





Implementation Plan

RED ROCK
SOUTHEAST CORRIDOR

PREPARED FOR:

Red Rock Corridor Commission

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SEPTEMBER 2016

Your Ticket to the Southeast Metro.

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Chapter 1: Executive Summary

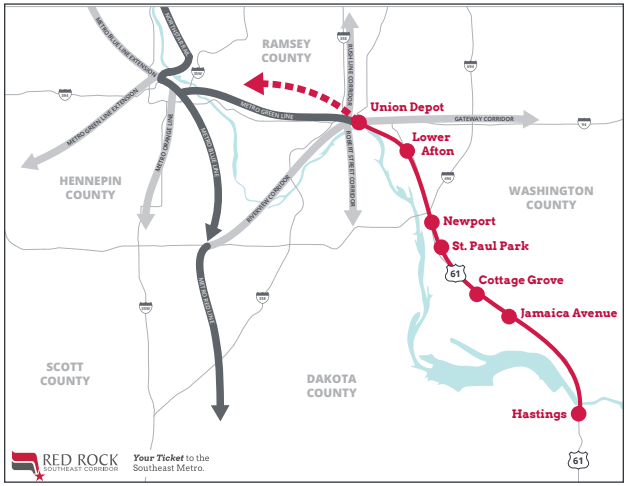


1. Executive Summary

1.1 Introduction

The Washington, Dakota, Ramsey, and Hennepin County Regional Railroad Authorities completed an Implementation Plan for the Red Rock Corridor. The Red Rock Corridor is a proposed 30-mile transitway that runs along Highway 61 and Interstate 94 between Hastings and Union Depot in Saint Paul with connecting service to Minneapolis (see **Figure 1-1**).

Figure 1-1: Project Area



1.2 Purpose of Report

The Implementation Plan builds off the recommendations from the Red Rock Alternatives Analysis Updated (AAU) to create financial, development, and service plans to provide better transit connections between corridor communities and the regional network.

The following sections of the report summarize the individual tasks that form the Implementation Plan.

- Stakeholder Engagement
- Alternative Evaluation
- Preferred Alternative
- Financial Plan
- Phasing Plan

1.3 Project Goals

The following project goals were adopted by the Red Rock Corridor Commission on May 22, 2013 as part of the AAU process to lead planning efforts for the corridor.

1. Provide mode choice and service plan that meets the demonstrated and forecasted needs of corridor communities
2. Cost effectively address transportation problems in the corridor
3. Increase opportunities for community and economic development throughout the corridor
4. Improve quality of natural and built environment

1.4 Stakeholder Engagement

Planning for the Implementation Plan involved outreach and coordination with community members, businesses, civic organizations, and others interested in the project. A Business and Civic Advisory Committee was established as part of the project. City and county agencies were also engaged in the process to provide direction on the project and the engagement process.

A **Public Involvement Plan** (PIP) was developed to clarify the goals and objectives for public outreach.

Engagement at Park & Rides



1.5 Alternative Evaluation Overview

Two BRT alignment alternatives were explored beyond the alternatives that were identified in the Alternatives Analysis Update (AAU).

The initial alignment that was identified included a BRT alignment with a highway orientation along Highway 61 between Union Depot in Saint Paul and Hastings Depot (Alternative 1).

At the onset of the Implementation Plan, it was noted that stations along Highway 61 from the AAU may miss some of the established development along the corridor and stakeholders requested that another route be investigated. Thus, a second BRT alternative was introduced to focus more on the existing density in the corridor that would be more likely to support all-day transit service. The second alternative included stations on the east side of Saint Paul within the Gateway Corridor, into the developed part of Cottage Grove, and

further into Hastings. St. Paul Park did not have a station in the routing recommended in the AAU, so a station in St. Paul Park was added to both alternatives.

The following two project alternatives were evaluated based on projected cost, ridership, and service:

- **Alternative 1:** BRT Along Highway 61 with a Highway Orientation
- **Alternative 2:** BRT Along Highway 61 with a Community Orientation

The routes and station locations for the two alternatives are shown in **Figure 1-2** and **1-3**.

1.6 Station-Level Evaluation

During the station-level analysis, it was determined that Alternative 2 would be further evaluated with two options: Alternative 2A and 2B.

- **Alternative 2A:** BRT via 95th Street with stops at the Union Depot, Mounds Boulevard Station, Earl Street Station, Etna Street Station, Lower Afton Park & Ride, Newport Transit Station, St. Paul Park Station, 80th Street Station, 95th Street Station, the Hastings Depot, a station along Highway 55 in Hastings, and a station near the Dakota County Offices in Hastings. The Mounds Boulevard, Earl Street, and Etna Street Stations are shared with the Gateway Corridor and utilize the transit-only guideway being developed for that corridor. Parking is assumed at the Lower Afton Park & Ride, Newport Transit Station, 80th Street Station, the Hastings Depot, and the Dakota County Offices Station.
- **Alternative 2B:** BRT with the same stops as Alternative 2A with the exception of a stop at Jamaica Avenue rather than at 95th Street. Additionally, parking is assumed at the Jamaica Avenue station rather than the 80th Street Station for this alternative.

Figure 1-2: Alternative 1

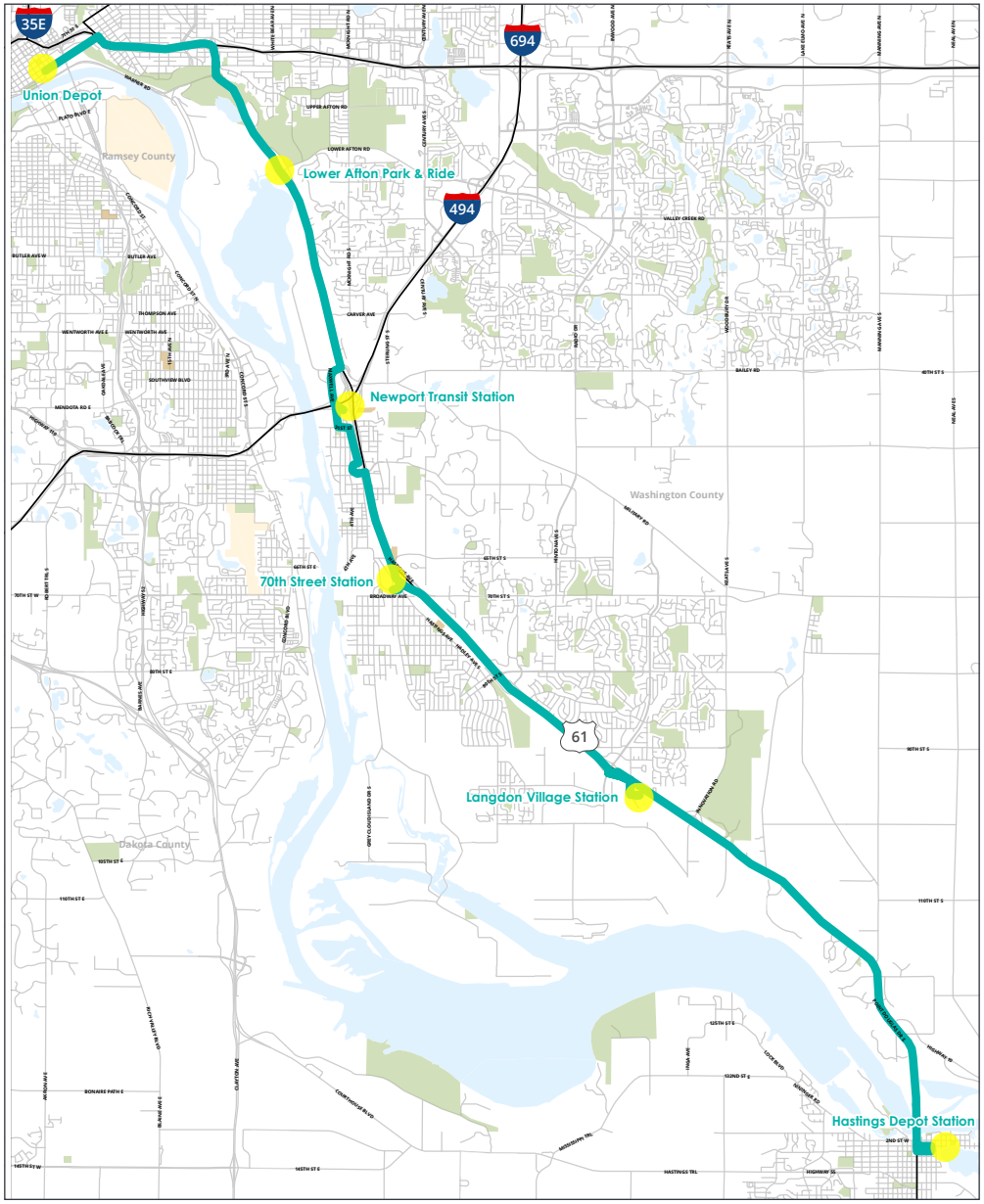
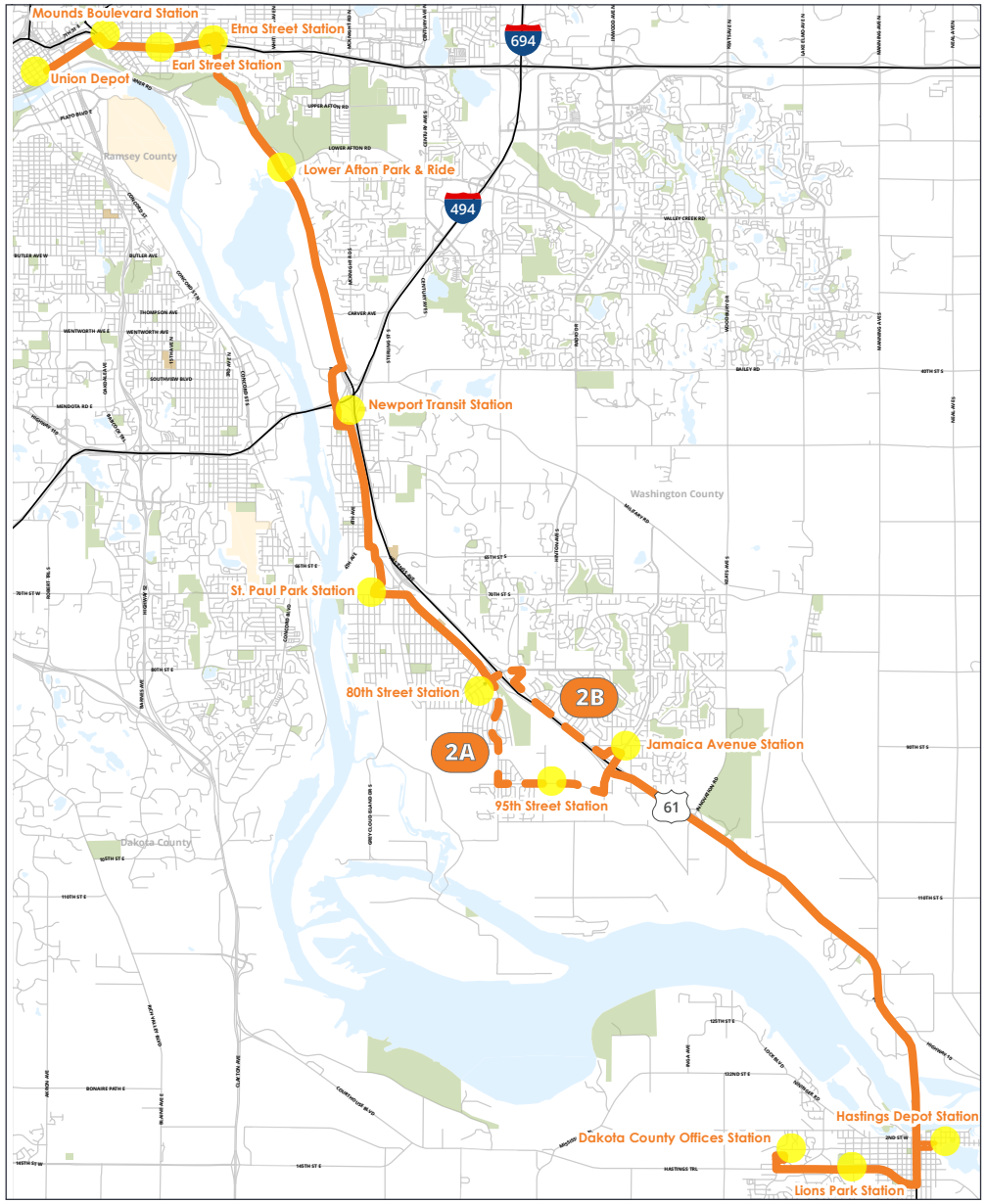


Figure 1-3: Alternative 2



The intention behind these alternatives was to investigate the difference in forecasted ridership between serving the predominantly industrial side (west) of Highway 61 compared to the predominantly commercial side (east) of Highway 61 between 80th Street and Jamaica Avenue.

