

Arterial BRT Candidate Corridor Screening Process and Results

Network**NEXT**

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Introduction

WHAT IS NETWORK NEXT?

Network Next establishes Metro Transit's vision for the bus network of 2040. It identifies opportunities to bring better transit to more people over the next 20 years in the Twin Cities. Focused on improvements beyond the existing resources available, it charts the course for new arterial bus rapid transit (BRT) lines as well as more frequent service, longer hours, and better weekend service on existing local and express routes and new bus routes in areas without fixed-route service today.

THE ARTERIAL BRT NETWORK

The arterial BRT network provides faster, frequent, and more reliable service with limited stops at enhanced stations on the highest ridership corridors in Metro Transit's bus network. Along with the other BRT and rail services within the METRO network, these corridors form the growing backbone of the regional transit network. When fully built out, the arterial BRT network will result in a more equitable, more useful transit network that is used by more people.

NETWORK NEXT PRINCIPLES AND ARTERIAL BRT

There are four Network Next Principles guiding the development of arterial BRT network development. Arterial BRT is one of several types of transit improvements, including service improvements to existing local and express bus routes, new routes, and other speed and reliability improvements that Metro Transit will use to advance the Network Next Principles by 2040. A short discussion of the role arterial BRT plays in advancing these Principles is below:

Advance equity and reduce regional racial disparities

Metro Transit provides standard local bus service through many areas, and serves populations, that have been historically subject to underinvestment or disinvestment in transportation and other public resources. Arterial BRT corridors provide faster, more reliable service with enhanced stations beyond what is currently available in these areas. This results in a more useful service overall that is better able to meet the needs of our riders. The degree to which proposed arterial BRT corridors would serve these areas and populations is a primary evaluation factor.

Build on success to grow ridership

Arterial BRT corridors are designed as an improvement to existing local bus routes in corridors with demonstrated ridership success. The number of trips taken on transit and the number of people using transit are good measures of how useful the transit network is to people. Arterial BRT improvements build on

successful local service to benefit as many existing riders as possible with transitway investment and attract new riders to the system.

Design a network that supports a transit-oriented lifestyle

Arterial BRT candidate corridors have been identified both for their individual location in areas that have higher residential and employment densities and walkable pedestrian infrastructure that support regular transit use as well as their location within the overall network. Taken together, the arterial BRT network will expand access to transit service that allows the flexibility of conveniently changing plans, getting to appointments and errands, or visiting friends and family. Additionally, candidate corridors are screened and evaluated based on the potential to support the success and growth of arterial BRT service by reviewing land use and partner communities' policies and plans.

Ensure the long-term sustainable growth of the bus network

To ensure that the investments Metro Transit is making now will continue to operate for the long term, arterial BRT candidate corridors have been identified in part based on demonstrated ridership success and past sustainability of high-frequency service on local routes.

CORRIDOR SCREENING, EVALUATION, AND PRIORITIZATION

This document summarizes the process, methods, and results of the arterial BRT candidate corridor screening evaluation – the second of four phases in developing a program of projects to build out the arterial BRT network. The complete four-step evaluation process is summarized below.

1. **Identify:** Based on the Network Next principles, identify approximately 20 corridors to be screened for their fit for arterial BRT implementation.
2. **Screen:** Conduct screening evaluation to identify the most promising arterial BRT candidate corridors from the group identified in phase one.
3. **Evaluate:** Develop detailed arterial BRT concepts and apply robust evaluation using criteria that incorporate cost, ridership, benefits, and other quantitative data.
4. **Prioritize:** Review top-performing arterial BRT concepts based on a set of project readiness criteria to further prioritize concepts for implementation; this includes a review of coordination with the opening of major transitway projects, coordination with local partners, potential revenue streams, and other capital investment efficiencies.

CANDIDATE CORRIDORS

Table 1 lists the arterial BRT candidate corridors identified for screening; these corridors are mapped in Figure 1. Based on the Network Next principles identified above, these candidate corridors were selected using the following considerations:

- **High Frequency network:** The Metro Transit High Frequency network, consisting of routes operating every 15 minutes or better on weekdays and Saturday, was the starting point for the identification of candidate corridors. These routes have demonstrated both ridership success and long-term sustainability, in addition to forming the core structure of the existing local bus network.
- **Highest ridership corridors:** Several existing local routes have relatively high ridership but are not yet part of the High Frequency network. These routes were also considered in the identification of candidate corridors based on demonstrated ridership success and importance to the overall network.
- **Corridors previously studied for arterial BRT:** Several corridors that have previously been studied for arterial BRT are included in this screening process.
- **Network balance:** Candidate corridors were also identified based on the need to ensure a balanced and useful overall network, rather than a collection of individual corridors. Specific consideration was given to the geographic distribution and overall role in the network of candidate corridors, with special attention to ensuring good cross-town connections to other routes and destinations. Local priorities for arterial BRT study were also considered.

