DEPARTMENT OF TRANSPORTATION

Twin Cities-St. Cloud-Fargo/ Moorhead Corridor Study

February 2025

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February 20, 2025

The Honorable Lisa Demuth
Speaker
Minnesota House of Representatives
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St. Paul, Minnesota 55155

The Honorable Erin P. Murphy
Majority Leader
Minnesota Senate
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St. Paul, Minnesota 55155

The Honorable Melissa Hortman
Speaker Emerita
Minnesota House of Representatives
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The Honorable Mark T. Johnson
Minority Leader
Minnesota Senate
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St. Paul, Minnesota 55155

The Honorable Jon Koznick
Chair
House Transportation Finance and Policy Committee
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St. Paul, Minnesota 55155

The Honorable D. Scott Dibble
Chair
Senate Transportation Committee
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The Honorable Erin Koegel
DFL Lead
House Transportation Finance and Policy Committee
5th Floor, Centennial Office Building
St. Paul, Minnesota 55155

The Honorable John R. Jasinski
Ranking Minority Member
Minnesota Senate
2227 Minnesota Senate Building
St. Paul, Minnesota 55155

Re: Twin Cities-St. Cloud-Fargo/Moorhead Corridor Study

Dear Legislators,

The Minnesota Department of Transportation is pleased to provide this assessment report as required by Minn. Session Law Ch. 68, sec. 112. The purpose of the study was to conduct an analysis and evaluation of options for development of transit and rail service improvements in the corridor between the Minnesota Cities of St. Paul, Minneapolis, Coon Rapids, St. Cloud and Moorhead, and Fargo, North Dakota.

Please contact me at nancy.daubenberger@state.mn.us if you have questions or comments about this report. Thank you for your consideration.

Sincerely,

Nancy Daubenberger

Nancy Daubenberger, P.E.
Commissioner

Legislative Request

This report is issued to comply with 2023 Minn. Session Laws, Ch. 68, Art. 4, Sec. 112, Subd. 3(b).

Section 112. **RAIL CORRIDOR SERVICE.**

Subdivision 1. **Commuter rail extension.**

The commissioner of transportation, in collaboration with the Metropolitan Council, must conduct an assessment of a project to extend Northstar Commuter Rail service to the City of St. Cloud. The assessment must include but is not limited to project scoping; documentation of the necessary steps to apply for and receive federal funding; an estimation of the project scope and costs of predesign, design, project development, construction, rolling stock and equipment; and a detailed summary of all necessary steps to complete the rail extension to St. Cloud prior to construction, including but not limited to any additional analysis, outreach, predesign and design.

Subdivision 2. **Corridor development analysis.**

(a) Of the amount appropriated under subdivision 1 that remains following the assessment under this subdivision, the commissioner must conduct a comprehensive analysis and evaluation of options for development of transit and rail service improvements in the corridor between the Minnesota Cities of St. Paul, Minneapolis, Coon Rapids, St. Cloud and Moorhead, and Fargo North Dakota.

(b) At a minimum, the analysis must:

(1) identify and evaluate alternatives for service in the corridor, including but not limited to:

(i) intercity passenger rail, commuter rail, bus service and other public transportation alternatives identified by the commissioner, or a combination of service between Minneapolis and St. Paul;

(ii) extension of current Amtrak train service between Minneapolis and St. Paul and Chicago to St. Cloud;

(iii) intercity passenger rail service between St. Paul, Minneapolis, Coon Rapids, St. Cloud and Moorhead, Minnesota and Fargo, North Dakota; and

(iv) intercity passenger rail service through Minnesota on a line with origins and destinations outside the state.

(2) evaluate elimination of Northstar Commuter Rail service in conjunction with options under Subdivision 1, including but not limited to a comprehensive, fiscal review of costs and reductions in expenditures, analysis of barriers and any other considerations;

(3) provide for an estimation of:

(i) ridership, including potential impacts of stops in the vicinity of St. Cloud State University and the Department of Veterans Affairs Medical Center in St. Cloud;

(ii) capital and operating costs; and

(iii) revenue impacts.

(4) consider project barriers and risks;

(5) examine transit service administration, which may include jurisdictional transfers and contracting for service; and

(6) make recommendations for rail service development in the corridor.

Subd. 3. **Legislative reports.**

(a) By February 15, 2024, the commissioner of transportation must submit a report on the commuter rail extension assessment under Subdivision 2 to the speaker of the house, house minority leader, senate majority leader, senate minority leader and chairs and ranking minority members of the legislative committees with jurisdiction over transportation policy and finance. At a minimum, the report must:

(1) include the results of the assessment; and

(2) provide an overview of the status of the corridor analysis under Subdivision 2.

(b) By February 1, 2025, the commissioner of transportation must submit a report on the corridor analysis and evaluation under Subdivision 2 to the speaker of the house, house minority leader, senate majority leader, senate minority leader and chairs and ranking minority members of the legislative committees with jurisdiction over transportation policy and finance. At a minimum, the report must:

(1) provide a summary of the corridor analysis;

(2) review each of the elements specified under Subdivision 2, Paragraph (b); and

(3) provide recommendations for legislative changes, if any.

EFFECTIVE DATE. This section is effective the day following final enactment.

The cost of this report is approximately $650,000 and is inclusive of extensive public engagement meetings in communities, outreach and internal staff time. The funding is part of a one-time appropriation for $4,000,000 in Fiscal Year 2003 made in chapter 68.

Executive Summary

*This report is a corridor analysis and evaluation of options for development of transit and rail service improvements in the corridor between the Minnesota Cities of St. Paul, Minneapolis, Coon Rapids, St. Cloud and Moorhead, and Fargo, North Dakota (see **Figure 1**). The analysis in this report is intended to fulfill the requirements of the legislation, including evaluation of alternatives for transit service in the corridor (see **Figure 2**) and evaluation of the elimination of Northstar Commuter Rail service in conjunction with those alternatives as described in the legislation.*

Figure 1: Major Cities and Distances Between

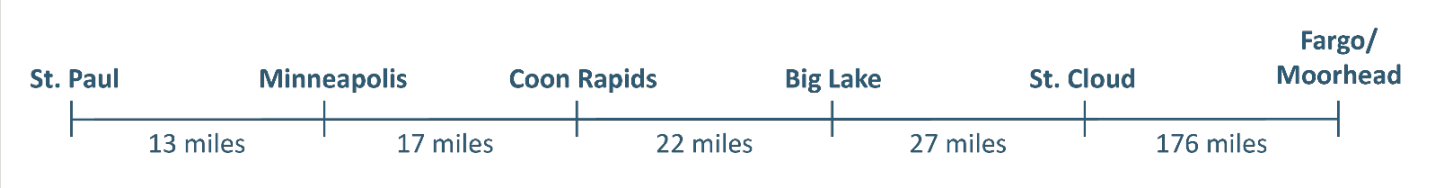
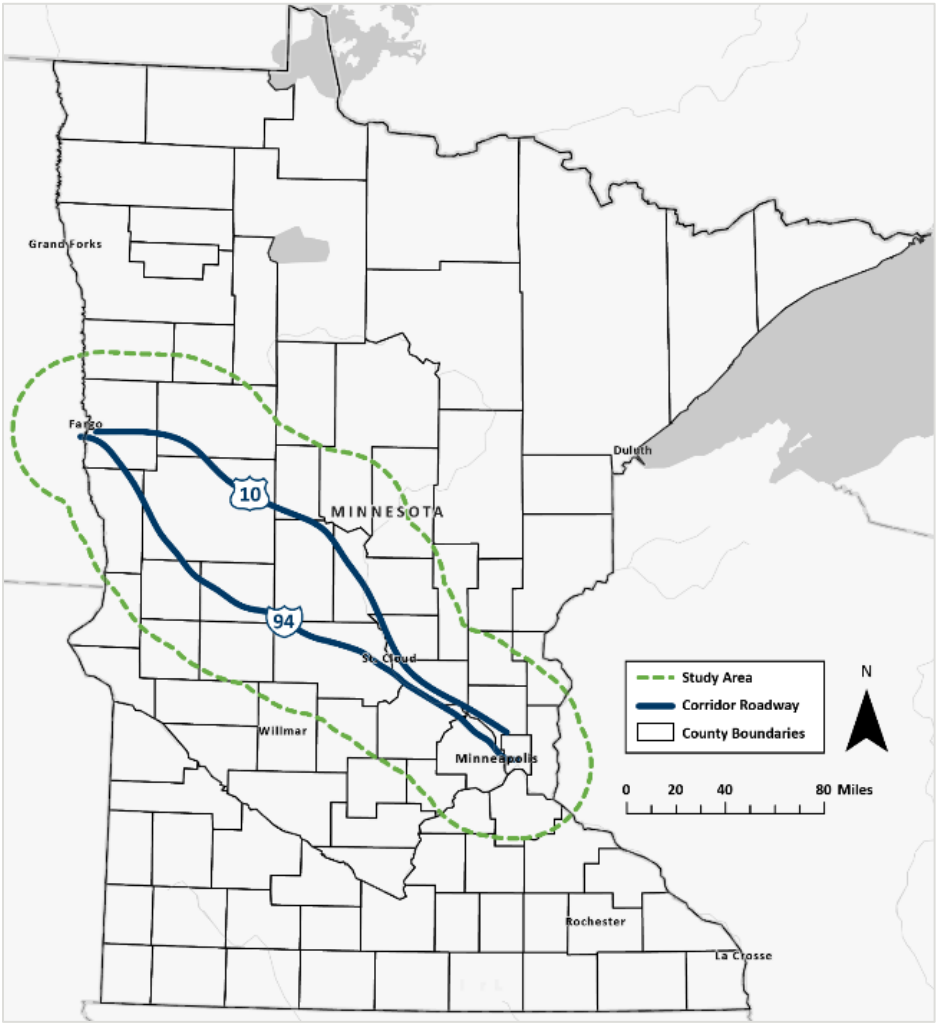


