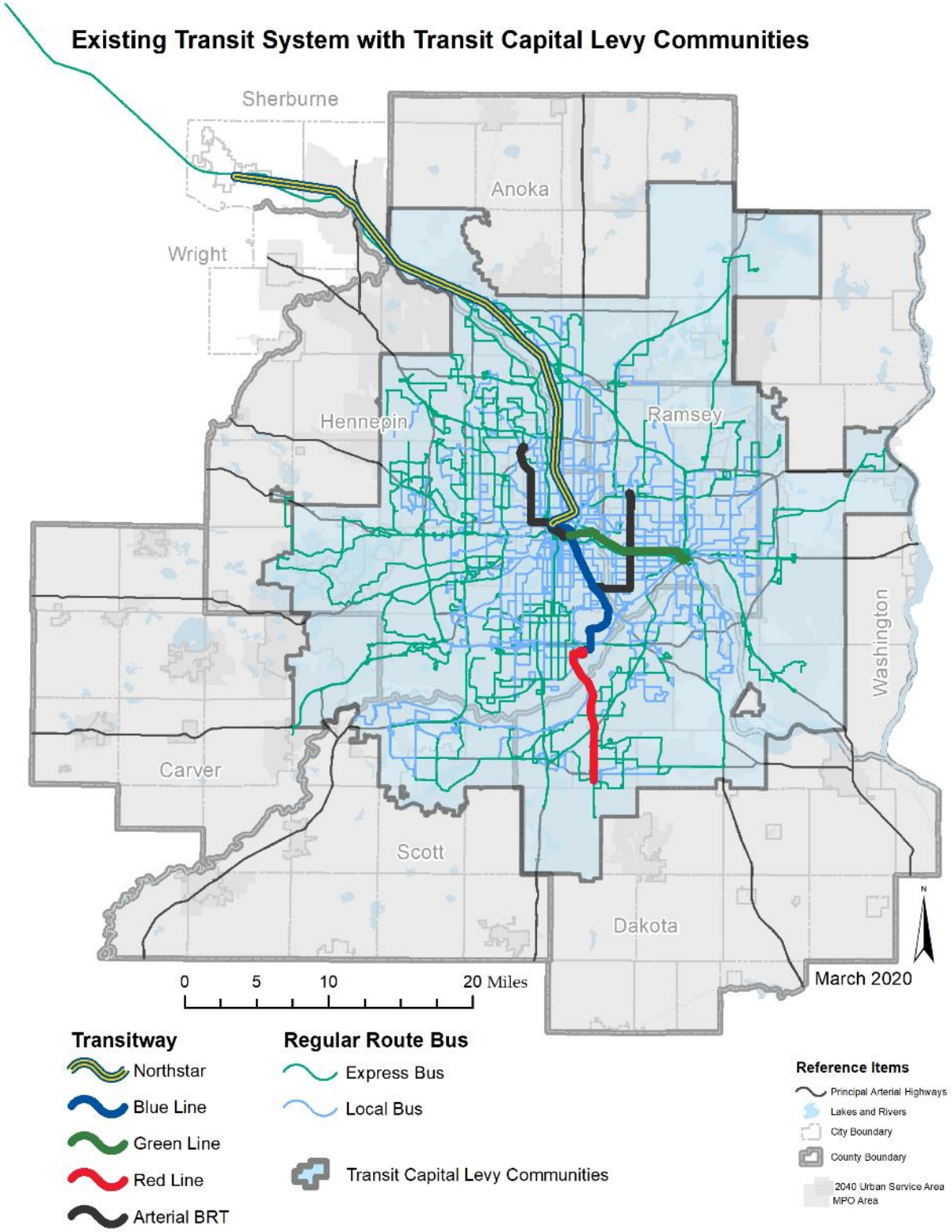
Transit Service Areas

Regular-route service is primarily provided by the Metropolitan Council and the suburban transit providers within the Transit Capital Levy Communities, the communities within the seven-county region where a property tax is levied to pay for transit capital needs. The Transit Capital Levy Communities are established in state law but have changed in response to the growing region, most recently with the additions of Lakeville, Forest Lake, Columbus, and Maple Plain.

The ADA requires complementary service for certified riders who want to travel where regular-route transit service is available but are unable to use the regular-route system due to a disability. The state has established additional service areas beyond that through law.

Dial-a-ride service is provided for the general public in areas of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties where demand cannot be served on regular-route transit. Dial-a-ride service is also available in the contiguous urbanized portions of Sherburne and Wright counties.

Figure 6-1: Existing Transit System by Service Type



Transit Capital and Infrastructure

There are currently two multimodal hubs in the transit network. The Union Depot in downtown Saint Paul serves as a multimodal hub that connects local bus service, light rail transit, intercity bus services, Amtrak passenger rail, and potential future transitways. In 2014, a second regional multimodal hub opened in downtown Minneapolis at Target Field Station, where two light rail lines serve and additional lines will come together in the future to meet the downtown Northstar commuter rail station and other services.

The regional transit system requires an average of about 1,300 regular-route buses, 91 light rail vehicles, 18 commuter rail passenger cars, 6 commuter rail locomotives, and 780 dial-a-ride buses to operate.

In 2018, the region had 104 park-and-rides with nearly 33,700 spaces served by bus and rail transit. The region also has 26 transit centers with facilities that improve waiting conditions and the transfer experience between buses and trains. With the opening of the C Line, the region has 92 transit stations serving existing light rail, BRT and commuter rail lines.

Facilities have been built to give transit advantages over general traffic including:

- 336 miles of bus-only shoulders
- 6 miles of bus-only lanes on city streets
- 98 highway ramp meter bypasses
- 71 miles of managed lanes
- 7 miles of exclusive busways

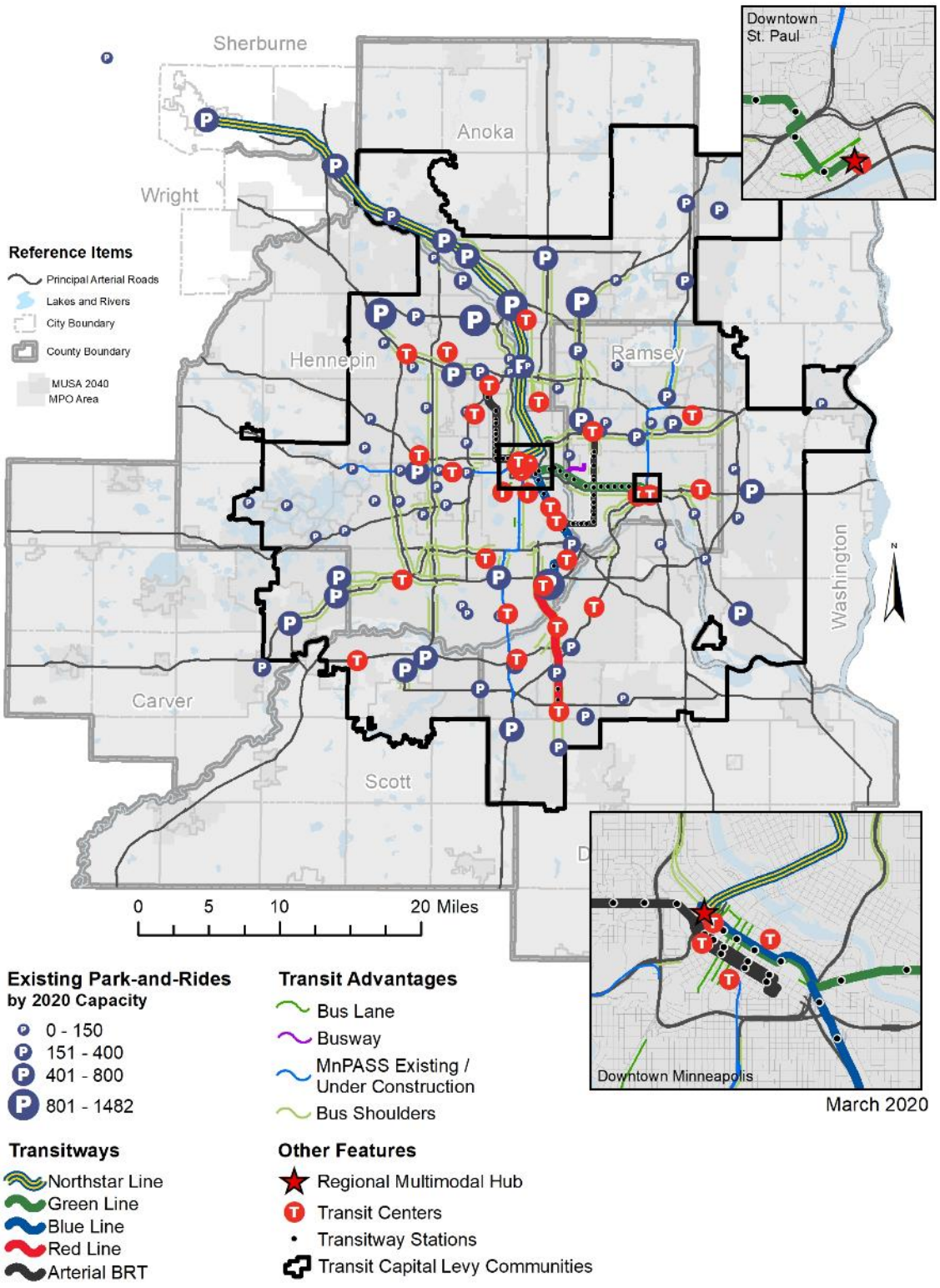
The region is also supported by a substantial system of transit support facilities, both public and private, that includes bus garages, maintenance buildings, rail support facilities, and operations centers.

Providing an Advantage for Transit – Bus Lane Pilot Projects

Metro Transit has partnered with local roadway authorities to improve speed and reliability along high ridership corridors served by one or more urban local bus routes. The region is exploring an expanded network of bus-only lanes or other transit advantages that can provide consistent travel times in congested areas and can make transit a more attractive option for the region's traveling public.

In many instances, bus lane concepts are being tested through a short-duration pilot project. This allows for the region to measure changes to route performance, observe impacts to traffic, and gather public feedback. If the initial results are promising, the region can incorporate any lessons learned into the final design and expand the concept to additional corridors as it becomes a more proven concept.

Figure 6-2: Existing Transit Infrastructure



Transit System Improvements since 2015

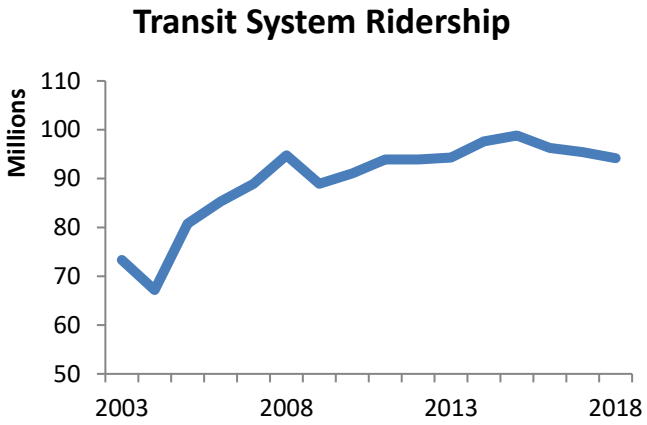
The region has made significant progress in building transit capacity for future growth in the region in the past five years. The bus system has expanded to new markets, particularly the reach of express service and park-and-rides, and continues to grow service in the strongest markets. New and improved transitways have opened and several additional transitways are in development. Examples include:

- The region's first two arterial bus rapid transit METRO lines, the A Line and the C Line, opened in 2016 and 2019, respectively. The A Line provides improved connections from the METRO Blue Line and METRO Green Line to additional neighborhoods in St. Paul, Minneapolis, and Roseville. Ridership in the corridor is up over 30% since A Line opened. The C Line provides improved service in the neighborhoods between downtown Minneapolis and Brooklyn Center Transit Center and early indications are that ridership growth is similar to A Line.
- Metro Transit introduced a fleet of eight electric buses as part of the METRO C Line opening in 2019.
- Metro Transit set a new single-day record of nearly 370,000 rides, bolstered by the recent additions of the METRO A Line, METRO Green Line, and METRO Red Line.
- A new online bus rapid transit station opened to replace an existing offline station at Cedar Grove on the METRO Red Line, improving service speed and reliability and increasing ridership.
- The Mall of America Transit Station, one of the busiest transit hubs in the region, was renovated to provide a better customer experience, better transit operations, and an improved exterior aesthetic.
- Apple Valley Transit Station park-and-ride was expanded in 2019, providing additional parking at one of the busiest park-and-rides in the region.
- Several transit providers have explored the use of emerging technology in transit operations and customer interfaces. For example, a new mobile app was introduced by Metro Transit that includes trip planning features and a new mobile ticketing platform and SouthWest Transit began providing an on-demand, mobile app-based transit service known as SouthWest Prime.
- Metro Transit has installed 135 new bus shelters and enhanced 78 existing bus shelters by adding lighting, heaters, or pedestrian improvements focused in areas of concentrated poverty where more than half of residents are people of color.
- Progress continued on the development of the METRO Green Line and Blue Line extensions, the METRO Orange Line, the METRO Gold Line, Rush Line dedicated BRT, Riverview modern streetcar, and the METRO D, B, and E arterial bus rapid transit lines.
- The high frequency service network expanded with the introduction of service improvements to routes 2 and 11. Ridership on both routes increased by over 15% after being introduced to

the high frequency network. Additional expansion of the high frequency network is currently being explored.

The result of these improvements has been increased use and demand for transit services. Since 2003, the year before the first light rail opened in 2004 (METRO Blue Line), the region has seen:

- Transit rides increase by nearly 30%
- Park-and-ride users increase by nearly 70%
- Six operating transitways, like light rail, commuter rail, and bus rapid transit, now account for more than one out of every three transit rides



In the beginning of 2020, the COVID-19 virus began dramatically influencing travel patterns in the region. With social distancing and other tactics being encouraged by the Center for Disease Control, transit ridership has experienced a dramatic decline as of the writing of this plan. The influences of this pandemic on travel patterns will be more thoroughly examined as part of the Work Program and any resulting changes to this plan will subsequently be addressed.

Passenger Travel beyond the Region

Each mode of transportation best serves a specific trip distance, providing its own unique characteristics and values for interstate and international mobility. The vast majority of intercity passenger movements occur by automobile, especially on the National Highway System roads maintained by MnDOT and other states. The Twin Cities region is also served by Amtrak passenger rail service and a number of intercity bus companies and airlines.

Long-distance passenger rail service provides connections to Portland, Seattle, and Chicago and places in-between on Amtrak's Empire Builder. Trains arrive and depart once a day in each direction. In 2014, Amtrak relocated its platform and services to the newly renovated Union Depot in downtown Saint Paul. Target Field Station along the BNSF tracks in downtown Minneapolis currently serves the Northstar commuter rail, but could also be utilized by intercity passenger trains in the future. Both Target Field Station and the Union Depot renovation have been constructed in the last 10 years as multi-modal stations.

MnDOT has primary responsibility for planning intercity passenger rail in Minnesota; the Metropolitan Council participates on advisory committees to assure that any new or upgraded rail service is consistent with other regional plans. Consistent with the Minnesota State Rail Plan, MnDOT is currently studying potential new higher-speed (90 miles per hour or greater) rail services to link the Twin Cities with Chicago, and the Twin Cities with Duluth. MnDOT is also studying the feasibility of an additional Amtrak trip to and from Chicago to serve increasing demand for passenger travel to eastern Wisconsin and Chicago. For information on these studies, see the MnDOT passenger rail webpage.

Intercity bus service provides ground transport connections between destinations in the upper Midwest and the Twin Cities, including service to Minneapolis-Saint Paul International Airport as well as intermodal stations in downtown Minneapolis and Saint Paul Union Depot. Recent upgrades to attract passengers include Wi-Fi on buses, in addition to express bus services with travel times that are more competitive with the private automobile. Intercity bus service in Minnesota is operated by private service providers such as Megabus, Greyhound, Jefferson Lines, and Land-to-Air Express. Some of these services also offer connections within the Twin Cities region, often taking advantage of existing transit facilities like park-and-ride lots. The Metropolitan Council has no direct role in planning or providing these intercity bus services. MnDOT does work with these operators and MnDOT's Intercity Bus program provides some subsidies to support bus service in Greater Minnesota.

See Chapter 9, “The Aviation Investment Direction and Plan,” for air travel beyond the region.

Travel Demand Management

The Metropolitan Council partners with cities and Transportation Management Organizations (TMOs) to work on travel demand management (TDM) that reduces vehicle miles traveled during peak periods and in congested areas. Transit plays an important role in travel demand management, particularly by providing more transportation system capacity in congested areas of the region or to destinations with congested access. The region’s existing TMOs include:

- Move Minneapolis primarily serves downtown Minneapolis by promoting travel options for commuters working downtown.
- Commuter Services serves the I-494 corridor by promoting travel options to the destinations along the corridor.
- Transit for Livable Communities and Saint Paul Smart Trips serve the City of Saint Paul by promoting travel options to workers, residents, and policymakers in the city.
- Commute Solutions serves Anoka County by promoting travel options for residents in the county and commuters working in the county.

The TMOs and transit providers provide services that encourage the use of a variety of modes of public transit. In addition, every two years the Regional Solicitation provides a funding opportunity for new or expanded travel demand management projects. TDM funding helped Metro Transit develop a mobile app for mobile fare payment and transit information and transit providers are making progress in developing relationships with other complementary mobility services, such as bike share and car share. TDM funding has also supported projects like transportation management staff at various agencies, outreach and engagement and technology solutions for encouraging mode shift away from single-occupant vehicles, and educational campaigns about travel choices. The TDM funding in the Regional Solicitation is somewhat unique in that it has typically supported a variety of non-profits’ efforts in addition to governments.

The Work Program includes a Regional Travel Demand Management Study that will look into the latest best practices in TDM nationwide and identify gaps and opportunities for this region. It is anticipated that this study will start in 2021 and continue into 2022. The last regional TDM study was completed in

2010 and much of the transportation landscape has changed since then with the rapid expansion of micromobility and shared mobility and recent trends in telework resulting from the COVID-19 pandemic.

With the pandemic outbreak of COVID-19, the region began experiencing a significant shift in travel patterns with many people foregoing a commute to work from home, and travel for schools, non-essential retail and social, cultural, and recreational purposes being substantially reduced due to closures. The implications of this ongoing situation are not yet known but will be explored more in a Work Program item to inform future Plan updates. Since shifting travel patterns and telework are significant travel demand management strategies, it will be important for this region to understand the potential long-term implications of the experience reacting to COVID-19.

Transit Investment Direction Overview

The following are brief descriptions of the different sections of the transit investment plan.

Transit Planning Basics – An important part of understanding the transit investment plan includes understanding the many factors that influence the design of the transit system. Local development patterns and demographics – factors external to transit providers – as well as route and network design decisions made by transit providers are important factors in of the success of a transit system. Certain factors are used to establish Transit Market Areas, a regional transit planning tool designed to match transit demand to the types and levels of service provided. Regional Transitway Guidelines help guide the planning and implementation of transitways. Local governments and transit providers need to work together to best align these factors in order to maximize the success of the transit system and its potential integration with communities.

Bus and Support System Investment Plan – The bus system will continue to be the workhorse of the regional transit system by providing the majority of transit trips, providing essential connections to transitways, and providing options throughout the entire region. The bus and support system plan includes the following elements to address current and future needs:

- Tools to manage the transit system to be cost-effective within available resources
- Alternatives that can be provided where regular-route service is not available or accessible for those with a disability
- Opportunities for expansion and improvement of bus service, and a process for identifying priorities from that vision
- Opportunities for expansion and improvement of transit facilities that better support a good customer experience and system operations
- Other elements of the transit system that support its effective, safe, secure, and reliable operation

These elements, and the processes and plans that support them, are described in more detail in Bus and Support System Investment Plan. The plan does not identify specific investments in the bus and support system. Rather, the plan identifies general investment categories and investment strategies.