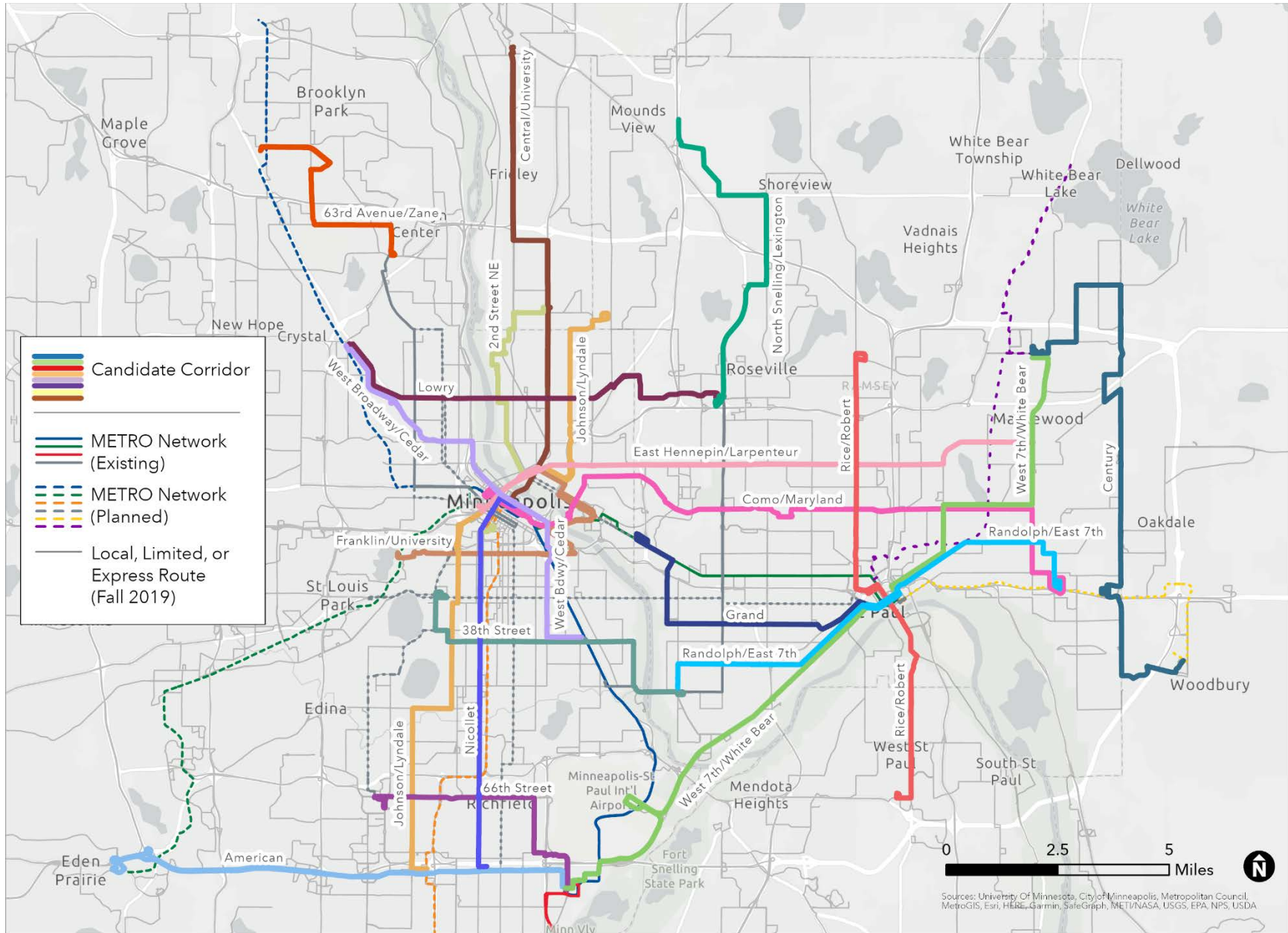
Table 1. Arterial BRT Candidate Corridors

Candidate Corridor (Listed Alphabetically)	Approximate Terminals	Primary Underlying Route(s)
2nd Street NE	Downtown Minneapolis to Columbia Heights Transit Center	11
38th Street ¹	Uptown Transit Station to Cleveland Avenue S and Ford Parkway	23
63rd Avenue / Zane	Starlite Transit Center to Brooklyn Center Transit Center	724
66th Street	Southdale Transit Center to Mall of America Transit Station	515
American	Mall of America Transit Station to SouthWest Station	542
Central ²	Downtown Minneapolis to Northtown Transit Center	10
Century	Woodbury Theatre to Maplewood Mall Transit Center	219
Como / Maryland	Downtown Minneapolis to Sun Ray Transit Center	3
East Hennepin / Larpenteur	Downtown Minneapolis to White Bear Ave.	61
Franklin / University	21st Street Station to SE 8th Street and Central Avenue NE	2
Grand	Westgate Station to downtown Saint Paul	63
Johnson / Lyndale ³	Silver Lake Village to W 82nd Street and Knox Avenue S	4
Lowry	Robbinsdale Transit Center to Rosedale Transit Center	32
Nicollet	Downtown Minneapolis to American Boulevard	18
North Snelling / Lexington	Rosedale Transit Center to TCAAP Redevelopment	225
Randolph / East 7th	Cleveland Avenue S and Ford Parkway to Sun Ray Transit Center	74
Rice / Robert	Dakota Co. Northern Service Center to Little Canada Transit Center	62, 68*
West 7th / White Bear	Maplewood Mall Transit Center to Mall of America Transit Station	54
West Broadway / Cedar	Robbinsdale Transit Center to 38th Street Station	14, 22^

*Routes 62 and 68 are the primary routes on the northern and southern half of the candidate corridor, respectively.

^Routes 14 and 22 are the primary routes on the northern and southern half of the candidate corridor, respectively.

Figure 1. Arterial BRT Candidate Corridors



Branch Selection

An alternative alignment was considered for three candidate corridors: 38th Street, Central, and Johnson / Lyndale. Alternative alignments were reviewed and ultimately eliminated from consideration in favor of those shown in Table 1 and Figure 1, which were determined to be more suitable for the arterial BRT network.

38th Street

For the 38th Street corridor, an alternative was considered that would have used the existing Route 23C branch and terminated at the Minnesota Veterans Home in Minneapolis instead of Cleveland Avenue and Ford Parkway in Saint Paul. The Cleveland Avenue and Ford Parkway alignment was chosen because it scored better in measures of existing ridership and market potential.

Central

An alternative was considered north of 53rd Avenue NE that would have used the existing Route 10N branch on Central Avenue, rather than via University Avenue (today's Route 10U branch). The Central via University alignment has over 1,000 (26 percent) more weekly Route 10 boardings than the Central via Central alternative. Additionally, the Central via University alignment is identified as a priority transit corridor in the 2040 comprehensive plans of both the City of Fridley and the City of Spring Lake Park; both communities identify potential transit priority treatments and land use changes that would benefit the Central via University BRT corridor. For these reasons, it was decided that the Central via University alignment be used for consideration relative to the remaining candidate corridors.

Johnson / Lyndale

A Johnson / Lyndale corridor alternative was considered south of 46th Street that would have used the existing Route 4L branch on Lyndale Avenue, rather than via Penn Avenue, today's Route 4P branch. When subject to the screening criteria, the only notable difference between the Penn and Lyndale alignments is that the Lyndale alignment has about 940 additional weekly boardings than the Penn alignment. However, of the 940 additional net weekly rides, about 580 of those occur along Lyndale Avenue at the intersections with 66th Street and 77th Street – both of which would likely be served by a Nicollet arterial BRT corridor. Additionally, the Penn alignment would result in better planned route spacing compared to the Lyndale alignment. Lyndale Avenue is about 0.5 miles west of Nicollet Avenue and the Nicollet arterial BRT candidate corridor, and 2.0 miles east of France Avenue, which the planned METRO E Line would use between 44th Street and Southdale Transit Center. The Penn alignment would result in more even route spacing, as it would be 1.5 miles west of Nicollet Avenue, and 1.0 mile east of France Avenue. For these reasons, it was decided that the Johnson / Lyndale via Penn Avenue alignment be used for consideration relative to the remaining candidate corridors.

Screening Criteria

PURPOSE OF SCREENING CRITERIA

Screening criteria were developed to identify the most promising arterial BRT candidate corridors to advance and further evaluate. The screening phase is the second of four to compile a more focused list of arterial BRT corridors for programming and implementation.

