

Northstar Commuter Rail Extension Feasibility Assessment

An assessment of the feasibility to extend Northstar commuter rail service to St. Cloud was conducted by MnDOT and Metro Transit at the direction of the Minnesota State legislature during its 2019 session. This included evaluation of capital and service costs. Ridership forecasting was not included.

Background

Northstar Commuter Rail began operation in 2009 between downtown Minneapolis and Big Lake, serving seven stations (Target Field, Fridley, Coon Rapids, Anoka, Elk River, Big Lake) with six morning and six afternoon rush hour trains on weekdays; three trains each direction on Saturdays, Sundays and Holiday; special trains for each Minnesota Twins Game at Target Field and other special events. In October 2019, ridership averaged 2,550 on weekdays, 260 on Saturdays, and 166 on Sundays. Twins Game day ridership increased 800-1,000 over the average. Total project cost was \$308.5 million.

In 2010, Metro Transit and the Northstar Corridor Development Authority (NCDA) evaluated the potential for extending commuter rail to St. Cloud. At that time the findings in capital, operating cost, infrastructure constraints and limited ridership led to a recommendation of deferring further development of rail service extension. The following criteria were identified as needed to trigger re-evaluation:

- **Ridership: >4,500 average daily Phase I and Northstar Link boardings:**
As the **economy recovers**, if average daily Phase I ridership grows closer to initial projections and Northstar Link continues to grow, project reevaluation may be justified.
- **Corridor Capacity Improvements addressing infrastructure constraints:**
Installation of a 3rd main line within the corridor (from Coon Creek Junction to Northtown Yards) or installation of a 2nd main line track between Becker and Big Lake would ease these constraints.
- **Changes to FTA Rating Criteria:**
Any changes to the evaluation of extensions or projects that connect regional centers, or large-scale changes to criteria weighting and CEI thresholds would justify project reevaluation.
- **New Grant Opportunities of >\$50 Million in alternate grant funding opportunities:**
With no other changes that would strengthen a Small Starts submittal, other funding opportunities needed to allow Phase II to compete more effectively.
- **Major Economic Development: >3,000 new people or jobs in the Phase II corridor:**
Significant population or employment increase along the corridor will potentially increase the demand for transit.

COVID 19 pandemic

In March 2020, Governor Tim Walz issued Emergency Executive Order 20-20 directing all persons living in the State of Minnesota to stay at home to reduce the spread of COVID-19 and resulting illness risks. Downtown Minneapolis office businesses began working remotely, and Metro Transit reduced bus and rail service to

essential trips only. As of July 2020, two morning and afternoon weekday rush hour Northstar trains remain in operation. The downtown office commuter market is not expected to return to previous volumes in 2020. With many commuter bus routes reduced or suspended, Metro Transit continues to evaluate appropriate scale of commuter express bus routes and service on Northstar commuter rail as the market develops.

Service Alternatives

The Northstar Commuter Rail Extension Feasibility Assessment examined infrastructure, capital needs and operating cost estimates of four potential service alternatives for extending commuter rail service to St. Cloud, building on the existing Northstar service levels. Each of these service alternatives were determined to be operationally feasible when considering existing passenger train traffic; existing and future freight traffic; existing track and other infrastructure; efficient use of equipment (i.e. locomotives and coaches); operating rules; labor contracts and federal regulations. Ridership forecasting was not included in this study, and would be needed to consider cost benefit evaluation to determine merit of advancement.

The following table illustrates the number of weekday trains for each scenario operating between Minneapolis and Big Lake and between Minneapolis and St Cloud under each alternative.