1.7 Preferred Alternative

In January 2016, the RRCC recommended advancing a single preferred alternative for further evaluation based on the goals of the project and public input. The preferred alternative includes BRT service along Highway 61 between Union Depot in Saint Paul and Hasting Depot with deviations from Highway 61 in Newport, St. Paul Park, Cottage Grove, and in Hastings. The portions of this alternative off of Highway 61 aim to serve existing population and jobs that are more likely to support all-day, bi-directional transit service than park-and-rides. The end-to-end travel time to cover the 26.8-mile distance is assumed to be approximately 66 minutes with 124 daily trips.

Figure 1-4 shows the proposed preferred alternative service plan.

SERVICE CHARACTERISTICS

Similar to other transitways in the region, the service for the Red Rock BRT was modeled as follows:

Weekday Service

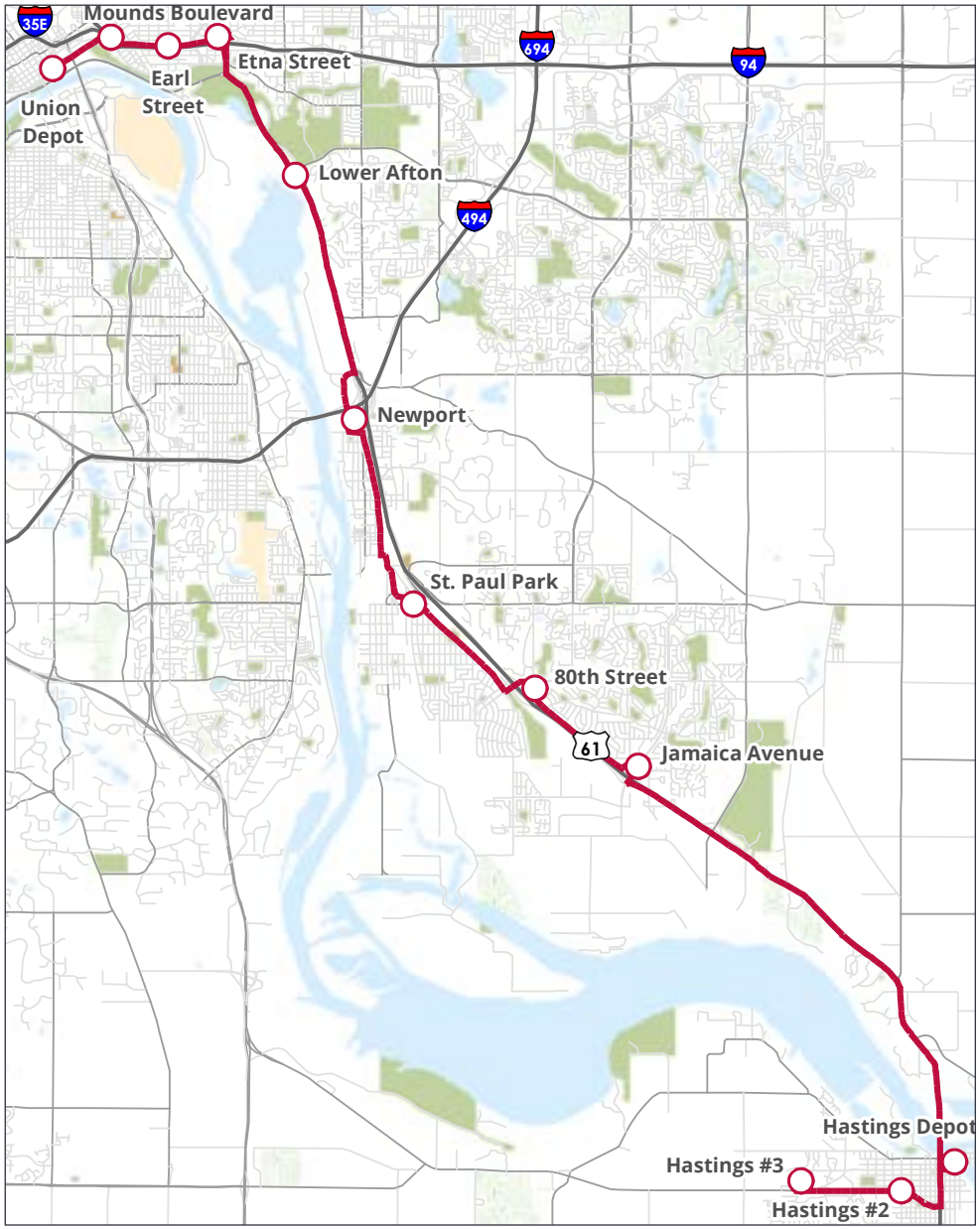
- Frequency
  - 15 minutes (6:00 a.m. – 6:00 p.m.)
  - 30 minutes (5:00 a.m. – 6:00 a.m.; 6:00 p.m. – 12:00 a.m.)
- Service Hours
  - 19 Hours

Weekend Service

- Frequency
  - 30 minutes (7:00 a.m. – 12:00 a.m.)
- Service Hours
  - 17 Hours



Figure 1-4: Preferred Alternative Service Plan



1.8 Ridership and Cost Estimation

SUMMARY OF CAPITAL AND OPERATIONS AND MAINTENANCE (O&M) COST ESTIMATES

The total capital cost is estimated to be $44.3 million and the total O&M cost is estimated to be $7.9 million for the preferred alternative, as shown in **Table 1-1.**

Table 1-1: Summary of Capital and O&M Costs[1]

COST CATEGORY	PREFERRED ALTERNATIVE COST (2015$)
Total Capital Costs	$44.3 M
Total O&M Cost	$7.9 M

RIDERSHIP PROJECTIONS

The ridership projection for the preferred alternative is 2,200 by 2040.

Key ridership information is summarized in **Table 1-2**. Year 2024 was selected as an interim year to evaluate additional local and express service within the corridor, as well as an interim build option for the Full Build BRT, since ridership for this year was required for a grant application for interim service.

Table 1-2: Ridership Results Summary

YEAR	ALTERNATIVE	EXISTING EXPRESS ROUTES	BRT	TOTAL
2024	No Build	1,350	-	1,350
	Interim BRT	1,270	1,550	2,820
2040	No Build	1,650	-	1,660
	Preferred Alternative	1,600	2,200	3,800

[1]All cost estimates presented were calculated using 2015 dollars



1.9 Phasing Plan

PHASE I: NEAR-TERM (2016-2020)

The first phase towards full BRT implementation is to increase local and express bus service. This includes:

- Work with Metro Transit to maintain and increase local and express bus service
- Work with corridor cities and counties to update comprehensive plans with increased population and employment density within station areas
- Work with Metro Transit to implement 30-minute service throughout most of the day between Saint Paul and Cottage Grove (Route 363, see **Section 4.6**)[2]
- Work with Metro Transit and the City of Hastings to determine when express bus service from Hastings (such as Route 367) or local service within Hastings is a viable option

PHASE II: LONG-TERM (2020-2040)

If Route 363 is implemented, the second phase towards full BRT implementation would be based on how Route 363 performs. The next steps in this phase include:

- Implement the corridor city and county comprehensive plans with a focus on development within and around station areas
- Update forecasted ridership based on comprehensive plan updates
- If Route 363 is implemented, monitor ridership; work with Metro Transit to identify potential service improvements to reach 1,200 passengers per day
- Work with Metro Transit to maintain and/or increase express bus service between the Red Rock Corridor cities and downtown Minneapolis (such as Route 367)

[2]In July 2016, a Regional Solicitation Application was submitted to the Metropolitan Council for Route 363. If the grant application is successful, the service would be implemented for a three-year term starting in 2020.

- Replace Route 363 with an Interim BRT service when it reaches an estimated 25 passengers per in-service hour
- Continue to invest in station area development

1.10. Recommendations and Next Steps

IMPLEMENTATION PLAN

Based on the current ridership projections and cost-effectiveness of the project, a phased Implementation Plan is proposed to move forward with the development of BRT in the Red Rock Corridor.

FUNDING CONCLUSIONS

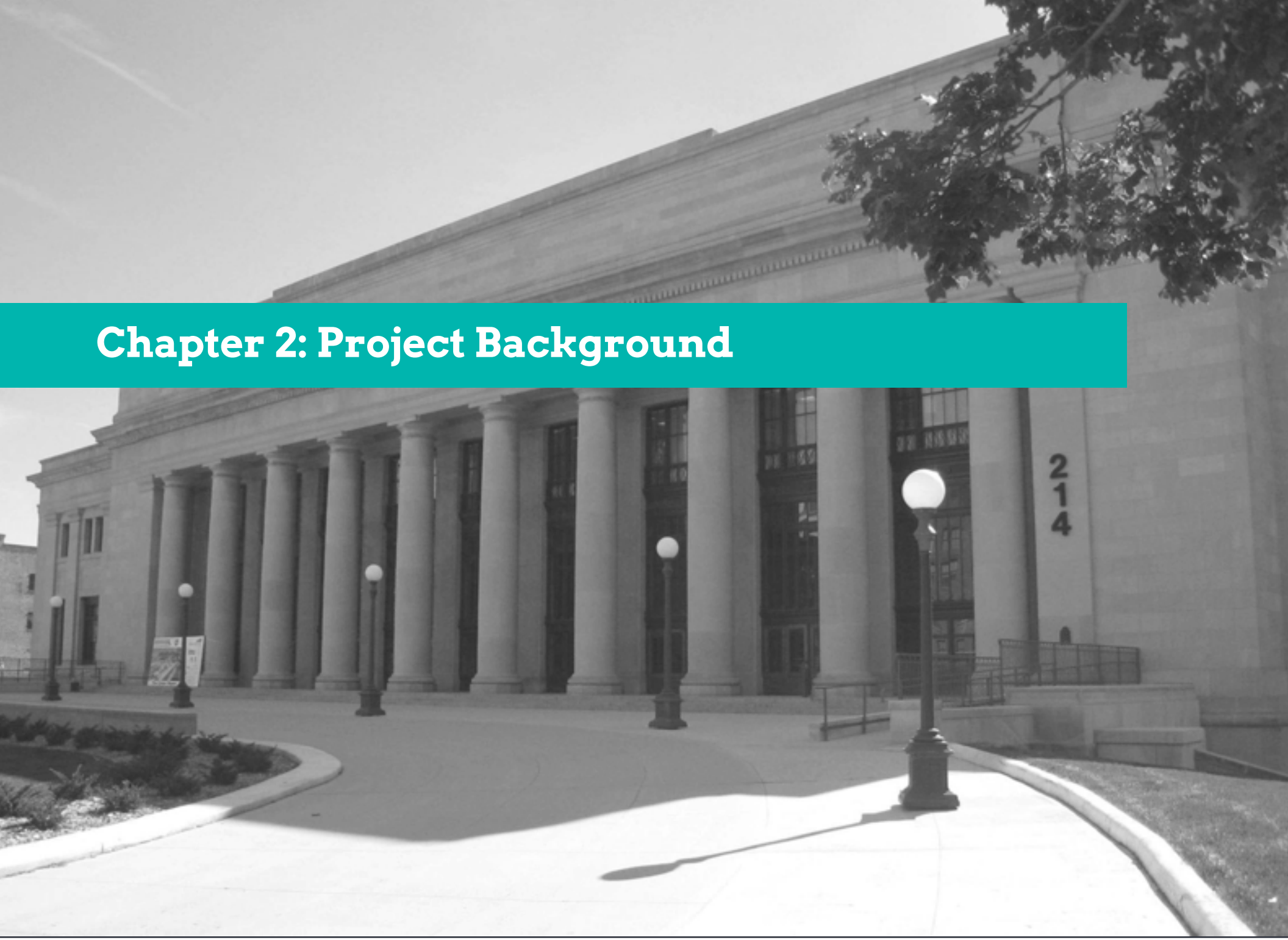
Based on the evaluation of the funding sources, the following conclusions can be made about potential revenue sources to support the capital costs of a new BRT line in the Red Rock Corridor:

- Seek multiple sources to fund the Red Rock Corridor prioritized investments
- Invest in a series of small improvements to implement the project over time in order to efficiently leverage funds from multiple sources
- Consider local opportunities to help fund small investments towards full BRT build out
- Reevaluate funding sources and competitiveness as project needs arise

NEXT STEPS

In conjunction with the actions and improvements in each of the phases, there are other broad and ongoing strategies that should be pursued. They are:

- Advocate for integrated multimodal investments including pedestrian, bicycle, and transit improvements that support mobility throughout the Red Rock Corridor
- Advocate for funding for mobility improvements along the corridor. This includes advocating for sustainable federal, regional, and local funding sources
- Continue to monitor transit needs and performance in the corridor to determine the timing for implementation of additional transit services, alternative modes, and capital improvements



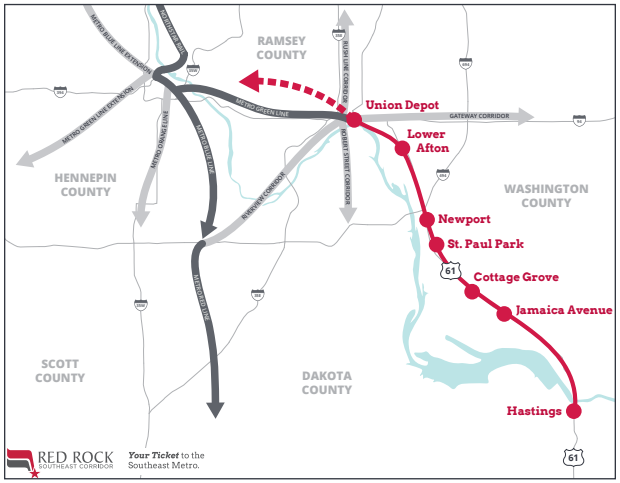
Chapter 2: Project Background

2. Project Background

2.1 Red Rock Corridor Defined

The Red Rock Corridor is a proposed 30-mile transitway that runs along Highway 61 and Interstate 94 between Hastings and Union Depot in Saint Paul with connecting service to Minneapolis (see **Figure 2-1**). The transitway will include stops in Hastings, Cottage Grove, St. Paul Park, Newport, and Saint Paul. Riders can access many destinations from the Union Depot using other transit service including express buses, local buses, and the METRO Green Line.