CRITERIA WEIGHTING

Shown in Table 2, the screening criteria measure the potential success and suitability of arterial BRT candidate corridors. Each criterion corresponds to one of the Network Next Principles. Weights were applied to each of the criterion, based on their relative importance to the success of an arterial BRT corridor. For example, an individual candidate corridor's total score – the sum of scores from all five criteria – will be 30 percent based on existing ridership (Table 2).

While all five criteria are important, some have greater weights to reflect the goals of the arterial BRT program and what Metro Transit has learned thus far from planning for and implementing the existing METRO A and C Lines.

Table 2. Arterial BRT Candidate Corridor Screening Criteria

Criterion	Weight	Related Network Next Principle
Equity	30%	Advance Equity and Reduce Regional Racial Disparities
Existing Ridership	30%	Build on Success to Grow Ridership
Market Potential	20%	Design a Network that Supports a Transit-Oriented Lifestyle
Community Plans and Priorities	10%	Design a Network that Supports a Transit-Oriented Lifestyle
Midday Service Level	10%	Ensure the Long-term Sustainable Growth of the Bus Network
	100%	

METHODS

Each of the five criteria are described in detail in the following section, including a description of what the criterion is measuring, why the criterion is important to decision making, the methods and sources used for analysis, and how to interpret the results.

Equity

Principle	Advance equity and reduce regional racial disparities
Why it is Important	<ul style="list-style-type: none"> • The Twin Cities region has some of the worst disparities in outcomes between white people and people of color in the nation. Transit has an important role to play in reducing those disparities. • The Metropolitan Council seeks to prioritize transit improvements that improve connections between historically disadvantaged populations, including low income populations and people of color, to jobs and opportunities throughout the region.
Weight	30 percent of total screening score
Description	Percent riders on the existing primary corridor route who are people of color or people experiencing poverty, based on information collected during on board passenger surveys
Methods and Data Sources	<ul style="list-style-type: none"> • Based on responses from the Metropolitan Council’s Travel Behavior Inventory (TBI) 2016 Transit On Board Survey. Survey participants were intercepted while riding the bus or train, and interviewed about their trip, their race and ethnicity, household income, and household size. Riders were assigned to candidate arterial BRT corridors based on the primary route operating in the corridor today. • People of color are defined as those who report their ethnicity as something other than “white, not Hispanic or Latinx.” Poverty is defined as residents with incomes below 185 percent of the federal poverty guidelines. • Results are calculated using the following equation for each primary route $\frac{[\text{Riders of color} + \text{Riders from households in poverty}]}{[\text{Riders who answered the ethnicity question} + \text{Riders who answered the income question}]}$ • Maximum score is 100%. Corridors with primary routes that have greater percentages received more points and better scores. Points were allocated relative to the best performing corridor.

Existing Ridership

Principle	Build on success to grow ridership
Why it is Important	Transit ridership is a key indicator of the success of a transit system. The number of trips taken on transit and the number of people using transit is a good measure of how useful the transit network is to people.
Weight	30 percent of total screening score
Description	Sum of average weekly boardings from the corridor's primary route
Methods and Data Sources	<ul style="list-style-type: none"> • Weekly boardings are representative of the average weekday boardings multiplied by five plus average Saturday boardings plus average Sunday boardings. • Based on Metro Transit's fall 2019 automatic passenger counter (APC) data collected at the bus stop level, using all bus stops served by the primary route along the candidate corridor.¹ • Higher ridership corridors received more points and better scores. Points were allocated relative to the best performing corridor. For example, if there were 30 maximum points and the best performing corridor had a result of 50,000 weekly boardings, that corridor would receive 30 points; a corridor with a result of 30,000 weekly boardings percent would receive $(30,000/50,000)*30$ points or 18 points.

Market Potential

Principle	Design a network that supports a transit-oriented lifestyle
Why it is Important	Designing a network that supports a transit-oriented lifestyle means making it easier to use transit for more than just getting to work downtown. It means expanding the network of frequent service, primarily in areas with higher population and employment densities and walkable pedestrian environments, so that more people have access to transit that allows the flexibility of changing their plans, getting to appointments and errands, or visiting friends and family.
Weight	20 percent of total screening score
Description	Measure of transit potential, based on the Transit Market Index of factors known to predict transit ridership: population density, employment density, automobile availability, and intersection density ²

¹ Because the proposed corridors do not align 1:1 with existing route lines, APC data were used to estimate boarding activity. The average daily boardings reported this way should not be expected to sum to publicly reported annual ridership on a route.

² See Appendix G of the 2040 TPP, available at: [https://metro council.org/Transportation/Publications-And-Resources/Transportation-Planning/2040-Transportation-Policy-Plan-\(2018-version\)-\(1\)/2018-TPP-Update-Appendices/Appendix-G-Regional-Transit-Design-Guidelines-and.aspx](https://metro council.org/Transportation/Publications-And-Resources/Transportation-Planning/2040-Transportation-Policy-Plan-(2018-version)-(1)/2018-TPP-Update-Appendices/Appendix-G-Regional-Transit-Design-Guidelines-and.aspx).

Methods and Data Sources

- Uses the Transit Market Index formula underlying the Metropolitan Council's Transit Market Areas. The 2040 Transportation Policy Plan (TPP) divides the region into five Transit Market Areas, which are used to estimate potential transit demand and guide the types and level of transit service that various areas of the region can support. There are five Transit Market Areas: I, II, III, IV, and V. Transit Market Areas are determined by an index that uses population density, employment density, household automobile availability, and intersection density (a proxy for walkability). Market Area I is where estimated transit demand is highest and can support the most intensive fixed-route transit service with high frequencies and long spans. Market Area V is where estimated transit demand is low and fixed-route transit service is not appropriate.
- Calculated by updating input data to the Transit Market Index formula. This index was recalculated for each census *block group* with inputs from the U.S. Census Bureau's 2013-2017 American Community Survey (ACS) five-year estimates. Unlike the Transit Market Areas in the TPP, which are smoothed into coherent large areas for planning purposes, the updated index values used in the screening were allowed to differ in level among neighboring block groups.
- Reported using the area weighted average Transit Market Index Range of the candidate corridor, based on an area defined by a ¼ mile buffer around the corridor line. For example, if 25 percent of the corridor buffer area is within Market Index I and the remaining 75 percent is within Market Index II, the weighted average Market Index would be reported as 1.75.
- The best possible result is 1.0 and the worst is 5.0. Corridors with weighted average Transit Market Indexes closer to 1.0 received more points and better scores. Points were allocated relative to the best performing corridor.