Figure 2: Corridor Study Limits



ALTERNATIVES IDENTIFIED

The study evaluates six alternatives, involving several modes of transportation, including intercity bus, intercity passenger rail and commuter rail (*Northstar*):

- new intercity passenger rail from St. Paul to Fargo/Moorhead. Existing *Northstar* to remain in service;
- extend *Northstar* service to St. Cloud, with new bus service between St. Cloud and Fargo/Moorhead;
- extend *Northstar* service to St. Cloud and continue on to Fargo/Moorhead;
- discontinue existing *Northstar* services and re-invent as an intercity passenger rail service between Minneapolis and Fargo/Moorhead;
- introduce dedicated bus service between Minneapolis and Fargo/Moorhead. Existing *Northstar* to remain in service; and
- eliminate *Northstar* service.

Several factors were analyzed for each alternative, including ridership, capital cost, operating cost, revenue impact and the barriers and risks of each. In addition, the governance and jurisdictional transfer considerations for each of the transit service alternatives were analyzed.

EXISTING *NORTHSTAR* COMMUTER RAIL FUNDING

The *Northstar* Corridor Rail Project received a Full Funding Grant Agreement (FFGA) in December 2007 and opened to service in November 2009. Based on a review of FFGA project costs, **Table 1** shows a preliminary calculation of remaining federal interest in the *Northstar* Corridor Rail Project.

As shown, the remaining federal interest in the assets, excluding real property, is estimated to be in the range of $30 to $35 million, with slightly less than half of that associated with rolling stock. Rolling stock is owned by the Metropolitan Council. The largest category of remaining federal interest is likely to be real property, which must be appraised to determine its current fair market value and associated federal interest. At the time of the FFGA, real property was valued at approximately $111 million, with the federal interest equal to half of that value. Real property value has likely increased since FFGA execution.

Table 1: Estimated Remaining Federal Interest in the Northstar Commuter Rail Project[1]

Standard Cost Category (SCC)	FFGA Cost	Federal Share (50%)	Estimated Remaining Useful Life	Estimated Remaining Federal Share
Guideway & Track Elements (SCC 10)	$15,989,000	$7,995,000	35 of 50 years	$5,566,000
Stations, Stops, Terminals, Intermodal (SCC 20)	$10,622,000	$5,311,000	25 of 40 years	$3,319,000
Support Facilities: Yards, Shops, Admin. Buildings (SCC 30)	$20,546,000	$10,273,000	25 of 40 years	$6,421,000
Sitework & Special Conditions (SCC 40)	$19,515,000	$9,758,000	N/A	$0
Systems (SCC 50)	$16,422,000	$8,211,000	10 of 25 years	$3,284,000
ROW, Land, Existing Improvements (SCC 60)	$110,886,000	$55,433,000	TBD[2]	TBD[3]
Vehicles (SCC 70)	$67,671,000	$33,834,000	10 of 25 years	$13,534,000
Total	**$261,651,000**	**$130,815,000**	**N/A**	**Minimum of $30 to $35 million plus Real Property (SCC 60)**

[1] Costs were obtained from the FTA Capital Costs Database.
[2] FTA Circular 5010.1F, "Award Management Requirements" pg. I-10.
[3] Remaining federal share will be based on the current fair market value of real property.

If the service was eliminated, a fiscal review of costs and reduction in expenditures determined the operating subsidy savings would be between $11 and $12 million annually, based on current operating costs and ridership. This savings could be offset by up to $2 million in annual costs for a replacement bus service if implemented. Eliminating service includes financial reimbursement costs as directed by the Federal Transit Administration (FTA), Circular 5010.1F. [4]

FTA requirements include the following if service is planned to be eliminated or deviate from the initial FTA project award:

- provide advance notice to the FTA;
- perform a Title VI service equity analysis;
- close out and de-obligate remaining federal grants;
- determine the remaining federal interest in the project;
- negotiate repayment with the FTA. (Recipients of FTA funds are required to seek concurrence from the FTA regarding the disposition of federally-assisted properties or assets before the end of its useful life.);
- coordinate with stakeholders, including host railroad; and
- develop a disposition plan to be reviewed and approved by FTA.

THIRD-PARTY AGREEMENTS

Preliminary review of *Northstar*-related contractual agreements includes a complex array of legal arrangements. Many of these agreements involve multiple parties, both among those representing the *Northstar* Service (e.g., Metropolitan Council and MnDOT) and third parties (including BNSF Railway, various local governments, parties with interests in Target Field, etc.).

A comprehensive, legal review of these agreements is needed to establish the steps necessary for their termination, as well as the penalties or other exposure the Metropolitan Council and MnDOT may face should these agreements be abrogated through the cessation of the service.

[4] The wide and uncertain range of potential reimbursement costs is due to the need to conduct an appraisal of any property that was purchased using federal funds as part of the original *Northstar* project. The original *Northstar* project included more than $55 million in federal funds expended on real estate, which would be repayable at current fair market value if *Northstar* were eliminated. Because real estate does not depreciate, the current repayment amount would likely be close to or even greater than the original expenditure.

OPERATING COST AND SUBSIDY SAVINGS

Northstar's service levels and annual operating costs remained relatively stable from its opening in late 2009 until mid-2020. The COVID-19 pandemic led to a significant reduction, cutting the service by more than two-thirds. Because service was reduced, operating costs decreased by more than half compared to the pre-pandemic peak in 2019.

The most recent seven years of data on annual *Northstar* operating cost, service levels, ridership and fare revenue are summarized in **Table 9**. The net operating subsidy (operating cost less fare revenue) was approximately $11.3 million in 2023. According to the FY 2023 budget tables, state appropriated funds accounted for approximately $2.7 million of the *Northstar* operating budget, while $7.0 million came from local sources, and the remainder of the subsidy coming from federal sources.

Fare revenue has typically accounted for a small portion of the operating cost of *Northstar*, averaging 15.5% of annual operating cost before the pandemic, declining to approximately 2% in 2021 and 2022, and remaining below 3% in 2023. Remaining operating costs are typically funded primarily with non-federal dollars (with the exception of temporary pandemic relief funding); and thus, the net operating cost savings associated with eliminating *Northstar* service will be close to, if not equal to, the net operating subsidy in **Table 2**.

Table 2: Northstar Vehicle Revenue Miles, Operating Cost and Fare Revenue, 2017 to 2023[5]

Available Data	2017	2018	2019	2020	2021	2022	2023
Annual Vehicle Revenue Miles of Service	556,323	599,814	596,892	253,291	158,717	157,327	200,463
Annual Operating Cost	$15,261,800	$16,153,136	$17,484,857	$15,533,355	$8,881,226	$11,618,246	$11,599,868
Annual Ridership	793,798	787,327	767,768	152,455	50,433	77,076	97,265
Annual Fare Revenue	$2,516,900	$2,631,695	$2,604,994	$506,720	$147,588	$258,109	$323,589
Farebox Recovery Ratio	16.5%	16.3%	14.9%	3.3%	1.7%	2.2%	2.8%
Net Operating Subsidy	$12,744,900	$13,521,441	$14,879,863	$15,026,635	$8,733,638	$11,360, 137	$11,276,279

[5] Source: National Transit Database

POTENTIAL REPLACEMENT BUS SERVICE

The operating subsidy for replacement bus service would depend on many factors, including planned levels of service, the vehicle used, whether the service is directly operated or operated under contract, ridership and fares. An estimate was developed based on the following assumptions and parameters:

- 95-mile round trip;
- Four round trips per weekday, stopping at or near all current *Northstar* stations;
- 255 weekdays per year;
- Twenty additional round trips for special events; and
- $20 per revenue-mile operating cost, which is based on the 2023 Metro Transit unit operating cost of $19.61 per revenue-mile, roughly inflated to 2024 dollars.

Based on these parameters, replacing *Northstar* with bus service featuring similar frequency of service would cost approximately $2 million per year. Depending on ridership, additional service might need to be added to accommodate demand.

STATE REPAYMENT/NEGOTIATION

In addition to federal repayment obligations, there may also be repayment obligations applicable to non-federal funding sources, such as grants awarded by the State of Minnesota. These obligations must also be determined.