Transitway System Investment Plan – The region will also need to build, operate, and maintain a system of transitways that will improve service in high-demand corridors and connect more areas of the region with frequent, reliable transit service. Equally as important, transitways provide the permanence and attraction to developers, residents, and businesses that will help shape the high-density, mixed-use, livable development patterns that are growing in demand and that are the focus of many *Thrive MSP 2040* outcomes. Land use planning and implementation by local governments will also help shape investments in transitway corridors. The first priority will be to operate and maintain the existing transitway system. Expansion of the transitway system will be guided by investment factors that will assist the region in setting priorities for investment that have the greatest return for the region. The transitway system includes a number of options to match appropriate investments with needs throughout the region. These elements, and the processes and plans that support them, are described in Transitway System Investment Plan. The plan identifies specific project investments in the transitway system.

Investment Summary – The transit investment plan includes a financial summary that illustrates the level of investments planned across the elements in the plan within two revenue scenarios:

- A Current Revenue Scenario that identifies planned investments within reasonably expected revenue assumptions
- An Increased Revenue Scenario that identifies an investment strategy that would build out and expand the transit system

Transit Planning Basics

The transit system is a network of routes, facilities, and services that need to be well designed and managed to best achieve regional goals, including good stewardship of public resources. This is especially true in a fiscally constrained situation, where available funding only allows for implementing and operating the highest priority projects in the plan.

A number of demographic and urban design factors exist that are generally outside the control of transit providers and that help shape the design and determine the potential success of transit investments. Demographic factors are, for the most part, outside the direct control of any agency or government body, though they can be affected by agency actions over time. Urban design factors are generally managed by the land use planning efforts and development controls of local governments. A successful transit system requires the cooperation of transit agencies and local governments within their respective roles.

In addition to demographic and urban design factors, a number of transit route and network design factors guide the design of transit service and ultimately influence the overall success of the transit network. Transit providers shape these factors in the design of the transit system to manage it relative to land use.

Demographic Factors

Demographic factors are outside the direct control of transit providers but play a significant role in the design of transit service. While these factors are out of the direct control of transit providers, the impact of transit investment can indirectly influence these factors by providing access to opportunity. These factors include:

- Auto-ownership or the number of cars available in households
- Demographics like household income, number of children, age, disability, and marital status
- Job status and unemployment rate

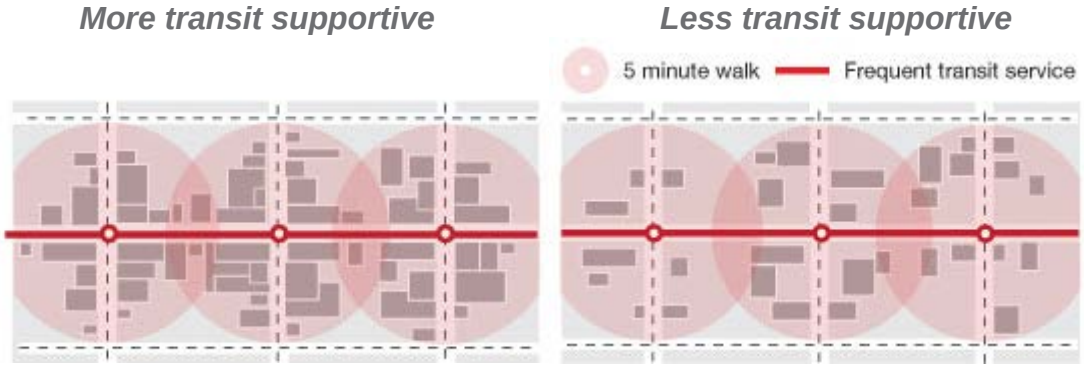
Demographic factors also include areas of concentrated poverty, which is a special feature in *Thrive MSP 2040*. More information on these is discussed under Transit Market Areas. Working with local partners, transit providers can help shape a vision, through policy and planning, for transit corridors and corresponding demographic factors that will support increased transit use.

Urban Design Factors

Urban design factors that fall within the control of local governments, such as land use, planning, and infrastructure design, also influence the design and potential success of transit services. Local governments and transit agencies need to work together to best match transit service with local land use and maximize the opportunities for the success of the transit system. For communities that desire more transit service, local governments can choose to plan for transit-supportive land use, but the changes will likely take place over time. In a number of suburban communities, these changes are happening, like with station-area planning along light rail and bus rapid transit corridors. The following factors are the primary components of effective local transit service. Express and commuter services are discussed separately.

Encourage population and activity density

Density supports transit because there are more people and activities within walking distance of nodes. Additionally, people living in dense areas are more likely to use transit because more frequent and reliable transit options can be provided to be more competitive with driving.



Design for a pedestrian-friendly environment

All transit users are pedestrians for at least some portion of the beginning and end of their trip. A pedestrian-friendly environment encourages transit use by providing a comfortable walking environment and minimizing the walking distance from the transit stop to front doors.

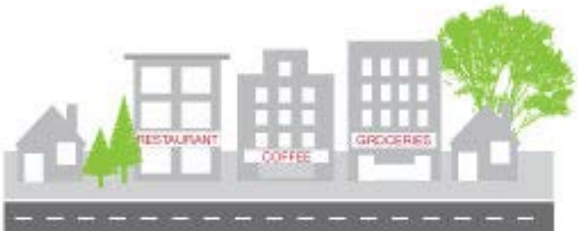
More transit supportive

Less transit supportive

Encourage a mixed-use land use pattern

Transit is most effective when it serves a variety of trip purposes and destinations. Mixed-use development patterns encourage travel patterns with many origins and destinations throughout the day, making transit more effective and easier to provide for a variety of purposes.

More transit supportive



Less transit supportive

Develop an interconnected street network that maximizes pedestrian and bicycle access and allows for simple route design

An interconnected street network minimizes barriers and maximizes the area that is accessible within a short walk or bike to a transit stop, allowing each stop to serve more people. In addition, it supports the design of simple, direct routes that are efficient and easy to understand.

More transit supportive

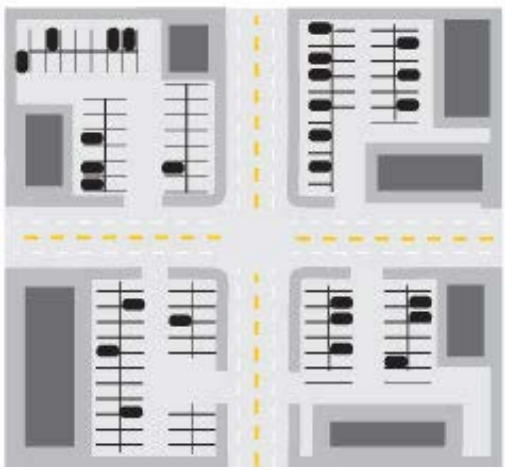
Less transit supportive

Support travel options that encourage or complement using transit

Transit is more effective in areas where the cost of driving and parking are greater, or at least comparable to the cost of using transit, and alternatives like car-sharing, bicycling, and walking are available and convenient.

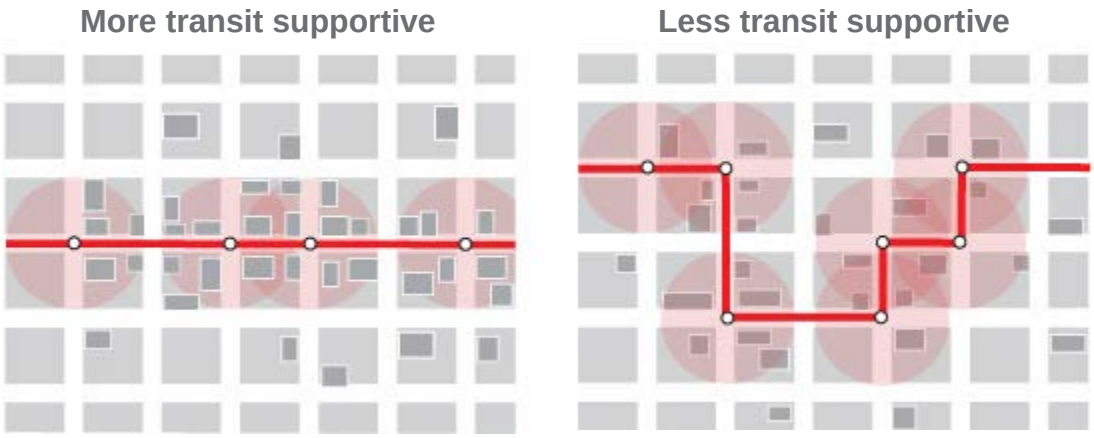
More transit supportive

Less transit supportive



Plan for linear growth in nodes along corridors

A linear pattern of development along corridors is easier to serve with transit. Transit routes that are linear and consistent are most effective to provide and easier for customers to understand. This also requires coordination across community boundaries.



The factors listed above describe the general relationship between local land use decisions and transit planning. More detail on these factors and the considerations for local communities on land use planning around transit is available in Chapter 3, “Land Use and Local Planning.”

Transit Route and Network Design Factors

The quality and design of transit service is an important part of the success of transit. Regional transit providers must weigh the potential benefits of transit investments against the costs, in order to best manage the system to be cost-effective and efficient. This applies to times when the transit system is stable, when the transit system is expanding, and when the transit system is facing cuts. There are also different factors for the design of local transit service and express and commuter transit service.

Local route and network design

The most important factors that transit providers look for when designing local transit routes and networks are:

Serve a variety of trip purposes and destinations

Transit will generate higher ridership and more balanced passenger loads if it is designed to serve a number of different trip purposes along the route and throughout the day.

Design routes with strong anchors at both ends

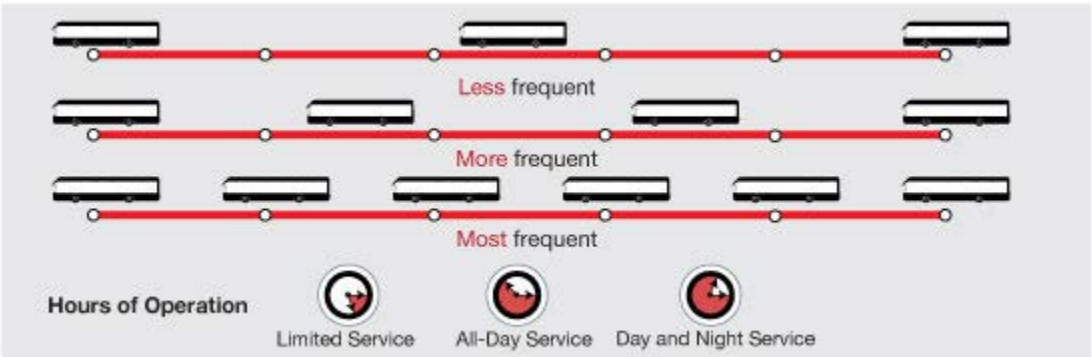
Transit is more efficient with balanced passenger loads in each direction. Important destinations at each end help to distribute demand evenly and limit overcrowding of vehicles and over-supply of service.

Balanced demand

Unbalanced demand

Match level of service to demand

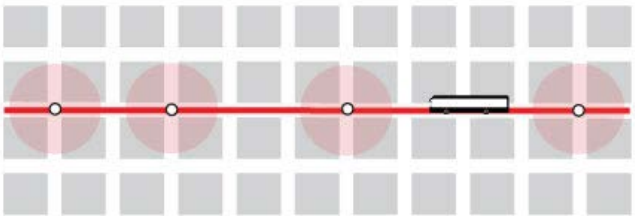
Transit will be more effective if the type and level of service provided is appropriate to the demand for transit. This allows providers to get the most out of high-demand areas while still serving lower-demand areas.



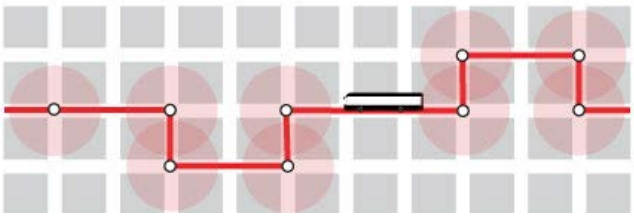
Design simple, direct routes

Transit service is more efficient and reliable to provide and easier for customers to understand when routes are designed in simple, linear patterns without complicated paths.

Simple and direct

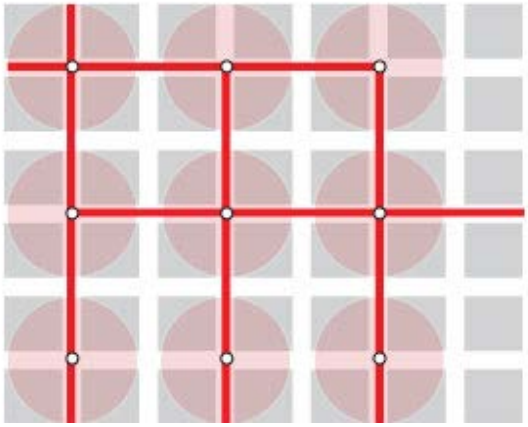
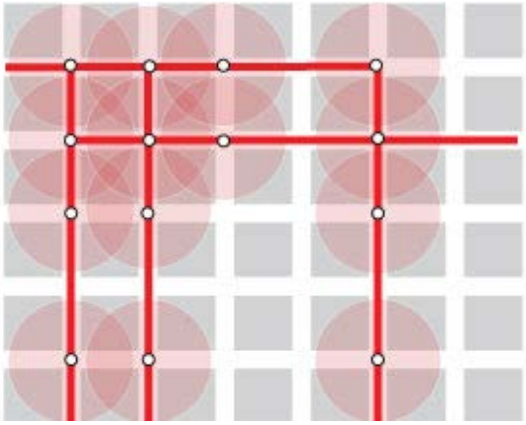


Indirect and more confusing



Avoid duplication of service

Routes should be spaced far enough apart so that they do not compete with one another for riders at the expense of service coverage in other areas.

Less duplication	More duplication
	

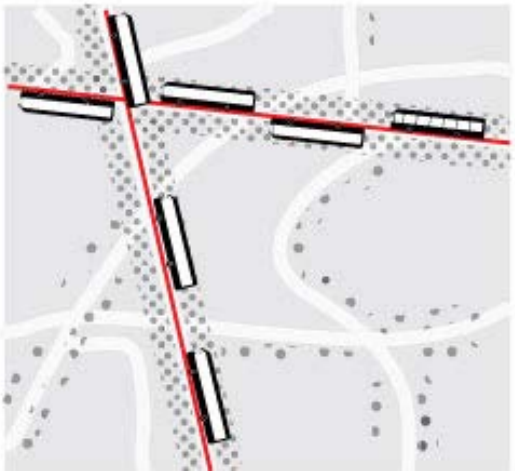
Provide useful customer information and comfortable amenities

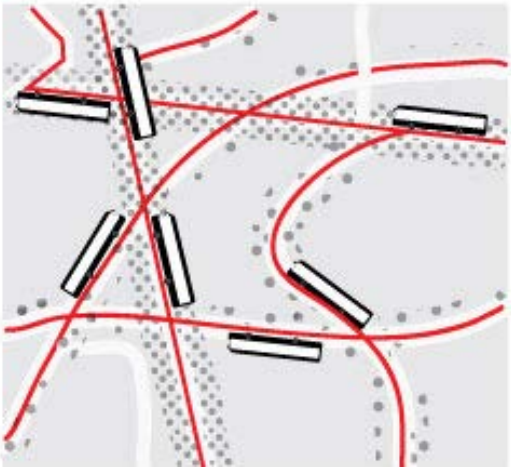
Transit ridership grows and the user experience is better when customers can easily understand the system and are comfortable while waiting at or leaving a stop and riding on a bus or train.

Balance frequency and coverage

An effective transit network finds a balance between providing fast, frequent routes that offer more convenience and providing coverage to more area but with infrequent, less-convenient service.

More frequent, less coverage ***Less frequent, more coverage***

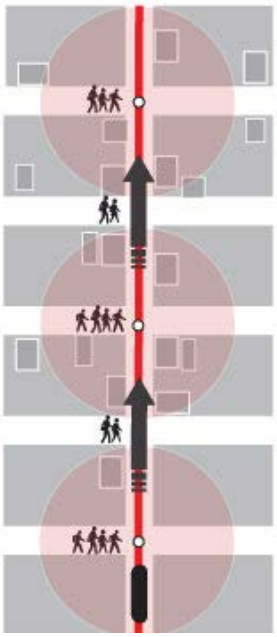


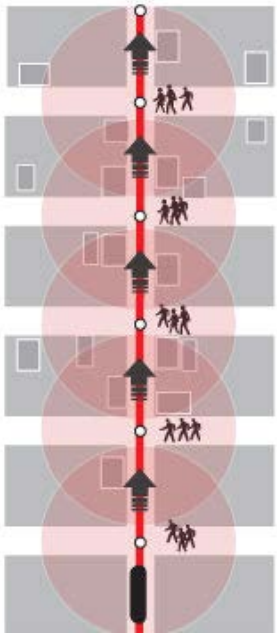


Balance walking distance and travel speed

Routes with more stops provide shorter walks to transit but at slower and sometimes less reliable travel speeds. A transit network needs to balance between providing fast service with fewer stops and slower service with many stops.

Faster service, less access **More access, slower service**





Commuter and Express Route Design

The factors that guide the design of express routes are somewhat different from those covered in the above section for local routes. Express routes are focused on providing fast, reliable trips into major regional centers. The most important factors for express service success are high-density origins and destinations at both ends of the route (such as at a park-and-ride and downtown) and demand management that balances parking supply and cost with the demand for parking and access for transit. The level and location of congestion can also be a substantial factor in the success of express bus services.

Transit Market Areas

Market Areas Overview

An important underlying element to the transit investment plan is the definition of Transit Market Areas. Transit Market Areas are defined by the demographic and urban design factors that are associated with successful transit service. There are five Transit Market Areas (see figure 6-3) as well as some unique Market Area features. The Transit Market Areas are generally associated with community designations in *Thrive MSP 2040* (see Land Use and Local Planning for more details) as follows:

- **Transit Market Areas I and II** are mostly Urban Center communities where urban form and density are most supportive of transit. These areas also have the largest concentrations of transit-dependent residents in the region. Transit service in these areas focuses on providing a dense network of local routes with high levels of service to accommodate a wide variety of trip purposes. Market Area II will typically have a similar route structure to Market Area I, but lower levels of service, as demand warrants.
- **Transit Market Area III** is primarily Urban along with portions of the Suburban, Suburban Edge, and Emerging Suburban Edge and is generally characterized by overall lower density and less transit-supportive urban form along with some pockets of denser development. The primary emphasis of transit service in this area is express and commuter service with some suburban local routes and dial-a-ride service providing basic access.
- **Transit Market Area IV** is primarily Suburban Edge and Emerging Suburban Edge along with portions of Suburban, and is generally characterized by consistently low-density development and an urban form that does not support frequent local transit service. Transit service in Market Area IV is primarily peak-period express and commuter service oriented to park-and-ride facilities that can effectively capture the lower density transit demand. Local trips are provided by general public dial-a-ride services.
- **Transit Market Area V** is generally all forms of Rural and Agricultural but does include the unique freestanding town centers of Stillwater, Waconia, Forest Lake, and Hastings; Market Area V is generally characterized by low-density development or undeveloped land not well suited for regular-route transit service outside of limited peak-period express and commuter service.

Unique Market Areas

The Emerging Market overlays are unique areas of Transit Market Areas II and III where significant pockets of higher density exist, but surrounding conditions still limit the success of local transit. These areas should be a focus for future development that will connect them with areas of higher transit intensity, specifically looking at extensions of existing routes or connections.