Community Plans and Priorities

Principle	Design a Network that Supports a Transit-Oriented Lifestyle
Why it is Important?	<ul style="list-style-type: none"> • Because transit depends on the surrounding environment for sustainability, cities' plans for land use and transportation are key to the long-term success of investments in arterial BRT. • This future-oriented measure reflects the vision set by community plans and priorities, rather than relying solely on existing conditions.
Weight	10 percent of total screening score
Description	<ul style="list-style-type: none"> • Review of community plans and priorities as expressed in municipalities' 2040 comprehensive plans and / or other relevant transportation policy documents • Scored based on three sub-measures: <ol style="list-style-type: none"> 1. Does the plan acknowledge and describe the nexus between land use and transit? Scored from 0 to 1 in 0.25 increments for each municipality that the candidate corridor is located within. 2. Is planned land use in the corridor supportive of arterial BRT investment? Measured relative to the Metropolitan Council's residential density requirements and the presence of non-residential land use with potential to generate activity.³ Scored from 0 to 1 in increments of 0.25 for each municipality that the candidate corridor is located within. 3. Does the plan specifically state a need or desire for, or expectation of, increased transit investment in the arterial BRT candidate corridor? Scored from 0.0 to 1.0 in increments of 0.25 for each municipality that the candidate corridor is located within.
Methods and Data Sources	<ul style="list-style-type: none"> • Each municipality within each corridor was evaluated for each of the three factors. Results for each of the three factors were weighed by the percent of the 1/4-mile candidate corridor buffer area that is within each community. For example, if 80 percent of a candidate corridor's area is located within municipality Y and 20 percent is within municipality Z, then 80 percent of the score for candidate corridor would be based on the review of plans and priorities from municipality Y, and 20 percent of the score would be attributable to plans and priorities of municipality Z. • All three sub-measures were summed into a total score on a scale of 0 to 3, with 3 indicating better performance. All or none of the corridors could have received the maximum value of 3 points. Unlike the other four criteria, the weighted scores for this criterion were not allocated relative to the best performing corridor.

³ Details on the Metropolitan Council policies around density and activity near transit are addressed in the Metropolitan Council's 2040 TPP; additional information is available at: <https://metro council.org/Handbook/Files/Resources/Fact-Sheet/LAND-USE/Density-and-Activity-Near-Transit.aspx>.

Midday Service Level

Principle	Ensure the long-term sustainable growth of the bus network
Why it is Important	<ul style="list-style-type: none"> • About two-thirds of all trips on Metro Transit’s bus network are taken for a purpose other than a 9-to-5 work commute. • Data collected by Metro Transit and the Metropolitan Council suggest there may be an opportunity to increase transit ridership during the midday and evenings outside of the weekday rush hours to serve trips occurring on other modes during these times.
Weight	10 percent of total screening score
Description	A measure of the level of transit service available in the midday (11:00 AM to 1:00 PM); the existing number of scheduled midday trips associated with the corridor’s primary route is compared to the anticipated number of midday trips scheduled for an arterial BRT service (12 trips, equal to 6 trips per hour, or 1 trip every 10 minutes).
Methods and Data Sources	<ul style="list-style-type: none"> • For existing routes with multiple branches and variable service levels, the averages were calculated using bus stops located along the primary portion of the route; this is also known as the “trunk” of the route, where service levels are greatest and before routes split into different branches. • Corridors with greater percentages received more points and better scores. Points were allocated relative to the best performing corridor.

Results

RESULTS BY CRITERION

The tables in the following pages include the raw results and scores (subjected to weighting as shown in Table 2) for each candidate corridor for each of the five screening criteria.

Equity

- **Measure:** Percent people of color or people experiencing poverty (using 185 percent of the federal poverty guidelines) attributed to the corridor’s primary underlying route, based on information collected during on board passenger surveys
- **Interpreting Results:** Maximum result is 100 percent. Corridors with primary routes that have greater percentages received more points and better scores. Points were allocated relative to the best performing corridor.
- **Source:** Metropolitan Council, Travel Behavior Inventory (TBI) 2016 Transit On Board Survey; U.S. Department of Health and Human Services, 2016 Poverty Guidelines

Table 3. Screening Results: Equity

Candidate Corridor	Primary Underlying Route(s)	Percent of Primary Route Riders			Rank	Score (Max. 30)
		People of Color	People Experiencing Poverty	People of Color or Experiencing Poverty		
63rd Avenue / Zane	724	72.9%	57.9%	65.4%	1	30.0
West Broadway / Cedar	14, 22	62.7%	45.7%	54.2%	2	24.9
Lowry	32	64.1%	41.9%	53.0%	3	24.3
Franklin / University	2	47.4%	55.0%	51.2%	4	23.5
Nicollet	18	56.6%	42.6%	49.6%	5	22.7
Central	10	52.8%	39.4%	46.1%	6	21.2
Randolph / East 7th	74	45.8%	45.5%	45.7%	7	21.0
West 7th / White Bear	54	49.8%	40.2%	45.0%	8	20.6
Como / Maryland	3	42.7%	46.2%	44.5%	9	20.4
2nd Street NE	11	52.2%	35.4%	43.8%	10	20.1
66th Street	515	52.1%	35.1%	43.6%	11	20.0
Century	219	53%	33%	42.9%	12	19.7
Rice / Robert	62, 68	53.7%	31.8%	42.7%	13	19.6
East Hennepin / Larpenteur	61	50.9%	30.7%	40.7%	14	18.7
North Snelling / Lexington	225	41.7%	38.5%	40.1%	15	18.4
American	542	34.2%	41.2%	37.8%	16	17.3
Grand	63	41.6%	29.0%	35.3%	17	16.2
Johnson / Lyndale	4	34.9%	31.3%	33.1%	18	15.2
38th Street	23	34.3%	27.2%	30.7%	19	14.1

Existing Ridership

- **Measure:** Sum of average weekly boardings from the corridor’s primary underlying route
- **Interpreting Results:** Higher ridership corridors received more points and better scores; points were allocated relative to the best performing corridor
- **Source:** Metro Transit, fall 2019 APC boarding data