Number of Weekday Trains Operating Between Minneapolis, Big Lake & St Cloud for Each Service Alternative

Operating Scenario	Weekday					
	Morning		Afternoon		Evening	
	SB	NB	SB	NB	SB	NB
<i>Between Minneapolis and Big Lake</i>						
Existing Service	5	1	1	5	-	-
Minimum Service Alternative	5	1	1	5	-	-
Minimum Bi-Directional Alternative	5	1	1	5	-	-
Express Service Alternative	5	1	1	5	-	-
Bi-Directional Service Alternative	5	2	4	6	-	1
<i>Between Minneapolis and St. Cloud</i>						
Existing Service	-	-	-	-	-	-
Minimum Service Alternative	1	-	-	1	-	-
Minimum Bi-Directional Alternative	1	1	1	1	-	-
Express Service Alternative	1 Express	1 Express	1 Express	1 Express	-	-
Bi-Directional Service Alternative	2	1	2	3	-	1

Note: Unless designated as Express, all trains stop at all stations. Express trains operate between Minneapolis and St Cloud without any intermediate stops.

Saturday, Sunday and Holiday service

Northstar Commuter Rail currently operates three trips from Minneapolis to Big Lake and three trips from Big Lake to Minneapolis on Saturdays, Sundays and Holidays. Each service alternative assumes the addition of two express trains (morning and afternoon) from St Cloud to Minneapolis and 2 express trains (morning and afternoon) from Minneapolis to St Cloud on Saturdays, Sundays and Holidays.

Capital Improvements

The operational analysis indicates that the following capital improvements would facilitate reliable passenger train operation without interfering with freight train traffic when service is first initiated.

Track, Signal and Equipment Improvements Needed to Implement Northstar Service to St Cloud

Service Alternative	Type of Improvement
Minimum Service	Station Improvements – Track modifications at Big Lake and St Cloud stations. Track Improvements – Installation/upgrade of crossovers near Big Lake and St Cloud
Minimum Bi-Directional	-- All of the above plus the following -- Station Platform Modifications – An additional platform and overpass at Big Lake Locomotives and Coaches – One additional trainset (locomotive and coaches)
Express Service	-- All of the above plus the following * -- Mainline Track – A third main track between Northtown and Coon Rapids
Bi-Directional Service	-- All of the above plus the following -- Signal Improvements – Upgrade existing signals and add additional signals

*(An additional platform at Big Lake would not be necessary for Express Service.)

To accommodate anticipated increases in freight traffic through 2040, BNSF will likely request additional improvements such as the installation/upgrade of additional crossovers, an additional main track between Northtown and Target Field Station and extension of the Big Lake siding to the west.

Estimated Costs

The estimated capital cost to implement each service alternative is shown in the following table. A range of costs is shown. The minimum investment represents the cost to implement each service alternative in the near term (2025). The maximum investment represents additional costs for capital improvements that BNSF will likely request to accommodate projected increases in freight traffic between now and 2040. Capital costs include engineering costs and professional services through design and construction.

Adjusting for inflation and based on existing service, Metro Transit’s annual budget for Northstar operations would increase from \$22 million to approximately \$26.4 to 36.5 million in 2025. Operating & Maintenance costs do **not** include BNSF access fees or expensed maintenance costs for capital improvements. The estimated incremental annual operating cost for each service alternative is also shown in the following table.

Estimated Capital and Operating Costs for Each Service Alternative (\$2025)

All costs are adjusted for inflation to the year 2025	Estimated Capital Cost	Incremental Annual Operating Cost
Minimum Service Alternative	\$36 - \$139 Million	\$ 4.7 Million
Minimum Bi Directional Alternative	\$96 - \$207 Million	\$ 7.7 Million
Express Service Alternative	\$141 - \$190 Million	\$10.1 Million
Bi Directional Service Alternative	\$188 - \$257 Million	\$ 14.7 Million

Note: Exact costs will depend upon negotiations with BNSF.

A preliminary estimate of the time required to complete preliminary engineering, environmental review, equipment acquisition, final design, construction, testing and commissioning for the 2040 Bi-Directional Service Alternative is 5½-7 years. Because the Minimum Service Alternative would need less infrastructure and no equipment acquisition to operate, the schedule for the same implementation steps could be less than 5½ years.