Figure 2-1: Project Area



Previous studies have looked at transit service beyond Hastings but for the purposes of this Implementation Plan, the southern terminus of the corridor is Hastings. The corridor has regional, statewide, and national significance as a primary transportation route for automobile, truck, freight, and passenger rail travel.

The purpose of this project is to build off the recommendations from previous studies to create financial, development, and service plans for the Red Rock Corridor. These implementation plan components will lead to the long-term goal of providing better transit connections between corridor communities and the regional transit network.

2.2 Project Background

In the 1990s, the Red Rock Corridor was included as part of the region's commuter rail plan. Subsequently, the corridor was planned as a connection from the Twin Cities to Chicago via high-speed rail service.

In 2007, the Red Rock Corridor Alternatives Analysis (AA) was completed as an initial phase in attaining federal funding for future commuter rail service. This analysis concluded that commuter rail was appropriate for the long-term; especially in the event that high- speed rail was introduced into the corridor and provided a potential mechanism for reducing capital costs. The AA recommended the development of commuter bus services in the short-term to build transit demand in the corridor.

The results of the AA led to the study of commuter bus services in the corridor and station area planning work based around a long-term plan for commuter rail service. However, other regional planning work led by the Metropolitan Council, such as the 2008 Transit Master Study and the 2010 Park-and-Ride Study, and ongoing developments in the corridor reopened the door for additional study. Further study reevaluated whether commuter rail is the appropriate investment for the corridor and found that forecasted ridership is low for the estimated costs, unless those costs were shared with another capital investment, such as high-speed rail.

In addition, the East Metro Rail Capacity Study identified existing capacity constraints within the rail system that would be further strained if commuter rail service was added to the corridor. Finally, the Transportation Policy Plan adopted in November 2010 and amended in May 2013 identifies the Red Rock Corridor as being served by bus rapid transit (BRT), light rail transit (LRT), or commuter rail.

Due to changing conditions in the corridor and region and the availability of additional technical data, an Alternative Analysis Update (AAU) was undertaken to make decisions on how to create short and long-term transit improvements in the corridor. The AAU selected BRT as the alternative best aligned with the project's goals and objectives.

The AAU was completed in 2014 and can be found along with all previous studies at the Red Rock Corridor website:

http://www.redrockcorridor.com

As outlined in the final chapter of the AAU, there are broad and ongoing strategies that will be pursued. One strategy is to advocate for integrated multimodal investments including pedestrian and bicycle facilities, freight, rail, highway, and transit improvements that support mobility throughout the Red Rock Corridor. Another strategy is to advocate for funding for mobility improvements along the corridor. The final broad strategy is to continue monitoring the peak period capacity needs in the corridor to determine the timing for implementation of additional transit services, alternative modes, or capital improvements.

A summary of all previous completed work is described in the report **Previously Completed Work,** which is available in the appendix.



2.3 Problem Statement

In 2007, the Red Rock Alternatives Analysis focused heavily on issues related to peak hour mobility to the Saint Paul and Minneapolis downtowns. Additional analysis was needed to better understand transit markets in the corridor, including off-peak and reverse commute service demand, local access demand, railroad access, new station locations, connections to new transit services, level of service, and efficient use of transit infrastructure.

Communities in the Red Rock Corridor between Saint Paul and Red Wing do not currently have all-day fixed route transit service. Instead, their service is limited to peak period express bus and dial-a-ride services. As a result, community members and the Commission expressed a desire for more off-peak/all-day transit service with more access.

2.4 Project Goals and Objectives

The following project goals and objectives were adopted by the Red Rock Corridor Commission on May 22, 2013 as part of the AAU process to lead planning efforts for the corridor.

1. Goal: Provide mode choice and service plan that meets the demonstrated and forecasted needs of corridor communities.

Objectives:

- A transit option which is time competitive to the private automobile
- Reliable service
- Improve mobility throughout the day for both work and non-work trips by providing flexible duration of service
- A transit option that maximizes the number of riders and the transit modal share, among both transit-dependent and non-transit-dependent populations
- Provide connectivity among existing and planned transit/bike/pedestrian services and infrastructure throughout the region, expanding the destinations corridor transit users can access

2. Goal: Cost effectively address transportation problems in the corridor.

Objectives:

- Implement a service with operation costs per rider that are consistent with other cost effective transit systems in the region
- Create a transit service with capital costs that are consistent with other transit systems in the region
- Create a transit service with capital costs that are consistent with other transit systems in the region

3. Goal: Increase opportunities for community and economic development throughout the corridor.

Objectives:

- Support local initiatives to create transit oriented development (TOD) including, higher density housing and mixed-use commercial/retail areas within walking distance of the station areas and throughout the corridor
- Support a vibrant business community by increasing access for workers and customers to businesses in the corridor
- Increase connectivity and access from population centers to employment concentrations along the corridor

4. Goal: Improve quality of natural and built environment.

Objectives:

- Limit adverse impacts to natural, cultural, and other resources in the study area
- Reduce emissions
- Provide a fair and equitable distribution of impacts and benefits across the various populations groups in the study area
- Address existing and future safety issues along the corridor

The goals and objectives were intended to lay the framework for how alternatives will be evaluated in the Implementation Plan.

2.5 Implementation Plan Process

PROJECT TEAM

Project Management

The Washington County Regional Railroad Authority (WCRRA) is the lead agency for the Red Rock Corridor Commission, and therefore, the Red Rock Corridor Implementation Plan. WCRRA staff provided guidance and review over the documents associated with the development of the Implementation Plan. Other staff from Dakota, Hennepin, and Ramsey County Regional Railroad Authorities, Metro Transit, Metropolitan Council, and the Minnesota Department of Transportation (MnDOT) were included in review of documents as needed. A **Project Management Plan** was completed for the project and can be found in the appendix.

Red Rock Corridor Commission

The Red Rock Corridor Commission (RRCC) was formed in 1998 to address the transportation needs of the corridor. RRCC is a joint powers board of local elected officials from Dakota, Hennepin, Ramsey, and Washington Counties and the communities from Minneapolis to Hastings. RRCC is supported by staff from Dakota, Hennepin, Ramsey, and Washington County Regional Railroad Authorities.

The RRCC is an 11-member joint powers board. Commission members are listed in the **Public Involvement Plan** in the appendix. Representatives from Goodhue County, the City of Red Wing, Prairie Island Indian Community, and the Canadian Pacific Railway serve on RRCC as ex-officio members. RRCC met monthly and provided direction for the Implementation Plan.

PROJECT COMMITTEES

Technical Advisory Committee

The Technical Advisory Committee (TAC) is composed of technical staff (engineers and planners) from corridor communities within the study area as well as affected agencies. Key responsibilities of the TAC included providing technical input, reviewing study findings, and providing recommendations to project management and the RRCC. Meetings were held with the TAC monthly throughout the duration of the project. TAC members are listed in the **Public Involvement Plan.**

Business and Civic Advisory Committee (B-CAC)

It was determined that business and civic leaders were important to engage to advise plan development. The B-CAC is comprised of representatives recommended by the RRCC from businesses and civic organizations along the corridor. Meetings were held with the B-CAC as needed throughout the duration of the project. These meetings were beneficial for gathering input regarding the needs of those living and working along the corridor and the potential impact of decisions being made. Members also facilitated communication back to the groups they represent. B-CAC members are listed in the **Public Involvement Plan.**

STATION AREA PLANNING PROCESS

Previous station area planning for the Red Rock Corridor was oriented for commuter rail and was completed in 2012. There have been a number of changes since 2012 that impact station area planning for the Red Rock Corridor including:

- Red Rock Corridor Commission completed an Alternatives Analysis Update (AAU) in 2014, which selected Bus Rapid Transit (BRT) as the preferred alternative. All station planning assumptions were tied to commuter rail before the recession
- The Metropolitan Council updated its Transportation Policy Plan, which includes land use planning guidance for station areas
- The Federal Transit Administration drafted guidelines for New Starts and Small Starts projects

Due to these changes, station area plans for each of the stations identified in the preferred alignment have been produced as a stand-alone supplement to the Implementation Plan. This includes the following stations:

- Lower Afton Park & Ride
- Newport Transit Station
- St. Paul Park Station
- 80th Street Station
- Jamaica Avenue Station
- Hastings Depot
- Hastings #2
- Hastings #3

For each station area, the plan includes a description of the following:

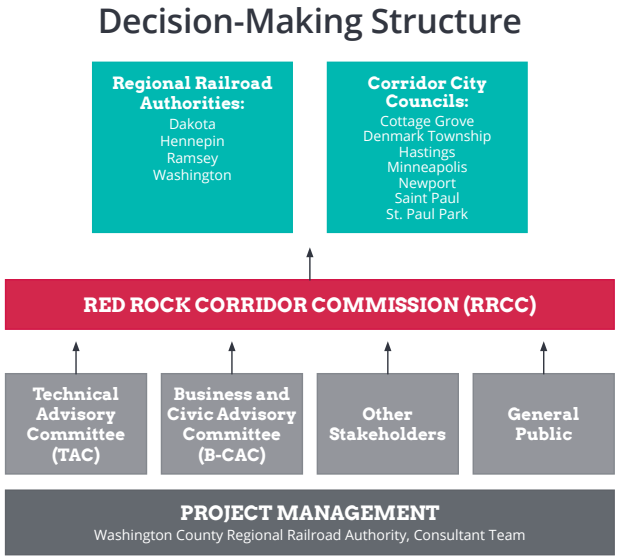
- Existing conditions, including location, land use, and zoning
- Recommendations, including suggested physical improvements, land use and zoning changes, and edits to the comprehensive plan

The supplement is intended to recognize current conditions at the station areas, land use guidance, zoning, and other factors related to opening day scenarios as well as future full buildout potential. Each community can use the supplement as a tool to be applied to upcoming comprehensive plan updates. **Station Area Planning Report**s were provided to Saint Paul, Newport, St. Paul Park, Cottage Grove, and Hastings.

DECISION-MAKING PROCESS

The decision-making process for the Red Rock Implementation Plan followed the progression shown in **Figure 2-2**. This includes the project management team, the general public, established committees for this project (TAC and B-CAC), the RRCC, the Regional Railroad Authorities, and the city councils along the corridor.

Figure 2-2: Implementation Plan Decision-Making Process





Chapter 3: Stakeholder Engagement

3. Stakeholder Engagement

3.1 Public Outreach Approach

Planning for the Implementation Plan involved outreach and coordination with the public. This outreach included the community members residing, working, and traveling in the corridor, businesses, civic organizations, and others interested in the project. City and county agencies were also engaged in the process to provide direction on the project and the engagement process.

A **Public Involvement Plan** (PIP) was developed to clarify the goals and objectives for public outreach. The PIP also described strategies for encouraging public input and outlined opportunities for early and ongoing involvement in the Implementation Plan. The PIP identified key stakeholders and defined the roles of decision-making and advisory bodies. Furthermore, it identified communication methods and outlined the anticipated sequencing and schedule of public engagement activities.

GOALS, OBJECTIVES, AND INTENDED OUTCOMES

The overall goals and objectives of the engagement process were to:

- Build community awareness for the transit corridor through an open, proactive process
- Clearly illustrate the relationship between land development, transportation infrastructure, and transit ridership
- Share information about bus rapid transit (BRT) with members of the general public and stakeholder groups
- Integrate and coordinate stakeholder and public involvement with technical tasks and timelines in a meaningful way

The intended outcome was that stakeholders will have actively participated in the project process so that there is local buy-in and stakeholder support for an overall implementable plan. The contents of the PIP and results from the public outreach are outlined in the following sections.