Table 4. Screening Results: Existing Ridership

Candidate Corridor	Primary Underlying Route(s)	Existing Corridor Boardings				Rank	Score (Max. 30)
		Weekday	Saturday	Sunday	Weekly Average		
Nicollet	18	9,936	7,070	5,865	62,615	1	30.0
Central	10	7,192	4,796	3,619	44,373	2	21.3
Franklin	2	6,586	3,346	2,634	38,909	3	18.6
West 7th / White Bear	54	5,579	4,050	2,478	34,425	4	16.5
Como / Maryland	3	5,722	1,900	1,258	31,768	5	15.2
Johnson / Lyndale	4	5,236	2,648	1,859	30,688	6	14.7
West Broadway / Cedar	14, 22	4,081	2,308	1,737	24,450	7	11.7
Rice / Robert	62, 68	3,781	2,722	1,992	23,621	8	11.3
Randolph / East 7th	74	3,822	2,240	1,664	23,014	9	11.0
2nd Street NE	11	3,114	1,682	1,127	18,379	10	8.8
Grand	63	2,789	1,666	1,283	16,893	11	8.1
63rd Avenue / Zane	724	1,746	1,371	1,066	11,165	12	5.4
Lowry	32	1,689	1,077	792	10,314	13	4.9
38th Street	23	1,540	980	737	9,416	14	4.5
66th Street	515	1,474	1,168	878	9,416	15	4.5
East Hennepin / Larpenteur	61	1,332	343	0	7,002	16	3.4
Century	219	418	141	0	2,233	17	1.1
American	542	186	0	0	928	18	0.4
North Snelling / Lexington	225	137	57	0	743	19	0.4

Market Potential

- **Measure:** Weighted average Transit Market Index Range, indicative of potential for successful, sustainable transit service, based on factors known to predict transit ridership in the Twin Cities: population density, employment density, automobile availability, and intersection density
- **Interpreting Results:** The best possible result is a weighted average Transit Market Index Range of 1.0 and the worst is 5.0. Corridors with results closer to 1.0 received more points and better scores. Points were allocated relative to the best performing corridor.
- **Source:** Metropolitan Council

Table 5. Screening Results: Market Potential

Candidate Corridor	Percent of Corridor Area by Transit Market Index Range					Weighted Average Transit Market Index Range	Rank	Score (Max. 20)
	I	II	III	IV	V			
West Broadway / Cedar	71.4%	24.3%	4.3%	0.0%	0.0%	1.33	1	20.0
Franklin / University	70.0%	19.4%	10.6%	0.0%	0.0%	1.41	2	18.9
Grand	60.1%	33.1%	6.7%	0.1%	0.0%	1.47	3	18.1
Nicollet	58.2%	36.5%	5.2%	0.0%	0.0%	1.47	4	18.1
Como / Maryland	41.0%	55.4%	3.5%	0.0%	0.0%	1.63	5	16.3
Randolph / East 7th	47.7%	42.4%	7.8%	2.0%	0.0%	1.64	6	16.2
38th Street	59.5%	21.0%	14.8%	4.6%	0.0%	1.65	7	16.2
Johnson / Lyndale	41.7%	47.1%	8.5%	2.7%	0.0%	1.72	8	15.4
2nd Street NE	50.3%	21.1%	27.4%	1.2%	0.0%	1.79	9	14.8
Central	39.5%	33.8%	18.1%	8.6%	0.0%	1.96	10	13.6
63rd Avenue / Zane	13.0%	66.6%	19.7%	0.7%	0.0%	2.08	11	12.8
Rice / Robert	28.7%	39.6%	26.1%	5.2%	0.4%	2.09	12	12.7
66th Street	16.6%	65.2%	5.8%	11.8%	0.6%	2.15	13	12.4
Lowry	33.3%	28.8%	19.9%	17.9%	0.0%	2.23	14	11.9
East Hennepin / Larpenteur	24.9%	32.1%	24.5%	18.6%	0.0%	2.37	15	11.2
American	7.5%	50.2%	30.3%	12.0%	0.0%	2.47	16	10.8
West 7th / White Bear	25.1%	31.1%	15.4%	23.0%	5.4%	2.53	17	10.5
Century	0.0%	31.0%	58.8%	10.2%	0.0%	2.79	18	9.5
North Snelling / Lexington	0.0%	28.8%	39.2%	4.4%	27.6%	3.31	19	8.0

Community Plans and Priorities

- **Measure:** The extent to which community plans and priorities are supportive of transit and the arterial BRT candidate corridor, as expressed in municipalities' 2040 comprehensive plans and / or other relevant transportation policy documents. A total score was calculated and is representative of three sub-scores, reflecting three ways of measuring supportive plans and priorities.
- **Interpreting Results:** The total score is measured on a scale of 0 to 3, with 3 indicating better performance. Unlike the other four criteria, the weighted scores for this criterion were not allocated relative to the best performing corridor.
- **Source:** Municipal 2040 Comprehensive plans (accessed June 2020); City of Minneapolis Transportation Action Plan (accessed June 2020)

Table 6. Screening Results: Community Plans and Priorities

Candidate Corridor	Review of Community Plans and Priorities				Rank	Score (Weight Applied) [Max. 10]
	Transit-Supportive Development Policies (0 – 1)	Transit-Supportive Planned Land Use (0 – 1)	Corridor Identified as a Prioritized Transit Corridor (0 – 1)	Total Score (Sum) [Max. 3]		
38th Street	1.00	1.00	1.00	3.00	1	10.0
Franklin / University	1.00	1.00	1.00	3.00	1	10.0
Grand	1.00	1.00	1.00	3.00	1	10.0
Randolph / East 7th	1.00	1.00	1.00	3.00	1	10.0
West 7th / White Bear	1.00	1.00	1.00	3.00	1	10.0
West Broadway / Cedar	1.00	1.00	1.00	3.00	1	10.0
Como / Maryland	1.00	1.00	0.97	2.97	7	9.9
Nicollet	1.00	0.93	1.00	2.93	8	9.8
American	1.00	1.00	0.85	2.85	9	9.5
Johnson / Lyndale	1.00	0.96	0.85	2.81	10	9.4
2nd Street NE	1.00	1.00	0.80	2.80	11	9.3
Central	0.98	0.82	0.99	2.79	12	9.3
Rice / Robert	0.98	0.96	0.78	2.72	13	9.1
Lowry	1.00	0.91	0.74	2.65	14	8.8
East Hennepin / Larpenteur	1.00	0.94	0.34	2.28	15	7.6
Century	0.99	0.76	0.46	2.21	16	7.4
North Snelling / Lexington	0.54	0.75	0.83	2.12	17	7.1
63rd Avenue / Zane	1.00	1.00	0.00	2.00	18	6.7
66th Street	1.00	0.81	0.14	1.95	19	6.5

Midday Service Level

- **Measure:** Level of transit service available in the midday (11:00 AM to 1:00 PM); the existing number of scheduled midday trips associated with the corridor’s primary underlying route is compared to the anticipated number of midday trips to be scheduled for an arterial BRT service (one trip every 10 minutes, or 12 trips over two hours)
- **Interpreting Results:** Corridors with greater percentages received more points and better scores; points were allocated relative to the best performing corridor
- **Source:** Metro Transit, fall 2019 schedules