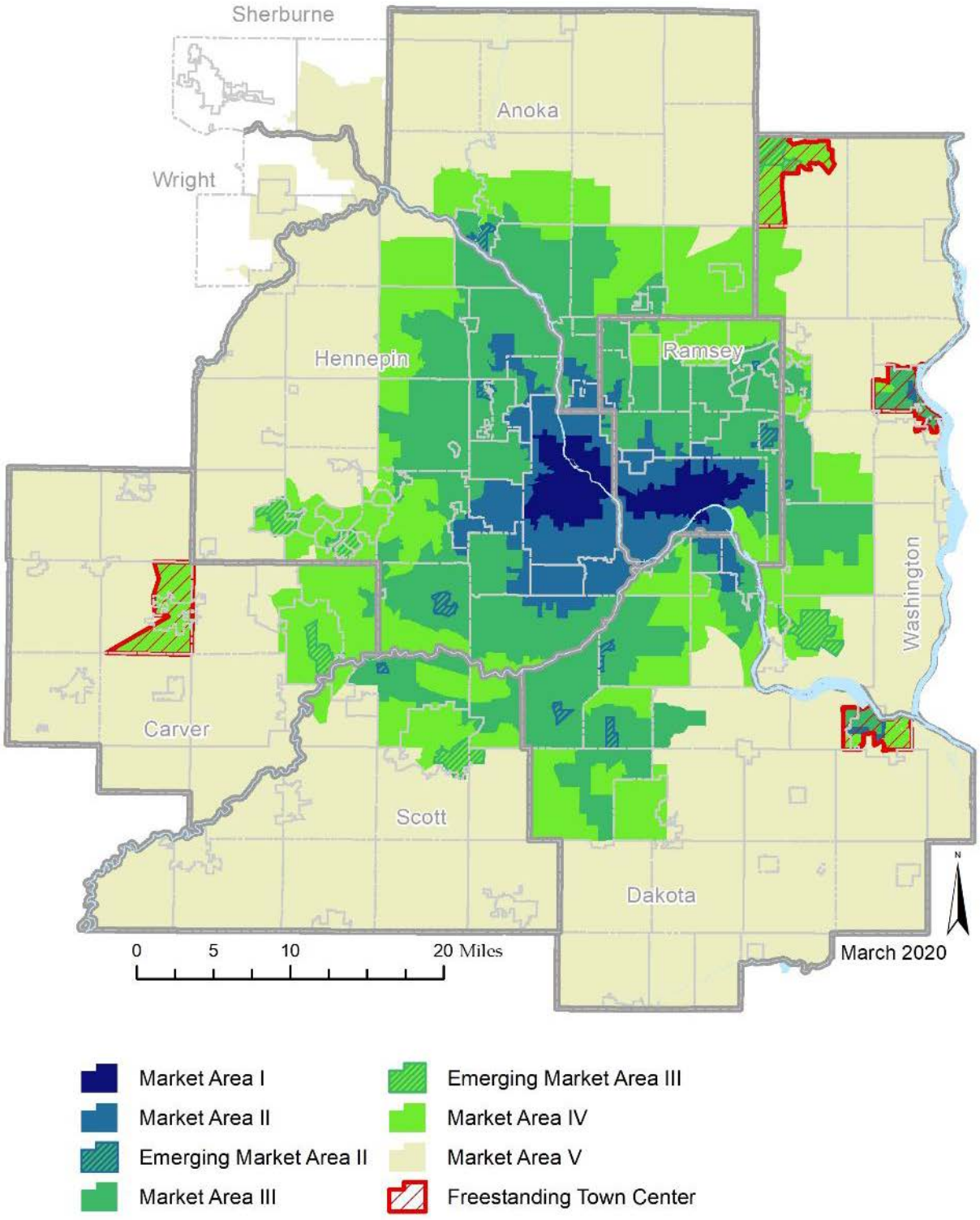
Freestanding Town Centers are unique areas that grew independently of Minneapolis and Saint Paul and act as suburbs but are still separated from the urban and suburban areas by rural land. These areas typically have small downtowns of their own but also export many workers to other regional centers. Local transit services that connect to the region would not be as effective serving these areas given their location in the region, despite their relatively concentrated nature. However, these areas may still have express service demand and possible demand for small circulator services.

The Metropolitan Council and regional transit providers will also coordinate their efforts with MnDOT and transit services that connect beyond the seven-county metropolitan region. The Transit Market Areas do not address the feasibility of these kinds of services, which are coordinated on a case-by-case basis.

Two additional areas of emphasis in *Thrive MSP 2040* are important for consideration in transit service design, the special features of Areas of Concentrated Poverty and Job Concentrations. Residents of Areas of Concentrated Poverty must overcome a legacy of private disinvestment to access the opportunity of the region. In transit, this often means considering higher levels of service, better amenities, or unique service types focused on providing better access to jobs or education. These areas are also highly correlated with limited household access to a private vehicle. Job Concentrations have good potential to be served with transit because of their density and level of activity. Many of these concentrations will need to adapt and continue adding density and diversifying land uses to be truly transit-oriented. This will need to be coordinated with continued investments in transit access to these areas as well as better transit facilities.

The Transit Market Areas are shown in Figure 6-3 and described in more detail in Appendix G. Transit Market Areas are primarily used to design the regional bus system, but some guidance on their application to transitways is discussed in the Regional Transitway Guidelines.

Figure 6-3: Transit Market Areas



Regular-Route System Design

For the regular-route bus system, the guidelines on transit service design in Appendix G: Regional Transit Design Guidelines and Performance Standards cover a number of topics including:

Regional Transit Design Guidelines and Performance Standards Topics

- Transit Market Areas and Service Options – the service types that are appropriate for the different Transit Market Areas
- Network Design and Access
    - Stop Spacing – the distance between bus stops on a route
    - Route Spacing – the distance between bus routes
- Service Levels
    - Service Span – the number of hours/day and days/week a transit service operates
    - Service Frequency – the average time between transit trips on a route
- Facility Siting and Design
    - Customer Facility Features – features at customer facilities that improve the customer experience
- Performance Standards
    - Productivity – passengers per in-service hour
    - Cost Effectiveness – the subsidy required to operate a route, per passenger

The application of these design guidelines impacts the cost and productivity of transit service. More detail on how these are used in transit investment decisions is discussed in Bus and Support System Investment Plan. The Metropolitan Council is also conducting a Work Program item that explores the performance trade-offs in different transit system investment philosophies. The Bus Service Allocation Study will explore how investing more in coverage or productivity affect the outcome of the transit system and metrics associated with it, such as the plan's objectives of growing ridership, providing more access to transit, or supporting equity.

In addition to these guidelines regarding the design of transit service, there are two performance standards that are used to evaluate *individual transit* routes once they are in operation. These performance standards are Subsidy per Passenger and Passengers per In-Service Hour. Performance standards are discussed in more detail in Appendix G. A state statute requires the Metropolitan Council to document route performance standards for farebox recovery ratio, which will be updated in a Work Program item on the Comprehensive Transit Financial Report.

These measures may differ from those developed to inform the *Transportation Policy Plan* on the performance of the *overall transit system*, which are discussed in the Performance Outcomes chapter.

Transitway Design

For transitways, the region has developed the Regional Transitway Guidelines (2012). These guidelines assist in the development of transitways in planning, design, or operation and establish technical best practices for nine transitway elements. These elements are:

Regional Transitway Guidelines Topics	
• Service Operations • Station Spacing and Siting • Station and Support Facility Design • Runningway • Vehicles	• Fare-Collection Systems • Technology and Customer Information • Identity and Branding • Project Development, Leadership, and Oversight

The guidelines are not intended to be design standards or specifications. Rather, they establish consistent, general practices that ensure transitways are developed in a consistent and equitable manner as the region's transit network continues to grow and expand. The guidelines are intended to be flexible enough so that each transitway can boast its unique characteristics and opportunities and planners can address its unique challenges. The guidelines are also intended to be a living document, evolving over time as the region's experience with transitways continues to grow. The full details on the Regional Transitway Guidelines are available from the Metropolitan Council.

The guidelines will be updated on an as needed basis to address outstanding issues, including the addition of dedicated bus rapid transit and updated best practices.

Transit Asset Management and Safety Performance Targets

Transit asset management, a best practice and a requirement under federal law, is a business model that prioritizes funding based on the conditions of transit assets. Transit providers are required to assess, track, and report on their assets to FTA, and develop targets for asset management to ensure a state of good repair. Transit providers will also develop transit asset management plans that document the implementation actions for asset management within their transit system. While transit asset management is a requirement of transit providers, it must be coordinated with a region's Metropolitan Planning Organization (MPO), or in this region, the Metropolitan Council. Two asset management plans, one developed by the Metro Transit and the other a group plan featuring the region's suburban transit providers, were submitted and adopted by the Council in 2019. Both plans outlined and established the four federally required performance measure targets for transit asset management, which are:

- Rolling stock (buses and train used for serving customers): The percentage of revenue vehicles (by type) that exceed the useful life benchmark.
- Equipment (vehicles used in a support role): The percentage of non-revenue service vehicles (by type) that exceed the useful life benchmark.

- Facilities: The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) Scale.
- Infrastructure: The percentage of rail track segments (by mode) that have performance restrictions. Track segments are measures to the nearest 0.01 of a mile.

Transit asset management plans detail the specific strategies that transit providers will use to meet or exceed their transit asset management targets. These plans prioritize asset management through its Transportation System Stewardship goal, objectives, and strategies. Transit funding, particularly FTA formula funds and regional transit capital, is prioritized for asset management first, with fleet replacement being the region's number one transit capital funding priority for the existing system. The region also has a Fleet Management Procedure that documents vehicle replacement expectations based on, among other things, useful life and mileage expectations. These procedures will likely be referenced or updated in transit asset management plans. The region also has a funding category for transit modernization within the Regional Solicitation, which allows the region alternative to using federal flexible funding solely for transit expansion during times when modernization and maintenance are more pressing needs. There are more details on these strategies later in this chapter.

Transit safety performance monitoring and target setting is also a requirement under federal law. The National Public Transportation Safety Plan outlines the performance measures and other expectations for the nation's public transit providers. Safety performance targets will be developed by transit providers, in coordination with the Metropolitan Council as the MPO, and be adopted by the Metropolitan Council no later than January of 2021 in accordance with federal law. The four FTA-required performance measures and targets for transit system are:

- Fatalities: total number of reportable fatalities and rate per total vehicle revenue miles, by mode.
- Injuries: total number of reportable injuries and rate per total vehicle revenue miles by mode.
- Safety events: total number of reportable safety events reported to NTD and rate per total vehicle revenue miles by mode.
- System reliability: mean distance between major mechanical failures by mode.

Transit Modernization and Expansion in the Regional Solicitation

This transit investment plan discusses two unique funding opportunities to improve the transit system in the Current Revenue Scenario: modernization and expansion. These categories of funding coincide with two of the Transit application categories for federal flexible funding through the Regional Solicitation. The needs in these categories will likely evolve over time and the Regional Solicitation allows for regular reviews of the focus and criteria used to rank project submittals. For the 2020 Regional Solicitation, two new transit funding concepts were developed. An arterial bus rapid transit (BRT) project funding category was created to fund a larger share of a single arterial BRT project and provide more certainty for planning the arterial BRT system (see Transitway System Investment Plan for more details). A new market guarantee was also established to ensure that at least one Transit Expansion or Modernization project is funded that serves areas outside of Transit Market Area 1 and 2

for at least one end of the project. Both of these concepts will be evaluated after the 2020 Regional Solicitation for consideration in future solicitations. There are likely projects that address both expansion and modernization and, in some instances, there may be a gray area between the categories. The following is a general description of the need basis for transit modernization and expansion projects.

Modernization

The focus of transit modernization is to improve the transit system to better suit current needs and current transit riders. The focus of transit modernization will generally be to make transit more attractive to existing transit riders with the intent of retaining transit riders. Modernization improvements may also attract new riders, although this is not the explicit purpose. This could include investments that offer faster, more reliable travel times or investments that improve the overall customer experience. Other opportunities for modernization should be explored through preservation and maintenance investments that could improve efficiency, effectiveness, or environmental impact. Modernization projects will usually involve a capital investment but can also include impacts to operating investments. Some modernization investments may even reduce operating costs, such as energy efficiency improvements.

Examples of modernization projects include:

- Improved boarding areas to address safety, speed, or comfort at existing customer facilities like heat, light, platform heights, and safety or security equipment.
- Customer information improvements at existing customer facilities.
- Transit advantages or technology that improves reliability and the customer experience, such as bus shoulders, transit-only lanes, or transit signal priority.
- Energy efficiency improvements at a bus garage.
- Improved fare collection systems.

Expansion

The focus of transit expansion is to improve the transit system to attract new transit riders or invest in future transit needs. The focus of transit expansion will generally be to add capacity, services, or facilities that grow (or facilitate the growth of) transit system use. Expansion projects will generally include a mix of capital and operating investments, since new facilities and service generally require additional ongoing costs.

Examples of expansion projects include:

- Operating or providing vehicles for new transit routes.
- New customer facilities, like new transit stations or centers, that are not replacing existing ones.
- Added park-and-ride capacity at an existing facility.

Bus and Support System Investment Plan

Bus and support system investments include all elements of the transit system that are not specific to transitways, including: regular-route bus service, Metro Mobility, Transit Link and other dial-a-ride programs, vanpool, customer and support facilities, and other support systems. The transit system is operated efficiently and cost-effectively today because of the management tools already in place in the region. The primary role of the transit system is serving people, measured in ridership. The different investment opportunities in the transit system are aimed at serving people, whether through maintaining a route already on the streets, adding service to serve new customers, improving the attractiveness of transit to the user and making it a mode of choice, or making it more efficient to serve people better.

This section of the plan discusses the types of transit services that will be provided in the region and how they are managed, the facilities and amenities that support these services, and the potential for a better transit system for the people of the region. Investments in the regular-route bus system are guided by the Transit Market Areas and Regional Transit Design Guidelines discussed above. The specific details about how transitways fit into this system are discussed in Transitway System Investment Plan.

Transit System Management

Management of the transit system is an essential part of transit investment and stewardship of the system. A well-managed transit system ensures that public resources for transit are used as efficiently and cost-effectively as possible to meet the needs of transit customers while also considering the impacts and benefits to low-income populations and populations of color. The following are general descriptions of how the region will manage the transit system effectively by coordinating the efforts of multiple regional transit providers.

Route Performance Analysis

Transit providers should review their transit service annually using the performance standards outlined in Appendix G to ensure that their transit services are being provided to an efficient and cost-effective standard consistent with rest of the region.

Additionally, the Metropolitan Council will prepare an annual Regional Route Performance Analysis that reports the performance of each route as compared to the performance standards defined in this plan. Routes that do not meet the performance standards should be reviewed for adjustment or possible elimination. The annual Regional Route Performance Analysis can be found on the Metropolitan Council's website: https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Transit-Transitways/RegionalRoutePerformanceAnalysis.aspx?source=child.

Coordination among Transit Services

Coordination among the regional transit providers is essential to ensure that the transit system functions seamlessly and offers user-friendly rider experience. Coordination efforts include identifying opportunities for timed-transfers, providing locations for transfers between dial-a-ride services and

regular routes, and connecting services offered by different providers. The Metropolitan Council will promote coordination of transit services through the regional transit policies and procedures, which outline procedures for fleet management, procurement, and facilities ownership and management. This includes coordination with services that connect to areas outside the seven-county region, when necessary. The Metropolitan Council will also encourage and facilitate communication and coordination among transit providers to ensure well-coordinated schedules.

Transit Fare Structure

Regional transit fare policy will be designed to achieve a variety of goals. Fares should be simple and easy to understand to improve customer service and fare compliance. They should reflect the costs of providing service while mitigating the negative impacts to low-income and transit-reliant riders. The most recent fare increase occurred in October 2017, the first increase since 2008. The Transit Assistance Program (see sidebar) was created in 2017 to help make transit more affordable for low-income riders.

Fare policy should take a common regional approach to provide seamless travel for riders among providers and modes. It should promote ridership growth while maintaining or increasing the revenue recovery rate. New fare technology, including new fare media, off-board fare collection, and mobile apps, will play an important role in transit fare policy and service delivery. Improvements in fare collection technology should ensure regional compatibility while supporting the need to modernize the fare system.

Transit Assistance Program

Regional efforts to mitigate negative impacts of fare increases include Metro Transit's Transit Assistance Program (TAP). The TAP provides qualified, low-income transit riders a discounted, $1 fare for a full year. Riders that qualify for TAP access discounted fares with a TAP card. Low-income riders can apply to TAP individually or through one of several organizations that have partnered with Metro Transit for the program. Since inception, the TAP program has supported over 2.1 million rides for low-income transit riders.

Competitively Procured Services

Contracting the operation of transit services can be an appropriate and cost-effective way to meet new service demand, demonstrate new routes or service types, provide efficiencies on certain routes, properly align service expertise with providers, or maintain service in response to fiscal pressures. Decisions about which routes should be contracted to a private provider will be based on service demand and funding levels.

Service contracts should be structured in a manner that promotes healthy competition. Metro Transit will continue to be the primary provider of regular-route transit services in its service area. The Metropolitan Council will review the amount of contracted service every two years. Twenty percent of regular-route bus service, measured in National Transit Database revenue hours, is the target for private contract operations.

Vehicle Fleet

The bus is the most basic element of the transit system. Buses should be comfortable, clean, and designed to meet customer needs. The region utilizes a variety of bus types to match the appropriate vehicle to the service it is providing. The existing bus fleet is over 1,800 vehicles, including dial-a-ride buses. These vehicles need to be maintained and replaced when they are past their useful life, which varies by bus type. Fleet replacement is the top capital investment priority for maintaining the existing transit system. Vehicles are also equipped with various types of equipment that allow them to better serve customers and provide more efficient operations. Innovation in equipment and general vehicle design is ongoing, and regional transit providers will explore modern features as appropriate. The region will work to maintain a bus fleet that is integrated and not overly specialized to specific services, routes, or corridors. Bus rapid transit services may have sub-fleets, but these should also be integrated across corridors. This will allow for more flexibility in operations and reduce the total number of buses and spare buses required, which saves the region money and reduces demand on support facilities. The regional Fleet Management Procedure outlines standards and is available on the Metropolitan Council's website.

For vehicle propulsion technology, the region has made substantial strides to incorporate hybrid electric buses into the vehicle fleet. Many of the early hybrid buses are now coming to the end of their useful life and must be replaced. Emerging battery-electric bus technology may allow the transit fleet to increase its energy efficiency and sustainability. In 2019, Metro Transit put eight battery-electric articulated buses into service. Plans through 2025 are to continue increasing battery-electric buses as a part of the fleet. In addition to reducing climate impacts, electric buses have no tailpipe emissions and therefore reduce local pollution in the neighborhoods they serve, like the C Line through North Minneapolis. Like many new technologies, there are operational challenges that continue to evolve. They range from charger technology in the garage and in the field, to understanding operating range and scheduling the routes to allow for sufficient layover charging time. Initial experience with the all-electric fleet has shown some indication that these technological challenges will slow the full transition to this type of vehicle. Capital funding availability may also be a substantial constraint to expansion of the electric vehicle fleet. The Met Council's hope is that the region's transit fleet will eventually benefit from future market development.

Transit Provider Operating Policies

The Metropolitan Council will coordinate regional policies and procedures that apply to all transit providers, and will provide for a high-quality, seamless, and coordinated regional transit system while respecting the local autonomy of individual providers. These policies and procedures will ensure that transit resources are distributed equitably and transparently and facilitate an efficient system. A list of the key operating policies for transit providers is included in Table 6-2. Copies of any of these materials are available are available through the Metropolitan Council or directly from transit providers.