3.2 Outreach Strategies

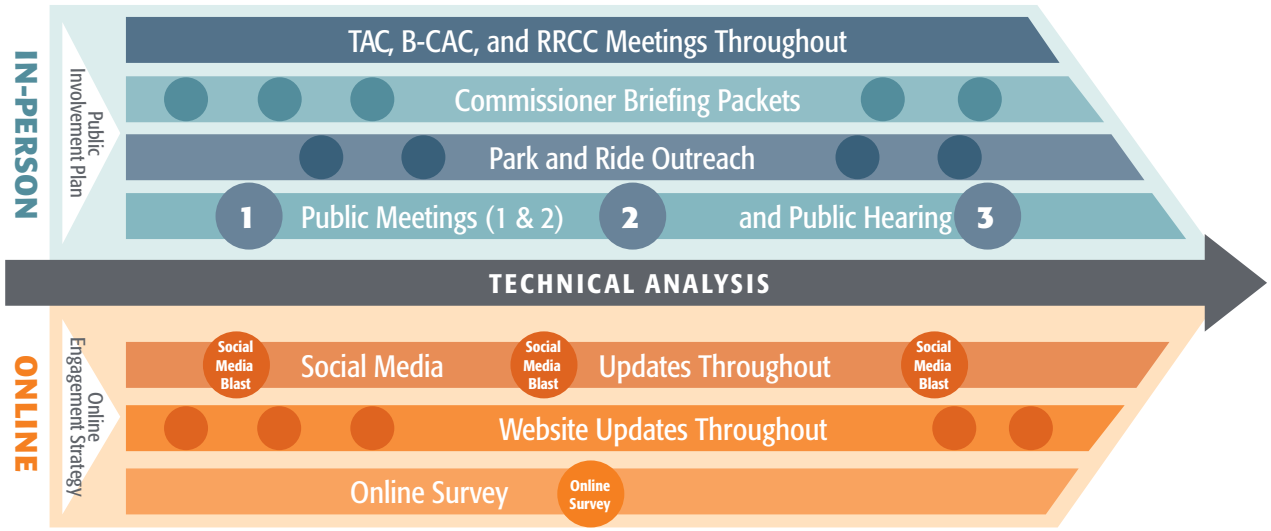
IN-PERSON ENGAGEMENT

Open Houses

Two open houses were held along the corridor. The first open house was held in April 2015 and the second open house was held in January 2016.

The first open house had no formal presentation, allowing attendees to come and go as they wished. There were approximately 20 attendees that participated in open house activities and about 60 attended the grand opening for the Newport Transit Station that occurred immediately before to the open house. The meeting included four interactive stations at which participants could learn about the Implementation Plan process and provide comments and recommendations. Project and consultant staff were available to guide activities and answer questions.

Outreach Strategies and Process



Station Prioritization Activity at Open House #1



The second open house was similar to the first with engagement activities but also included a formal presentation. Attendees had an opportunity to talk directly with staff and elected officials or leave written comments.

Informational Boards at Open House #2



More information about the purpose of each open house is listed in **Table 3-1.**

Components of the Implementation Plan were made available to the public online prior to the second open house. See the appendix for a **Summary of Open House #1 and #2** and comments received.

Park-and-Ride Outreach

Outreach took place at the Cottage Grove and Lower Afton Park & Rides along the corridor. This outreach provided inputs on service needs and desires from those already riding transit in the corridor.

Project staff were available during the morning and afternoon commutes at these park-and-rides to engage travelers along Metro Transit Routes 361 and 365.

Informational boards and handouts were available for riders to learn about the Implementation Plan, and questionnaires were distributed to collect comments and recommendations. The questionnaire was also available online so that commuters could submit responses on their mobile device while traveling to and from work (see appendix for results of informational sheets).

In addition to the park-and-ride outreach, additional outreach took place at the following events:

- Strawberry Fest (Cottage Grove)
- Pioneer Day (Newport)
- Heritage Days Festival (St. Paul Park)
- Rivertown Days (Hastings)
- National Night Out at the Conway Recreation Center (Saint Paul)
- 2016 Spring Business Showcase (Cottage Grove)

Project staff were available at these events to collect input on transit service in the corridor and to provide project information, fact sheets, and brochures.

Targeted Meetings

Targeted meetings were held with each of the cities and counties along the corridor. These meetings were held at critical points in the development of the plan.

Table 3-1: Public Meetings

MEETING	PURPOSE
Spring 2015	
Open House #1	▪ Introduce the Implementation Plan ▪ Share project schedule ▪ Confirm plan goals, as a continuation from the results of the AAU ▪ Receive public feedback on key issues ▪ Seek input on station area planning
Winter 2016	
Open House #1	▪ Present technical analysis results from ridership, service plan, capital and operating cost, and station planning ▪ Seek input on draft plan components
Fall 2016	
Public Hearing	▪ Seek input on proposed recommendations for implementation

Red Line Tour

Project staff organized a tour of the Red Line for the RRCC and the cities and counties along the corridor to gain a greater understanding of BRT and to discuss how it will be integrated along the Red Rock Corridor. The Red Line provides context regarding how BRT has been implemented in the Twin Cities and a point of comparison for Red Rock Corridor design. A BRT

educational brochure was available during the tour to explain to attendees how BRT service operates and the amenities it provides.

3.3 Communication Methods

Multiple methods were used to distribute information about the Implementation Plan and provide notice for upcoming meetings and other opportunities for input. The following section outlines the different communication methods used (more information on **Outreach Materials** is included in the appendix).

Outreach Toolkit

An outreach toolkit was developed for project management to provide information and share progress with interested parties. The package was updated throughout the duration of the project and consisted of two factsheets and two brochures.

Email Communication

Corridor stakeholders, those with specific interests in the future of transit along the Red Rock Corridor, were critical partners in this planning process. Contacts were collected at open houses and other events, and were documented in an email list. These stakeholders received plan updates and were invited to engage in meetings and online activities.

Flyer

A standard project flyer was developed in advance of open house dates. Flyers were distributed via email and provided to corridor communities and B-CAC members for posting locally.

Press Release

A standard press release was distributed through Washington County media contacts prior to each open house and to communicate key milestones in plan development, including announcement of the final plan.

Red Rock Corridor Project Website



Red Rock Corridor Facebook Page



Libraries

A draft and final document of the Implementation Plan is available on the Red Rock Corridor website as well as in the following libraries along the corridor:

- George Latimer Central Library
- Newport Public Library
- Park Grove Library
- Pleasant Hill

ONLINE ENGAGEMENT

Website

The Red Rock Corridor website contained updates on the planning process, ways to engage and provide feedback on plan development, and links to download draft and final plan content. Project materials and news updates were posted to the website as they became available. The project website is available here:

http://www.redrockcorridor.com

Social Media

Social media was used to provide notice for upcoming meetings and updates on the planning process. Existing Red Rock Corridor social media outlets were used, with primary focus on the Red Rock Corridor Facebook page and Red Rock YouTube channel. City and county social media along the corridor also shared project updates and information.

Chapter 4: Preferred Alternative



4. Preferred Alternative

4.1 Alternative Evaluation

Bus rapid transit (BRT) alignment alternatives were explored beyond the alternatives that were identified in the Alternatives Analysis Update (AAU). The proposed alternatives were driven by assessing residential densities, employment densities, and activity centers along the corridor. St. Paul Park did not have a station in the rail-focused alternatives from the Commuter Rail Feasibility Study (2001) and the Alternatives Analysis (2007), so a station in St. Paul Park was added to all alternatives in order to serve all corridor cities.

The alternatives were eventually narrowed down into two alternatives: Alternative 1 and Alternative 2.

ALTERNATIVE 1: BRT WITH A HIGHWAY ORIENTATION

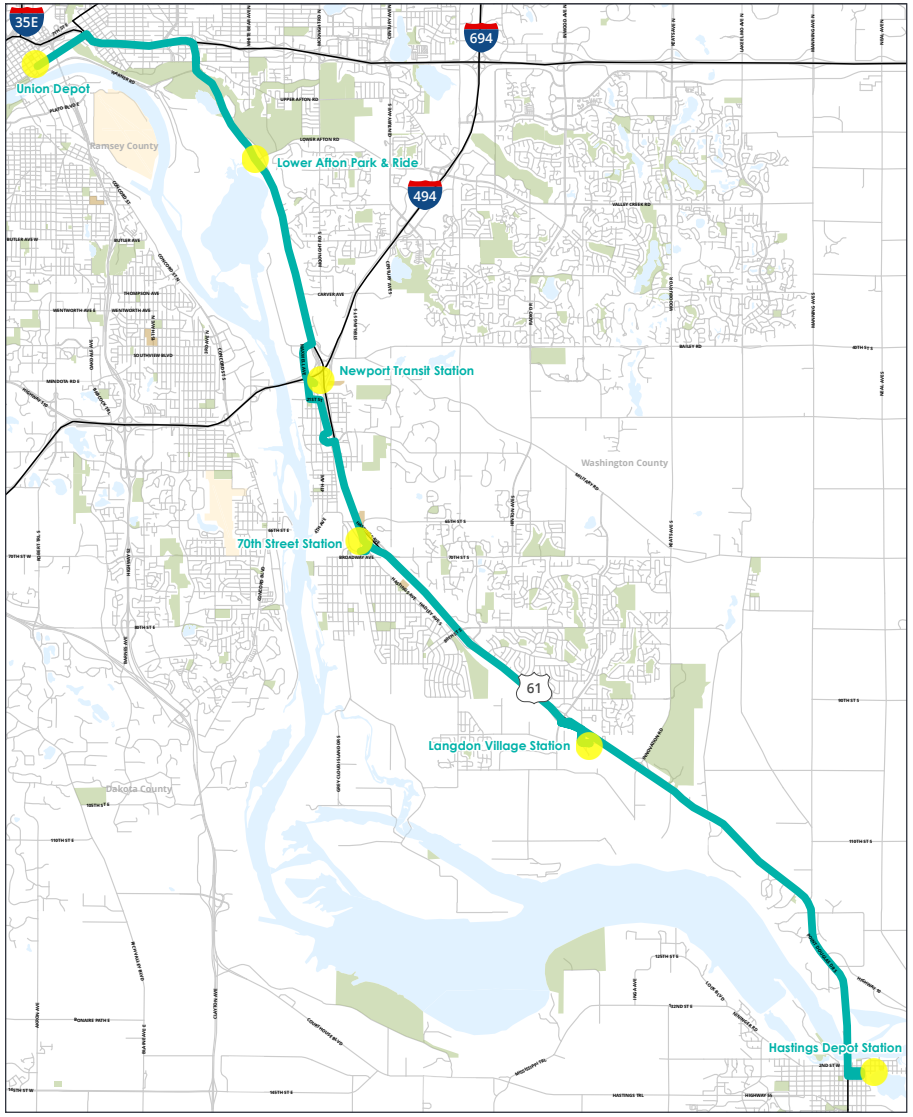
Alternative 1 includes a mainline BRT service along Highway 61 between Union Depot in Saint Paul and Hastings Depot. This alternative includes stations at Union Depot, Lower Afton Park & Ride, Newport Transit Station, St. Paul Park Station, Langdon Village Station in Cottage Grove, and Hastings Depot (shown in **Figure 4-1**).

At the onset of the Implementation Plan, it was noted that stations along Highway 61 may miss some of the established development along the corridor. Thus, a second BRT alternative was introduced to focus more on the existing density in the corridor that would be more likely to support all-day transit service (Alignment 2).

ALTERNATIVE 2: BRT WITH A COMMUNITY ORIENTATION

Alternative 2 includes a mainline BRT service along Highway 61 between Union Depot in Saint Paul and Hasting Depot with deviations in Newport, St. Paul Park,

Figure 4-1: Alternative 1



Cottage Grove, and Hastings (shown in **Figure 4-2**). The deviations aim to serve existing destinations and densities that are likely to support all-day, bi-directional transit service more than service focused on park-and-ride stations. This alternative includes stations within the METRO Gold Line (Gateway Corridor) at Union Depot, Mounds Boulevard Station, Earl Street Station, Etna Street Station, Lower Afton Park & Ride, Newport Transit Station, St. Paul Park Station, 80th Street Station, 95th Street Station (Alternative 2A)/Jamaica Avenue Station (Alternative 2B), Hastings Depot, a station along Highway 55 in Hastings, and a station near the Dakota County Service Center in Hastings. The Alternative 2A and 2B variants were carried forward in order to assess the ridership differences between serving the industrial 95th Street Station area versus the retail-focused Jamaica Avenue Station area.

The two project alternatives were initially evaluated based on projected cost, ridership, and service.

Once a preferred alternative was identified, further analysis included three different stages of evaluation to produce an implementation strategy for the corridor: full build BRT alternative analysis, station-level evaluation, and corridor evaluation.