Table 7. Screening Results: Midday Service Level

Candidate Corridor	Primary Underlying Route(s)	Midday Scheduled Bus Trips (11:00 AM-1:00 PM)					Rank	Score (Max. 10)
		Weekday	Saturday	Sunday	Daily Average	As Percent of BRT*		
Nicollet	18	16.0	15.4	11.3	15.2	127.0%	1	10.0
Franklin / University	2	12.0	11.9	11.9	12.0	99.8%	2	7.9
Central	10	11.8	11.9	6.7	11.1	92.4%	3	7.3
66th Street	515	8.0	8.0	6.0	7.7	64.3%	4	5.1
West 7th / White Bear	54	8.0	8.0	6.0	7.7	64.3%	4	5.1
Como / Maryland	3	8.2	8.0	4.2	7.6	63.3%	6	5.0
Johnson / Lyndale	4	8.0	8.0	4.1	7.4	62.0%	7	4.9
2nd Street NE	11	8.0	7.9	4.1	7.4	61.9%	8	4.9
Grand	63	6.0	6.0	6.0	6.0	50.0%	9	3.9
West Broadway / Cedar	14, 22	6.0	6.0	4.6	5.8	48.3%	10	3.8
Randolph / East 7th	74	6.0	6.0	4.0	5.7	47.6%	11	3.8
Rice / Robert	62, 68	5.8	5.8	4.7	5.6	47.0%	12	3.7
38th Street	23	4.0	5.0	4.0	4.1	34.5%	13	2.7
Lowry	32	4.0	4.0	4.0	4.0	33.3%	14	2.6
63rd Avenue / Zane	724	4.0	4.0	4.0	4.0	33.3%	14	2.6
East Hennepin / Larpenteur	61	4.0	2.0	0.0	3.1	26.2%	16	2.1
Century	219	4.0	2.0	0.0	3.1	26.2%	17	2.1
North Snelling / Lexington	225	2.0	2.0	0.0	1.7	14.3%	18	1.1
American	542	0	0	0	0	0.0%	19	0.0

*One trip every 10 minutes, or 12 trips.

SUMMARY RESULTS

Table 8 summarizes the scores reported in Table 4 through Table 7, representing all five screening criteria applied to all candidate corridors.

Table 8. Preliminary Screening Results by Criterion

For each criterion score, the values shown in **blue** and **orange** are the highest and lowest scores, respectively

Candidate Corridor	Scores by Criterion					Total Score (Max. 100)	Rank
	Equity (Max. 30)	Existing Ridership (Max. 30)	Market Potential (Max. 20)	Midday Service Level (Max. 10)	Community Plans and Priorities (Max. 10)		
Nicollet	22.7	30.0	18.1	10.0	9.8	90.6	1
Franklin / University	23.5	18.6	18.9	7.9	10.0	78.8	2
Central	21.2	21.3	13.6	7.3	9.3	72.5	3
West Broadway / Cedar	24.9	11.7	20.0	3.8	10.0	70.4	4
Como / Maryland	20.4	15.2	16.3	5.0	9.9	66.8	5
West 7th / White Bear	20.6	16.5	10.5	5.1	10.0	62.7	6
Randolph / East 7th	21.0	11.0	16.2	3.8	10.0	62.1	7
Johnson / Lyndale	15.2	14.7	15.4	4.9	9.4	59.5	8
2nd Street NE	20.1	8.8	14.8	4.9	9.3	57.9	9
63rd Avenue / Zane	30.0	5.4	12.8	2.6	6.7	57.4	10
Rice / Robert	19.6	11.3	12.7	3.7	9.1	56.5	11
Grand	16.2	8.1	18.1	3.9	10.0	56.3	12
Lowry	24.3	4.9	11.9	2.6	8.8	52.6	13
66th Street	20.0	4.5	12.4	5.1	6.5	48.5	14
38th Street	14.1	4.5	16.2	2.7	10.0	47.5	15
East Hennepin / Larpenteur	18.7	3.4	11.2	2.1	7.6	43.1	16
Century	19.7	1.1	9.5	2.1	7.4	39.7	17
American	17.3	0.4	10.8	0.0	9.5	38.1	18
North Snelling / Lexington	18.4	0.4	8.0	1.1	7.1	35.0	19

Advancing Corridors

ADDITIONAL QUALITATIVE REVIEW

Table 8 presents the results of the quantitative screening evaluation process, based on the five screening criteria. While these results are critical in narrowing down the list of candidate corridors, they focus mainly on the magnitude of existing and potential transit use within a corridor, regardless of broader context. The five screening criteria do not effectively account for other critical considerations, including:

- The role that the existing underlying route plays in the broader bus network
- How people use transit in the corridor, including where they get on and off the bus, and how long they ride
- Design of the existing underlying route, and limitations of applying BRT route design principles to that route based on the street network, land use, and activity generators

Given the limitations of the five selected screening criteria, Metro Transit and consultant staff conducted an additional review based on the factors listed above. Despite quantitatively performing better than many other candidate corridors, the Franklin / University and 2nd Street NE candidate corridors were removed from further consideration.

Franklin / University (Route 2)

The Franklin / University candidate corridor will not be carried forward for further evaluation for the reasons listed below.

- **Circuitous route design:** The indirect, W-shaped route structure of Route 2 is not aligned with the goals of faster, more direct arterial BRT service.
 - While the design of Route 2 is neither simple nor direct, it continues to be among the highest ridership and most productive routes within the Metro Transit bus network. The route is designed to link together segments that serve multiple major trip generators, often with short passenger trips, while providing numerous connections to a broader transit network. Route 2 is productive because of its design and role in the broader network, not despite it.
 - A straightened route continuing east on Franklin past 26th Avenue, while simpler and more direct, would not serve the major destinations and connections that make Route 2 productive today. Straightening the route to make it a better fit for arterial BRT would result in a corridor with fast service potential but serving few of the destinations that makes Route 2 successful today.

- **Limited potential to speed service:** Through Metro Transit’s Better Bus Routes program, the agency has already implemented speed and reliability improvements within its control in the Franklin / University candidate corridor. Capital investments in the corridor as part of the arterial BRT program are not likely to achieve additional significant speed and reliability improvements.
- **Future street changes:** Franklin Avenue is currently being studied by Hennepin County. With limited right-of-way and a goal to increase pedestrian / bicyclist safety and calm traffic in this corridor, leading redesign concepts would slow overall traffic without providing dedicated space for bus priority. Given this, a future street configuration within the Franklin Avenue corridor may reduce bus speed and reliability compared to today.