Table 6-2: Transit Provider Operating Policies

Policy	Description
Regional Route Performance Analysis	All regional transit providers will submit route performance information to the Metropolitan Council every year for review and inclusion in the Regional Route Performance Analysis.
Transit Fare Structure	All regional transit providers will adhere to the regional fare structure and prices established by the Metropolitan Council unless otherwise exceptions are specifically justified and granted.
Fleet Management Procedures	The Metropolitan Council's fleet management procedure guides fleet decisions, including vehicle type and configuration, acquisition, use, maintenance, replacement schedule, ancillary equipment, and disposal. The policy also reflects fleet modernization, including alternative fuels such as low-sulfur diesel, bio-diesel and ethanol, and alternative vehicles such as hybrid electric. All regional providers will adhere to the procedures and policies for regional transit vehicles.
Facilities Ownership Procedures	The facilities ownership procedure establishes the requirements for owning and maintaining a regional transit facility. All public regional transit facilities will be available for use by any regional transit provider.
Procurement Procedures	All regional transit providers will follow procurement procedures that are consistent with state and federal laws and guidance, when appropriate.
Regional Service Improvement Plan	All regional transit providers should submit proposals for service improvement to the Metropolitan Council in order to be considered for non-state regional expansion funding for transit in an Increased Revenue Scenario.
State Transit Funding Allocation Policy and Procedures	The region will distribute state transit revenues using procedures that allocate resources to state and federal mandated transit services and the region's priorities, including the preservation of existing transit services and documented expansion priorities.
Title VI Policy	Title VI of the Civil Rights Act of 1964 requires considerations of discrimination through public investments for transit providers.

Alternatives to the Regular-Route Transit Network

While the regular-route transit system is planned to meet the needs of the majority of transit users, some customers can be more effectively served through demand-responsive alternatives. This is typically the case for those living in areas that cannot be cost-effectively served with the regular-route transit network and for people whose disabilities prevent them from being able to use the regular-route

transit system. Because these services complement the regular-route transit system, they continually adapt to the service levels provided on the rest of the system.

Metro Mobility

Metro Mobility meets the requirements of the Americans with Disabilities Act (ADA) by providing transit service to people with disabilities certified as not able to use the regular-route transit system. Under the ADA, the region is required to provide complementary paratransit service within 3/4 of a mile of all local regular-route transit service during the same times that the service operates. Minnesota state law also requires the service to be provided in areas beyond the requirements of the ADA.

Metro Mobility continues to experience intense pressure for growth as demand for ADA service increases with the aging population of the seven-county metro area and other demographic changes. Prior to 2019, Metro Mobility saw an average annual growth in ridership of 7%. Ridership growth in 2019 was modest at 2%. However, the cost of the service has outpaced ridership growth in recent years because of driver shortages and the need to significantly increase driver wages. Additionally, the Federal Transit Administration has defined more stringent service quality expectations, lowering productivity and resulting in higher costs per trip.

Each new ride requires a subsidy (at $28.68 per passenger in 2018), unlike regular-route bus service, which becomes more cost effective with additional demand. Because Metro Mobility is an essential service for the people it serves and is required under federal and state law to complement the regular-route system, the substantial growth of this program is considered as an investment in the operation and maintenance of the existing transit system, rather than transit system expansion.

In response to the financial pressure of growth in demand, the 2017 Legislature established a Metro Mobility Task Force. The Task Force studied new options for service delivery that would improve service and help the region meet the growing demand in a cost-effective way. The Task Force report recommends that the Metropolitan Council pilot new services that incorporate on-demand, lower-subsidy services such as transportation network companies (e.g. Uber and Lyft). These new services would be customer-selected and offered in addition to the existing service model. Metro Mobility has used taxis for the past 15 years for a limited number of trips. However, the Task Force concluded that adding subsidized transportation network companies or other on-demand service would provide a wider range of options for customers, acknowledging a wide range of abilities and the need for more flexible service options. A pilot on-demand service is expected to launch in 2020. The Council will analyze whether the option shifts some customers to these lower subsidy per trip services and reduces capital investment needed for Metro Mobility vehicles.

Transit Link and Other Dial-a-Ride Programs

Dial-a-ride service provides a public transit option for travel that is not served by the regular-route transit network. The Metropolitan Council contracts with local governments and private companies to provide county-based general public dial-a-ride service, known as Transit Link. Although Transit Link is available to the general public, typical users are the elderly, people who do not own a car, people too

young to drive, and persons with disabilities traveling outside the Metro Mobility service area. Some suburban transit providers also provide citywide dial-a-ride services with non-regional funds in place of regular-route service that would not be effective. Growth or reduction in these services will be addressed as a consideration of the overall transit system and as demand warrants. The expansion of the regular-route bus system may result in reduced demand for Transit Link, as more people will have access to regular-route service. However, the expansion of Suburban Edge and Emerging Suburban Edge communities at low densities may increase the demand for this type of service.

In Wright and Sherburne counties, dial-a-ride and deviated routes are the primary transit services beyond access to the Northstar Commuter rail line. Services are available to the public on weekdays. The services are funded with local resources and state and federal transit resources from MnDOT.

Metro Vanpool

Commuter vanpools are made up of five or more people, including a volunteer driver, commuting to and from work at destinations throughout the region on a regular basis. The Metro Vanpool program provides financial assistance for vans serving locations or times not well served by the regular-route transit network.

Emerging Shared Mobility Technology

Recent advances in shared mobility technology provide new alternatives and complements to the regular route transit network. Shared mobility services such as ridesharing services and microtransit have been defined by their ability to leverage smart phone technology (though they are not needed to access service), providing on-demand service, and being dynamically routed to efficiently serve demand in real time. On-demand shared mobility services have the potential to more effectively serve low-density, auto-oriented areas that have proven difficult to serve with fixed-route service. SouthWest Transit's SouthWest Prime, Plymouth Metrolink Dial-a-Ride, Maple Grove My Ride, and MVTA Connect are all services that provide on-demand transit service that can be accessed through an app on a smart phone. A significant difference from traditional dial-a-ride programs is that rides do not have to be scheduled in advance. On-demand shared mobility services could complement existing transit in the region by serving as a first-and-last mile connection from transit hubs to low-density or isolated destinations or replacing low performing fixed-route services and flex-route services. These Council and transit providers will continue to monitor and evaluate these emerging service types for potential applications and expansion moving forward. In addition, the Council will explore a Work Program effort to better define the role for shared mobility and microtransit in helping provide access to transit and achieve the broader regional transportation goals and objectives in this plan. Given the dynamic nature of emerging technologies, the Work Program item is purposefully open-ended in scope.

An emerging area of focus in this area is the development of mobility hubs. These are places where travelers can easily access and connect among multiple transportation options (including public transit, shared mobility, and other modes). A Work Program effort will develop planning guidance for the different land use and transportation contexts where mobility hubs are being explored.

Regular-Route Service Expansion Opportunities

The regular-route bus system includes bus service that operates on a fixed route, stopping at designated bus stops and following a consistent schedule. There are a number of different service types within the regular-route bus system designed to serve the different Transit Markets Areas. The different service types reflect the general trade-off between frequency of stops and speed of service, along with matching level of service to anticipated demand. Express service has fewer stops and faster speeds while local service stops more frequently but travels slower. Together, the mix of regular-route services makes up a network that allows people to transfer between services and access many destinations beyond a single line. More information about specific route types can be found in Appendix G.

The regular-route bus system will need to expand to meet growing demand and improve access to destinations, especially for those who rely on transit. Since expansion of the regular-route bus system will typically respond to development patterns and is more flexible than large investments in facilities or transitways, the needs of the system can change more frequently, especially in emerging markets. However, the expansion of the bus system will also provide valuable connections to the transitway system across all route types and extend its reach to broader areas. This will not only support bus system expansion to new customers but also ensure the success of transitway investments. As a result, the region will need to support transit investment and expansion across the entire region, inclusive of different service types. The following are general descriptions of the types of improvement opportunities for service expansion.

Local Routes

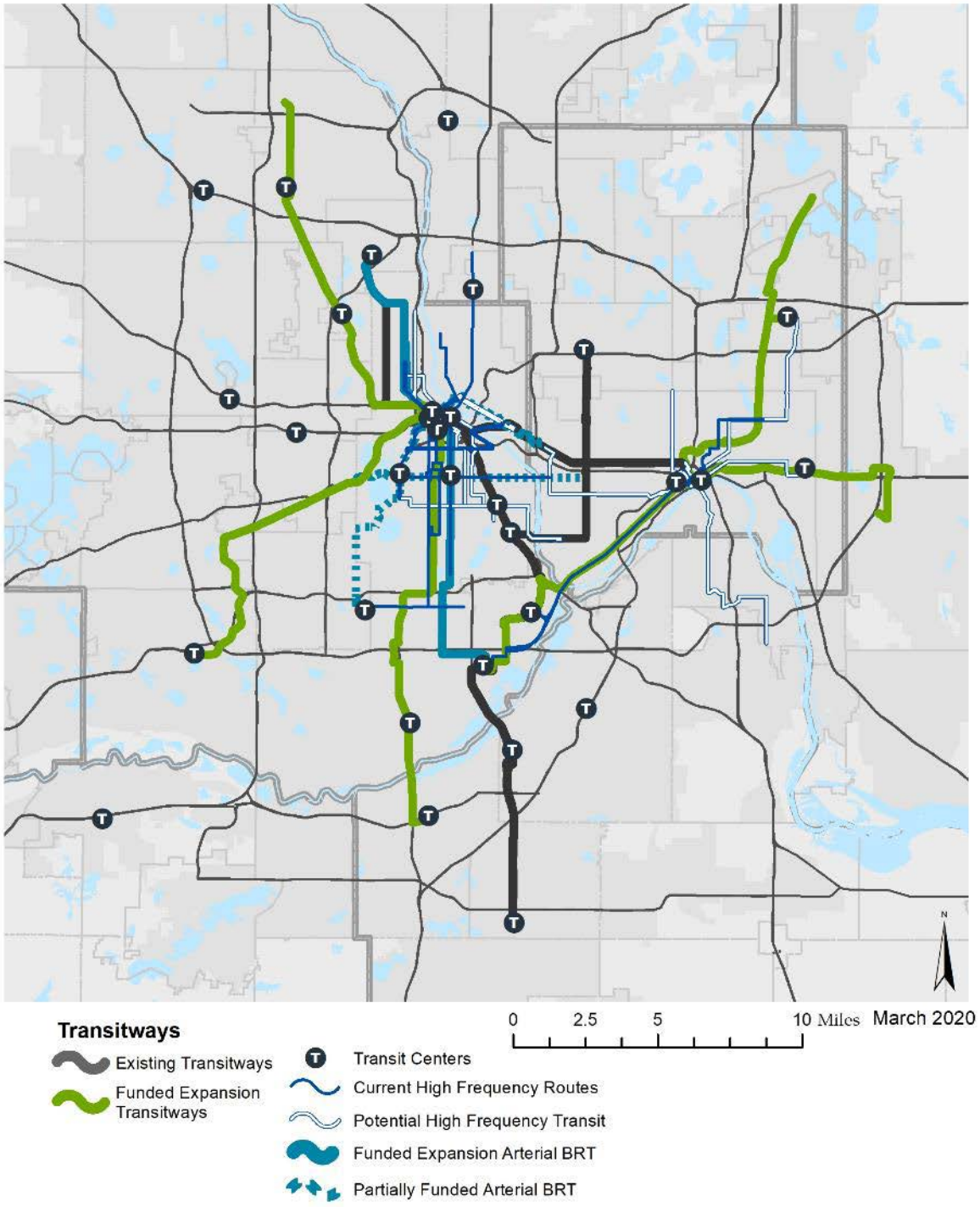
Local routes play a number of different roles and make up the basic structure of the regular-route bus system. These routes operate primarily on city streets in both the urban core and suburban areas and stop frequently, typically every one-to-two blocks. Local routes provide people with the highest level of access but often come with the trade-off of potentially slower, less reliable trips.

Core Local Routes – These routes generally serve urban areas along dense corridors. They comprise the basic framework of the all-day bus network, providing people with essential connections to major activity centers and transitways. Expansion of core local routes will concentrate on providing more frequent and a longer span of service on existing routes to meet growing customer demand along these corridors.

High-Frequency Transit Routes – These are generally the highest-demand routes in the system. These routes serve a significant portion of the total ridership across the transit network (56% of the region's riders in 2018, including METRO Blue Line and Green Line). High-frequency routes receive the highest level of all-day service – at least 15-minute frequency from 6 am – 7 pm on weekdays and 9 am – 6 pm on Saturdays. These routes often have highly visible customer facilities at major stops. Existing and proposed high-frequency transit service is shown in Figure 6-4, including planned METRO lines and arterial bus rapid transit lines. The Land Use and Local Planning section of this plan specifies the intensity and level of activity needed to support this level of investment. Local governments are

encouraged to identify potential high-frequency corridors in cooperation with regional transit providers for consideration. A local example is the work Minneapolis has undertaken in their Transportation Action Plan, which identifies Transit Priority Projects in the city.

Figure 6-4: Existing and Potential High-Frequency Bus Routes and Transitways



Supporting Local Routes – These routes serve urban areas on crosstown corridors that typically do not connect to a major regional center, such as one of the downtowns. They are designed to complete the grid of urban bus routes and facilitate connections to core local routes and transitways. Expansion of supporting local routes will focus on adding new routes to fill in the grid and provide better service coverage to moderately dense areas of the region. Frequency and span on existing routes will also be improved to better serve customer needs. With more intense development along these corridors, some supporting local routes may be reclassified as core local routes to reflect a more transit-supportive development pattern.

Suburban Local Routes – These routes provide access to the transit network across large portions of the lower-density portions of the transit service area, mostly in Transit Market Areas II and III. These routes tend to operate with less frequent trips and fewer hours of service. Suburban local bus service will be expanded in areas where there are coverage gaps or existing frequency or span of service do not meet expected demand. Improvements will focus on expanding suburb-to-suburb service and connections to major transfer points. Improvements will reduce the need for customers to transfer downtown to get to their destination, and improve access to jobs and other destinations outside of the urban core.

Commuter and Express

Commuter and express routes are designed primarily to bring people from urban and suburban residential areas to jobs in the region's major employment areas. These routes generally operate to serve the most common work start and end times. Future demand for commuter and express service, and associated demand for park-and-ride facilities, can be determined using a number of methods. The region has a model for estimating future park-and-ride demand, which is discussed in more detail under Park-and-Ride Facilities.

As commuter and express routes generally travel longer distances over the region's highway network, they will be expanded, in coordination with transit advantages, to provide a congestion-free alternative in congested highway corridors, as demand warrants. Existing routes may be improved to add reverse-commute service to connect urban residents with suburban jobs and to provide mid-day service to provide commuters the flexibility to return home if needed. An important part of express bus service is the presence of a transit advantage to bypass highway congestion. For additional details, go to the Transit Advantages discussion. Express bus services can also be coordinated with highway bus rapid transit transitway services and facilities. A map of 2040 express bus service corridors and the park-and-ride system are shown in Figure 6-5 under Park-and-Ride Facilities.

Service Expansion Priorities and the Regional Service Improvement Plan

To improve short- and medium-range planning efforts and prioritize transit service growth, regional transit providers should evaluate their service improvement plans every two years and prepare or update them regularly, as needed. The plans can take a variety of forms, ranging from a lengthy list of service improvement concepts to a set of focused changes to meet near-term needs. Ideally, the plans will identify priorities for service expansion in each provider's service area for at least the next two to

four years. Providers should also consult with local governments, businesses, the public, historically underrepresented groups, and other stakeholders in their service area to get a variety of the inputs into regional transit service planning. Providers are also encouraged to explore new service delivery models and markets, as funding allows, and share feedback and best practices with all providers in the region.

Metro Transit is currently working on a major planning effort called Network Next, which will develop a vision for their 2040 bus network. Network Next is discussed in more detail in the Work Program, which is anticipated to be completed in 2021, and the implications of this vision will be addressed in the next update of the *Transportation Policy Plan*.

The Regional Service Improvement Plan is a documentation of transit needs that is an input to funding prioritization should additional funding be made available for bus service (the Increased Revenue Scenario). With the recently adopted State Transit Funding Allocation Policy and forthcoming procedures, transit providers now receive state funding through block grants to allocate to services within their service area. Because this policy affects existing and increased state revenues, the Regional Service Improvement Plan would not impact how state funds are prioritized, even in the Increased Revenue Scenario. Providers will be asked to submit their projects to the Metropolitan Council for consideration in the Regional Service Improvement Plan, which will evaluate them against regional planning goals and objectives. Each submittal should include a project description, resources needed for implementation, projected year of implementation, project readiness including capital facility coordination, and data for a technical evaluation.

The Regional Service Improvement Plan will evaluate proposed service improvements based on a number of factors. Specific technical measures will be determined based on data availability and methodologies developed in coordination with all regional transit providers. Table 6-3 includes the minimum factors and example measures that will be the basis of the Regional Service Improvement Plan technical evaluation and descriptions of the considerations for measuring these factors. Additional factors may be determined collectively by regional transit providers, as specific details are determined for each update of the Regional Service Improvement Plan.

Table 6-3: Regional Service Improvement Plan Technical Investment Factors

Technical Factors	Description and Example Measures
Cost-Effectiveness	Cost-effectiveness for transit service is typically measured relative to ridership. This region has standards for “subsidy per passenger,” but other measures will also be considered.
Access to Destinations and People Served	Transit access provides opportunities for people to ride and for transit to be productive. This region has standards for “passengers per in-service hour.” Additional measures could consider access to job concentrations as methodologies become more understood.
Equity	The transit system plays an important role in providing access and opportunity to a number of disadvantaged groups, including people with

Technical Factors	Description and Example Measures
	disabilities, people of color, and low-income populations. This includes a large portion of the region's transit-dependent population. Measures will document the extent to which disadvantaged groups are affected by potential improvements.
Peak-Period Transportation Benefits	The transit system provides additional capacity to the transportation system when it is most needed, during peak travel times. This benefits the region by shifting trips and miles traveled from driving alone to riding transit; this can reduce traffic congestion. Both of these can also positively impact air quality and contributions to climate change.

The Regional Service Improvement Plan will provide a technical evaluation of submittals for service expansion. Additional factors and tools may need to be considered by policymakers when considering how increased revenues should be prioritized for service expansion, including regional balance and community support. The Regional Service Improvement Plan will be updated as new data becomes available or as needs have substantially shifted, to adapt to the changing demands for bus service. For example, the plan may be updated when new regional transitway investments are identified in the TPP and feeder routes need to be evaluated, or prior to the next major update of the TPP.

Transit Facilities Expansion and Modernization Opportunities

Transit facilities compose the built environment of the transit system. Customer facilities are the places where transit customers access transit vehicles, ranging from bus stops to large and complex multimodal transit hubs. Support facilities include the necessary "behind the scenes" infrastructure that supports transit providers and their operations, such as bus garages, communications control centers, and bus layover facilities. Transit advantages are roadway improvements that improve person throughput by reducing the factors that hinder efficient transit operation, such as bus shoulders or transit-only lanes, transit signal priority, or curb bump-outs.

The network of transit facilities must be strategically improved and expanded to serve the region's growing transit system. Improvements to transit facilities will improve the customer experience and maximize the efficiency of transit investments.

Customer Facility Expansion and Modernization

Customer facilities – bus stops, transit centers, transit stations, multimodal hubs, and park-and-ride facilities – are essential to provide convenient and attractive access to transit service. Such facilities support the regular-route bus and rail system and provide transfer points for the dial-a-ride system. Customer facilities are most successful when they are well-integrated with the surrounding environment. Every customer facility should provide ADA accessibility, safety, comfort, and information for customers to feel secure in using the transit system. Customer facilities also serve as an important

point of transfer between transit services, including bus-to-rail transfers. Detailed guidelines for customer facility amenities can be found in Appendix G.

Bus Stops

Bus stops are established locations for customers to get on and off the bus and are the most frequently used transit customer facility. They are essential for providing access to transit for the vast majority of customers. There is a greater density of bus stops in Market Areas I and II, where development density and urban design are best suited for walk-up access to transit. Transit providers work with local communities to provide pedestrian connections and signage at each stop. Features that modernize the bus stop - such as concrete improvements for accessibility, enhanced transit information, shelters, or electrical connections to support heat and light in shelters - improve the customer experience.

Transit Centers

Transit centers are locations where two or more transit routes connect to provide comfortable and convenient locations for customers to connect to other routes and services in the system. They typically have multiple bus stops and bus service is timed for easy transfers. Buses also frequently layover at transit centers.