See the **Service Plan Technical Memorandum** for more information on Alternatives 1 and 2.

4.2. Cost Estimation

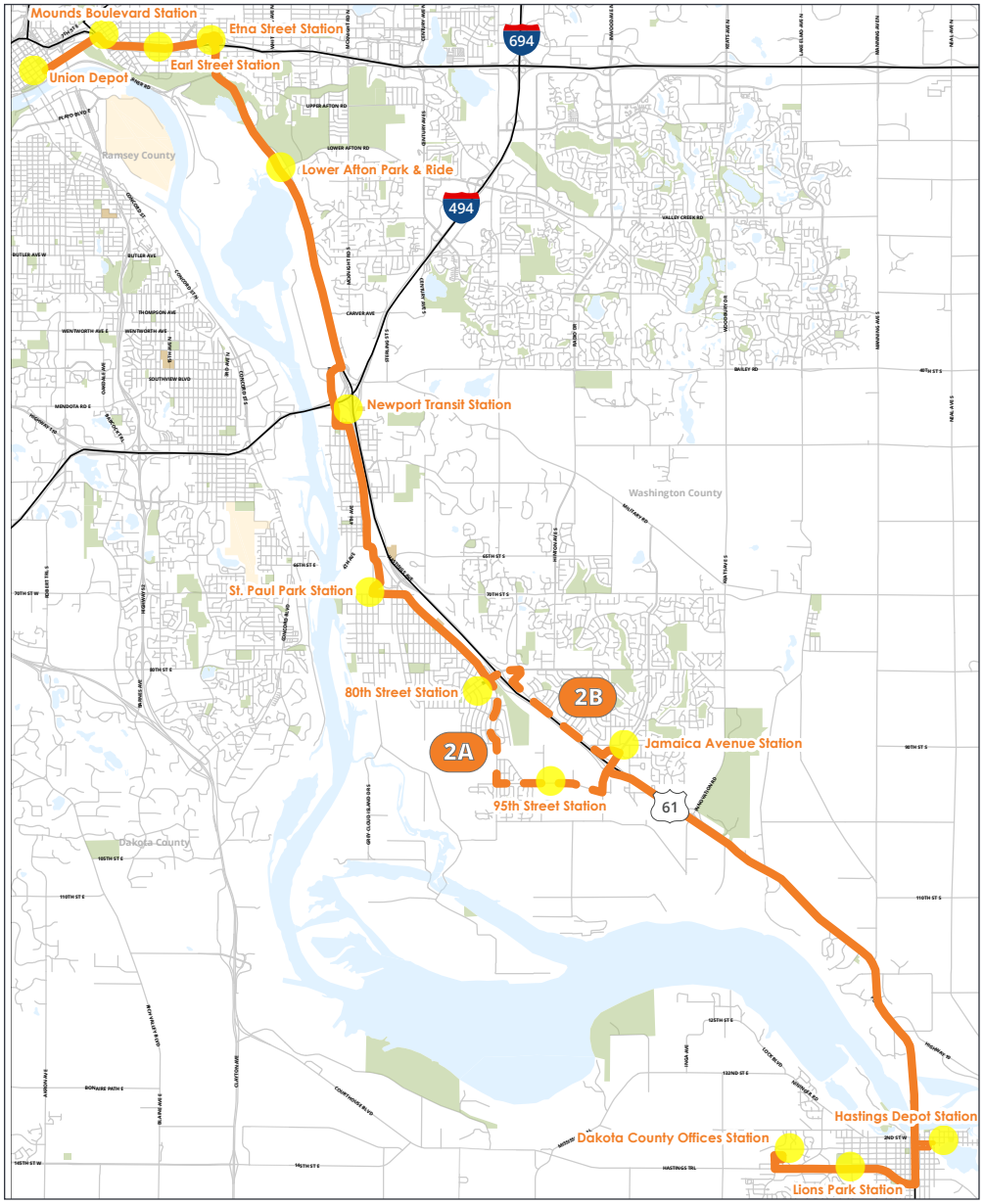
This section provides a summary of the financial considerations for the alternatives, including a summary of capital costs and operations and maintenance (O&M).

CAPITAL COSTS

What is Included in Capital Costs?

Capital cost estimates include the one-time expenditure to build the system and typically include corridor improvements, stations, structures, signalization and communications systems, operations and maintenance

Figure 4-2: Alternative 2



facilities, vehicles, and right-of-way (ROW) acquisition. Also included are "soft costs" for items such as engineering, construction services, insurance, and owner's costs, as well as contingencies for uncertainty in both the estimating process and the scope of the project.

Planning-Level Estimates

At this early study stage, there is not sufficient information to prepare detailed construction cost estimates for the alternatives under consideration. Rather, the capital cost estimates were developed using representative typical unit costs or allowances on a per-unit basis that is consistent with this level of review. Prior to implementation, the capital cost estimates will need to be refined based upon additional design development work.

Capital cost estimates were derived from the Arterial Transitway Corridor Study (ATCS) and the Highway Transitway Corridor Study (HTCS), with some unit costs updated to match known A Line costs. These unit costs were then categorized into FTA's Standard Cost Categories (SCC) for each station based on the designs produced in the station area planning process. Corridor-level costs by alternative, such as transit signal priority and shoulder improvements, were also categorized into FTA's SCC. Each alternative's total cost is the summation of the individual station costs and corridor improvement costs in that alternative.

Parameters

Capital cost parameters are necessary assumptions that are not related to the specific location or design features of the corridor or the alternatives under consideration. The Red Rock Corridor Implementation Plan capital cost estimates are based upon the following parameters:

- Base Year: Year 2015 is used as the base year for definition of the unit prices and development of the capital cost estimates.
- Unit Prices: Base year unit prices for the various capital cost elements were developed using several references and resources that are similar to the proposed work, including the ATCS, HTCS, the A Line, the West Broadway Transit Study, and the Robert Street Corridor Study.
- Unallocated Contingency: An unallocated contingency of 25 percent is included in the capital cost estimates. This contingency is applied to the total estimated capital cost for each alternative, and is in addition to any specific estimating contingencies that are added to the various cost categories. This contingency is similar to those used for other projects in the region.
- Allocated Contingencies: Allocated contingencies are associated with individual cost estimate categories. These contingencies are intended to compensate for unforeseen items of work, quantity fluctuations, and variances in unit costs that develop as the project progresses through the various stages of design development. The level of allocated contingency applied to each cost category reflects the relative potential variability of those estimates. The allocated contingency assumptions to be included in the capital cost estimates are as follows:

Category 10, 20, 30, 40, 50	20%
Category 60	100%
Category 70	5%

This contingency is similar to those used for other projects in the region.

Summary of Capital Cost Estimates

A summary of capital costs for the alternatives is shown in **Table 4-1.**

Table 4-1: Summary of Capital Costs[3]

COST CATEGORY		ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B
10	Guideway & Track Elements	$3.7 M	$3.6 M	$3.6 M
20	Stations, Stops, Terminals, Intermodal	$1.4 M	$2.2 M	$2.2 M
30	Support Facilities: Yards, Shops, Admin. Buildings	$5.4 M	$7.2 M	$7.2 M
40	Sitework & Special Conditions	$1.5 M	$4.8 M	$5.7 M
50	Systems	$1.8 M	$3.5 M	$3.5 M
60	ROW, Land, Existing Improvements	$0.3 M	$0.1 M	-
70	Vehicles	$4.8 M	$6.4 M	$6.4 M
80	Professional Services	$3.3 M	$6.6 M	$6.8 M
90	Unallocated Contingency	$5.6 M	$8.6 M	$8.9 M
100	Finance Charges	-	-	-
	Total Capital Costs (2015$)	**$27.8 M**	**$43.0 M**	**$44.3 M**

[3]*All cost estimates presented were calculated using 2015 dollars*



OPERATIONS AND MAINTENANCE (O&M) COSTS

What is Included in Operations and Maintenance?

O&M costs were calculated for each of the alternatives under consideration in the Red Rock Corridor Implementation Plan. Unit costs were multiplied by cost drivers in order to determine the total O&M cost. **Figure 4-3** depicts how the costs were calculated.

Figure 4-3: O&M Cost Calculation



Cost Drivers

Cost drivers are the statistics that determine a significant proportion of the O&M cost of each individual cost category that make up the total O&M cost. The O&M cost drivers are primarily derived from the **Service Plan Technical Memo**, including statistics such as revenue hours, revenue miles, and the number of peak vehicles required in maximum service. The operating frequency (how often the service runs), travel time, and service span (the time span the service operates) of the proposed service(s) are used to generate each of these statistics. Costs are incremental, so they reflect costs that are additional to conditions prior to construction.

Cost Calculation

Unit costs are derived primarily from Metro Transit's Arterial Transitways Corridor Study[4]. Because the costs in this study were in 2010 dollars, the unit costs were inflated from 2010 to 2015 dollars.

Summary of O&M Costs

The total O&M cost for each alternative is shown in **Table 4-2**.

[4]*http://www.metrotransit.org/Data/Sites/1/media/pdfs/atcs/conceptdevelopment.pdf*

For more information on the cost estimation for capital and operating costs, see the **Cost Estimation Technical Memorandum.**

The O&M cost in this plan is higher than that presented in the AAU for several reasons. This plan used a more refined cost model than was used in previous studies.

Table 4-2: O&M Cost Summary (2015$)

COST CATEGORY	ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B
BRT Service Cost	$5.6 M	$7.0 M	$7.1 M
Facility Maintenance and Fare Collection Cost	$0.5 M	$0.8 M	$0.8 M
Total O&M Cost (2015$)	**$6.1 M**	**$7.8 M**	**$7.9 M**

Additionally, this plan included operator recovery time in the calculations. Finally, the span of service and days of operation assumed in this plan are similar to other transitways in the region and are greater than those used in previous plans.

4.3 Ridership

A **Travel Demand Forecast Report** was produced to document the ridership demand for the Red Rock Corridor alternatives. The forecasts are based on socioeconomic and network assumptions for the year 2040, as developed by the Metropolitan Council.

MODELING METHODOLOGY

The forecast travel demand for the corridor was conducted using the Twin Cities Regional Travel Demand Model. For more information on the modeling methodology and assumptions see the **Ridership Forecasting Methodology Report.**

RIDERSHIP PROJECTIONS (2040)

Ridership results from the modeling are summarized in **Table 4-3.** Key ridership observations:

- About two-thirds of the trips are work trips.
- Even at peak hour, the standard BRT buses can accommodate all passengers.
- Nearly all of the transfer from bus or rail occur at the Union Depot and Mounds Boulevard Station.
- The park-and-ride station with the largest demand is at the Newport Transit Station, followed by the Lower Afton Park & Ride. These stations offer relatively quick access from freeways and the stations are closer to the Saint Paul Central Business District (CBD) than the other Red Rock Corridor stations. The remaining park-and-ride stations show a demand of 50 or fewer vehicles for BRT service.
- The park-and-ride attractiveness of the station in Hastings near the Dakota County Service Center in Hastings may be less attractive due to a relatively slow connection to the Hastings Depot, which drivers could access directly.
- The existing Routes 361, 364, and 365 show stable ridership, good travel times, accessibility. They also serve other geographic markets, including direct, one-seat trips to the University of Minnesota and the Minneapolis CBD.
- The analysis indicates that about 63/60 percent of the projected 2040 ridership is attributable to the increased local/express service, with most of

Table 4-3: Ridership Results Summary

YEAR	ALTERNATIVE	DESCRIPTION	EXISTING EXPRESS ROUTES	BRT	TOTAL
2040	No Build	Existing Routes Only	1,650	-	1,650
	Alternative 1	BRT Along Hwy 61 to Hastings with a Highway Orientation	1,500	1,250	2,750
	Alternative 2A	BRT Along Hwy 61 to Hastings with a Community Orientation (via 95th Street)	1,600	2,150	3,750
	Alternative 2B	BRT Along Hwy 61 to Hastings with a Community Orientation (via Jamaica Avenue)	1,600	2,200	3,800

the remainder of the transit demand attributable to population growth from 2010 to 2040.

For more information on the ridership forecasts and modeling, see the **Ridership Forecasting Methodology Report**, the **Ridership Forecasting Validation Report**, and the **Travel Demand Forecasting Report**.

4.4 Full Build BRT Alternative Analysis

EVALUATION MEASURES

During the AAU process, a set of evaluation criteria were developed to reflect the goals and objectives for the project. However, because these evaluation measures were developed to compare different modes (BRT, express bus, and commuter rail) and were very broad, a series of new evaluation measures were utilized to compare ridership estimates, cost details, service characteristics, and station area socioeconomic data. The results for these twelve measures were presented to the public, the Technical Advisory Committee (TAC), Business and Civic Advisory Committee (B-CAC), and the Red Rock Corridor Commission (RRCC) to aid in the decision-making process (see **Table 4-4** for list of measures).