OTHER ALTERNATIVES FOR TRANSIT AND RAIL SERVICE

1. **A new intercity passenger rail service from St. Paul to Fargo/Moorhead.** Existing passenger rail services in the corridor, including Met Council's *Northstar* commuter rail and Amtrak's *Empire Builder*, would remain in service. Further analysis would be required to determine whether the preferred option would be to extend an existing intercity passenger rail service or establish a new service.
2. **Extending *Northstar* commuter rail service from Minneapolis to St. Cloud with intercity bus service between St. Cloud and Fargo/Moorhead.** The extended route would remain a commuter rail service. The existing *Northstar Link* bus service between Big Lake and St. Cloud would be discontinued. Outside of the *Northstar* service, passengers traveling between St. Paul and Minneapolis would use existing transit services within the Twin Cities, and passengers traveling between St. Cloud and Fargo/Moorhead would use a bus service.
3. **Extending *Northstar* service beyond St. Cloud to Fargo/Moorhead. In addition to commuter rail service between Minneapolis and St. Cloud, one or more trips would be extended north to Fargo/Moorhead.** *Northstar* would remain a commuter rail service between Minneapolis and St. Cloud; the service between Minneapolis and Fargo would have an estimated travel time of 4.5 to 5 hours. Outside of the *Northstar* service, passengers traveling to St. Paul would use existing transit services within the Twin Cities.
4. **Discontinuing existing *Northstar* commuter rail service and re-inventing it as an intercity passenger rail service between Minneapolis and Fargo/Moorhead via St. Cloud.** The current *Northstar* service operating plan would be replaced with a new intercity passenger rail service, requiring a reevaluation of existing and potential station locations among other critical aspects. Outside the re-invented service, passengers traveling to St. Paul would use existing transit services within the Twin Cities.
5. **Expand intercity bus service between Minneapolis and Fargo/Moorhead via Coon Rapids and St. Cloud.** Met Council's *Northstar* commuter rail service would remain in operation. Passengers traveling between Minneapolis and St. Paul would use existing transit services within the Twin Cities.

In each alternative, access within St. Cloud was considered. In Alternatives 1 through 4, access to St. Cloud State University and the St. Cloud VA Medical Center could be provided via bus. In Alternative 5, direct intercity bus stops could be provided at both locations.

Extending what is currently a traditional commuter rail service approximately 200 miles to multiple new stations and across a state line would necessitate evaluation of the current governance structure for the *Northstar* service. The Metropolitan Council would need to enter into agreements with the responsible agencies in the extension area to secure the incremental funds to support the operation of the extended *Northstar* trains, similar to the current agreement with Sherburne County, which is outside the Metropolitan Council's statutory service area. Current agreements might also need to be revised. Changes to the statutes governing the Metropolitan Council's statutory boundary, if needed, would require legislative action.

If service is to operate into another state, agreements would be needed with relevant authorities, in this case, North Dakota.

RIDERSHIP

To provide high-level ridership forecasts for alternatives, a strategic tool was developed to produce results for the following modes: commuter rail, intercity rail and intercity bus. Data sources included population and employment data, baseline trip data, commuter rail data, air trip data, travel costs, value of time parameters and inflation conversion factors. Below is a summary of the findings.

RIDERSHIP ESTIMATES PER ALTERNATIVE

Each alternative considered is forecasted to potentially increase ridership. Total ridership and revenue potential for each alternative is shown in **Table 3.**

Table 1: Summary of Ridership Results for Alternatives 1 to 5

Alternative	Annual Ridership (One-Way Trips)[6]	Annual Passenger Miles[7]
1. Intercity passenger rail – St. Paul to Fargo/Moorhead	*Northstar* – 150,000 to 270,000 Intercity Rail – 130,000 to 600,000	*Northstar* – 3.7 to 6.6 million Intercity Rail – 9 to 27.3 million
2. Extend Northstar to St. Cloud, Intercity bus to Fargo/Moorhead	*Northstar* Extension – 210,000 to 1,080,000 Intercity Bus – 10,000 to 30,000	*Northstar* Extension – 7.1 to 31.6 million Intercity Bus – 1.5 to 3.8 million
3. Extend Northstar to Fargo/Moorhead	*Northstar* Extension – 240,000 to 1,150,000	*Northstar* Extension – 12 to 42.5 million
4. Discontinue Northstar, reinvent as passenger rail Minneapolis to Fargo/Moorhead	Intercity Rail – 110,000 to 450,000	Intercity Rail – 8 to 23.5 million
5. Expand intercity bus Minneapolis to Fargo/Moorhead	*Northstar* – 150,000 to 270,000 Intercity Bus – 30,000 to 150,000	*Northstar* – 3.7 to 6.6 million Intercity Bus – 1.9 to 6.4 million

[6] Annual ridership counts the total number of passengers boarding in a year.
[7] Annual passenger miles take into account the distance each passenger travels.

CAPITAL COST

The capital cost estimates provide a range of potential costs for the alternatives identified.

The potential infrastructure needs considered in this memorandum are solely conceptual and would be refined under further study. Costs for rail infrastructure are based on a linear mile of new trackwork with additional amounts for special trackwork. Systems infrastructure is also costed by the linear mile. Types of trackwork are expected to include construction of additional mainline track, sidings, crossovers and turnouts, along with trackwork-related signal improvements.

Rail station costs are included as a lump sum amount based on minor or major renovations that could take place at each station and could include pedestrian, parking or access improvements. Grade separated crossings are included based on the square foot area, and priced based on the type of geographical feature that it would cross. Upgrades to existing crossings are included, as applicable, and priced according to the potential cost of upgrades. Bus stop improvements are priced based on a lump sum amount for major or minor improvements, including any pedestrian or parking facilities and access upgrades.

Costs for rail and bus vehicles are included for each alternative. Professional services costs are included as a percentage of capital cost improvements. The study did not evaluate existing rights-of-way or potential right-of-way acquisition needs. Such needs, if any, would be part of a future study.

CAPITAL COST ESTIMATES PER ALTERNATIVE

Based on the conceptual infrastructure improvements, the analysis resulted in the range of estimated capital costs shown in **Table 4**.

Table 2: Summary of Capital Cost Results for Alternatives 1 to 5

Alternative	Range of Capital Cost ($2024)	Range of Capital Cost ($2045)
1. Intercity passenger rail – St. Paul to Fargo/Moorhead	$730 million to $1.2 billion	$1.5 billion to $2.4 billion
2. Extend Northstar to St. Cloud, Intercity bus to Fargo/Moorhead	$380 million to $530 million	$780 million to $1.1 billion
3. Extend Northstar to Fargo/Moorhead	$700 million to $1.4 billion	$1.4 billion to $2.9 billion
4. Discontinue Northstar, reinvent as passenger rail Minneapolis to Fargo/Moorhead	$350 million to $900 million	$720 million to $1.8 billion
5. Expand intercity bus Minneapolis to Fargo/Moorhead	$25 million to $90 million	$60 million to $190 million

OPERATING COST

Operations and maintenance (O&M) costs were developed for the study corridor using published data and techniques for developing cost analyses for similar projects. The costs were based on a wide range of possible service plans for commuter rail, intercity bus and intercity rail service. The costs presented in **Table 5** are projections, based on publicly available 2023 data from Amtrak and the National Transit Database. Use of standardized data allows for comparison between alternatives. It does not supersede the actual *Northstar* O&M costs presented elsewhere in this report.

OPERATING AND MAINTENANCE COSTS PER ALTERNATIVE

The analysis resulted in the range of estimated operating and maintenance costs shown in **Table 5**. These estimates were applied to the alternatives to determine potential, high-level operating and maintenance cost per mile metrics. This range of costs by mode are then used to help indicate the relative cost of the alternatives considered in this study. Since the alternatives are conceptual and operating details are not developed, specific cost estimates were not included for each alternative. The wide range of costs reflects uncertainties such as service frequency, stops and unknown fleet types. Further analysis would be needed to fully understand costs.

Table 3: Summary of Operating and Maintenance Cost Results for Alternatives 1 to 5

Alternative	Range of Annual O&M Cost ($2024)	Annual O&M Cost Per Mile
Existing *Northstar* Service[8]	$15 million to $18 million[9]	$375,000 to $450,000[10]
1. Intercity passenger rail St. Paul to Fargo/Moorhead	$20 million to $118 million	$68,000 to $400,000
2. Extend Northstar to St. Cloud Intercity bus to Fargo/Moorhead	$17 million to $155 million	$88,000 to $804,000
3. Extend Northstar to Fargo/Moorhead	$25 million to $187 million	$82,000 to $607,000
4. Discontinue Northstar, reinvent as passenger rail - Minneapolis to Fargo/Moorhead	$12 million to $56 million	$48,000 to $230,000
5. Expand intercity bus Minneapolis to Fargo/Moorhead	$10 million to $72 million	$36,000 to $256,000

[8] Alternative forecasts include all origin-destination pairs, including existing *Northstar* pairs.
[9] Number provided by the Metropolitan Council – owner/operator of Northstar.

[10] Number provided by the Metropolitan Council – owner/operator of Northstar.

REVENUE IMPACTS

High-level forecasts for revenue analysis of the corridor were developed. Average fares for the proposed transportation options were determined through a benchmarking exercise that considered typical, fares per mile charged on comparable services around the United States. While a single, average fare per mile was used for analysis, fares for benchmark services fall within a range depending on trip type and fare policy. The ridership forecasting uses average fares to predict revenue with the following formula: ticket revenue = ridership x fare. Using this range of fares provides an estimate of potential fare revenue for the corridor.