Transit centers are typically located at major activity centers or transitway stations and may be located at a park-and-ride. Transit centers in Market Areas I and II typically serve transit customers who walk up to begin the transit trip or transfer from another route. In Market Areas II, III and IV transit centers anchor local transit routes by creating places outside of the downtowns where routes come together to offer customers more route choices. Transit centers in Market Areas III and IV typically have associated park-and-ride facilities that serve express routes and connecting local routes. Transit centers provide customers with shelter, transit information, and other features to enhance the transit customer experience. Transit centers may need to be modernized to meet customers' needs for accessibility, safety, and comfort, and new transit centers may need to be added or improved as transit services expand throughout the region. Some transit providers in the region have named these facilities "transit stations," but they are classified as transit centers for technical planning purposes.

Transit Stations

Transit stations are customer facilities associated with transitways. They provide the public access to light rail, commuter rail and bus rapid transit services. New transit stations are typically developed as transitways are constructed but can also be added incrementally before or after a full transitway is in operation. As the transitway system matures, transit agencies modernize transit stations through refurbishments and upgrades for service reliability, safety, and customer comfort. More information regarding transit station investment can be found in the Transitway System Investment Plan.

Regional Multimodal Hubs

In addition to transit stations, there are two regional multimodal hubs in the system that connect light rail and commuter rail transit to a number of other existing and planned services. The Union Depot in

downtown Saint Paul is served by the Green Line, local and express bus service, Amtrak passenger rail service, and a number of intercity bus services. Target Field Station in downtown Minneapolis is served by the Green Line and Blue Line light rail, Northstar commuter rail, and other bus services that connect in downtown Minneapolis. More information regarding planned transitway connections to these hubs can be found in "Transitway System Investment Plan."

Customer Facility Features

Regional transit providers offer a range of features at customer facilities to improve the customer experience. Customer facility features may include pedestrian connections and accessibility, customer information in static and real-time signage, shelters, shelter lighting or heaters, trash and recycling receptacles, seating, security cameras, bicycle parking and storage, fare payment and vending machines, landscaping, and public art.

Customer facility features create a more comfortable, accessible and attractive waiting environment for transit customers, as well as enhanced customer safety. Customer facilities can also benefit the surrounding neighborhood by making transit a more attractive travel option for nearby people and businesses, and by contributing to the overall character of the streetscape.

More specific policy and guidance for facility features rests with the region's transit providers. For example, Metro Transit has a policy on the prioritization and placement of shelters. Some cities have regulations on the placement of benches. These are also discussed in more detail in Appendix G.

Investing in customer facilities means time passes more easily for transit customers

Customer facilities at transit stops have a proven positive influence on the customer experience, according to research from the University of Minnesota.

The wisdom in the old saying "time flies when you're having fun" means that transit customers perceive wait times differently based on the features provided. At transit stops with no features - such as benches, shelters, and real-time transit information – the research found that transit customers perceived waiting times to be at least twice the actual wait. Facilities with features significantly reduce perceived waiting times. A 5-minute wait feels like only 3.2 minutes for transit customers with access to shelters.

The full findings of the research from the University of Minnesota are reported in "Perceptions of Waiting Time at Transit Stops and Stations."

Park-and-Ride Facilities

Park-and-ride facilities are surface lots and structured ramps predominantly located outside of the Urban Center that are served by express bus, bus rapid transit, or rail. Park-and-rides are important tools for creating locations with the customer density required to provide cost-effective transit service from suburban and rural areas.

One of the tools the Metropolitan Council uses to assess future park-and-ride demand is the park-and-ride demand forecasting model. Updated in 2018, the model reflects *Thrive MSP 2040* forecasts, but also takes into account these factors affecting park-and-ride demand:

- Socioeconomic forecasts
- Commute patterns from Census data
- Transit rider characteristics from a variety of survey data sources
- Downtown job growth and the overall distribution of jobs in the region
- Parking costs
- Level of transit service, both during peak periods and in the midday
- Travel time to downtown Minneapolis or Saint Paul
- Travel time from user origins to potential park-and-ride facilities
- Available capacity at potential facilities

The model is available for the seven-county region and may be used by all regional transit providers to estimate future park-and-ride needs and planning efforts, including project submittals through the regional solicitation.

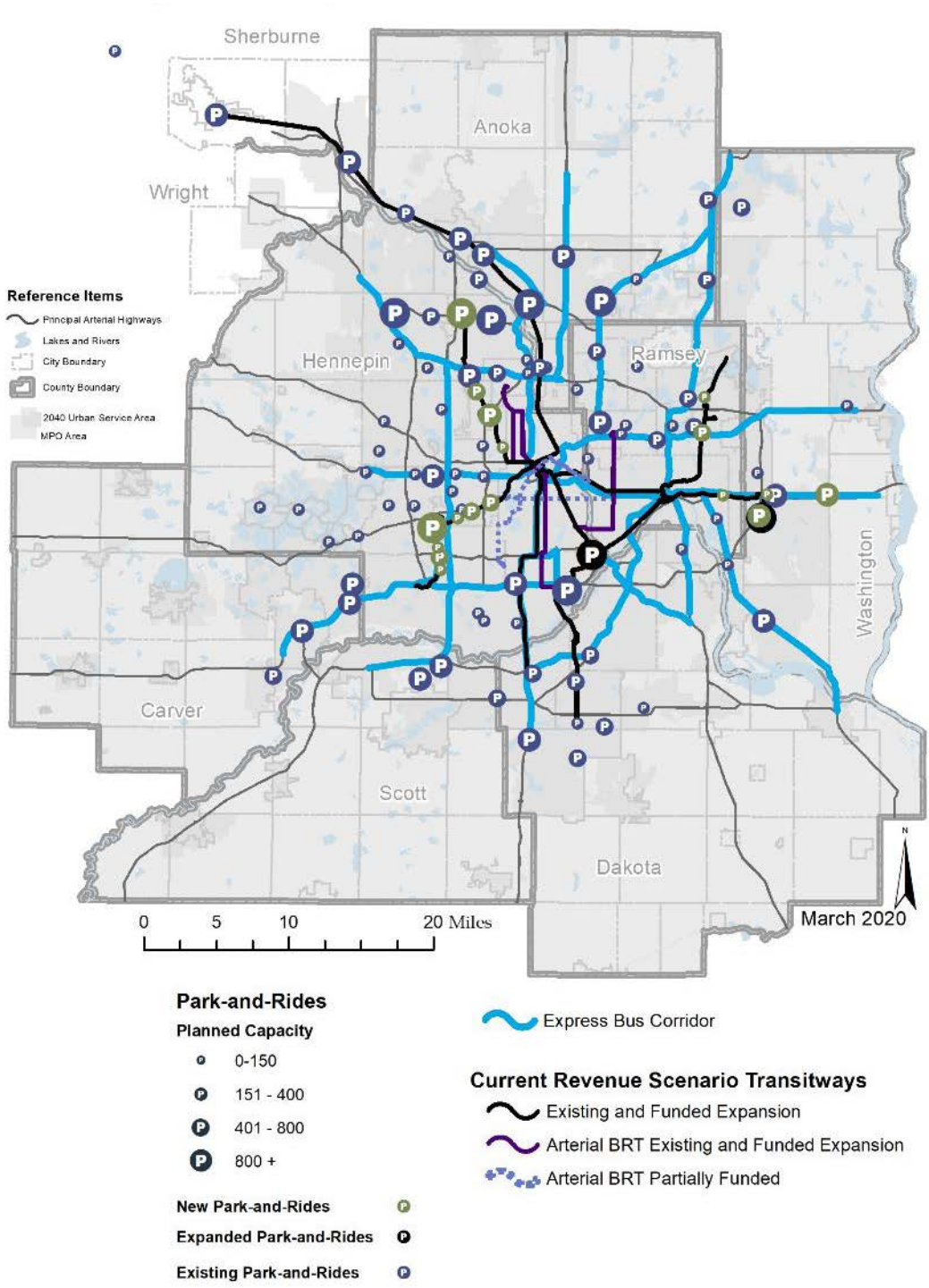
Park-and-rides are optimally located in a congested travel corridor, upstream of major traffic congestion, with service to major regional destinations. Facility design takes into account the cost of construction and land acquisition; site access for vehicles, pedestrians, and cyclists; site visibility; future expansion potential; community and land use compatibility; environmental constraints; and opportunities for joint-use ventures and transit-oriented development.

The region's park-and-ride system has grown over time from a network of small, mostly shared-use facilities to a network of mostly larger facilities with more frequent service, convenient freeway access and competitive travel times to downtown. Larger regional facilities serving multiple cities increase the attractiveness of the service to all residents of the region. Transit providers will continue to coordinate with local communities in planning and designing park-and-rides to integrate park-and-rides into local development patterns. Transit-oriented development and joint-use ventures associated with park-and-ride locations may become more prevalent over time as the region's transitway system and land use development matures.

Expansion of the park-and-ride system has been a focus since the late-1990s, with usage growing annually by as much as 20%. In recent years, that growth has slowed. From 2004 to 2008, regional park-and-ride capacity grew by 8000 parking spaces, and park-and-ride usage grew 49%; however, from 2008 to 2019, regional park-and-ride capacity grew by 7000 parking spaces, but park-and-ride usage grew only 4%. The previously developed 2030 park-and-ride need has been largely built, with over 33,000 spaces in the system. While opportunities still exist to expand park-and-ride capacity in certain locations, the system is not expected to expand as dramatically and quickly as past decades. The most successful park-and-rides have fast and frequent service to downtown and attract users from a wide market area. Given the available parking capacity in the regional park-and-ride system, there is a risk when building new park-and-ride facilities that users will choose to drive to existing facilities over new facilities, especially if new facilities have less frequent transit service than existing facilities. The system currently operates at around 50-60% of capacity and can accommodate much of the demand expected through 2040. Most of the planned expansion in the system are along planned transitways

that could serve a different market than the existing system. The park-and-ride system and express bus corridors are shown in Figure 6-5.

Figure 6-5: Park-and-Ride System and Express Bus Corridors



Support Facility Expansion and Modernization

The regional transit system must have sufficient facilities to support efficient and cost-effective transit services. For buses, these support facilities include garages and bus maintenance facilities, bus layover facilities at route terminal points, and dispatching and control centers. For rail, these support facilities include operations and maintenance facilities, train storage facilities, layover facilities, and logistics facilities such as control centers. In addition, system-wide support facilities are needed for the maintenance of customer facilities, transit police force, employee training, customer service centers, and administration. As the transit system expands, and the types of services available and the number of riders increases, support facility capacity must increase as well.

Bus Support Facilities

As the bus fleet expands to meet anticipated ridership growth, bus garages, bus layovers and vehicle storage will need to be increased. This will be accomplished by expanding existing facilities and constructing new facilities. Maximum use of existing garage facilities should be made but over-crowded bus garages lose operating efficiency, making it more difficult to provide the quality of transit service expected in the region. Bus garage expansion should precede fleet expansion. Currently, Metro Transit uses five bus garages to provide for daily maintenance and storage of vehicles, with an additional facility serving needs for more intensive vehicle repair. Other regional transit providers have support facilities as well, either through direct ownership or through agreements with private operators. These facilities support bus rapid transit vehicles as well as regular-route vehicles. Existing garage facilities in the region are aging and the need to maintain or replace them will emerge as an issue that will need to be addressed in the coming decades. Their use and effective life can be maximized with maintenance and modernization efforts, including investments that result in operating efficiencies. The Heywood Garage also has a planned expansion to be completed in the next ten years. Additional garage facility replacements and expansions are expected to be evaluated in the near future, but any identified projects will likely be included in the Increased Revenue Scenario until funding can be identified. The emergence of electric buses as a potential regional fleet investment would also require substantial planning and investment in charging stations and maintenance equipment and parts at bus support facilities.

Bus layover facilities provide a physical space for transit vehicles to stage, an opportunity for route recovery time, and driver break rooms and restrooms. Bus layover facilities are typically located at the terminus of transit routes and may be co-located with customer facilities. These facilities enable the system to operate cost-effectively and on time. Given projected growth and existing capacity of existing layover facilities, additional layover facilities will be needed in both downtowns, the University of Minnesota, and some suburban locations.

Rail Support Facilities

Rail support facilities presently include two light rail transit operations and maintenance facilities, a rail operations support facility, and the Northstar commuter rail maintenance facility. Additional transitway rail service will generate need for additional operations and maintenance facilities. Options to improve

or expand existing facilities as well as construct new facilities will be evaluated based upon the planned transitway network, corridor-specific planning efforts, and system-wide facilities planning.

System-wide Support Facilities

Transit control centers are an essential communications, safety, security, and service link for regional transit service. Control centers monitor schedule adherence and coordinate the daily activities of buses, trains, Metro Mobility and dial-a-ride services, service vehicles, training vehicles, and other mobile units. They also dispatch vehicles to respond to on-street incidents and to support transit police. As the bus and rail system expand, the transit control centers will also need to expand.

Facilities that headquarter maintenance crews are needed to keep customer facilities clean and in good condition. As ridership grows, customer facility maintenance capacity must expand to meet the maintenance needs of more heavily used existing facilities and of new facilities.

Transit police support facilities are composed of a central headquarters and small local substations. Administrative offices are also part of the support facilities that contribute to a well-functioning transit system. These system-wide support facilities must have the capacity to support the transit system as it grows.

Other Transit System Improvements

Expansion of Transit Advantages

Transit advantages are roadway improvements that improve person throughput by reducing the factors that hinder efficient and attractive transit service. These advantages include but are not limited to bus-only shoulders and lanes, high-occupancy vehicle lanes and MnPASS, ramp-meter bypasses, traffic signal queue jumps, transit signal priority, and curb extensions.

Growing roadway congestion will make it increasingly more difficult for buses to move around the region. Right-of-way that provides a fast travel alternative for rail and bus transit should be pursued when transit volumes justify. Transit advantages benefit transit operations and can work to relieve congestion for both transit and drivers in general purpose lanes alike. Current efforts to implement bus rapid transit in the region, along freeways as well as higher density urban arterial roads, provide faster, more reliable travel times, reduced waiting time for service, and attractive transit amenities and options for commuters who currently drive.

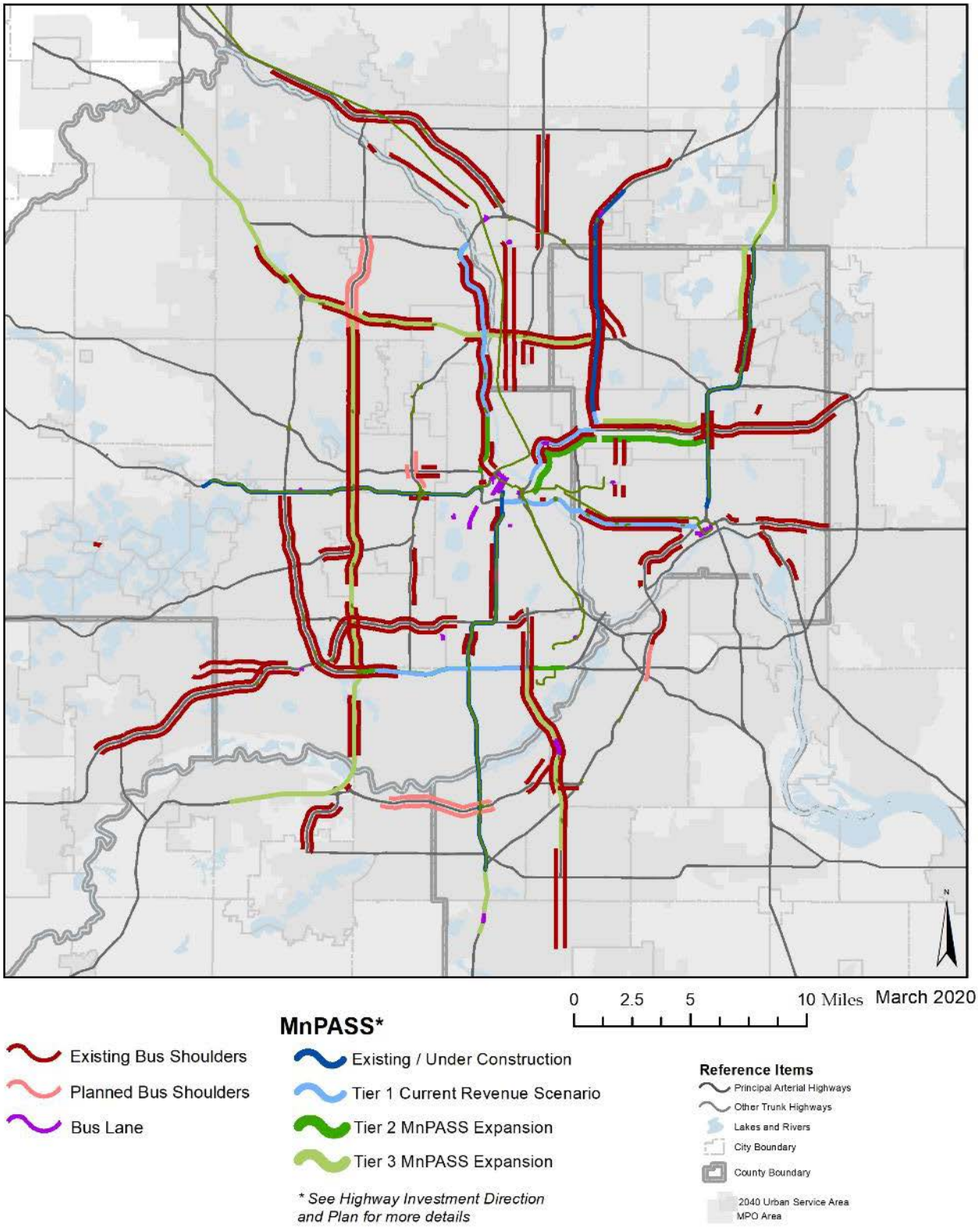
On state highways, transit advantages can include bus-only shoulders, dedicated bus lanes, MnPASS lanes, ramp meter bypasses, transit signal priority, and transit stations adjacent to or on roadways (see Figure 6-6). Opportunities for further implementation of bus-only shoulders are limited as the system is nearly built out. MnPASS lanes are highway lanes that are shared by transit, high-occupant vehicles, and single-occupant vehicles (SOVs) that opt to pay a fee to use the lane. SOV usage is controlled by varying the fee price based on real-time traffic conditions. Prices are set to maintain a consistent flow of traffic. MnPASS lanes, like those in the I-394, I-35W, and I-35E corridors, provide a significant transit advantage by offering a congestion-free alternative for transit riders. This strategy can dramatically

increase the overall number of people that can travel through a corridor in a given amount of time. The development of the region's MnPASS system is discussed in Chapter 5, "Highway Investment Direction and Plan."

On local streets and signalized highways, improvements include dedicated bus lanes, dynamic parking lanes, traffic signals that are coordinated with transit service and/or provide transit priority (e.g. transit signal priority), curb extensions that allow buses to avoid pulling into and out of travel lanes, and queue jump lanes, among others. These improvements all work to provide faster trips for customers, improve the attractiveness of transit, and significantly increase the people capacity of local streets.

While some express and local transit corridors are currently well supported by transit advantages, there are a number of locations that need improvements to maintain or improve transit travel times and reliability. In addition, opportunities to coordinate with planned road improvements, or to adequately serve planned community development projects through enhanced transit service, provide high returns on capital transit infrastructure investment. Corridors with high levels of congestion and high existing and potential transit ridership should be prioritized for new transit advantages. The timing of these projects will be dependent on opportunities associated with roadway projects, where coordination is essential to project delivery, but may also be coordinated with transitway projects. A number of bus lanes are being piloted in the City of Minneapolis in coordination with Metro Transit and a broader vision may be considered once the concept is more thoroughly developed and tested. The Work Program includes a reference to work being done through Metro Transit's Network Next to programmatically explore where local transit routes are experiencing speed or reliability issues, and whether these issues could be addressed with transit advantages on local streets.