Each of the twelve measures provides a quantitative assessment of one component of each BRT Alternative. No overall "score" was developed, which would require the application of a series of weighting factors (or an implied equal weighting system). Alternative 2 met all of the measures except for capital and operating and maintenance costs when compared with Alternative 1 (see **Alternative Evaluation Technical Memorandum** for full results).

The evaluation criteria for the two alternatives is shown in **Table 4-5.**

ALTERNATIVE SELECTION PROCESS

The results of the alternative evaluation process were presented to the TAC, RRCC, B-CAC, and made available for public comment.

On January 28, 2016, the RRCC approved Alternative 2 as the recommended "full build" alternative for final analysis in the Implementation Plan. This decision was based on public input, the recommendation of the TAC, and the higher ridership and economic development potential.

Following RRCC's decision, meetings were held with Cottage Grove city staff, the city council, planning commission, and the Cottage Grove Economic Development Authority to discuss the options for locating BRT service on either the east (Alternative 2B) or west (Alternative 2A) side of Highway 61. While there was significant interest in providing transit service to the industrial park on the west side of Highway 61, the businesses in this area are fairly spread out and would likely require shuttle for employees to get from the station to their employer. By comparison, the proposed station on the east side of Highway 61 is walkable to residences and businesses. The decision was made by the RRCC to move forward with Alternative 2B.

Table 4-4: Evaluation Measures by Goal

MEASURE	AAU GOAL
BRT Boardings	Mobility
Boardings per Revenue	Mobility
Average Travel Time	Mobility
Capital Costs	Cost
Operations & Maintenance Cost	Cost
Operations & Maintenance Costs per Revenue Hour	Cost
Operations & Maintenance Costs per Boarding	Cost
Acreage Served	Development
2040 Population Served	Development
2040 Jobs Served	Development
New Transit Trips	Environment
Boardings from Households without Access to a Vehicle	Environment



*Table 4-5: Comparison of Alternatives**

Alternative 1	MEASURES:	Alternative 2
$27,800,000	Capital Costs	**$43,000,000**
$6,100,000	O&M Costs	**$7,800,000**
1,250 *(plus 1,500 on Express Routes)*	BRT Riders per Day	**2,150** *(plus 1,600 on Express Routes)*
900	Boardings from New Transit Riders	**1,600**
750	Acreage Served *(Excluding downtown Saint Paul)*	**2,100**
1,900	2040 Population Served *(Excluding downtown Saint Paul)*	**11,600**
700	2040 Jobs Served *(Excluding downtown Saint Paul)*	**3,200**

**Due to the similarities between Alternative 2A and 2B, characteristics for Alternative 2A are shown to simplify the comparison*

4.5 Preferred Alternative

SERVICE PLAN

Description

The preferred alternative includes mainline BRT service along Highway 61 between Union Depot in Saint Paul and Hasting Depot with deviations from Highway 61 in Newport, St. Paul Park, Cottage Grove, and in Hastings. The portions of this alternative off of Highway 61 aim to serve existing destinations and densities that are more likely to support all-day, bi-directional transit service than park-and-rides. The end-to-end travel time to cover the 26.8-mile distance is assumed to be approximately 66 minutes with 124 daily trips.

Figure 4-4 shows the proposed preferred alternative route.

Stations

The proposed stations for the preferred alignment include:

- Union Depot
- Mounds Boulevard Station: located on Mounds Boulevard at the end of Conway Street
- Earl Street Station: located at the intersection of Hudson Road and Earl Street
- Etna Street Station: located at the intersection of Hudson Road and Etna Street
- Lower Afton Park & Ride: located the intersection of Highway 61 and Lower Afton Road
- Newport Transit Station: located on Red Rock Crossing east of Maxwell Avenue
- St. Paul Park Station: located on Broadway Avenue east of Summit Avenue
- 80th Street Station: located on East Point Douglas Road south of 80th Street
- Jamaica Avenue Station: located on East Point Douglas Road west of Inwood Avenue
- Hastings Depot
- Hastings #2: located along Highway 55 between Westview Avenue and Vermillion Street (Highway 61)
- Hastings #3: located in proximity to the Dakota County Services Center

Travel Time

The assumed end-to-end travel time for the preferred alternative is **66 minutes**. This was calculated by measuring the distance between stations and calculating the travel time between them based on an average speed for the segment. Additionally, station delay was estimated based on the upstream station, station type, and configuration. On-street stations were assumed to introduce 20 seconds of delay and off-street, park-and-ride stations were assumed to add two minutes of delay. Station delay was not included in the total time for Union Depot and Hastings Depot because this time is part of the layover and riders would not be on the bus during this time.

Weekday Service

- Frequency
  - 15 minutes (6:00 a.m. – 6:00 p.m.)
  - 30 minutes (5:00 a.m. – 6:00 a.m.; 6:00 p.m. – 12:00 a.m.)
- Service Hours
  - 19 Hours

Weekend Service

- Frequency
  - 30 minutes (7:00 a.m. – 12:00 a.m.)

- Service Hours
  - 17 Hours

Connecting Transit Service

The additional stations on the east side of Saint Paul provide greater opportunities for bus connections to BRT in the Red Rock Corridor. The METRO Gold Line (Gateway Corridor) would provide connections at the Etna Street Station, Earl Street Station, Mounds Boulevard Station, and Union Depot. Additional connections would also be provided with the Route 70 at Earl Street Station and the Route 63 at the Mounds Boulevard Station.

4.6 Corridor Evaluation

Although a preferred alternative was selected, the results from a station-level evaluation showed that the preferred alternative would likely not be competitive with other national transit projects for limited federal funds.

This determination led to an evaluation process to look at corridor-wide performance measures for interim year build scenarios in order to identify a phased implementation plan that could leverage funds from a variety of sources and establish target ridership thresholds to ensure the projects is competitive with other regional and national transitway projects.

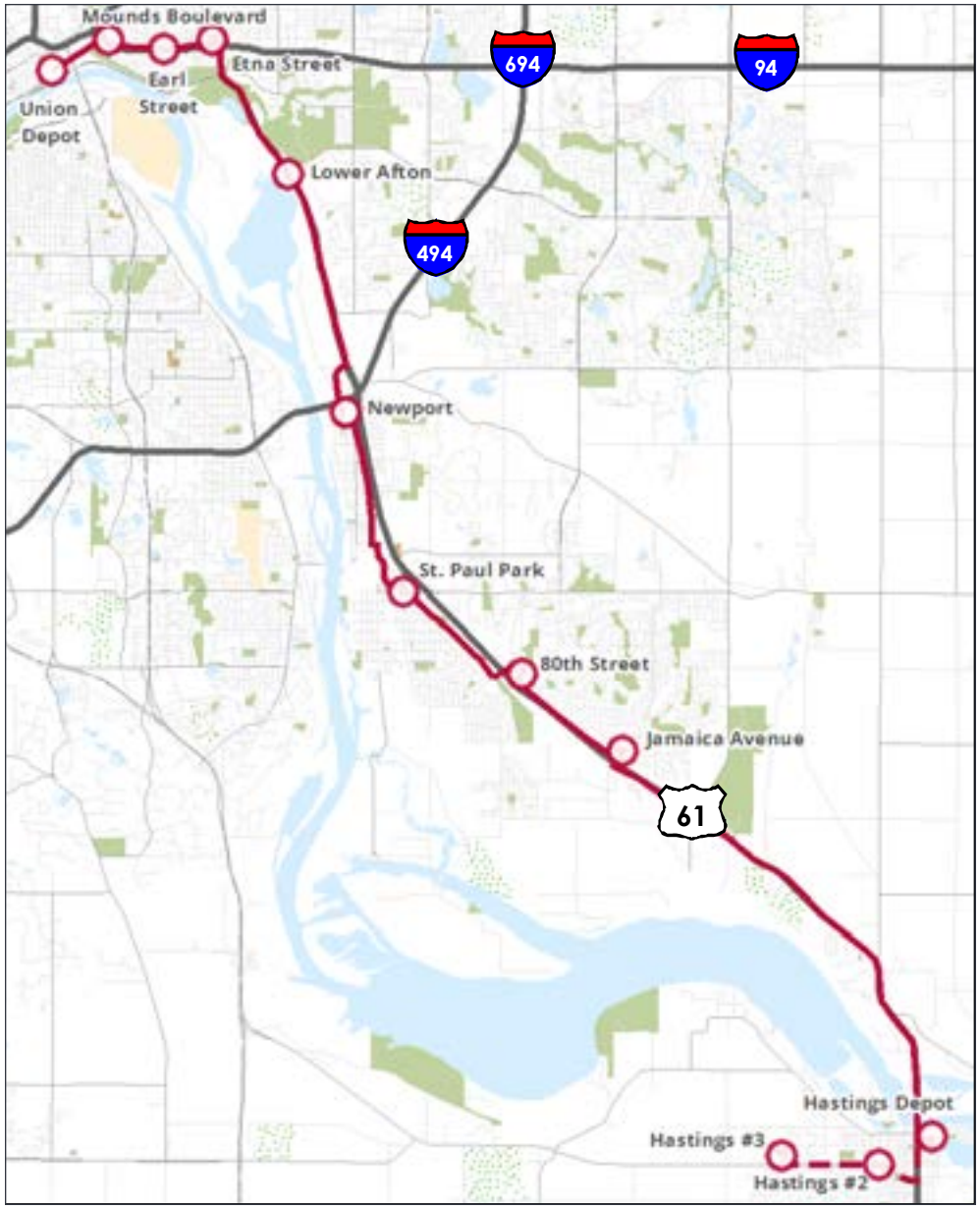
CORRIDOR EVALUATION METHODOLOGY

While station-level ridership will guide whether or not a service is competitive for federal sources, ultimately Metro Transit and the region uses route-level evaluations to determine the productivity and viability of a route. This measure is a function of the total number of riders and the number of hours the bus is in operation (called passengers per in-service hour or PPISH, **Figure 4-5**).

Figure 4-5: PPISH Calculation

$$\text{PPISH} = \frac{\text{Daily Boardings}}{\text{Daily In - Service Hours}}$$

Figure 4-4: Preferred Alternative Route





The key to meeting the regional standard for PPISH, which varies by route type, is to create transit routes that maximize ridership while minimizing costs. This creates routes that are as efficient as possible while still achieving other goals, such as increasing travel options and improving accessibility.

As shown in **Table 4-6**, Metro Transit has established PPISH averages by route type in the 2040 Transportation Policy Plan (2040 TPP), and the critical threshold for the Red Rock Corridor is 20 for Local Bus, 25 for Arterial BRT, and 20 for Commuter Express Bus.

Table 4-6: PPISH Guidelines Published in the 2040 TPP

ROUTE TYPE	ROUTE AVERAGE
Core Local Bus	≥20
Supporting Local Bus	≥15
Suburban Local Bus	≥10
Arterial BRT	≥25
Highway BRT	≥25
Light Rail	≥70
Commuter Express Bus	Peak ≥ 20; Off-peak ≥ 10
Commuter Rail	≥70
General Dial-a-Ride	≥2

OPTIONS EVALUATED

Since service will be phased in, several transit options with varying frequencies, stations, and corridor lengths were proposed and evaluated. These options included:

- **Route 367**
  - A proposed express route serving Hastings Depot, Newport Transit Station, and downtown Minneapolis
- **Route 363**
  - A local bus route acting as a precursor to BRT Implementation via Newport and St. Paul Park that terminates at the Cottage Grove Park & Ride
- **Route 363 Extended**
  - Route 363 with an extension to the Hastings Depot
- **Interim Option 1: BRT Service to Cottage Grove**
  - BRT service between Union Depot and the Cottage Grove Park & Ride via the Lower Afton Park & Ride, Newport Transit Station, St. Paul Park Station, and 80th Street Station, Jamaica Avenue Station, and the Cottage Grove Park & Ride
- **Interim Option 2: Add Gateway to Base BRT Service**
  - In addition to the BRT stations from Interim Option 1, Interim Option 2 also serves the three Gateway stations
- **Interim Option 3: BRT Service to Hastings Depot with Gateway Station**
  - In addition to the base BRT stations from Interim Option 1, Interim Option 3 serves the three Gateway stations and the Hastings Depot
- **Full Build BRT Service**
  - The Full Build BRT Service option is the preferred alternative discussed previously that stops at all proposed stations

The results of the corridor evaluation compared three interim BRT options to the full build BRT and the existing Red Line BRT. The results shown in **Figure 4-6** illustrate that forecasts predict that the options for the Red Rock Corridor will perform significantly worse than other BRT corridors in the region.

While Interim Option 2 had the highest PPISH, this optimized version of the Full Build BRT Alternative 2 did not meet regional minimums. Ridership for this option would need to increase by 33 percent to meet the 25 PPISH regional threshold. **Table 4-7** summarizes the PPISH standard for each option and the percent increase in ridership needed to meet that threshold.

For more information on the corridor-level evaluation, see **Alternative Evaluation Technical Memorandum**.