REVENUE ESTIMATES PER ALTERNATIVE

Total revenue potential for each alternative is shown in **Table 6**. These estimates were applied to the alternatives to determine high-level revenue per mile metrics. The revenue per mile was combined with the operating and maintenance cost per mile to provide a net operating and maintenance cost per mile (less revenue) to support high-level decision making. Further analysis would be needed to better understand revenues and cost. Revenue estimates using benchmarks may not take into account local or negotiated fare-related decision-making. Because fare levels impact ridership estimates, it is important to recognize such estimates in the context of traveler decisions and total estimated costs.

Table 4: Summary of Revenue Results for Alternatives 1 to 5

Alternative	Annual Revenue ($2024)	Annual Revenue per Mile	Annual Net O&M Cost per Mile (Less Revenue) ($2024)
Existing *Northstar* Service[11]	$300,000 to $500,000	$7,700 to $12,800	$190,000 to $1.5 million
1. Intercity passenger rail – St. Paul to Fargo/Moorhead	$1,900,000 to $5,100,000	$7,500 to $19,000	$60,000 to $380,000
2. Extend Northstar to St. Cloud, Intercity bus to Fargo/Moorhead	$700,000 to $3,000,000 *Northstar* Extension – $500,000 to $2,500,000; Intercity Bus – $200,000 to $500,000	$3,600 to $15,500	$80,000 to $790,000
3. Extend Northstar to Fargo/Moorhead	$1,800,000 to $5,300,000	$5,800 to $17,200	$80,000 to $590,000
4. Discontinue Northstar, reinvent as passenger rail Minneapolis to Fargo/Moorhead	$1,500,000 to $3,800,000	$6,200 to $15,700	$40,000 to $210,000
5. Expand intercity bus Minneapolis to Fargo/Moorhead	$400,000 to $800,000 *Northstar* – $300,000 to $500,000; Intercity Bus – $100,000 to $300,000	$1,400 to $2,800	$30,000 to 250,000

[11] Alternative forecasts include all origin-destination pairs, including existing *Northstar* pairs.

STAKEHOLDER ENGAGEMENT SUMMARY

Stakeholder engagement was conducted during the report development process. The intent of engagement was to identify potential issues and needs to be considered in the corridor, and to obtain feedback regarding alternatives. Engagement included meetings with project partners, comprised of various government and agency partners, and five virtual stakeholder meetings.

Conclusions resulting from the stakeholder engagement process include:

- There is a desire for intercity rail service to support community needs and access to destinations.
- The alternatives evaluation showed there is demand for modified or expanded service based on corridor demographics (as compared with similar intercity corridors that currently receive higher levels of service) and ridership forecasting.
- Current intercity rail service includes one roundtrip per day, with an overnight schedule and departure times in the early morning hours. Arrival and departure times are regularly impacted by delays.
- Existing intercity rail station facilities were constructed many years ago. Some stations do not have available temperature-controlled spaces, real-time information regarding arrival or departure times or other amenities. Departures and arrivals often take place overnight, when surrounding businesses are closed.
- Some first- and last-mile connection opportunities to local transit exist, but such service is sometimes limited since most local services do not operate overnight and do not align with the arrivals and departures of trains.
- Intercity travel and commuter travel are distinct markets with unique needs in terms of scheduled departure times, frequency of service and reliability of service.
- Current *Northstar* commuter rail schedules may not fully accommodate potential ridership demand at midday and evening travel times, or the potential demand for additional event service.

CONCLUSIONS AND CONSIDERATIONS

There are opportunities for improved, more cost-effective transit service in this corridor.

Transfer of the Northstar service would include taking steps with federal partners and local stakeholders to determine:

- total costs;
- projected future savings; and
- timeline and specific details around bus / alternative transit service.

Shared responsibility between MnDOT and Met Council for transfer of service adds some complexity.

Finalizing plans to transfer the service and additional information related to the transfer of service will take time.

Both in stakeholder engagement and as demonstrated by higher-than-expected ridership numbers for new Borealis service, there is increasing demand for intercity rail connections across the Midwest.

Transportation organizations must be flexible to adapt in real time to changing consumer demand based on external factors and an evolving world.

Appendix A: Identify Alternatives Technical Memorandum

Introduction

This memorandum is intended to provide policymakers with a greater understanding of potential transit and rail service improvement options and potential changes for corridor development between the cities of Saint Paul (St. Paul), Minneapolis, Coon Rapids, Saint Cloud (St. Cloud), Moorhead, and Fargo, ND. Under the directive of the Legislature, alternatives under consideration include new intercity passenger rail, commuter rail, bus service, and the extension of current Amtrak intercity train services. Additionally, other public transportation alternatives as identified by the commissioner will be explored. Each alternative will be assessed based on its feasibility, cost-effectiveness, potential impact on the community and environment, as well as suitability for the geographical extent of service examined within the corridor.

Corridor Alternatives

METHODOLOGY

This report examines various modes of transit and rail service and the geographical suitability of improvements in the corridor to address the identified purpose and needs. Reaching specific destinations within metropolitan areas may require connections using other modes of transportation if the identified transit options are not feasible. The criteria to identify those alternatives are detailed in **Table 1** below:

Table 1: Alternatives Identification Criteria

Criteria	Description
Communities and Major Population Centers Served	• Does the mode of transit connect the rural communities and major population centers of Minnesota? A connection is defined as existing roadway and rail routes passing through or adjacent to a major population center. Major population centers include St. Paul, Minneapolis, Coon Rapids, St. Cloud, Moorhead, and Fargo, ND. • Is the mode of transit consistent with prior planning efforts including those completed at the state, local, and regional level? • Does the mode of transit benefit or improve connectivity with existing or planned transportation services of other modes? • How does each mode of transit serve each major population center, provide access to the route, and what trade-offs does each route alternative present for the proposed transit or rail service?
Existing Rail Corridors	• Does the route follow an existing rail corridor with infrastructure to accommodate passenger rail operations? • Is the existing rail corridor defined as either a current or abandoned rail transportation corridor, with rail rights-of way intact? • Is the infrastructure defined as standard rail roadbed and standard gauge steel rail, generally following AREMA guidelines and Federal Railroad Administration's (FRA) Track Safety Standards?

ALTERNATIVES MATRIX

The alternatives identified in this study include those outlined in **Table 2** below.

Table 2: Alternatives Matrix

Segment	Light Rail	Bus	Commuter Rail	Intercity Passenger Rail	Former Rail Right-of-Way
St. Paul to Minneapolis	Metro Green Line	Multiple existing services provided	Requires new/modified service to be developed (i.e. *Northstar*)	Requires new service and station to be developed (i.e. Twin Cities-Milwaukee-Chicago (TCMC))	N/A
Minneapolis to St. Cloud	Distance is too far for this mode of transit	Multiple existing services provided	Requires new/modified service to be developed (i.e. *Northstar*)	Requires new service to be developed (i.e. TCMC)	Former railway between Monticello and St. Cloud has largely been sold or re-purposed (i.e. trails, roadways)
St. Cloud to Fargo/Moorhead	Distance is too far for this mode of transit	Jefferson Bus Lines	Distance is too far for this mode of transit	Requires new service to be developed	Re-establish rail service on the former Great Northern Railway

Existing Service

Requires New Improvements

Alternative Not Feasible

MODE CHOICE EVALUATION

LIGHT RAIL

Light rail is most appropriate for urbanized environments due to its efficiency and ability to reduce traffic congestion. However, it is not typically a feasible alternative for longer distances. For the purposes of this corridor, light rail would not be appropriate beyond the Twin Cities metropolitan area because it lacks the speed, commuter amenities, and capacity needed for longer commutes. Paired with average construction costs significantly higher than the other public transportation modes, light rail is impractical for connecting more distant locations.

INTERCITY BUS

Intercity buses are a versatile mode of transportation, ideal for connecting communities over longer distances. They offer a flexible and cost-effective alternative to other forms of long-distance travel, such as trains and airplanes. However, intercity buses lack the comfort, amenities, and speeds that are characteristic of intercity train services.

COMMUTER RAIL

Commuter rail and intercity rail serve different purposes and are designed with distinct features to meet their respective needs. Commuter rail typically uses cars that are optimized for short to medium distances, focusing on high passenger capacity and frequent stops to serve daily commuters within metropolitan areas and provide direct access to a dense central business district. For this report, commuter rail would not be considered appropriate beyond St. Cloud because it is not designed for the longer distances and lower stop frequencies required for such routes.

INTERCITY PASSENGER RAIL

Intercity passenger rail is characterized by its ability to connect cities over longer distances, at higher speeds and with more comfortable amenities compared to commuter rail.

ST. PAUL TO MINNEAPOLIS

LIGHT RAIL

Metro Transit, a service provided by the Metropolitan Council, operates a light rail system with two routes that run within the cities of Minneapolis, St. Paul, and Bloomington. The light rail route between St. Paul and Minneapolis is known as METRO Green Line. This route has station endpoints at Union Depot in St. Paul (UD) and Target Field Station (TFS) in Minneapolis, providing travelers who arrive at UD or TFS the ability to travel between the respective central business districts of Minneapolis and St. Paul, and points throughout the Twin Cities. The light rail route between Minneapolis and Bloomington is known as METRO Blue Line. This route has station endpoints at TFS and the Mall of America™, with a direct connection to the Minneapolis-St. Paul International Airport (MSP).