Figure 6-6: 2040 Bus Shoulders and MnPASS



Marketing Transit

Marketing transit can significantly increase awareness of service and lead to higher ridership. The Metropolitan Council and regional transit providers will increase the value, benefits, and usage of transit services through a variety of advertising and promotional programs. Additionally, the Metropolitan Council will pursue opportunities for partnerships with other transit-supportive services including bicycle- and car-sharing services. Annual transit marketing plans will be developed by the Metropolitan Council based on input from stakeholders.

Transit providers will also form partnerships on travel demand management strategies including working with Transportation Management Organizations to broaden the awareness of transit to more businesses and employees. More information on this relationship can be found under the Existing Transit System and in the TPP's discussions of strategies and Chapter 5, "The Highway Investment Direction and Plan." In addition, every two years the Regional Solicitation provides a funding opportunity for new or expanded travel demand management projects.

Safety and Security

Working with transit providers and communities, the Metropolitan Council will continue to strive to provide a safe and secure environment for customers and employees on vehicles and at transit facilities. The Metro Transit Police Department is an important component of this effort. Through a variety of means, the Transit Police enhance security, increase ridership, and preserve the quality of regional transit infrastructure. These include fare enforcement, welfare checks, regular patrols and rides on transit vehicles, partnerships with other law enforcement agencies and community organizations, and innovative programs such as community service officers. Not everyone has the same experience using the region's transportation system; analyses of enforcement data show that people of color experience disproportionate traffic stops or enforcement on transit. People of color are also disproportionately represented among the region's transit riders. The Council will strive to ensure that Metro Transit Police Department actions do not create or perpetuate racial inequities. The Metro Transit Police Department will also work to remain current with evolving industry standards, best practices, and community expectations.

Transit infrastructure is another important component of safety and security. These investments include cameras and emergency telephones on transit vehicles and at stations, and improved lighting at transit stops and stations, among others. An important component of safety and security is good design of facilities, including the consideration of Crime Prevention through Environmental Design principles. Safety is a shared responsibility, and everyone needs to know what is expected of them. Consequently, the Metropolitan Council will continue to invest in employee awareness and public education campaigns to improve transit safety.

In addition to promoting safety and security during regular transit operations, the Metropolitan Council and Metro Transit also have an important role in regional disaster preparedness. The Metropolitan Council maintains an emergency management plan to coordinate between Metro Transit and the various regional and state public safety agencies in the event of an emergency situation.

Recent federal legislation gave authority and responsibility to the USDOT for safety oversight and rulemaking related to all modes. FTA has been publishing rules along these lines, focusing mostly on rail transit, but also requiring performance measures and targets for transit safety. Every transit provider in the region takes the safety of their employees, customers, and the public seriously and has procedures for ensuring safety. At Metro Transit:

- Each mode has its own System Safety Program Plan that describes how safety is integrated into the operation. Further, all modes have an accident investigation, reporting, and corrective action planning process.
- All modes of transit have an operations emergency management plan that describes the overarching responsibilities and public safety partners. These are updated annually for bus and light rail.
- All major capital projects undergo a safety certification process to ensure that the new service is safe for passenger operations. Similarly, significant changes to the operating system are subject to the same rigorous verification.

Current Revenue Scenario Bus and Support System Investments

The bus system is the largest and most important part of the transit system because it serves all parts of the region. Bus and support system investments are limited by reasonably expected resources, and opportunities to invest are dependent on these constraints. The following summarizes the components of the system that are assumed to be funded in the plan's Current Revenue Scenario. The first priority for investing in the region's bus and support system is continuing to operate and maintain the existing system.

Operate and Maintain the Existing Bus and Support System

- Operating and managing the bus network and routes consistent with Regional Transit Design Guidelines and Performance Standards
- Operating Metro Mobility, including anticipated growth needed to meet demand
- Operating the Transit Link dial-a-ride service and providing Metro Vanpool subsidies
- Operating and maintaining the support systems for the transit system, such as shelter and public facility maintenance and customer information
- Maintaining and replacing vehicles
- Maintaining or replacing existing capital facilities and other equipment to support operations and a positive customer experience, including a modest expansion of bus stop amenities

Beyond ongoing operations and maintenance, opportunities for expansion and modernization of the transit system are limited and available primarily through competitive grant programs. This includes projects funded through the Regional Solicitation, which distributes federal flexible funds, such as surface transportation block grants, within the metropolitan area, or other federal, state, and local programs. The opportunities include:

Expand and Modernize the Bus and Support System

- Expansion of transit capital vehicles or facilities (including park-and-rides) to serve new markets or provide an improved experience for existing customers, such as enhancements to customer information signage, retrofits to existing transit stations, and placement of additional customer waiting shelters and bike amenities
- Start-up operating funding for limited expansion of transit service for demonstration purposes, including exploring innovative service models and new technologies
- Modernization of transit facilities or systems to improve the customer experience, provide more efficient or more environmentally friendly transit operations, or improve the operating capabilities of regional transit providers

The opportunities for bus operating and capital expansion will be prioritized based on an evaluation through the Regional Service Improvement Plan, the Regional Solicitation, or other more specific plans that focus on short-term regional transit needs. Regional Solicitation projects will be incorporated into regional planning through the Transportation Improvement Program, developed annually.

Increased Revenue Scenario Bus and Support System Investments

The region will need additional resources to realize the vision for the transit system in this plan that goes beyond the limited opportunities in the Current Revenue Scenario.

Additional resources would allow the region to expand existing services and add new service to parts of the region. Expansion and modernization of transit facilities will enhance the transit customer's experience on multiple levels. Access to a bus stop or customer facility might be improved through a better pedestrian connection, provision of secure bike storage, or a more conveniently located park-and-ride. A transit user's wait for the bus would be improved with shelters at more bus stops and more amenities at customer facilities such as heaters, lights, and transit information. These customer facilities would be in clean, good condition because investments in maintenance support facilities would be commensurate with customer facility expansions and improvements. Once on the bus, a transit customer's ride might be more reliable or comfortable because the vehicle has been cleaned and maintained at an updated bus garage that operates at its optimal capacity. Better access to customer support, from police to transit information, would be made possible under this scenario because of investments made in support facilities.

Expand and Modernize the Bus and Support System – Increased Revenue Scenario

- An average of at least 1% annual growth in the regular-route bus service over 25 years (at least 25% growth in total), with near-term improvements guided by the Regional Service Improvement Plan, that includes:
    - Improved local service frequencies and hours of service to attract new riders to the system and improve access and reliability for existing riders, including an expansion of high-frequency arterial routes
    - Expanded coverage of local service with an emphasis on connections between high-density residential neighborhoods, regional job concentrations, and transitways
    - Expanded commuter and express service to new markets and improved service in markets that are overcapacity
- Expanded fleet needed to expand service
- Enhanced maintenance including additional snow removal at transit customer facilities and improvements including better lighting, more customer information, rehabbed aging facilities (e.g. Sun Ray Transit Center), more and better shelters, improved multimodal connections, enhanced pedestrian connections to bus stops, and energy-efficient improvements
- Expanded or modernized transit support facilities including additional garages for increased system capacity, additional layover capacity in major regional centers, light rail support facility upgrades, bus rapid transit garage capacity, and other improvements
- Exploration of emerging trends in transit service such as microtransit, electric buses, and fare collection strategies and technologies

Like the Current Revenue Scenario, the opportunities for bus operating and capital expansion under the Increased Revenue Scenario will be prioritized based on an evaluation through the Regional Service Improvement Plan or other more specific plans that focus on short-term regional transit needs.

Transitway System Investment Plan

A network of transitways is and will be a significant element of the regional transit system, both in terms of use and investment. Transitway investments are permanent and long-range. They require diligent planning to best serve the existing developed region and help guide future development in the region. This permanence also plays a strong role in the ability of transitways to focus future growth and act as a catalyst for development in the region.

The region will develop a network of transitways that considers a variety of modes including: bus rapid transit in multiple forms, light rail, modern streetcar, and commuter rail. Each mode has unique characteristics that are cost-effectively matched to an appropriate purpose and need. Transitways are also supported by the regular-route bus service described in the previous section. It is important for the region to consider and include connecting services in transitway planning and investment scenarios.

Transitway Modes

The following are general descriptions of transitway modes in the region. More detailed project descriptions and statuses are available under the Current and Increases Revenue Scenario discussions.

Bus Rapid Transit

Bus rapid transit (BRT) is a transitway mode that uses buses while incorporating many of the premium characteristics of rail. BRT is more flexible than rail in fitting the unique opportunities and limitations of a corridor. BRT has a number of attributes that, as a whole, distinguish it from other bus services in the region.

- Service operations: BRT typically operates at service frequencies of 15 minutes or better for most of the day in both directions, and can be complemented with other services such as local or express routes.
- Running way: BRT can operate in a dedicated busway, bus lanes, MnPASS lanes, dynamic shoulder lanes, dynamic parking lanes, bus-only shoulders, or mixed traffic, depending on the characteristics of the corridor. BRT typically includes various transit advantages such as queue jump lanes and curb extensions to provide faster travel.
- Technology: BRT can include transit signal priority to allow buses to move more quickly and reliably through traffic signals. Customer information displays and other technology are often provided to improve the customer experience.
- Identity/brand: BRT is often uniquely branded to help distinguish it from other bus services.
- Stations: BRT stations are uniquely branded with more amenities and generally spaced further apart than a standard bus stop to provide faster travel.
- Vehicles: BRT vehicles can range from typical 40-foot transit buses to specialized vehicles with a unique look, low floors and additional doors for quicker boarding, and other customer amenities.

- Fare collection: BRT typically utilizes off-board or other unique fare collection methods that allow for quicker customer boarding.

BRT facilities are often scalable to demand and can be added or expanded, as needed, over time. For example, an express corridor could add a MnPASS lane or other transit advantage, and then add stations and park-and-rides as demand increases. Because of this, BRT is better suited to adapt to unique corridor conditions than rail. The region is planning for three types of BRT that are matched to the conditions of the corridors: dedicated bus rapid transit, highway bus rapid transit, and arterial bus rapid transit.

Since BRT is intended to be flexible, corridors may be implemented in a way that is a combination of BRT types. Dedicated BRT projects are typically more substantial investments and will likely fit into the New Starts category of federal funding. Highway BRT and arterial BRT projects will typically fit into the Small Starts category of federal funding and may be explored in a phased approach. In many cases, elements of these projects can be implemented prior to the complete bus rapid transit investment (for example, limited stop bus service or enhanced bus shelters). In 2019, it was decided that all BRT lines will be considered part of the METRO system with color designations for dedicated and highway BRT lines and letter designations for arterial BRT lines, as long as the service and facilities meet certain minimum characteristics.

Dedicated Bus Rapid Transit

Dedicated BRT is often considered the most similar to light rail in the characteristics of how it operates and level of investment. Dedicated BRT uses special roadways or lanes of roadways dedicated to the exclusive use of buses. Projects are generally similar to light rail in project length, with stations also spaced about a mile apart. Dedicated BRT has more flexibility than light rail because the dedicated guideway and stations can be shared with other services, such as express or local bus. Buses are also more flexible than light rail to operate on existing facilities through small areas where space is limited to build a dedicated guideway. Dedicated BRT has requirements for right-of-way and infrastructure similar to light rail, except for the train and associated propulsion and track systems. A local example of dedicated BRT infrastructure is the University of Minnesota busway, which connects the University's campuses with frequent bus service. The future METRO Gold Line and Rush Line are the first dedicated BRT transitways to be included in the plan.

Highway Bus Rapid Transit

Highway BRT provides frequent, all-day service to regional centers that are near highways and spaced further apart throughout the region than neighborhood or local centers, making them difficult to connect with local bus service. Highway BRT generally operates on limited access roadways where buses can use bus-only shoulders, MnPASS lanes, ramp meter bypasses, and priced dynamic shoulder lanes as transit advantages. Stations are spaced about one to two miles apart. Highway BRT service is often complemented with express bus service that uses the same facilities and is coordinated with local bus connections. Other highway BRT characteristics would be similar to dedicated BRT and light rail, such as service frequencies, fare collection, technology, and customer information. The METRO Red Line is

the only existing highway BRT line operating in the system. The second line, the METRO Orange Line on I-35W South, is also included as an expansion project in the plan's Current Revenue Scenario.

Arterial Bus Rapid Transit

Arterial BRT is an all-day, frequent service that is faster and provides a better customer experience in corridors with strong existing local bus service. These corridors are all in highly developed areas of the region where available right-of-way limits the ability to implement facilities for light rail or dedicated BRT. Arterial BRT can attract a high number of new transit riders and improve the experience for a high number of existing riders. Arterial BRT generally operates in mixed traffic on local streets with stations spaced about ½ mile apart, depending on corridor specifics, and incorporates transit advantages such as transit signal priority or queue jump lanes. Arterial BRT can be complemented with local bus service that stops more frequently. Typical amenities include improved stations and customer information, unique vehicles and branding, and fare collection that allows for faster boarding. The first arterial BRT line in the region, the METRO A Line, opened along Snelling Avenue in 2016and a second line, the METRO C Line, opened on Penn Avenue in 2019. The planned D Line, on Chicago/Fremont Avenues, is anticipated to start station construction in 2021. Station planning for the B Line on Lake Street and Marshall Avenue is expected to wrap-up in 2020 and similar efforts for the E Line on Hennepin Avenue are expected to begin in 2020. Metro Transit is evaluating the long-range vision for arterial BRT as part of Network Next, which is described in more detail in the Work Program.

Light Rail Transit

Light rail transit is an all-day, frequent service that connects dense employment and population centers with each other. It operates on tracks primarily in an exclusive running way. Vehicles are typically powered by overhead electrical wires. Stations are typically spaced about ½ to one mile apart. Typical light rail lines in this region can extend 10 to 15 miles out from the urban core and primarily serve the most densely developed areas of the region. Longer lines would generally be cost-prohibitive and better served by connecting local or express service. Light rail service operates in both directions at a high frequency. All light rail lines will be considered part of the METRO system and given color designations for customer information purposes. The initial segments of the METRO Blue Line and Green Line are operating, with an extension to the Green Line under construction and an extension to the Blue Line in development.

Modern Streetcars

Modern streetcar is an all-day, frequent service that operates in urban areas with high transit demand. Modern streetcars typically operate in mixed traffic, similar to a local bus route, but may also operate in an exclusive runningway. They typically stop every few blocks (spacing may vary up to 1/4-1/2 mile) and operate at shorter distances than light rail, with an emphasis on high-frequency service with high accessibility. Typical modern streetcar lines to date are shorter and travel more slowly than light rail. However, modern streetcars may attract new transit riders similar to light rail and may offer some travel time advantages over local buses, such as faster boarding, faster fare collection, and intersection signal priority – similar to the transportation benefits BRT can offer. Modern streetcar service is particularly

suitable for high-density, mixed-use areas with short average passenger trip lengths, areas where improved transit will benefit a high number of existing riders, and as an attraction for new or infrequent transit users like shoppers or visitors. Modern streetcars also have demonstrated promise for supporting high-density, mixed-use, walkable development in urban cores where people can live without a car and become regular and frequent transit users. Despite their differences, there are many similarities between modern streetcar and light rail and the two modes may share characteristics of each other, depending on the purpose of the project and implementation decisions made by lead agencies. The Riverview Modern Streetcar is the first project of this type assumed in the Current Revenue Scenario.

A number of other recent or ongoing studies are considering modern streetcars for further planning or implementation (e.g. Nicollet-Central, West Broadway). The Metropolitan Council is continuing to collaborate with local units of government and regional transit planning partners to determine the role of modern streetcars in the regional transit system as the first potential applications of the mode are discussed.

Commuter Rail

Commuter rail is an express transit service that primarily connects downtown employment centers to distant population centers. Commuter rail typically operates on existing freight railroad tracks to reduce infrastructure costs. Commuter rail vehicles may use diesel multiple unit vehicles or conventional diesel locomotives pulling passenger coaches. In many cases, commuter rail operates on tracks that also carry intercity passenger rail traffic operated by Amtrak or other passenger rail services, potentially sharing common stations. Lines are typically 20 or more miles in length, with stations spaced much further apart than light rail or BRT, typically about five miles apart. This spacing results in faster travel times that are competitive with auto travel. Station areas are primarily oriented to park-and-ride uses or dense housing and mixed-use development. Commuter rail services operate at 20- to 30-minute frequencies during peak periods, with limited or no midday or reverse-direction service. The Northstar Line is the only existing commuter rail line in the transitway system and is not considered part of the METRO system of all-day, frequent transitway service.

Regional Transitway Guidelines

More detailed descriptions of the characteristics of each mode are available in the Regional Transitway Guidelines (2012). The image in Figure 6-7 is an excerpt from the Regional Transitway Guidelines and it illustrates the basic characteristics of each mode. The only modes not included in this discussion are dedicated BRT and modern streetcars, modes that have not been implemented in this region yet. The Regional Transitway Guidelines will be updated on an ongoing basis as additional information or insights are available, new modes are incorporated into the regional transit system, or if the parameters for the guidelines change.

Other Modes

No other modes are currently being explored for transitway development in the region. However, if other modes are being explored through further detailed studies, like local corridor planning studies, their inclusion in the plan would require an amendment.

Figure 6-7: Excerpt of "Minimum Elements" from the Regional Transitway Guidelines

Regional Transitway Guidelines

Table 10-1 – Minimum Elements from Transitway Guidelines[3]

	Arterial BRT	Highway BRT[4]	LRT	Commuter Rail
Service Operations	*WEEKDAY* Combined frequency for Arterial BRT and local service should be 10-min. peak period, 15-min. midday/evening, 30- to 60-min. early/late *WEEKEND* 15-min. day/evening, 30- to 60-min. early/late	*WEEKDAY* Combined frequency for station-to-station and express services should be 10-min. peak period and 15-min. midday *WEEKEND* Frequency based on demand	*WEEKDAY* 10-min. peak period, 15-min. midday/evening, 30- to 60-min. early/late *WEEKEND* 15-min. day/evening, 30- to 60-min. early/late	*WEEKDAY* 30-min. peak period Off-peak frequency as needed At least 5 trips each peak period
Stations	Transitway stations justified by proven, documented demand that: • Achieve a functional, cost-effective outcome that balances aesthetics with funding availability • Are attractive and informative environment for passengers at stations that is consistent with local community context, transitway identity, and passenger waiting times • Achieve functional integration with the surrounding land uses, which may include forming a nucleus for transit-oriented development at stations • Balance travel time, access and station demand relative to travel markets at the time of implementation • Promote a safe and secure environment by designing all elements to enhance passive security by maintaining visibility to and within the station and station area • Implement an interdisciplinary approach to station and facility design that incorporates advancements in technology			
Runningway	Full-sized mixed-traffic lanes (10-12 feet) that provide transit with travel-time advantages under congested roadway conditions	Full-sized (12 feet) managed lanes or bus-shoulder lanes that provide transit with travel-time advantages under congested roadway conditions	Adequate, exclusive trackage for safe and reliable operation	Adequate trackage (or trackage rights) for safe and reliable operation
Vehicles	Sleek, modern, premium-styled buses appropriately sized and configured to service characteristics		Compatible with existing rail and infrastructure systems	
Fare Collection	Modern and proven fare collection systems that integrate well within the regional system and fit the needs of the region and transitway			
Technology	Automatic vehicle location (AVL) on all vehicles and automatic passenger counters (APC) on all LRT, Commuter Rail, and BRT station-to-station vehicles Real-time schedule information at all high-volume stations and real-time parking availability at major park-and-ride facilities			
	Proven communications link compatible and coordinated with regional transit control center		Compatible with existing rail systems technology and control centers	
Identity and Branding	TBD	Color line names for station-to-station services Unique system name Consistent signage and branding using regional transit system color scheme Unique vehicle designs distinguished from local bus		Unique line name that does not conflict with color lines or LRT/Highway BRT system name

Transitway Development Process

Corridor Planning and Development

The development of the transitway system and individual corridors warrants substantial study prior to investment decisions. This process is essential for gathering public input and being good stewards of public money. The following is a typical process for the development of a transitway:

1. **System Planning and Feasibility** – The Metropolitan Council will lead or collaborate on region-wide studies of transitways, in coordination with MnDOT, local governments (counties and cities) and transit providers, to guide decision-making at the regional level. Corridor feasibility studies led by local governments or transit providers should also coordinate with regional system planning.
2. **Corridor Planning and Alternatives Analysis** – Corridors should undergo an analysis of alternative transitway modes or alignments through early planning work that narrows the list of alternatives down to a local recommendation for the "Preferred Alternative." The locally preferred alternative is the alternative ultimately included in the *Transportation Policy Plan*, a requirement for federal, state, or regional funding.
3. **Environmental Review** – Every project will undergo an environmental review, consistent with state and federal law, depending on the size and nature of a project. The environmental review will disclose potential environmental impacts of a project and identify ways to avoid or minimize them.
4. **Design and Engineering** – The design and engineering of a project will build upon preliminary work in previous steps through to full project design and engineering. This step includes work described as "project development" and "engineering" under the federal New Starts program, but also includes pre-project development work that may be required to transition a project after environmental and planning work.
5. **Construction** – The capital elements of a project will be built, tested and readied for operations. This phase also includes the expansion of vehicle fleets and other systems needed to operate the transitway.
6. **Operation** – A project begins operating during the testing phases but "revenue service" begins when it opens to the public to serve customers.