While carrying the candidate corridor through evaluation might show the mismatch between speed improvements and capital investment, there are many other criteria that could obscure this result. The route is not a good fit for arterial BRT investment and will therefore not be carried forward.

2nd Street NE (Route 11 North)

The 2nd Street NE candidate corridor will not be carried forward for further evaluation for the reasons listed below.

- **Indirect route design:** The indirect route structure of Route 11 north of Lowry Avenue NE is not aligned with the goals of arterial BRT.
 - Given the street network north of Lowry Avenue NE, there is no viable option for straightening the route to achieve speed and reliability benefits while still maintaining transit access in the Marshall Terrace neighborhood. With limited fixed-route service options in this portion of northeast Minneapolis, existing Route 11 passengers benefit from the more coverage-oriented existing routing north of Lowry Avenue.
 - A simplified BRT corridor along University Avenue NE along all or part of the existing Route 11 corridor would not adequately serve the neighborhoods along this area and would involve operating on significant portions of two-lane divided highway without pedestrian access.
- **Network impacts:** The 2nd Street NE candidate corridor does not fit well into the overall existing and planned transit network.
 - The portion of the Route 11 south of downtown was not identified as a candidate corridor because of its proximity to the planned METRO D Line, METRO Orange Line, and identified Nicollet Avenue candidate BRT corridor. This presents limited options for maintaining the existing level of local service on the Route 11 south of downtown while also incorporating the 2nd Street NE candidate corridor into the existing and planned transit network.

ADVANCING CORRIDORS

The purpose of corridor screening is to identify the most promising arterial BRT candidate corridors to advance for further development. The screening phase is the second of four steps to compile a focused list of arterial BRT corridors that can be used for programming and implementation.

The targeted outcome of screening was to identify approximately 10 arterial BRT candidate corridors to be considered for additional refinement, evaluation, and consideration. Additional refinement includes the development of finer-grained arterial BRT routing, approximate station siting, and potential service plans for arterial BRT and any underlying local service. These concept details are needed to develop operating and capital cost estimates, ridership forecasts, and additional evaluation of impacts and suitability.

Based on the screening outcomes, Metro Transit will advance 11 corridors to the next phase of development and evaluation. Table 9 and Figure 2 present the 11 advancing candidate corridors and those eliminated from consideration following screening. Figure 3 displays candidate corridor screening total scores by criterion, illuminating the impact of each criterion on total scores for each candidate corridor.

Table 9. Final Screening Results by Criterion (Following Qualitative Review)

Candidate Corridor	Scores by Criterion					Total Score (Max. 100)	Rank
	Equity (Max. 30)	Existing Ridership (Max. 30)	Market Potential (Max. 20)	Midday Service Level (Max. 10)	Community Plans and Priorities (Max. 10)		
Nicollet	22.7	30.0	18.1	10.0	9.8	90.6	1
Central	21.2	21.3	13.6	7.3	9.3	72.5	2
West Broadway / Cedar	24.9	11.7	20.0	3.8	10.0	70.4	3
Como / Maryland	20.4	15.2	16.3	5.0	9.9	66.8	4
West 7th / White Bear	20.6	16.5	10.5	5.1	10.0	62.7	5
Randolph / East 7th	21.0	11.0	16.2	3.8	10.0	62.1	6
Johnson / Lyndale	15.2	14.7	15.4	4.9	9.4	59.5	7
63rd Avenue / Zane	30.0	5.4	12.8	2.6	6.7	57.4	8
Rice / Robert	19.6	11.3	12.7	3.7	9.1	56.5	9
Grand	16.2	8.1	18.1	3.9	10.0	56.3	10
Lowry	24.3	4.9	11.9	2.6	8.8	52.6	11
Candidate corridors above this this row will advance to the concept development and evaluation phase							
66th Street	20.0	4.5	12.4	5.1	6.5	48.5	12
38th Street	14.1	4.5	16.2	2.7	10.0	47.5	13
East Hennepin / Larpenteur	18.7	3.4	11.2	2.1	7.6	43.1	14
Century	19.7	1.1	9.5	2.1	7.4	39.7	15
American	17.3	0.4	10.8	0.0	9.5	38.1	16
North Snelling / Lexington	18.4	0.4	8.0	1.1	7.1	35.0	17

Staff reviewed whether to include the 11th-ranked candidate corridor, Lowry, whose total score of 52.6 points is a break point between the 10th- and 12th-ranked corridors (Table 9). The Lowry candidate corridor scored 4.2 points higher than the 66th Street corridor, and 3.7 points lower than the Grand corridor. The corridor is being advanced for further development based on two key factors:

Equity: As shown in Figure 3, the Lowry corridor’s total score is bolstered by its equity score; Lowry has the third highest score in this criterion (Table 9).

Crosstown network: the Lowry candidate corridor presents an opportunity to develop arterial BRT on a crosstown, east-west service in north Minneapolis, responding to a consistent request from community.