All METRO routes, including Metro Transit's Bus Rapid Transit (BRT) routes, operate as a single integrated network. Metro Transit's systems provide commuter access to points throughout the entire Minneapolis-St. Paul metropolitan area.

INTERCITY BUS

Jefferson Bus Lines offers service from St. Paul to Minneapolis, continuing to other destinations. However, expanding an intercity bus service between these cities is considered not feasible due to the strong competition from existing transit options in the Twin Cities.

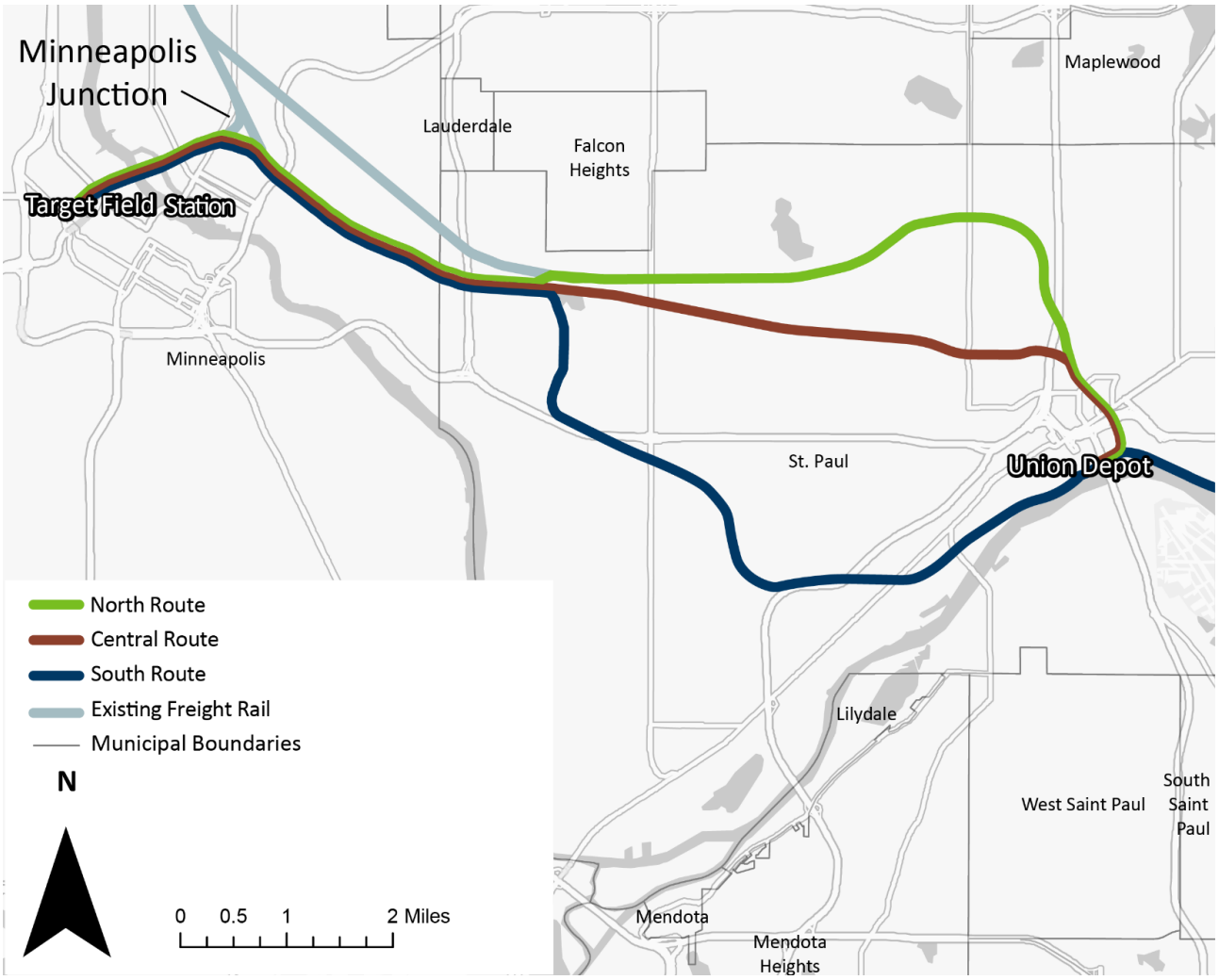
As an alternative to intercity bus service, Metro Transit operates multiple local and express bus transit routes between St. Paul and Minneapolis. The most direct route between UD and TFS is the Route 94 Express Bus, which operates multiple times daily. In addition, Metro Transit announced plans in October 2024 to extend the Gold Line BRT project to Minneapolis. The Gold Line BRT is scheduled to open in March 2025 to connect St. Paul, Maplewood, Landfall, Oakdale, and Woodbury generally along I-94. The extension to downtown Minneapolis is scheduled to open in 2027.

PASSENGER RAIL ROUTE ALTERNATIVES

An examination of route alternatives for passenger rail between UD and TFS was conducted by a consultant team for MnDOT in 2014. There were three route alternatives examined, designated as the South, Central, and North Routes (see **Figure 1**).

- The South Route begins at UD on CPKC Railway's Merriam Park Subdivision and travels north to Merriam Park, just west of N. Prior Avenue. From Merriam Park, the route continues north on the Minnesota Commercial Railroad to St. Anthony Park (St. Paul). At St. Anthony Park, the route connects to the BNSF Midway Subdivision and continues west until it reaches Minneapolis Junction. From there, the route follows the BNSF Wayzata Subdivision southwest, ultimately arriving at TFS.
- The Central Route begins at UD and travels west on the Union Pacific Albert Lea Subdivision, connecting at Hoffman just south of Interstate 94. From there, the route combines with the St. Paul Subdivision at Westminster and continues along the BNSF Midway Subdivision. At Minneapolis Junction, the route connects to the BNSF Wayzata Subdivision and travels southwest, ultimately arriving at TFS.
- The North Route begins at UD and travels west on the Union Pacific Albert Lea Subdivision, connecting at Hoffman just south of Interstate 94. From there, the route combines with the BNSF Midway Subdivision at Westminster and continues along the BNSF St. Paul Subdivision to Union Junction, near Energy Park Drive. At Union Junction, the route travels along the Union Cutoff connection track to St. Anthony Park. From St. Anthony Park, the route continues on the BNSF Midway Subdivision to Minneapolis Junction, where it connects to the BNSF Wayzata Subdivision and travels southwest, ultimately arriving at TFS.

Figure 1:Target Field Station to Union Depot St. Paul Study Area



The 2014 report concluded that the South Route be carried forward for additional analysis. The route had the least amount of freight train interference, quickest travel time, resulting in minimal freight-related delays and the best alternative to support future service expansion. A significant portion of the South Route is the same route currently used for Amtrak's *Empire Builder* service to St. Paul.

As part of the FRA's Corridor ID program, Wisconsin Department of Transportation's (WisDOT) TCMC Service Expansion Project will include an analysis of extending the new Amtrak *Borealis* service to TFS, which will reexamine feasible passenger rail routes connecting UD and TFS.

COMMUTER RAIL

Commuter rail between UD and TFS would likely use the South Route segment, subject to the results of the upcoming analysis of the route by WisDOT.

INTERCITY PASSENGER RAIL

Intercity or regional passenger rail would most likely utilize the South Route in its entirety, subject to the results of the upcoming analysis of the route by WisDOT.

An extension of the current *Borealis* service to Minneapolis, St. Cloud, or Fargo/Moorhead would likely use the preferred route to proceed to TFS. If *Borealis* terminates at Minneapolis, it would depart after unloading to be stored overnight at a layover facility. The location of such facility is unknown. If the *Borealis* service is expanded to St. Cloud or to Fargo/Moorhead, the train would arrive at TFS, entrain and detrain passengers, change operating ends and depart in the same direction as it arrived from.

Amtrak's *Empire Builder* currently serves UD but does not have a stop in Minneapolis. The train operates over either the BNSF Midway or St. Paul Subdivisions to the Minnesota Commercial Railway and CPKC Merriam Park Subdivision and does not operate near TFS. Bringing the *Empire Builder* into TFS is challenging from an operating and schedule standpoint. The train does not have dual operating ends, and either entering or leaving TFS requires a slow backup move to Minneapolis Junction. The stop adds approximately 30-45 minutes to the train's schedule, could potentially result in delays in arrival and departure times at stations with high ridership, require BNSF approval, and potentially require additional rail infrastructure. Based upon the negative impact to the train's schedule, incorporating a stop of the *Empire Builder* into TFS is not a viable option.

An alternative to using TFS could be to find a suitable station location in Minneapolis on either the BNSF Midway or St. Paul Subdivisions. A new station location would require BNSF approval, additional rail infrastructure, and would likely require additional real estate for such a station. New connections to ensure adequate service to the Minneapolis central business district may also require evaluation.

FORMER RAIL RIGHT-OF-WAY

Due to the presence of multiple existing rail routes between St. Paul and Minneapolis, this study does not assess the feasibility of re-establishing rail service on former rail right-of-way between the Twin Cities. There are a number of former rail rights-of-way between the two central business districts, but those have predominately been abandoned or repurposed. The future use of former rights-of-way for passenger rail purposes is complex and requires additional study and evaluation.