Figure 4-6: Interim Option PPISH Comparison to Regional Statistics

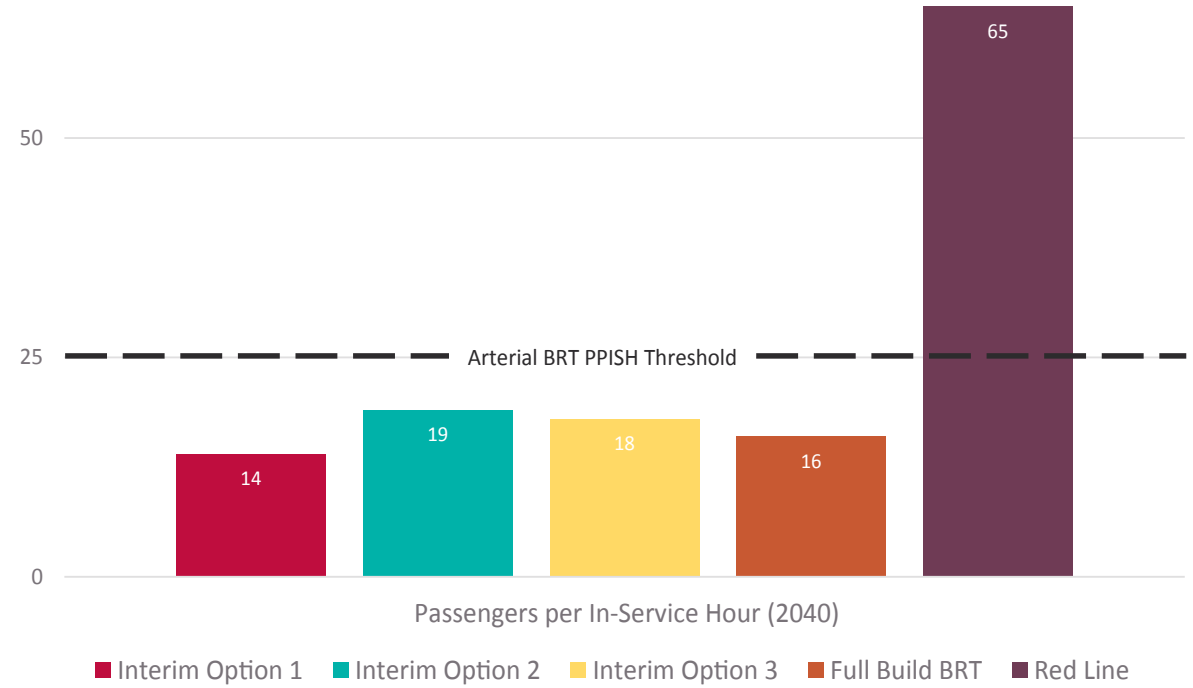


Table 4-7: PPISH Results for Alternatives Evaluated

YEAR	ROUTE	PROPOSED ROUTE RIDERSHIP	PPISH	TARGET PPISH GOAL	RIDERSHIP INCREASE NEEDED TO MEET TARGET PPISH
2024	Route 367	100	12	Peak ≥ 20; Off-peak ≥ 10	70%
	Route 363	540	14	10 - 20	-
2040	Interim Option 1 BRT	1,250*	14	25	85%
	Interim Option 2 BRT	1,800*	19	25	33%
	Interim Option 3 BRT	2,000*	18	25	43%
	Full Build BRT Service	2,200	16	25	54%

**Estimated from ridership model sensitivity tests*



Chapter 5: Financial Plan

5. Financial Plan

5.1 Financial Plan Overview

The financial plan documents and evaluates the potential revenue sources available to implement (plan, design, and construct) and operate a bus rapid transit (BRT) system within the Red Rock Corridor. The plan recognizes that a discussion of funding and financing options early in project planning helps decision makers understand the financial feasibility—and potential administrative burdens—of advancing a major transit capital investment into environmental review, design, and construction.

The financial plan establishes the planning-level capital and operating costs estimated and needed for the preferred alternative. Potential funding resources that are available include local, regional, state, and federal agencies. An exploration of alternative projected-related funding sources, such as value capture options and other fees and revenues that might be secured to support the capital and operating needs of the Red Rock Corridor BRT project, is detailed in the **Financial Plan Memorandum**.

The financial plan presents an evaluation of each funding option's feasibility to support a BRT investment in the corridor, as well as a recommendation of promising sources for further investigation should the project advance into later planning and design phases. Finally, the plan concludes with suggested next steps for Red Rock Corridor stakeholders to implement the project, including a consideration of options for phasing its implementation over time.

5.2 Summary of Funding Options

The list below summarizes the federal, state, regional, local, and project-specific funding options for the proposed Red Rock Corridor BRT project. Funding options are divided into five categories: local funding, regional funding, state funding, federal funding, and system generating revenues.

FEDERAL

There are a number of transit funding opportunities provided by the federal government. The Federal Transit Administration (FTA) administers formula grant programs for transit projects requiring capital funds for construction activities. The Federal Highway Administration (FHWA), through MnDOT and Metropolitan Council, also administers capital funding that may be used for transit through a regionally competitive process.

Finally, discretionary funding from FTA and the United States Department of Transportation (USDOT) may be available to cover up to 80 percent of the costs of a BRT investment in the Red Rock Corridor. These discretionary programs include:

- Capital Investment Grant program (FTA Section 5309) (Small Starts)
- Bus and Bus Facilities Program Competitive Grants (FTA Section 5339 b and c)
- Transportation Investment Generating Economic Recovery (TIGER)
- Surface Transportation Block Grant Program Urbanized Federal Formula Funds (FTA Section 5307)
- Bus and Bus Facilities Formula Funds (FTA Section 5339 a)
- Surface Transportation Block Grant Program
- Congestion Mitigation Air Quality (CMAQ)

STATE

In Minnesota, the state legislature is charged with biennial transit revenues appropriations from the state's general fund, and for setting the percentage of the state's Motor Vehicles Sale Tax Revenues (MVST) dedicated to transit. The state also has a revolving loan fund and dedicates a limited amount of Trunk Highway Fund user fee revenues for transit. The state funding sources include:

- Motor Vehicle State Tax (MVST)
- Public Transit Assistance (General Fund)
- Special Legislative Appropriations
- Transportation Revolving Loan Fund
- MnDOT Trunk Highway Funds and Bonds

REGIONAL

Transportation and transit projects in the Twin Cities metropolitan area receive funding from two regional entities, the Metropolitan Council and the Counties Transit Improvement Board (CTIB). The following regional funding sources include:

- Regional Transit Capital Bonds (Metropolitan Council)
- Counties Transit Improvement Board Revenues

LOCAL

The Red Rock Corridor BRT will serve three counties in the Twin Cities metropolitan area: Washington, Dakota, and Ramsey. While each county is served by a Regional Railroad Authority (RRA), which helps to identify and develop potential transit corridors and has the ability to raise property tax levies to fund these activities, they also have different funding sources and procedures

for funding public transportation. The following local funding sources include:

- County/City General Funds
- County/City Highway Funds
- Wheelage Taxes
- Washington County Regional Railroad Authority Levy
- Dakota County Regional Railroad Authority Levy
- Ramsey County Regional Railroad Authority Levy
- General Obligation Bonds

PROJECT RELATED FUNDING

The funding sources listed below include an array of funding strategies that might be used to capture the new and increased value of existing land and properties generated as a result of a major transit capital investment; and can be generated as part of the operation of the project.

- Tax Increment Financing (TIF)
- Special Assessment Districts
- Joint Development
- Developer Contributions
- Fare Revenue
- Advertising
- Naming Rights

A more detailed description of the funding options and system-generated revenues and how they are allocated are explained in the **Financial Plan Memorandum.**

5.3 Evaluation of Funding Sources

Each of the revenue sources listed in this section for a Red Rock Corridor BRT investment have been evaluated according to its ability to fund capital, operation and maintenance, and project development expenses. The evaluation criteria is presented below.

Revenue Potential: The relative amount of revenue a funding source may yield for the Red Rock Corridor BRT project

Stability: The annual predictability of a funding source

Competitiveness: This measure only applies to funding sources that are distributed at the regional, state, or federal level through a competitive process

The likelihood of each of these revenue sources funding a Red Rock Corridor BRT investment has been evaluated according to the following:

Uses (✓ or X)
Ability to fund capital costs
Ability to fund operations and maintenance costs
Ability to fund project development expenses

Evaluation (○ through ●)
Revenue potential
Stability/predictability
Competitiveness

The evaluation criteria are explained in **Table 5-1**, and a summary of the evaluation of each of the funding sources can be found in **Table 5-2**.



Table 5-1: Revenue Potential Evaluation Measures

EVALUATION MEASURE	DEFINITION	SYMBOL	CRITERIA
Revenue Potential	The relative amount of revenue a funding source may yield for the Red Rock Corridor project.	●	50% or more of total project capital costs
		◕	25-50% percent of costs
		◑	10-25% percent of costs
		◔	Less than 10% of costs
		○	No revenue potential
Stability	The annual predictability of a funding source.	●	Generally stable and predictable
		◕	Can be volatile but is generally predicable source
		◑	Predictable, but commonly dedicated to other sources
		◔	It is not certain the source will be available in the future
		○	Relatively unpredictable
Competitiveness	This measure only applies to funding sources that are distributed at the regional, state, or federal level through a competitive process.	●	Red Rock Corridor is a strong candidate to receive competitive funding
		◕	Relatively competitive
		◑	Portions of the project may be competitive
		◔	May be competitive, but demand for source is extremely high
		○	Not eligible or competitive for funding

Table 5-2: Funding Evaluation Summary

Potential Funding Sources	Uses			Evaluation		
	Capital	O&M	Project Development	Revenue Potential	Stability/ Predictability	Competitive-ness
Federal						
Section 5309 (Small Starts)	✓	X	X	●	●	○
Section 5339 (b and c) Bus and Bus Facilities Competitive Grants	✓	X	X	◑	●	◔
TIGER Grant	✓	X	X	◑	◔	◔
Section 5307 Urbanized Area Formula Funds	✓	X	✓	○	●	-
Section 5339 (a) Bus and Bus Facilities Formula Grants	✓	X	X	◑	●	-
CMAQ and STBGP (Regional) Solicitation)	✓	✓	X	◑	●	◑
State						
Public Transit Assistance Funds	✓	✓	X	◔	◔	◔
Special Legislative Appropriations	✓	X	X	◑	○	-
Motor Vehicle Sales Tax	✓	✓	X	◔	◕	-
Transportation Revolving Loan Fund	✓	X	X	○	◑	-
MnDOT Trunk Highway Funds and Bonds	✓	X	X	◔	○	-
Regional						
Regional Transit Capital Bonds	✓	X	X	◔	◕	-
CTIB Revenues	✓	✓	✓	◕	●	◕



Table 5-2: Funding Evaluation Summary (continued)

Potential Funding Sources	Uses			Evaluation		
	Capital	O&M	Project Development	Revenue Potential	Stability/ Predictability	Competitive-ness
Local						
WCRRA Property Tax Levy	✓	✓	✓	○	●	-
Washington County G.O. Bond	✓	X	X	◔	◔	-
Washington County Wheelage Tax	✓	X	X	○	●	-
DCRRA Property Tax Levy	✓	✓	✓	◔	●	-
Dakota County Wheelage Tax	X	X	X	○	●	-
RCRRA Property Tax Levy	✓	✓	✓	◑	●	-
Ramsey County Wheelage Tax	✓	X	X	○	●	-
Project Related Funding						
TIF	✓	X	X	◔	◔	-
Special Assessment Districts	✓	X	X	◔	◔	-
Joint Development	✓	✓	X	◔	◔	-
Developer Contributions	✓	✓	✓	◔	◔	-
Fare Revenues	X	✓	X	◔	◕	-
Sponsorships/Naming Rights/Advertising	✓	✓	✓	◔	◕	-

5.4 Financial Plan Conclusions

Based on the evaluation of the funding sources, the following observations can be made about available revenue sources' ability to support the capital costs of a new BRT line in the Red Rock Corridor:

- **Seek multiple sources to fund the Red Rock Corridor prioritized investment.** The funding available from the evaluated programs and their various matching requirements indicates that multiple sources would likely be needed to construct and operate the BRT project. Most state and local programs place a high priority on leveraging federal and other sources of funding. At the same time, the current evaluation standards for federal formula transit funds are highly competitive for new transit lines or place priority on meeting the needs of the existing transit system. In addition, flexible Federal Highway Administration (FHWA) funding administered by the Transportation Advisory Board (TAB) is competitive and limited to only small grant awards. Value capture strategies could be pursued in the corridor but cannot be counted on to contribute a significant level of funding towards the project. Therefore, funding from a variety of programs and sources will need to be pursued to fund the recommendation in this plan.
- **Invest in a series of small improvements to implement the project over time in order to efficiently leverage funds from multiple sources.** The *Red Rock Corridor Implementation Plan Study* Team has identified distinct steps to advance transit improvements between Hastings and Saint Paul. This includes an initial investment in local bus service, which would closely follow the preferred alignment for BRT service terminating at the current Cottage Grove park-and-ride. Another potential phase is peak-period express bus service between Hastings and Saint Paul, serving existing transit and park-and-ride facilities at Hastings Depot, the Newport Transit Station, and Union Depot. Later phases could expand service to off-peak periods and to more communities in the corridor, as well as investments in capital improvements to the Lower Afton park-and-ride, relocation of the Cottage Grove park-and-ride, and other passenger facilities.