For rail projects, these steps generally occur as a complete project where all elements are planned, designed, built, and opened for operation on the same timeline. For BRT projects, these processes can occur in phases with different elements of the project; a park-and-ride for instance, being planned, designed, built, and opened before other elements.

Throughout all of these steps, public and stakeholder participation will be an essential aspect of project work. The Metropolitan Council and its regional partners in transitway development, including local governments, will work together to ensure that each transitway project is developed to integrate into the transportation system and the community context, and to consider the concerns of affected communities.

County governments have led the way on the early stages of many transitways, often funding and leading corridor studies. Cities and transit providers are also engaging in corridors studies. It is important that the Metropolitan Council, counties, cities, regional transit providers, MnDOT, and other stakeholders work together to develop these major investments in a collaborative way. Many of the details of project implementation and best practices are described in the Regional Transitway Guidelines. However, best practices will continue to evolve and project-specific issues will continue to arise in projects of this scale. Collaboration will be a key component of project development.

Transitways are major regional projects that require the coordination of many potential elements that are not directly addressed in this chapter. Table 6-4 includes references to other areas of the plan and other considerations that will be used in transitway development.

Table 6-4: Transitway Development Coordination References

Bus System Service and Facilities	Other elements of this plan describe how bus improvements are planned and how facilities support the development of transitways, such as park-and-rides.
Transit Advantages and Highways	The discussion of transit advantages can often be coordinated with transitway improvements, particularly with BRT transitways.
Pedestrian and Bicycle Plans	The plan has a substantial discussion on the regional bicycle system. Elements of a good pedestrian experience are also discussed in Chapter 3, “Land Use and Local Planning.”
Land Use and Local Planning	Local governments play a significant role in planning local transportation and land use that connects to transitways. More discussion is available in Chapter 3, “Land Use and Local Planning” and through local comprehensive plans.
Regional Transitway Guidelines (available on Metropolitan Council website)	The Regional Transitway Guidelines have a lot of information on best practices and standards for transitway design and integration into the transportation system.

Setting Regional Transitway Priorities

Transitways are some of the largest single transportation investments that the region is planning through 2040. The significance of these projects and the number of corridors under study will require the region to prioritize transitway investments to ensure the efficient development of a successful, regionally balanced system. *Thrive MSP 2040* and the *Transportation Policy Plan* have established new accountability considerations that are intended to guide the development of the region and investments in infrastructure. *Thrive MSP 2040*’s outcomes and the *Transportation Policy Plan*’s goals and objectives are important policy statements that will establish a clearer understanding of the results that transitway investments are intended to achieve.

The ability of the region to compete for federal New Starts and Small Starts funding will also depend on advancing competitive projects. The region will need to be aggressive but strategic about which projects are submitted to compete for federal funding. The region will also need to be strategic about funding projects with higher levels of state or local funding if they may not compete well for federal funding.

Transitway projects already undergo a substantial analysis at the corridor level to determine the appropriate mode and alignment. Counties, cities, and transit providers are leading efforts to determine the right fit for each corridor. The information developed during these analyses by lead agencies to recommend a locally preferred alternative for inclusion in the plan should provide a common understanding for determining how a project advances the region toward its desired results. The region's desired results can also inform each corridor analysis to help determine the best result for the region, while allowing for flexibility to fit with local needs.

Setting regional transitway priorities is a dynamic process as projects come forward for inclusion in the *Transportation Policy Plan*. The process is a collaborative effort of policymakers that includes funding and operating agencies, such as counties and transit providers, with involvement from cities and other stakeholders through the region's advisory committees. The process starts with gathering the appropriate technical information and allowing policymakers to be strategic in deciding how a project moves forward and how it is reflected in the *Transportation Policy Plan*.

Providing the Technical Information

The basic technical information for a proposed transitway project will provide a common understanding for regional decision-making. Through corridor analyses, this region has substantial experience evaluating transitway alternatives with technical measures to determine the right investment for a corridor. This plan identifies technical investment factors that will be considered when evaluating corridors for the region to prioritize. The technical investment factors are included in Table 6-5. Projects should provide information that addresses the technical investment factors, using suggested measures as guides.

Table 6-5: Technical Investment Factors for Setting Regional Transitway Priorities

Technical Investment Factors	Suggested Measures
Ridership (Current and forecast year)	• Average weekday project boardings • New weekday system linked trips on transit
Access to Jobs and Activity	• Increase in job accessibility on the transit system • Number of regional job concentrations or local centers served
Cost-Effectiveness	• Annualized capital and operating cost per annual boarding or per new annual system linked trip on transit

Technical Investment Factors	Suggested Measures
Existing Land Use	• Total population, employment, and student enrollment within ½-mile of proposed stations • Intersection density and walkability near stations • Number and relative share of affordable housing units within ½ mile of proposed stations and community housing performance scores
Future Land use and Development	• Land use plans supportive of transitway densities, as described in "Land Use and Local Planning" • Qualitative assessment of regulatory, infrastructure, and financing tools supportive of transit-oriented development • Strength of development market • Plans, policies and land use controls to create and preserve a mix of housing affordability (see Housing Policy Plan)
Equity	• Average weekday project boardings by transit-dependent households • Income and affordable housing access • Opportunity access for low-income population and people of color
Environment	• Water supply –local policies supporting sustainable water management • Air quality – emissions reduction

This list of technical factors was developed by the Metropolitan Council, in collaboration with regional partners, to strongly align with the federal Capital Investment Grants program evaluations and with factors that measure the region's desired results stated in *Thrive MSP 2040* and the 2040 *Transportation Policy Plan*. The technical information will inform decision-making by policymakers that will consider the technical information and policy factors.

Considering Policy Factors

With the technical information available, policymakers will then need to consider other factors that are more qualitative and less technical. This will require a strong collaboration that includes the funding partners and the Metropolitan Council, with involvement from cities and other stakeholders through the region's advisory committees. All seven counties in the region administer a sales tax for transportation with identified investment priorities, some including substantial funding for transit. These priorities will be a significant input into the policy discussion about transitway priorities. The county-administered sales taxes are currently the most substantial non-federal funding source for transitways. The policy investment factors and important considerations for this analysis are included in Table 6-6.

Table 6-6: Policy Investment Factors for Setting Regional Transitway Priorities

Policy Investment Factors	Possible Considerations
Regional Balance	• Investment levels across the region (geographic and per capita considerations) • Investment levels that promote prosperity at the community's stage and level of development
Funding Viability	• Viability for revenues being considered • Timing of spending expectations and revenues available • Identified sources for operating funding
Community Commitment	• Local government support (Resolutions of support) • Local land use and development commitments • Public support
Risk Assessment and Technical Readiness	• Potential risks through project implementation • Stage of technical readiness, project development

Transitway corridors should take these technical and policy investment factors into consideration during corridor studies, including feasibility studies and alternative analyses. The technical and policy factors will guide the region in determining how a project fits into the timing and funding options in the Current Revenue Scenario of the plan.

The investment factors highlight the importance of land use and local government development support. Transitway investments are intended to help shape development patterns, but development patterns will also help shape transit investments. In order for transitways to realize their full potential for expected development, local governments will need to provide the vision and planning for land use and local investments. The Metropolitan Council and transitway funding partners are committed to expanding the transitway system; local partners will need to show commitment to transit-supportive land use and local improvements, like bicycle and pedestrian infrastructure, in return. More information on how local governments can do this is available in Chapter 3, "Land Use and Local Planning."

Transitways will not be included in the Current Revenue Scenario until a locally preferred alternative is recommended from a local process. If a number of transitways make this recommendation simultaneously, a multi-transitway analysis may need to be conducted to consider several projects at once. This may also be explored through a regional Program of Projects approach to funding multiple projects at once and accelerating some projects. Until specific measures and methodologies can be defined through the work program item, transitway projects that come forward will be evaluated on a case-by-case basis. This process is not intended to add steps to the transitway adoption process, but rather to add clarity to the decision-making process moving forward. The process will be integral to decision-making under an Increased Revenue Scenario, where transitway investment has the potential to be accelerated across multiple corridors.

Current Revenue Scenario Transitway System Investments

The region has many corridors under for transitway investment potential. Transitway investments are limited by reasonably expected current revenues and projects must be prioritized within these constraints. The Current Revenue Scenario includes the list of projects that have a locally preferred alternative with approved local resolutions of support and an identified reasonable funding plan (based on projections for existing revenues or past experience securing revenues for similar projects). The capital funding for transitway expansion other than arterial bus rapid transit is generally assumed to be:

- 50% or less federal Capital Investment Grants (e.g. New Starts or Small Starts),
- 50% or more county sales and use tax revenues and/or other local revenues.

Operating funding for transitway expansion is generally assumed to be funded by fare revenue, county sales tax, and state general funds. State general obligation bonds are no longer assumed for future projects unless they have been specifically identified in law.

As a result, arterial bus rapid transit projects are funded primarily based on Regional Solicitation project awards and associated local match funds, state general obligation bonds identified in law, and any coordinated preservation efforts like bus replacements or roadway projects.

Existing Transitways in Operation

The first priority for investing in the region's transitway system is continuing to operate and maintain the existing transitways. Existing transitways are shown on Figure 6-8 - Map of Existing Transitways and Current Revenue Scenario Expansion Transitways.

- METRO Blue Line (Hiawatha Light Rail Transit)
- Northstar Commuter Rail
- METRO Red Line (Cedar Avenue Highway Bus Rapid Transit)
- METRO Green Line (Central Corridor Light Rail Transit)
- METRO A Line (Snelling Avenue Arterial Bus Rapid Transit)
- METRO C Line (Penn Avenue Arterial Bus Rapid Transit)

Beyond ongoing operations and maintenance, these corridors may require modernization or modest expansion improvements that address operational issues, unmet demand, or other unique challenges. This may include additional stations that will be identified in the project list (Appendix C) and Transportation Improvement Program (TIP), which is updated annually.

Transitway Expansion Assumed to be Funded in the Current Revenue Scenario

The second priority for investing in the region's transitway system is the expansion of the system in corridors that provide the strongest contributions to meeting *Thrive MSP 2040* outcomes and regional goals and objectives in this plan. The funded projects have a locally preferred alternative (if seeking federal New Starts or Small Starts funding) and an accepted funding plan. These projects are advancing through project development phases, such as final environmental clearances, design and engineering, or construction, with a tentative opening date planned.

The projects assumed to be funded are also furthest along in implementing land use strategies around transitways that further support the region's desired results. Local governments should be conducting or implementing station-area planning for these corridors as they continue to move through the transitway development process. Land use strategies are discussed in more detail in Chapter 3, "Land Use and Local Planning."

The transitway corridors below have a locally preferred alternative and are funded within the current revenue assumptions of the plan. They are shown on Figure 6-8 - Map of Existing Transitways and Current Revenue Scenario Expansion Transitways.

- METRO Orange Line (I-35W South Highway Bus Rapid Transit): under construction with some elements already completed, planned to open around 2021
- METRO Green Line Extension (Southwest Light Rail Transit): under construction, planned to open around 2023
- METRO Blue Line Extension (Bottineau Light Rail Transit): in engineering, heavy construction and planned opening year to be determined (assumed prior to 2030 for air quality modeling)
- METRO Gold Line (Gateway Dedicated Bus Rapid Transit): in project development, planned to open around 2024
- Rush Line Dedicated Bus Rapid Transit: in pre-project development, planned to open around 2026
- Riverview Modern Streetcar: in pre-project development, planned to open around 2032
- METRO D Line (Chicago/Fremont Arterial Bus Rapid Transit): in engineering, planned to open in 2022

METRO Orange Line (I-35W South Highway BRT) This project will connect Minneapolis, Richfield, Bloomington, and Burnsville primarily along I-35W. The locally preferred alternative of highway BRT on I-35W was refined in 2014 with the adoption of the Orange Line Project Plan Update, which incorporates and updates previous planning projects completed in the corridor between 2005 and 2010. The Orange Line began early construction activities in 2017, received a federal Small Starts funding agreement and started full construction in 2019, and is planned to open in 2021.

METRO Green Line Extension (Southwest Light Rail Transit) This 14.5-mile extension of the METRO Green Line will connect Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis and the existing Green Line communities. The project's locally preferred alternative was adopted as the Kenilworth-Opus-Golden Triangle (3A) light rail alignment in May 2010. During the project development phase, the terminus was revised to SouthWest Station, eliminating the Mitchell Road Station from the project. The project started heavy construction in 2019 and received a full funding grant agreement in September 2020.

METRO Blue Line Extension (Bottineau Light Rail Transit) This 13.5-mile extension of the METRO Blue Line will connect Brooklyn Park, Crystal, Robbinsdale, Golden Valley, and north Minneapolis with the existing Blue Line communities. The project's locally preferred alternative was adopted as the West Broadway– Burlington Northern Santa Fe Corridor – Olson Memorial Highway (B-C-D1) light rail alignment in May 2013. The project is in engineering and anticipates requesting a full-funding grant

agreement when this phase is complete. As of late 2020, due to the inability to secure colocation rights on the BNSF right-of-way, Hennepin County and the Metropolitan Council are exploring ways to deliver the Blue Line Extension project without the use of BNSF right-of-way.

METRO Gold Line (Gateway Dedicated BRT) This project will connect Saint Paul, Maplewood, Landfall, Oakdale, and Woodbury. This project's locally preferred alternative was adopted as dedicated BRT generally on the Hudson Road – Hudson Boulevard (A-B-C-D3) alignment that crosses to the south side of I-94 at approximately Bielenberg Drive terminating along Guider Drive between Queens Drive and Woodlane Drive. Advanced station-area land use planning, environmental work, and early engineering is ongoing. The project was also approved for entry into the FTA New Starts project development phase in January 2018 and anticipates entering the engineering phase in 2020.

Rush Line Dedicated BRT This project will connect Saint Paul, Maplewood, Vadnais Heights, Gem Lake, and White Bear Lake. The project's locally preferred alternative is dedicated BRT generally from Union Depot along Phalen Boulevard, Ramsey County Regional Railroad Authority property (adjacent to Bruce Vento Trail) to I-694, and Highway 61 terminating in downtown White Bear Lake. Work is ongoing on station-area planning, environmental review, and early engineering in preparation for eventual request into the FTA New Starts project development phase.

Riverview Modern Streetcar This corridor connects Saint Paul with the Minneapolis-Saint Paul International Airport and the Mall of America and South Loop district in Bloomington. This project's locally preferred alternative was approved as a modern streetcar alignment in a mix of dedicated and shared-use guideway from Union Depot to the Mall of America generally along West 7th Street and crossing the river at Highway 5. The project would use existing Green Line light rail tracks in downtown Saint Paul and existing Blue Line light rail tracks starting just north of Fort Snelling Station. The project will be conducting the environmental review phase and early engineering work in the next few years. The project anticipates entering the federal Capital Investment Grants (New Starts) Project Development phase in 2023, working toward a planned opening date of 2031.

METRO D Line (Chicago/Fremont Arterial BRT) This 18-mile project will connect Minneapolis, Brooklyn Center, Richfield, and Bloomington. The project is arterial BRT generally along Fremont Avenue in north Minneapolis and Chicago Avenue in south Minneapolis terminating at the Brooklyn Center Transit Center and Mall of America, providing frequent transit service along the entire corridor. The project is finalizing engineering plans and is expected to being station construction in 2021 with a planned opening in 2022.

Federal Funding Assumptions for Transit Expansion

The Twin Cities region is in the midst of an aggressive build-out of the transitway system that will help shape the future of the region. To date, the region has been successful in advancing projects that have received substantial funding from the federal government's highly competitive Capital Investment Grants program that includes New Starts and Small Starts grants. The region has been awarded over $1 billion in federal funding for all three projects that have requested FTA funding. This Plan's list of projects is no different, assuming around $300 million per year in federally competitive capital expansion funds for at least the next decade.

Six of the seven funded expansion projects (all except D Line) assume 45-50% of the capital cost of the project will come from federal Capital Investment Grant funding. The region will continue to plan for and prepare federally competitive projects and explore opportunities for multi-project commitments from the federal government.

There is risk in these assumptions, as the Plan assumes approximately 10% of the federal budget for Capital Investment Grants (under current budget amounts) for ten years. Should federal funding not materialize for any given project, the region will need to work cooperatively to determine a viable funding path forward that considers the *Thrive MSP 2040* outcomes of Stewardship, Prosperity, Equity, Livability, and Sustainability. The discussion of Setting Regional Transitway Priorities will assist with this potential situation.

Partially Funded Arterial Bus Rapid Transit

The following arterial BRT project(s) are not included in the fiscally constrained plan but elements of the project (e.g. limited-stop bus service) have been prioritized for funding through the Regional Solicitation. They are shown on Figure 6-8 - Map of Existing Transitways and Current Revenue Scenario Expansion Transitways.