MINNEAPOLIS TO ST. CLOUD

LIGHT RAIL

Light rail transit service does not exist between the communities of Minneapolis and St. Cloud. Since light rail systems are typically built within densely populated urban areas, the lower density between Coon Rapids and St. Cloud would not support effective implementation of light rail. Additionally, the distance to extend the existing system from Minneapolis to St. Cloud is located outside of Metro Transit's jurisdiction. For both of these reasons, this alternative is not feasible.

INTERCITY BUS

Jefferson Bus Lines currently provides an intercity bus service connection between St. Paul, Minneapolis, and St. Cloud. While privately operated, Jefferson Bus Lines do receive some government support to help maintain this connection. There are multiple stops at locations in both Minneapolis and St. Cloud and one in Maple Grove and St. Paul.

Jefferson Bus Lines' Twin Cities stop locations are as follows:

- St. Paul – Union Depot
- Minneapolis Ramp B

- Minneapolis (University of Minnesota – Huron Blvd)
- Minneapolis-St. Paul (MSP) International Airport
- Minneapolis Veterans Affairs (VA) Medical Center
- Maple Grove – Maple Grove Transit Center

Between Maple Grove and St. Cloud, Jefferson Bus Lines does not have any stops. Jefferson Bus Lines provides service at the following stop locations in St. Cloud:

- St. Cloud State University – Atwood Center
- St. Cloud Veterans Affairs (VA) Medical Center
- St. Cloud Regional Airport (STC)
- Downtown St. Cloud
- St. Cloud West

The *Northstar* Link commuter bus operates on a portion of this segment with service between St. Cloud and Big Lake. This transit service connects the Big Lake and St. Cloud communities, and areas in between. Stop locations served include the following:

- Big Lake Park & Ride
- Becker Park & Ride
- East St. Cloud Park & Ride
- St. Cloud Metro Bus Transit Center
- St. Cloud State University Miller Learning Resources Center

To provide a connection between Minneapolis to St. Cloud using intercity bus, either an existing bus service would need to be extended, new stops added, or a new bus transit service would need to be introduced.

Jefferson Bus Lines provides direct service to the St. Cloud VA Medical Center. Conversely, *Northstar* Link does not provide direct service to the St. Cloud VA Medical Center.

COMMUTER RAIL

Metro Transit currently operates *Northstar* Commuter Rail within this segment of the corridor, providing service from TFS to the terminal Big Lake Station. This service has intermediate station stops in the communities of Fridley, Coon Rapids, Anoka, Ramsey, and Elk River.

Extending *Northstar* from Big Lake to St. Cloud would require consideration of additional capacity and operational improvements along the corridor including, but not limited to, modification of the Big Lake Station platform. The 2024 ***Northstar Extension Assessment Study***[1] did not envision additional station stops beyond Big Lake; rather, St. Cloud would simply become the endpoint. Coordination with the host railroad would be required for identifying additional capacity and operational improvements required for implementation.

INTERCITY PASSENGER RAIL

If the existing *Northstar* service remains intact, but a new short-distance intercity service is developed between Minneapolis and St. Cloud, consultation with BNSF Railway, and consideration of additional capacity and/or

[1] https://www.dot.state.mn.us/passengerrail/northstar/index.html

signal modifications would still be required. This could include either an extension of existing service between Chicago and St. Paul to reach St. Cloud, or a new connecting service between St. Paul and St. Cloud.

For a new intercity rail service, it would need to be determined which of the existing *Northstar* stations would be served and any modifications that may be necessary to these stations to facilitate intercity service. In addition, the planned Northern Lights Express (NLX) passenger rail service includes an intermediate station at Coon Creek Junction (Coon Rapids) to interchange with this potential new intercity service in the segment between Minneapolis and St. Cloud.

The FRA does not consider the existing *Northstar* service between Minneapolis and Big Lake as eligible to be defined as intercity passenger rail service. Based on past discussions between MnDOT and the FRA, converting *Northstar* service to intercity passenger rail would require, at a minimum, extension to St. Cloud, to meet the literal meaning of intercity, and adjustment of the schedule to emphasize all-day service in both directions versus the current emphasis on morning and evening peak period service into Minneapolis in the morning or out to Big Lake in the afternoon.

- Extending *Northstar* service from Big Lake to St. Cloud and converting the service from commuter rail to intercity passenger rail may require capacity improvements within the entire segment due to the change in service as existing meets/passes might not be in the same location as today's operation. Further analysis and coordination with the host railroad (BNSF) would be required to understand impacts to the infrastructure.
- If the existing *Northstar* service remains intact and a new short-distance intercity service is established between Minneapolis and St. Cloud, it would be necessary to consider adding operational capacity between Minneapolis and Big Lake. Additional coordination with BNSF, as well as consideration of additional capacity and/or signal modifications, would still be required.

Previous evaluation of the potential extension of *Northstar* to St. Cloud assumes that all existing station stops would remain in service. However, a new short-distance passenger train operating between TFS and St. Cloud may not include the current *Northstar* stations, subject to future analysis and decision-making. State legislation adopted in 2023 provided funding for an additional station stop at Coon Creek Junction in the city of Coon Rapids, which would provide for an interchange with the proposed NLX intercity passenger rail service to Duluth. The potential Coon Creek Junction station could also be evaluated for future use in other intercity passenger systems.

FORMER RAIL RIGHT-OF-WAY

There is an existing rail corridor between Minneapolis and St. Cloud, which Amtrak currently provides passenger service via the *Empire Builder*. When the Great Northern Railway (GN) and Northern Pacific Railway (NP) were merged in 1970 into the Burlington Northern Railroad (BN), the combined network included two parallel routes connecting Minneapolis to St. Cloud. BN chose to keep the Northern Pacific route, which is now the BNSF Staples subdivision. The former Great Northern route is now the BNSF Monticello subdivision but no longer goes all the way to St. Cloud. The section of the route between Monticello and St. Cloud has been abandoned.

ST. CLOUD TO FARGO/MOORHEAD

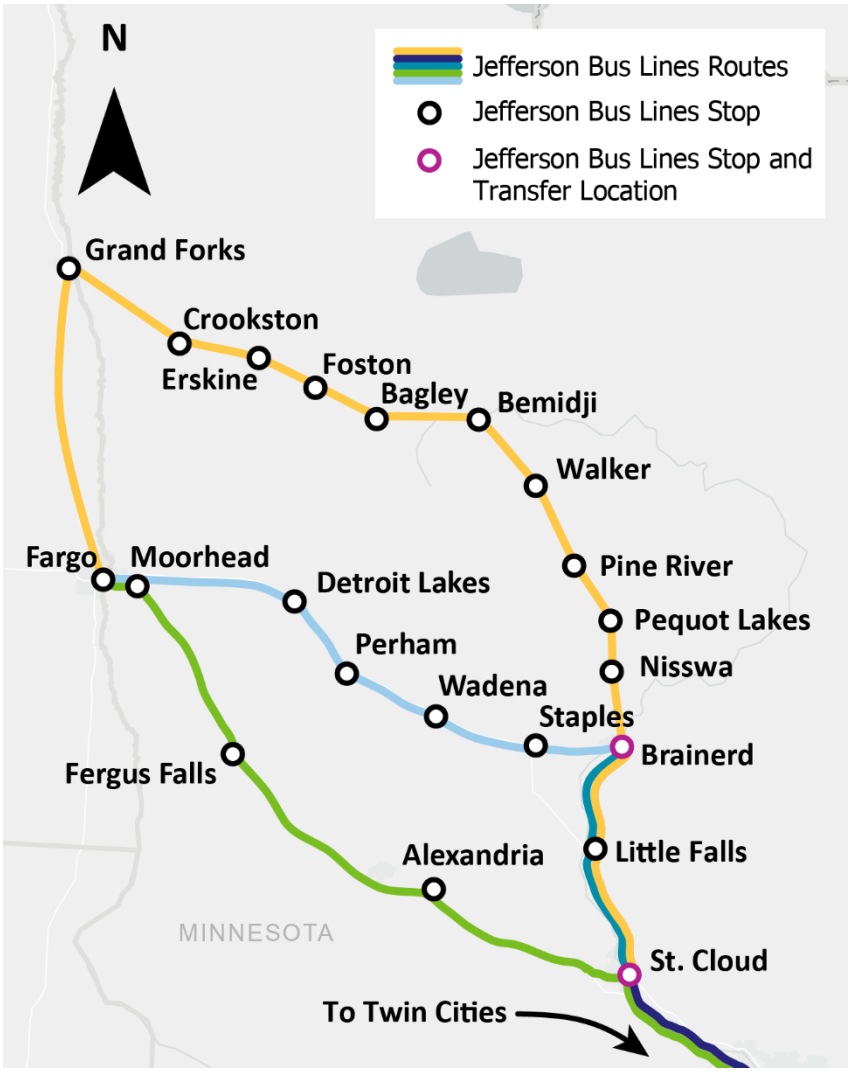
LIGHT RAIL

Light rail service does not exist within the communities between St. Cloud and Fargo/Moorhead. Typically, light rail systems are constructed in densely populated urban areas. The extensive, sparsely populated regions between these communities make this mode of transportation impractical for this corridor. Additionally, extending the existing system from the Twin Cities falls outside the jurisdiction of the state's sole light rail operating agency, Metro Transit, rendering this alternative unfeasible.