  The advantage of this approach is that improved, low-capital service in the peak would not need to await lengthy project development nor the complex financial planning necessary to develop a $44 million capital package. Existing Regional Railroad Authority (RRA) resources, Public Transit Assistance or Motor Vehicle Sales Tax (MVST) revenues from the State of Minnesota, and operating funding through the Congestion Mitigation and Air Quality Improvement (CMAQ) program and capital funding for buses from the Surface Transportation Block Grant Program via Metropolitan Council's Regional Solicitation process might support such service. Such service might also begin to build stronger travel demand in the corridor, and this demand might make future capital investments more competitive for federal or other discretionary funding. Subsequent capital improvements of $7 million or less may qualify for funding through the Regional Solicitation process.

  However, while the Red Rock Corridor BRT project is included as a Phase 1 Transitway Improvement Project in Counties Transit Improvement Board (CTIB) Program of Projects (PoP) Investment Strategy, there is no guarantee that the project would be an attractive CTIB investment when it is ready for capital funding. CTIB is charged with maximizing opportunities to bring federal funding into Minnesota for expansion of the regional transit system. As previously noted, the Red Rock Corridor BRT project may not be competitive for federal discretionary funding and would therefore be less likely to be competitive in the CTIB grant process.
- **Consider local opportunities to help fund small investments towards full BRT build out**. Red Rock Corridor counties have opportunities to help fund small investments though they vary by community. Local taxes could be a source for the 10 percent local match typically required to secure other funding opportunities. For example, Ramsey County Regional Railroad Authority (RCRRA) raised its property tax rate to support the cost of renovating and operating the Union Depot in downtown Saint Paul. If the local partners believe that improved transit in the Red Rock Corridor is a priority investment, they could consider generating funding to support its implementation and operation. Currently, CTIB is programed to fund 30 percent of the capital cost of the Red Rock Corridor, which means local match will be required to secure CTIB funding. Some of the match might be derived from other sources such as through the Regional Solicitation, the establishment of a tax increment financing (TIF) district, or other federal grants (like the US Department of Transportation (USDOT) Transportation Investment Generating Economic Recovery (TIGER) grant program).
- **Reevaluate funding sources and competitiveness as project needs arise**. Funding sources and evaluation measures for available funding change over time. As ridership for near-term phases such as regular route and express bus increases to meet regional performance standards, availability of and competitiveness for project funding could be reevaluated.



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Chapter 6: Phasing Plan

6. Phasing Plan

6.1 Phasing Plan Development

Based on discussions with stakeholders and public input received during project development, it was determined that all-day transit service is desired in the Red Rock Corridor to key regional destinations as well as between station areas throughout the corridor. However, based on the current ridership projections and cost-effectiveness of the project, a phased Implementation Plan is proposed to move forward with the development of BRT in the Red Rock Corridor.

The following two phases are recommended for the project:

- Phase I: Near-term (2016 – 2020)
- Phase II: Long-term (2020 – 2040)

6.2. Phase I: Near-Term (2016 –2020)

The first phase towards full BRT implementation is to increase local and express bus service. This includes:

- Work with Metro Transit to maintain and increase local and express bus service
- Work with corridor cities and counties to update comprehensive plans with increased population and employment density within station areas
- Work with Metro Transit to implement 30-minute service throughout most of the day between Saint Paul and Cottage Grove (Route 363)[2]
- Work with Metro Transit and the City of Hastings to determine when express bus service from Hastings (such as Route 367) or local service within Hastings is a viable option

[5]In July 2016, a Regional Solicitation Application was submitted to the Metropolitan Council for Route 363. If the grant application is successful, the service would be implemented for a three-year term starting in 2020.

ADDITIONAL EXPRESS SERVICE

The existing Routes 361, 364, and 365 along the Red Rock Corridor offer competitive travel times (compared to driving in a vehicle) to downtown Minneapolis and the University of Minnesota or downtown Saint Paul.

Working with Metro Transit to maintain existing express service in the corridor would be a low cost initial step towards building ridership in the corridor.

ADDITIONAL LOCAL SERVICE

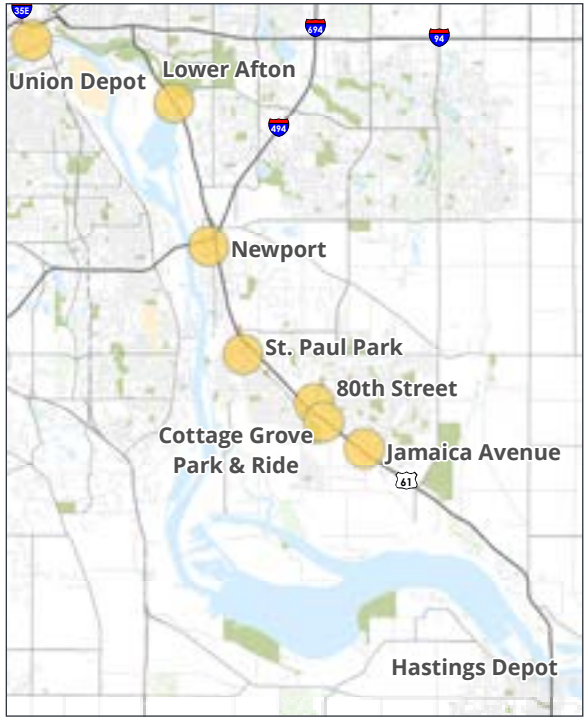
In April 2015, the Metropolitan Council approved Metro Transit's 2015-2030 Service Improvement Plan (SIP), which is an unfunded list of service improvements that are prioritized for implementation based on available resources. The SIP identified Route 363 as a new route within the Highway 61 corridor that would serve many of the same stations as the preferred alternative. Route 363 would provide 30-minute, bi-directional service between Cottage Grove and downtown Saint Paul[6] throughout most of the day.

Route 363

The proposed Route 363 is a local bus route acting as a precursor to BRT implementation in this corridor. This route would serve Union Depot in Saint Paul, the Lower Afton Park & Ride, Newport Transit Station, 80th Street, Jamaica Avenue, and the Cottage Grove Park & Ride.

[6]The 2015 Service Improvement Plan document indicates that this route would only serve park-and-rides and would continue to Minneapolis. For the Red Rock BRT Implementation Plan, it was assumed that Route 363 would also serve local destinations in Cottage Grove and St. Paul Park and would only serve Saint Paul.

Figure 6-1: Route 363 Terminating at the Cottage Grove Park & Ride



With assumed 30-minute headways, the route would operate between 6:00 a.m. and 8:00 p.m. for a total of 58 trips (29 trips in each direction). See **Figure 6-1** for route map.

While Route 363 will provide additional bus service to the Red Rock Corridor, it will also build stronger travel demand in the corridor. Increased demand may make future capital investments for BRT service more competitive for federal or other discretionary funding.



As Route 363 is implemented, the next step towards full BRT implementation would be to work with Metro Transit and City of Hastings to determine when express bus service (such as Route 367) or local service within Hastings is a viable option.

CORRIDOR CITIES

This phase also includes working with the cities and counties within the Red Rock Corridor to update their comprehensive plans. The plans should give consideration to increasing population density and employment within station areas to support all-day transit service.

Outside of adjusting the route length and stops, a key component of increasing efficiency is through station area development, which will likely increase ridership. Achieving transit-supportive densities within station areas is a gradual process that includes land-use planning and the promotion of density in comprehensive plans and zoning code. These policy changes will be necessary to create a competitive BRT alignment in the Red Rock Corridor.

The success of transit is dependent upon coordinated land use planning along the corridor, specifically in the station areas.

6.3 Phase II: Long-Term (2020 - 2040)

If Route 363 is implemented, the second phase towards full BRT implementation would be based on how Route 363 performs. The next steps in this phase include:

- Implement the corridor city and county comprehensive plans with a focus on development within and around station areas
- Update forecasted ridership based on comprehensive plan updates
- If Route 363 is implemented, monitor ridership; work with Metro Transit to identify potential service improvements to reach 1,200 passengers per day
- Work with Metro Transit to maintain and/or increase express bus service between the Red Rock Corridor cities and downtown Minneapolis (such as Route 367)
- Replace Route 363 with an Interim BRT service when it reaches an estimated 25 passengers per in-service hour
- Continue to invest in station area development

COMPREHENSIVE PLAN IMPLEMENTATION

By 2020, comprehensive plan updates would be complete and focus would shift towards implementing the proposed improvements and encouraging development around and in station areas.

SERVICE IMPROVEMENTS

If Route 363 is implemented, the next steps in this phase include further evaluation of BRT and monitoring of ridership to identify potential service improvements to reach 1,200 passengers per day. During this phase, ridership forecasts should also be updated based on comprehensive plan updates.

The timing of design and construction of BRT infrastructure will depend on additional evaluation. One key threshold will be when Route 363 reaches 25 Passengers per In-Service Hour (PPISH). At this point, Route 363 could be replaced with an interim BRT option and likely meet regional efficiency standards. A key focus of implementing BRT will be to improve regional mobility. Final service plans will prioritize efficient and convenient connections to regional transit service at Union Depot, including connecting service to Minneapolis.



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Chapter 7: Recommendations & Next Steps

7. Recommendations and Next Steps

7.1 Recommendations

IMPLEMENTATION PLAN

Based on the current ridership projections and cost-effectiveness of the project, a phased Implementation Plan is proposed to move forward with the development of BRT in the Red Rock Corridor.

The phases and associated recommendations identified for the project include:

Phase I: Near-term (2016-2020)

The first phase towards full BRT implementation is to increase local and express bus service. This includes:

- Work with Metro Transit to maintain and increase local and express bus service
- Work with corridor cities and counties to update comprehensive plans with increased population and employment density within station areas
- Work with Metro Transit to implement 30-minute service throughout most of the day between Saint Paul and Cottage Grove (Route 363)[2]
- Work with Metro Transit and the City of Hastings to determine when express bus service from Hastings (such as Route 367) or local service within Hastings is a viable option

Phase II: Long-term (2020- 2040)

If Route 363 is implemented, the second phase towards full BRT implementation would be based on how Route 363 performs. The next steps in this phase include:

- Implement the corridor city and county comprehensive plans with a focus on development within and around station areas
- Update forecasted ridership based on comprehensive plan updates
- If Route 363 is implemented, monitor ridership; work with Metro Transit to identify potential service improvements to reach 1,200 passengers per day
- Work with Metro Transit to maintain and/or increase express bus service between the Red Rock Corridor cities and downtown Minneapolis (such as Route 367)
- Replace Route 363 with an Interim BRT service when it reaches an estimated 25 passengers per in-service hour
- Continue to invest in station area development

FUNDING CONCLUSIONS

Based on the evaluation of the funding sources, the following conclusions can be made about available revenue sources' ability to support the capital costs of a new BRT line in the Red Rock Corridor:

- Seek multiple sources to fund the Red Rock Corridor prioritized investments
- Invest in a series of small improvements to implement the project over time in order to efficiently leverage funds from multiple sources
- Consider local opportunities to help fund small investments towards full BRT build out
- Reevaluate funding sources and competitiveness as project needs arise

7.2 Next Steps

In conjunction with the actions and improvements in each of the phases, there are other broad and ongoing strategies that should be pursued. They are:

- Advocate for integrated multimodal investments including pedestrian, bicycle, and transit improvements that support mobility throughout the Red Rock Corridor
- Advocate for funding for mobility improvements along the corridor. This includes advocating for sustainable federal, regional, and local funding sources.
- Continue to monitor transit needs and performance in the corridor to determine the timing for implementation of additional transit services, alternative modes, or capital improvements

[7]In July 2016, a Regional Solicitation Application was submitted to the Metropolitan Council for Route 363. If the grant application is successful, the service would be implemented for a three-year term starting in 2020.



Chapter 8: Appendix

APPENDIX

All the documents below can be found at:
www.redrockcorridor.com/corridor/implementation-plan/

Project Management Plan

Previously Completed Work

Stakeholder Engagement

- Public Involvement Plan
- Open House #1 Summary
- Open House #2 Summary
- Outreach Materials

Ridership Forecasting Methodology Report

Ridership Forecasting Validation Report

Travel Demand Forecasting Report

Service Plan Technical Memo

Cost Estimation Technical Memo

Alternative Evaluation Technical Memo

Financial Plan