- METRO B Line (Lake Street/Marshall Avenue Arterial Bus Rapid Transit): in station-planning phase anticipated to be finalized in late 2020
- METRO E Line (Hennepin Avenue/France Avenue Arterial Bus Rapid Transit): in station-planning phase anticipated to be finalized in 2021

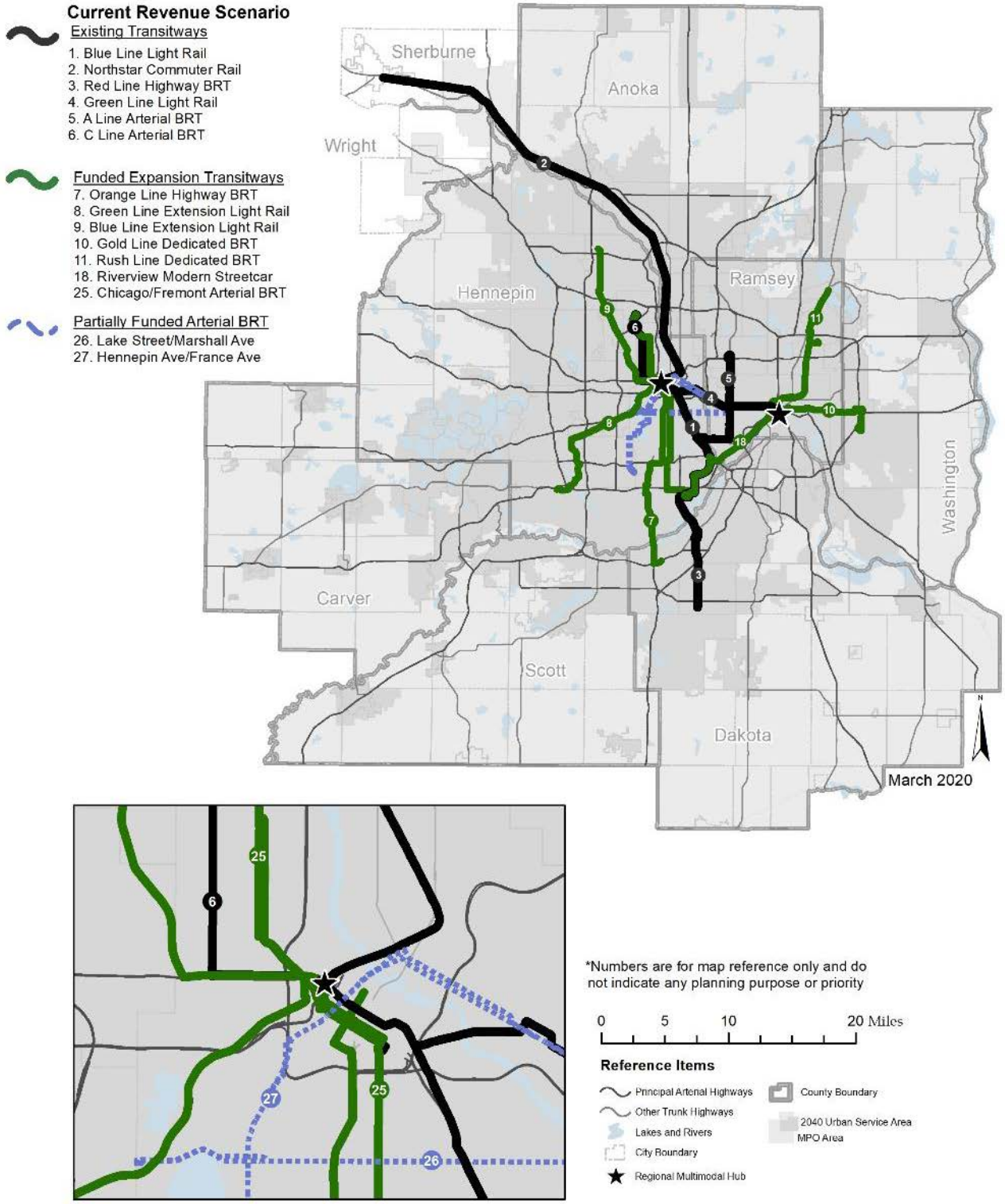
Arterial bus rapid transit is a transitway mode intended to improve the customer experience and attractiveness of some of the most heavily used existing bus routes in the transit system. There are three funded arterial BRT lines in the plan (two are open and one in engineering), but progress has been made on several other arterial BRT corridors. Additional investment in the arterial BRT system can happen incrementally until full funding is secured for each project. Several projects have identified funding for certain elements of a future arterial BRT and these elements could provide improvements to the existing bus service in the corridor, regardless of when funding for the full BRT project is secured. The current projects with partial funding for arterial BRT improvements include Lake Street/Marshall Avenue and Hennepin Avenue/France Avenue.

Examples of incremental investments building toward arterial BRT include:

- Enhanced customer waiting facilities and customer information technology
- Faster, limited stop bus service
- More reliable bus service with transit signal priority and transit advantages
- New larger buses for improved circulation and boarding

This plan acknowledges the incremental build out of some of these elements for the corridors in planning. A number of these improvements are funded through the Regional Solicitation (see Project List, Appendix C). As funding is identified for the implementation of the full set of arterial BRT improvements for a corridor, the plan will be amended.

Figure 6-8: Map of Existing Transitways and Current Revenue Scenario Expansion Transitways



Increased Revenue Scenario Transitway System Investments

In order to complete the region's vision of a transitway system and do it on an accelerated timeline, the region will need additional funding for transitways. Increased funding will allow the region to:

- Accelerate the build-out of the transitways included in the Current Revenue Scenario
- Afford additional transitways that have recommended locally preferred alternatives, are under study, or needing to be studied for mode and alignment by other partners
- Implement a system of arterial BRT projects on heavily used existing transit routes

Increased funding will allow the region to invest in a system of transitways that keeps the region competitive in providing an attractive economy and connected, livable communities. The corridors listed in this section will need to go through the technical and policy investment factor prioritization identified previously. Because implementation of these corridors is likely not available under current revenues until after 2024, any prioritization efforts will need to consider the long-term implications of prioritization as well as the near-term possibilities should increased revenues become available.

Local governments along these corridors should be working on land use studies and planning that would maximize the potential of transitways while recognizing that they are still in the planning phases. These projects still provide an opportunity to adapt the transportation decisions with the land use visions of local communities.

Under the Increased Revenue Scenario, the transitway corridors listed below could reasonably be implemented by 2040. These corridors are in various stages of development and will need to be prioritized for funding if it becomes available. The Metropolitan Council will continue to work with the appropriate partners in the planning of these potential transitway investments and with local governments working on land use planning. The complete transitway vision is shown on Figure 6-9.

Projects with Study Recommendations in Advanced Stages of Development:

- METRO Red Line future stages
- Nicollet-Central Modern Streetcar

Projects with Study Recommendations:

- Midtown Rail
- Red Rock Bus Rapid Transit
- West Broadway Modern Streetcar
- Highway 169 Bus Rapid Transit
- METRO Orange Line Extension

Projects under Study or to be Studied:

- Highway 36
- I-35W North
- I-394/Highway 55
- Robert Street
- North Central
- I-94 West

Additional Arterial BRT projects:

- American Boulevard
- Central Avenue NE
- East 7th Street
- Nicollet Avenue
- Robert Street
- West Broadway Avenue

Projects with Study Recommendations but Incomplete Funding Plan

METRO Red Line Future Stages (Cedar Avenue Highway BRT) – The first stage of this project opened in mid-2013 and capital improvements in the second stage were largely completed by 2020. An Implementation Plan Update (2015) has identified additional future stages that will add stations, park-and-ride capacity, and service to the line, including an extension to a number of planned stations in Lakeville. The near-term priorities are infill stations at Palomino Drive and Cliff Road, with each station undergoing some planning activity recently or in the near future. Extension of the line further south is staged according to forecasted station boardings and cost effectiveness in the Implementation Plan Update, but this will be examined in future updates as well. Future stages would also continue to address bicycle and pedestrian improvements and station area planning, continuing a theme from stage two of the Implementation Plan Update.

Nicollet-Central Modern Streetcar – This project would connect neighborhoods in downtown, northeast, and south Minneapolis. The corridor study was completed in 2013 and the locally preferred alternative recommendation is modern streetcar primarily along Nicollet Avenue, Nicollet Mall and Hennepin/1st Avenues. In the City of Minneapolis' Transportation Action Plan, the City is committed to partnering with Metro Transit and other agencies to plan, design and construct high capacity, neighborhood-based transit along the Nicollet-Central corridor. The City is currently supporting the development of improvements in this corridor with local funding.

Midtown Rail – This project would connect the existing METRO Blue Line Lake Street Station and planned METRO Green Line West Lake Station with neighborhoods in south Minneapolis. The transit study was completed in 2012 with a locally preferred alternative recommendation of rail in the Midtown Greenway combined with arterial BRT on Lake Street. In the City of Minneapolis' Transportation Action Plan, the City is committed to partnering with Metro Transit and other agencies to plan, design and construct high capacity, neighborhood-based transit within the dedicated right-of-way along the Midtown Greenway. Funding has not yet materialized for further development of the rail project, though Metro Transit secured partial funding for bus improvements on Lake Street and will complete bus station planning efforts in 2020.

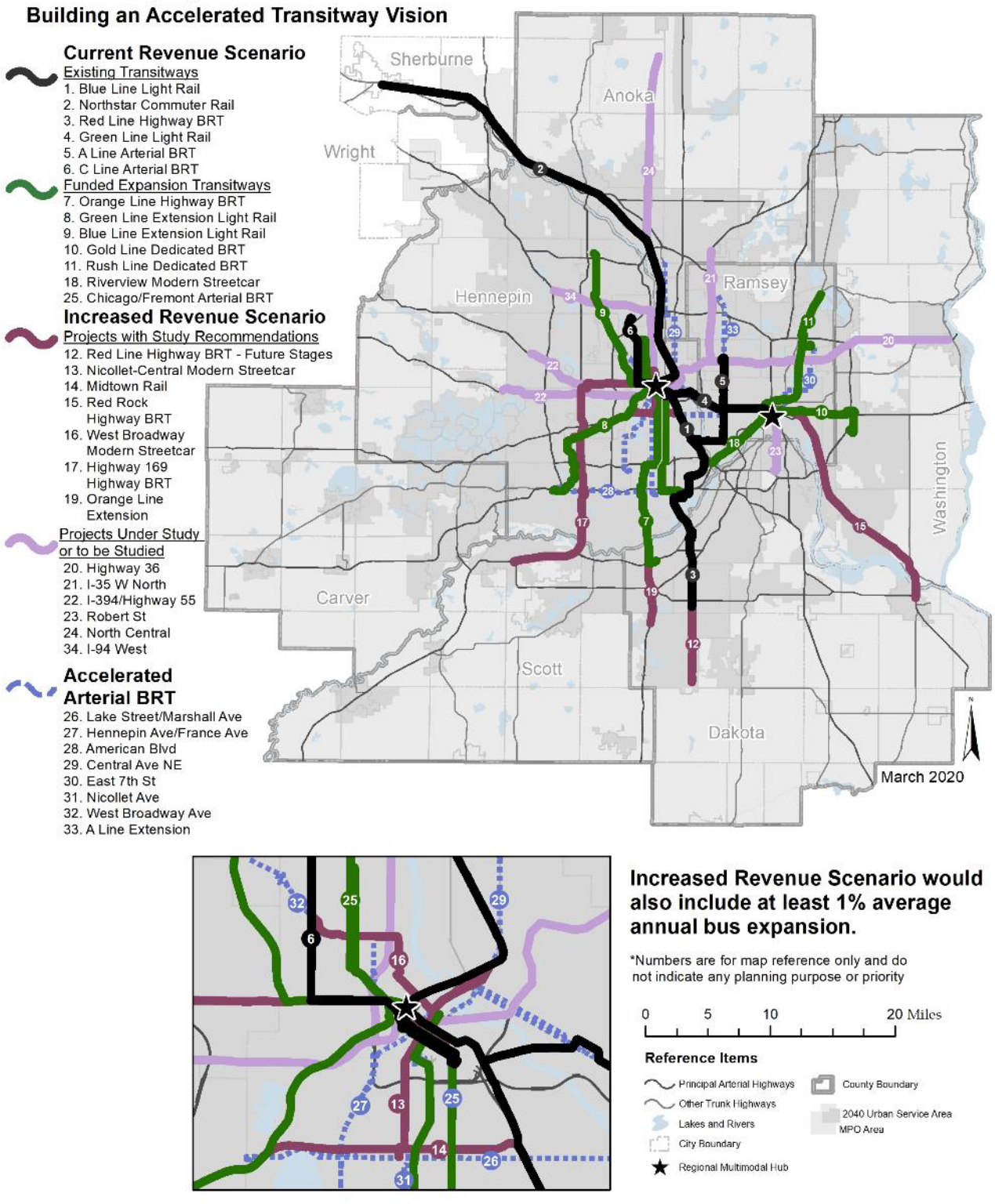
Red Rock Highway Bus Rapid Transit – This project would connect Saint Paul to Newport, Saint Paul Park, Cottage Grove, and Hastings. An implementation plan was completed in 2016 that refined a long-term vision of highway BRT recommendations in the Highway 61 corridor. Initial stages include improved express bus service and all-day bus service introduction with ongoing monitoring of its performance.

West Broadway Modern Streetcar – This project would connect the Minneapolis neighborhoods along West Broadway to downtown Minneapolis and Robbinsdale. The corridor study was completed in 2017 with a recommendation of modern streetcar to North Memorial along with additional improvements to bus service in the corridor. In the City of Minneapolis' Transportation Action Plan, the City is committed to partnering with Metro Transit and other agencies to plan, design and construct high capacity, neighborhood-based transit along the West Broadway corridor. Funding has not yet materialized for further development of the project.

Highway 169 Highway Bus Rapid Transit – This project would connect communities in northern Scott County to cities along Highway 169 in Hennepin County and along Highway 55 into downtown Minneapolis. The Highway 169 Mobility Study evaluated options for improving transit and reducing congestion on Highway 169 in the southwest metro, with a focus on highway bus rapid transit, MnPASS, and spot mobility improvements. The study narrowed the BRT alternatives to service between Shakopee and downtown Minneapolis along 1) Highway 169/I-394, or 2) Highway 169/Highway 55, with Highway 55 being the recommended improvement based on the technical information and stakeholder input. In addition to the study of BRT, potential interim service improvements were identified, and highway improvements could provide improved transit advantages in the corridor for existing and planned transit.

METRO Orange Line Extension – The first stage of the METRO Orange Line is expected to bring BRT service to Burnsville on I-35W. The Metro Orange Line Extension Study (2017) defined the key components of a potential future extension of Orange Line service south further to Burnsville Center. The study is identified preferred station locations, route alignments, runningway operations and operating technologies needed for an extension. The study was completed in 2019.

Figure 6-9: Map of Transitway System in an Increased Revenue Scenario



Arterial Bus Rapid Transit in the Increased Revenue Scenario

The proposed system of arterial bus rapid transit lines was first developed in 2012 through the Arterial Transitway Corridor Study. The first arterial BRT line opened in 2016 and the second began construction in 2018. Several other corridors have identified funding for pieces of the full arterial BRT project. The remaining corridors are included in the Increased Revenue Scenario. If additional revenues were made available, the build out of the arterial BRT system would be accelerated. A list of these corridors is included in the Increased Revenue Scenario overview and in figure 6-9.

As funding for these lines is identified, either partial or full, they will be amended into the TPP. In the meantime, progress may continue on any of these corridors through more detailed station-planning activities or other implementation planning in coordination with local partners. Metro Transit's Network Next will also examine the future of arterial BRT corridors in the region, building on experience from planning, designing, constructing, and operating the lines that have progressed. The study will update previously studied corridors and evaluate potential new corridors for implementation.

Additional Projects Under Study or to be Studied

The following projects have been identified as showing potential for transitway investments as a result of transit system studies.

I-35W North – This corridor links downtown Minneapolis with communities along I-35W north of downtown to Blaine. The corridor was studied in the 2013 I-35W North Managed Lanes Corridor Study. The study focused primarily on the highway MnPASS vision, but also included an analysis of highway BRT to the 95th Avenue Park-and-Ride in Blaine that could potentially be coordinated with the MnPASS vision. The MnPASS design work on the corridor is ongoing and the expected construction of MnPASS lanes in this corridor will not preclude the potential for future highway BRT.

Robert Street – This corridor completed a transit study in 2015 that narrowed the potential projects to arterial BRT and streetcar on Robert Street from downtown Saint Paul to West Saint Paul. The study did not come to a recommendation for a locally preferred alternative but is expected to be revisited by Dakota County along with other local government corridor stakeholders. Robert Street will also be evaluated along with other arterial BRT corridors as part of Metro Transit's Network Next effort.

Highway 36, I-394/Highway 55, I-94 West from the Highway Transitway Corridor Study – The Highway Transitway Corridor Study was a regional analysis of potential highway BRT investments in nine corridors throughout the region. These investments have the potential to be coordinated with highway improvements that might include MnPASS, bus-only shoulders, or other transit advantages. The analysis indicated the strongest potential for highway BRT improvements in the Highway 36, Highway 169, I-94 West, and I-394/Highway 55 corridors. Highway 169 has been studied in more detail and the result of the Highway 169 work has garnered increased interest in the Highway 55 corridor, although a formal study has not yet emerged. Highway 36 is being studied for transit improvements through an effort funded by Washington County and jointly led by Washington and Ramsey counties with recommendations expected in late 2020 or early 2021. I-94 West is being further evaluated

through a partnership between Metro Transit and MnDOT as part of the Highway 252/I-94 highway project environmental review phase.

Transit Investment Plan Financial Summary

The previous sections of this chapter described in detail the expected investments under the current and Increased Revenue Scenarios for both the bus and support system and transitway system investments. This section summarizes the two scenarios by providing a brief, high-level financial summary of all of the planned transit investments.

Current Revenue Scenario Financial Summary

Table 6-7 is a financial summary of the Current Revenue Scenario for both the bus and support system and transitway system investments.

Table 6-7: Current Revenue Scenario Summary of Funded Investments (Year of Expenditure)

	2018 Annual	Total 2015-2040 (26 years)
Revenues	**$ 1.277 B**	**$ 36.3 B**
Bus and Support System Investments		
Operating	$ 479 M	$ 17.9 B
Capital	$ 65 M	$ 3.7 B
Total Bus and Support System	**$ 544 M**	**$ 21.6 B**
Regional Solicitation for Transit	**$ 24 M**	**$ 750 M**
Transitway System Investments		
Operating	$ 93 M	$ 6.3 B
Capital	$ 566 M	$ 7.2 B
Transitway Projects Capital Detail:		(Included in "Capital" above)
- Projects Completed 2015-2020	-	$ 50 M
- D Line Chicago-Fremont Arterial BRT	-	$ 75 M
- METRO Orange Line Highway BRT	-	$ 150 M
- METRO Green Line Light Rail Extension	-	$ 1.912 B[1]
- METRO Blue Line Light Rail Extension	-	$ 1.534 B
- METRO Gold Line Dedicated BRT	-	$ 461 M
- Rush Line Dedicated BRT	-	$ 480 M
- Riverview Modern Streetcar		$ 2.066 B
Locally Designated to Future Projects	-	$ 400 M
Total Transitway System	**$ 659 M**	**$ 12.7 B**
Total Investments – All Categories	**$ 1.227 B**	**$ 36.3 B**

[1] Pre-2015 expenditures for the METRO Green Line Extension are not included in this figure. As of June 2018, the total project cost is estimated at $2.003 B.

The following are the major financial conclusions of the Current Revenue Scenario.

- The region is able to operate and maintain the existing bus and support system.
- No expansion of bus service is available beyond the growing demand for Metro Mobility.
- There is limited capital expansion and modernization of the bus and support system facilities through preservation efforts and through the Regional Solicitation.
- The region is able to operate, maintain, and improve the existing transitways that include METRO Blue Line, METRO Green Line, METRO Red Line, METRO A Line, METRO C Line, and Northstar.
- By 2030, funded transitway expansion will include building and operating two light rail line extensions, the region's second highway BRT, the region's first two dedicated BRTs, and building at least one additional arterial BRT line. Two additional arterial BRT projects have partial funding identified in the plan but are not fully funded. The region's first modern streetcar line is anticipated to open after 2030.

Increased Revenue Scenario Financial Summary

The Increased Revenue Scenario is based on both analyzing the need to build out and expand the bus and support system and transitway system and considering what might be an attainable level of new revenue for transit in the region. In 2012, the Governor's Transportation Finance Advisory Committee (TFAC) looked at this issue in detail and concluded that building a competitive regional economy would require approximately $4.2 billion to $5.7 billion in new metropolitan area transit revenue over a 20-year period.

The key goals of the TFAC plan continue to be carried forward in the region's vision for transit expansion. The Increased Revenue Scenario in this plan continues to basically use the TFAC level of financial need as a starting point, but also includes consideration of changes in revenues, such as the new county sales tax, and project development work that has occurred since the TFAC analysis.

For the bus and support system, the region has a vision of expanding service by at least 1% per year or about a 25% increase in service from 2015-2040. This service increase would include new routes and facilities and increased frequency of service and improved facilities on existing routes. It would include growing service to better serve the current population and job base and also meet the needs of the growing population and job base within the region. From 2015 – 2040, growing the bus system by 1% annually could require an additional $1.8 billion - $2.2 billion.

Transitways in the Increased Revenue Scenario represent a vision of corridors throughout the region that could be explored with additional revenues. Because the details of each corridor are not known until a corridor planning process has been completed, the revenue needs for this scenario are not complete. However, as corridor planning processes progress, the details in the TPP can be updated to illustrate a more comprehensive revenue vision. There are currently a number of potential projects in the Increased Revenue Scenario that have completed corridor planning processes but are not able to be funded with current revenues.