Figure 2. Advancing Arterial BRT Candidate Corridors

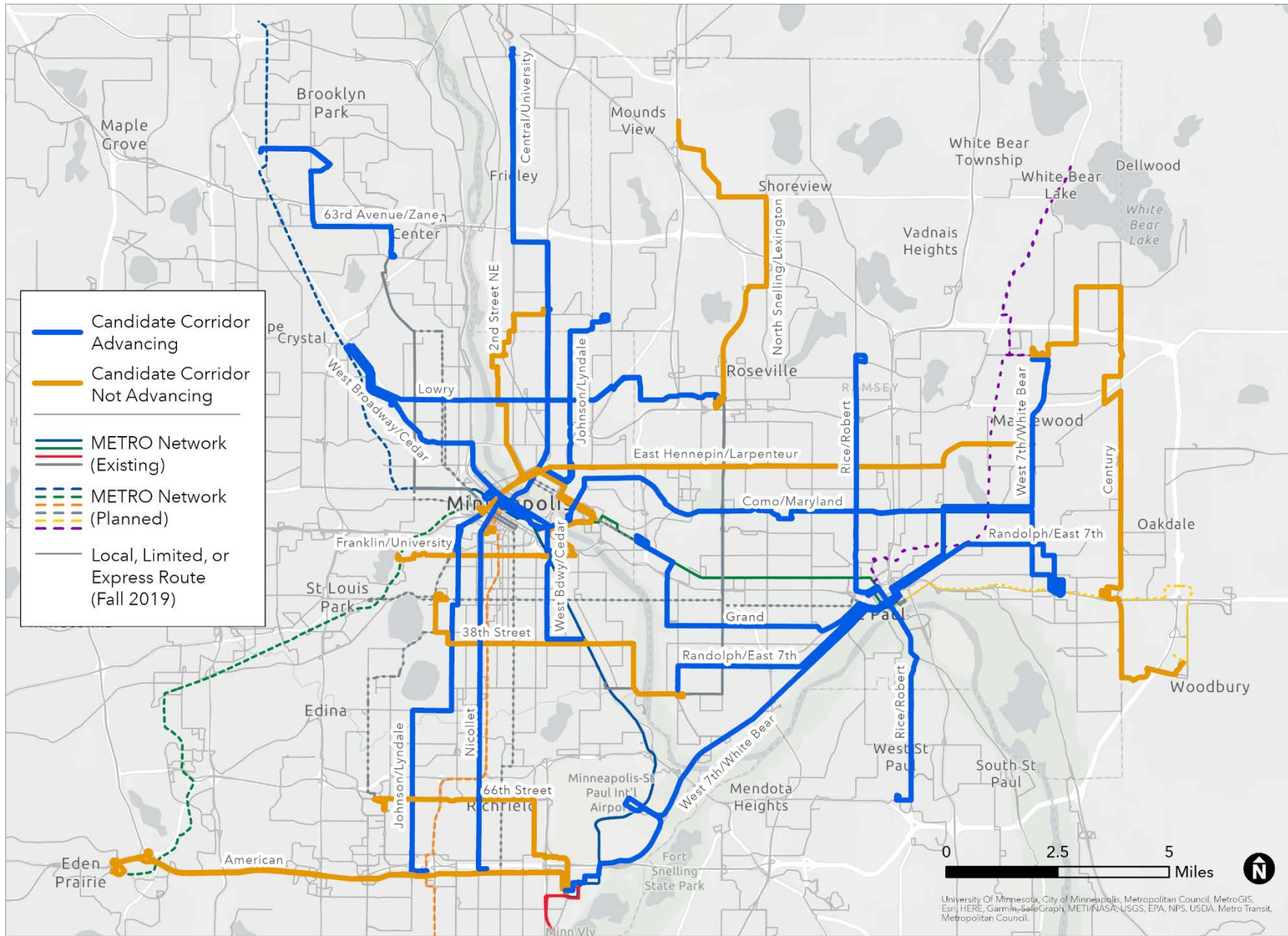
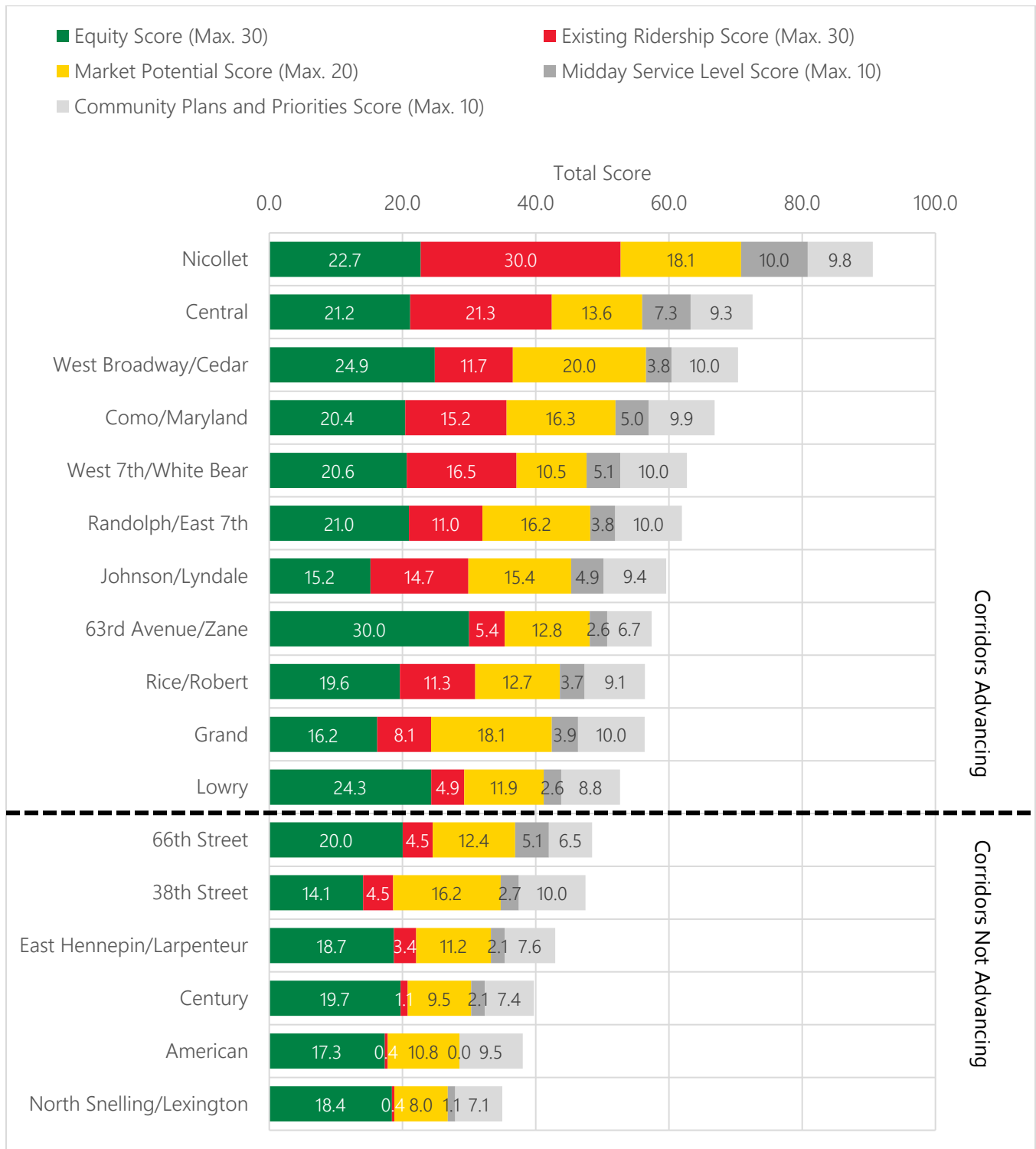


Figure 3. Arterial BRT Candidate Corridor Screening Total Scores by Criterion



NEXT STEPS

Arterial BRT concepts will be developed for each of the 11 advancing corridors. This will include routing, approximate station siting, and service plans for the arterial BRT and any underlying local service. Once developed, these 11 concepts will be subject to a broad set of evaluation criteria, the third of four phases in this process. Finally, the top-performing arterial BRT concepts will be reviewed based on implementation readiness criteria, resulting in a multi-year implementation plan for the arterial BRT program.