INTERCITY BUS

Jefferson Bus Lines operates within the study area, offering service between St. Cloud and Fargo with intermediate stops. However, travel times are between five and nine hours with the shortest travel time requiring a transfer in Brainerd. The only direct route, without any transfers, is an eight hour bus ride that services communities including St. Cloud, Brainerd, Bemidji, Grand Forks, and Fargo. Because of these conditions, travel time via Jefferson Bus Lines between St. Cloud and Fargo is at least five hours, compared to a two hour and 45 minute car ride. Figure 2 illustrates the routes used by Jefferson Bus Lines within the study area and the communities served by at least one stop location along these routes.

Figure 2: Jefferson Bus Line Routes and Stops in the Study Area Between St. Cloud and Fargo/Moorhead



The communities of St. Cloud and Fargo/Moorhead have multiple bus stops served by Jefferson Bus Lines at the present time. Jefferson Bus Lines provides service to St. Cloud at the following stop locations:

- St. Cloud State University – Atwood Center
- St. Cloud Veterans Affairs (VA) Medical Center
- St. Cloud Regional Airport (STC)
- Downtown St. Cloud
- St. Cloud West

Jefferson Bus Lines provides service to Fargo/Moorhead at the following stop locations:

- Fargo – Jefferson Lines Terminal (1211 41st St N)
- Fargo – North Dakota State University (Loaf N Jug - 1201 University Dr. N.)
- Moorhead – Minnesota State University – Comstock Memorial Union

Pending departure times and stops, the travel times between the communities of St. Cloud and Fargo/Moorhead varies from 4 hours and 45 minutes to over 8 hours.

COMMUTER RAIL

As noted above, commuter rail would not be considered appropriate beyond St. Cloud because it is not designed for the longer distances and lower stop frequencies required for such routes.

INTERCITY RAIL

Amtrak currently operates the *Empire Builder* through St. Cloud and Fargo, ND. This is a daily train between Chicago, IL, and either Seattle, WA, or Portland, OR. The *Empire Builder* has station stops located in St. Cloud, Staples, Detroit Lakes, and Fargo, ND.

Although most of the BNSF route is double track and is already equipped with Centralized Traffic Control (CTC) and Positive Traffic Control (PTC), establishing a new or supplemental intercity passenger rail service between Minneapolis and Fargo/Moorhead would require further evaluation. This evaluation would need to consider the capacity of existing rail infrastructure along the double track sections. Additionally, the evaluation needs to assess the capacity of passing sidings in the single-track sections. Regardless of findings, consultation with BNSF and consideration of additional capacity and/or signal modifications would still likely be required.

In addition to the terminal stations, a new or supplemental intercity passenger rail service between St. Cloud and Fargo/Moorhead necessitate evaluation of potential additional station stops at communities along the corridor.

Extension of the current *Borealis* service from Chicago to St. Paul to reach St. Cloud or Fargo/Moorhead would necessitate evaluation of arrival and departure times, layover requirements, and potential for slower schedules between destinations. Rider convenience would require evaluation, due to potential impacts to the St. Paul to Chicago segment.

The ***Amtrak Daily Long-Distance Service Study***[2] (LDSS) has recommended the establishment of a new service between Chicago and the Pacific Northwest by way of a former Amtrak route through southern Montana.

[2] Amtrak Daily Long-Distance Service Study (LDSS)

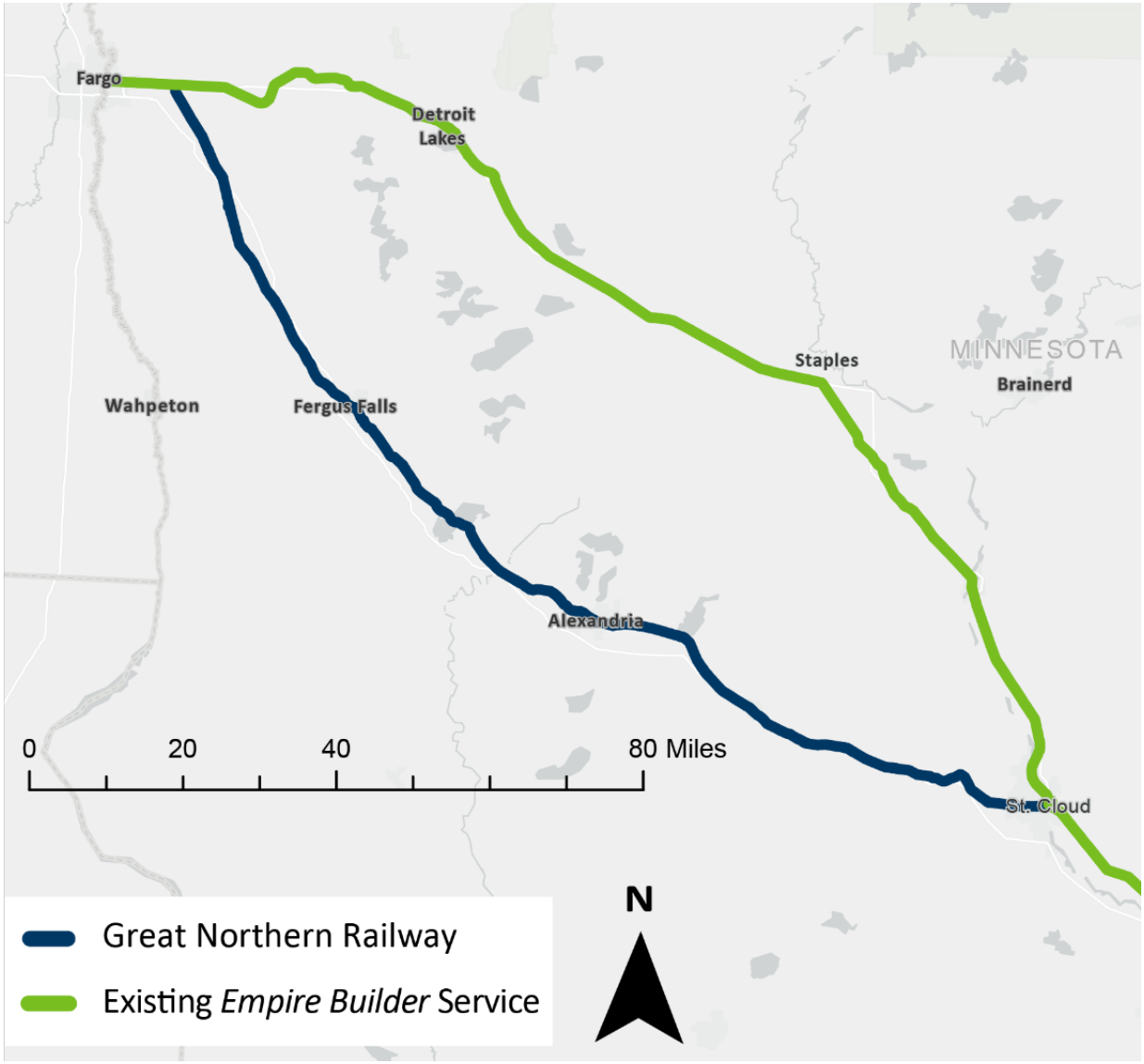
Sponsored by the Big Sky Passenger Rail Authority (BSPRA), the restoration of service on the North Coast Hiawatha has been accepted into Step 1 of the FRA Corridor Identification and Development Program (Corridor ID Program). It is anticipated that a future Step 2 study for the BSPRA project will evaluate potential alignment alternatives, which could provide access to new destinations outside Minnesota through expansion of intercity passenger rail services. The Corridor ID Program application identified the route as utilizing the existing *Empire Builder* route between St. Paul and Fargo/Moorhead within the corridor and calls for two daily round trips. Implementation of two additional long-distance train round trips between St. Paul and St. Cloud would still require consultation with BNSF and consideration of capacity and/or signal modifications.

It is not clear whether service through the Twin Cities includes an additional station stop in Minneapolis. As with a potential intercity passenger rail service, additional service between Minneapolis Junction and St. Cloud requires further analysis to determine track capacity improvements to meet the operational needs. If the new service between Chicago and the Pacific Northwest intends to serve TFS or another location in Minneapolis, the Step 2 alternatives analysis would need to identify how that would be accomplished.

FORMER RAIL RIGHT-OF-WAY

When the Great Northern Railway (GN) and Northern Pacific Railway (NP) were merged in 1970 into the Burlington Northern Railroad (BN), the combined network included two parallel routes connecting St. Cloud to Fargo, ND. BN chose to keep the Northern Pacific route, which is now the BNSF Staples subdivision, and abandoned the Great Northern Railway route. See **Figure 3** for Great Northern Railway (GN) and Northern Pacific Railway (NP) routes between St. Cloud and Fargo. The Great Northern route was preserved for future public use as part of the Minnesota State Rail Bank program, and now features several interim uses that have been established for many years.

Figure 3: St. Cloud to Fargo/Moorhead Alternative Railways



The former GN mainline is now used in the following manner:

- The Northern Lines Railway (NLR), which began operations in 2005, currently operates on the portion of the former GN between St. Cloud and St. Joseph, MN.
- Recreational trails have been established on the former GN mainline right-of-way between St. Joseph, MN and Fergus Falls, MN.
    - The Lake Wobegon Trail is a 62-mile paved trail connecting St. Joseph, MN and Osakis, MN.
    - The Central Lakes Trail is a 55-mile paved trail connecting Osakis, MN and Fergus Falls, MN.
    - The two trails together provide a continuous 117-mile trail between St. Joseph, MN and Fergus Falls, MN.
    - The trails are designed for recreational use, including biking, hiking and in-line skating.
    - Snowmobile use is allowed on both trails in winter, conditions permitting.

- The Otter Tail Valley Railroad (OTVR) commenced service over 151 miles of track between Avon, MN and Moorhead, MN in 1986. Later, in 1991, OTVR chose to abandon the 96 miles of railroad east of Fergus Falls.

A new intercity passenger rail service could potentially use the former GN mainline right-of-way between St. Cloud and Moorhead, MN. This route would allow for connections to the existing *Empire Builder* service in Fargo/Moorhead. However, it would not allow for connections in St. Cloud between the new intercity service and the existing *Empire Builder*. Due to the current Amtrak station platform's location relative to the Northern Lines Railway route, a connection at the same station between the two services would not be possible without extensive modifications or station relocation. The alternate route would bypass the existing Amtrak stations in Staples and Detroit Lakes. Intermediate station locations along the new route would need to be evaluated based upon travel demand and operational considerations.

This route presents several challenges that would need to be addressed and are listed as follows.

- Completion of the route between St. Cloud and St. Joseph
    - Upgrade of existing track to passenger rail standards
    - Implementation of CTC and PTC to operate at desired passenger speed
- Reuse of the Lake Wobegon and Central Lakes trails
    - Would require the reinstallation of track, bridges, railroad grade crossings and signal systems along the entire segment
    - May require the elimination or relocation of the recreational trail
- Significant impact to businesses and communities that currently benefit from the trail
- Completion of the route between Fergus Falls and Moorhead
    - Upgrade of existing OTVR track to passenger rail standards
    - Implementation of CTC and PTC to operate at desired passenger speed

IDENTIFIED ALTERNATIVES

ALTERNATIVES EVALUATION GOALS

- Keep transfers to a minimum (one transfer goal)
- Operates during convenient and reasonable hours of travel (target 6am-9pm)
- Connects the cities of St. Paul, Minneapolis, Coon Rapids, St. Cloud, and Fargo/Moorhead

ALTERNATIVES ELIMINATED

- Light Rail
    - Light rail is ideally suited for urbanized environments due to its efficiency and ability to reduce traffic congestion and is not typically considered a feasible alternative for longer distances. Light rail would not be considered appropriate beyond the Twin Cities metropolitan area because it lacks the speed and capacity needed for longer commutes, making it less practical for connecting the distant communities within the study area.
- Commuter Rail beyond St. Cloud onto Fargo/Moorhead
    - Estimated travel time via this mode is estimated to be three hours one way, which exceeds the expected commuter travel time. Therefore, this mode is not a viable alternative.
- Extending existing intercity passenger rail from Chicago
    - The current westbound *Borealis* service from Chicago arrives in St. Paul at 6:29pm. Utilizing the timetable for the *Empire Builder*, travel time via rail is approximately five hours and twenty minutes from St. Paul to Fargo/Moorhead. *Borealis* passengers would arrive in Fargo/Moorhead close to midnight. With the westbound arrival time beyond the convenient hours of travel and the increased risk of eastbound reliability not being able to meet the time slot from St. Paul to Chicago, the alternative of extending the existing *Borealis* intercity passenger rail service is not a viable alternative at this time.
- Amtrak's *Empire Builder* and North Coast Hiawatha
    - This mode of transportation does not fit the purpose and need of the corridor, and travel times are outside desirable travel times. There is also a high risk of delays due to the significant travel distance before arriving in Minnesota.
- Former Rail R/W
    - The right-of-way of the former Great Northern Railway between Monticello and St. Cloud has been re-purposed (i.e. trails, roads) or sold to adjacent property owners. In addition, this route does not connect with Coon Rapids. A greenfield alignment, at least six miles in length, would need to be developed to connect with Coon Rapids along with a new crossing over the Mississippi River. Re-establishing rail service on the former Great Northern Railway from St. Cloud to Moorhead through Fergus Falls is not a viable alternative compared to expanding passenger service on established rail routes.
- Bus Service between St. Paul and Minneapolis
    - There are existing transit services, including the Route 94 Express Bus, that provide frequent trips between St. Paul and Minneapolis. In addition, Metro Transit plans to extend the Gold Line BRT service from St. Paul to Minneapolis by 2027. This study will not evaluate a new bus service alternative that would compete with the existing bus services between the Twin Cities.

ALTERNATIVES

This study has identified five alternatives for evaluation described below and shown graphically in Figure 4. A sixth alternative, solely evaluating elimination of *Northstar*, is also included. Alternative six is fully evaluated in Appendix I.

1. **A new intercity passenger rail service between St. Paul and Fargo/Moorhead.** Existing passenger rail services in the corridor, including Metro Transit's *Northstar* and Amtrak's *Empire Builder*, would remain in-service. This alternative also provides for the possibility of extension of existing intercity service between Chicago and St. Paul being extended solely to St. Cloud or to Minneapolis.
2. **Extending Northstar commuter rail service from Minneapolis to St. Cloud with bus service between St. Cloud and Fargo/Moorhead.** The extended route would remain a commuter rail service. The existing *Northstar Link* bus service between Big Lake and St. Cloud would be discontinued. Outside of the *Northstar* service, passengers traveling between St. Paul and Minneapolis would utilize existing transit services within the Twin Cities and passengers traveling between St. Cloud and Fargo/Moorhead would utilize a bus service. While some intercity bus service is already provided between St. Cloud and Fargo/Moorhead, additional service could be added to better synchronize with scheduled *Northstar* departure and arrival times.
3. **Extending Northstar service beyond St. Cloud to Fargo/Moorhead. In addition to commuter rail service between Minneapolis and St. Cloud, one or more trips would be extended north to Fargo/Moorhead.** *Northstar* would remain a commuter rail service between Minneapolis and St. Cloud; the service between Minneapolis and Fargo would have an estimated travel time of 4.5 to 5 hours. Outside of the *Northstar* service, passengers traveling to St. Paul would utilize existing transit services within the Twin Cities.
4. **Discontinuing existing Northstar commuter rail service and re-inventing it as an intercity passenger rail service between Minneapolis and Fargo/Moorhead via St. Cloud.** The current *Northstar* service operating plan would be replaced with a new intercity passenger rail service, necessitating a reevaluation of existing and potential station locations among other critical aspects. Outside the re-invented service, passengers traveling to St. Paul would utilize existing transit services within the Twin Cities.
5. **Expand publicly subsidized bus service between Minneapolis and Fargo/Moorhead via Coon Rapids and St. Cloud. Metro Transit's Northstar commuter rail service would remain in operation.** Passengers traveling between Minneapolis and St. Paul would utilize existing transit services within the Twin Cities.
6. **Eliminate the current *Northstar* service.** The *Northstar* Commuter Rail service between Minneapolis and Big Lake, and intermediate stops, would end and no longer be available to passengers.

In recognition of the complexity of evaluating new investments in the corridor, future analysis may include alternatives that are different from the five alternatives presented in this report. The potential connection of *Northstar* or intercity passenger rail service from Minneapolis to St. Paul, for example, is included solely in Alternative 1, but could be applied to other alternatives as well.

In each alternative, access within St. Cloud was considered. In Alternatives 1 through 4, access to St. Cloud State University and the Department of Veterans Affairs health care center would be provided through St. Cloud Metro Bus. In Alternative 5, direct stops could be provided at both locations due to the greater flexibility in establishing bus stop locations.

Figure 4: Alternatives Evaluated

The anticipated levels of service for each alternative are shown in Table 3.

Table 3: Illustrative Station Service Frequencies, Alternatives 1-5

Alternative	St. Paul	Target Field Station	Fridley	Coon Rapids	Anoka	Ramsey	Elk River	Big Lake	St. Cloud	Staples	Detroit Lakes	Fargo/ Moorhead
1 **New Intercity Train**	Existing Transit	4 trains per day										
	1 to 4 trains per day	0 to 4 trains per day										1 to 4 trains per day
2 **Extend *Northstar***	Existing Transit	4 to 15 trains per day							4 to 15 trains per day	0 to 15 buses per day		4 to 15 buses per day
3 **Extend *Northstar***	Existing Transit	4 to 15 trains per day							4 to 15 trains per day	1 to 4 trains per day		
4 **Re-invent *Northstar***	Existing Transit	1 to 4 trains per day	0 to 4 trains per day									1 to 4 trains per day
5 **New Intercity Bus Service**	Existing Transit	4 trains per day										
		2 to 6 buses per day	0 to 6 buses per day									2 to 6 buses per day

	Existing *Northstar*
	Intercity Rail
	Northstar Extension
	Intercity Bus
	Existing Twin Cities Transit

Note: Service frequencies are illustrative ranges of daily round trips. This figure assumes buses serve the same stops as rail, but such service could be subject to change. Where 0 to 4 (or 0 to 6, or 0 to 15) trains per day is noted, this indicates scenarios where the service may or may not serve those particular stations. Stations and service stops would require further evaluation. Alternative six, under which *Northstar* service is eliminated, is not included in this graphic.