

Photo E-2. Snelling CP Site; small park and unimproved area; looking east.



Photo E-3. Snelling CP Site; view from Selby Avenue; looking south.



Photo F-1. Snelling BNSF Site; terminus of Norris Circle; looking east.



Photo F-2. Snelling BNSF Site; commercial parking lot; looking west.



Photo F-3. Snelling BNSF Site; commercial parking lot; looking east.



Photo G-1. University Site; appear to be grain elevators; looking northeast.

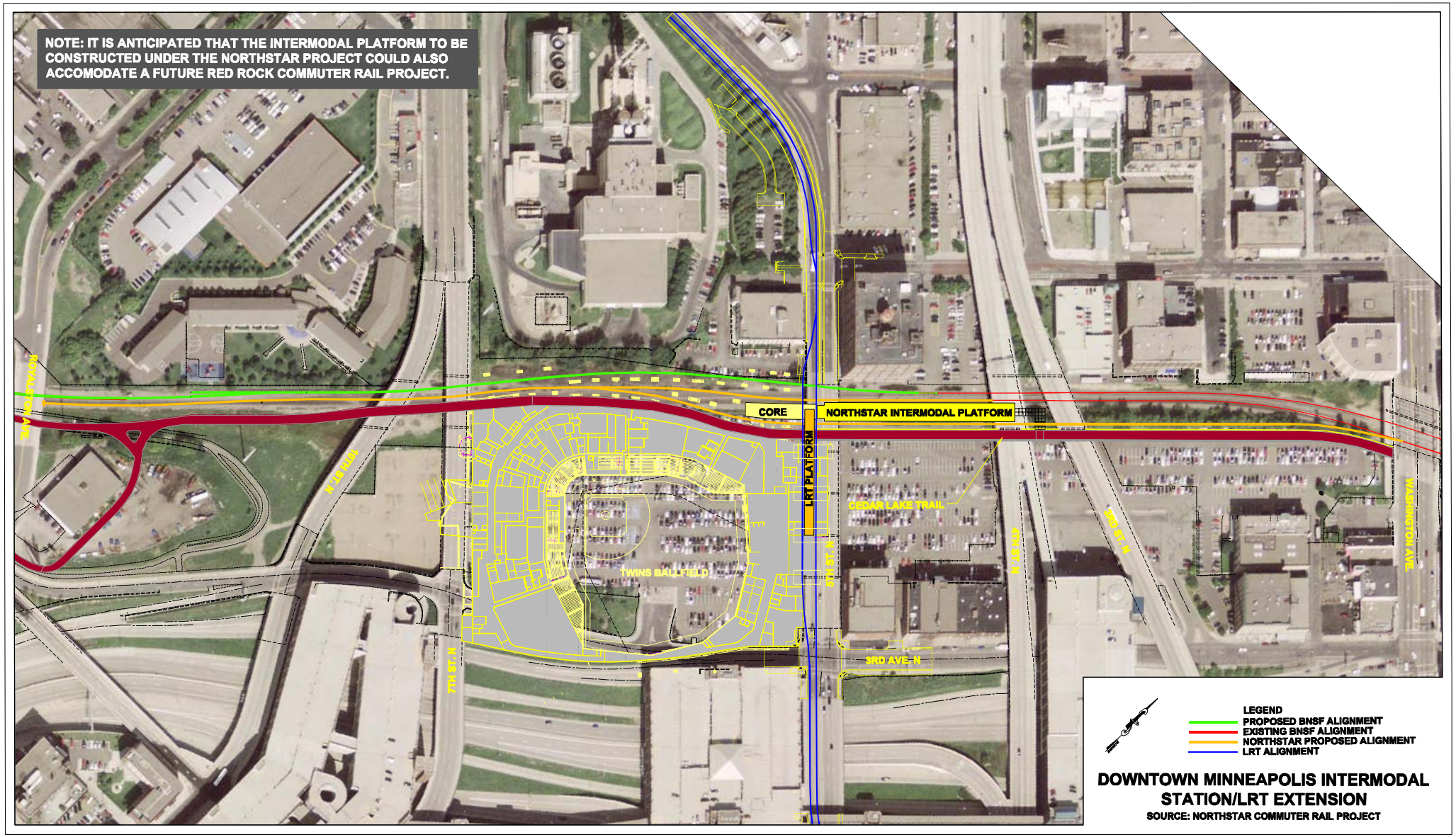


Photo G-2. University Site; railroad right-of-way and unimproved area; looking northwest.



Photo G-3. University Site; gravel access road and unimproved area; looking east.

APPENDIX B
Downtown Minneapolis Intermodal Station (Northstar Corridor)



DOWNTOWN MINNEAPOLIS INTERMODAL STATION/LRT EXTENSION

SOURCE: NORTHSTAR COMMUTER RAIL PROJECT

APPENDIX C
Technology Options and Screening Criteria

Detailed Technology Screening – BUS RAPID TRANSIT

ALTERNATIVE DESCRIPTION

Bus Rapid Transit (BRT) combines the quality of rail transit and the flexibility of buses. It can operate on exclusive transitways, HOV lanes, expressways, or ordinary streets. The BRT system is based on light rail transit principles, but instead of the required capital investment in trains and track, it utilizes buses in service that is integrated with key components of the existing automobile transportation infrastructure, such as roads, rights-of-way, intersections, and traffic signals.

Example Systems: Las Vegas, NV; Orlando, FL; Los Angeles, CA



EVALUATION CRITERIA

Evaluation of Proven Technology

• Fully implemented systems are in existence in many US and International Cities.

Evaluation of Compatibility with Existing Infrastructure

• Metro Transit operates express service from Cottage Grove to downtown St. Paul and Minneapolis.
• Can be run on existing/planned Hwy 61 infrastructure.

Evaluation of Financial Feasibility

• Average costs per mile = $13.5 million (Dedicated bus roadway)
• Average costs per mile = $9 million (bus on HOV lane)
• No identified need for large capital expenditures (e.g. bridges or tunnels) to implement in this corridor.

Evaluation of Compatibility with Travel Demand Patterns

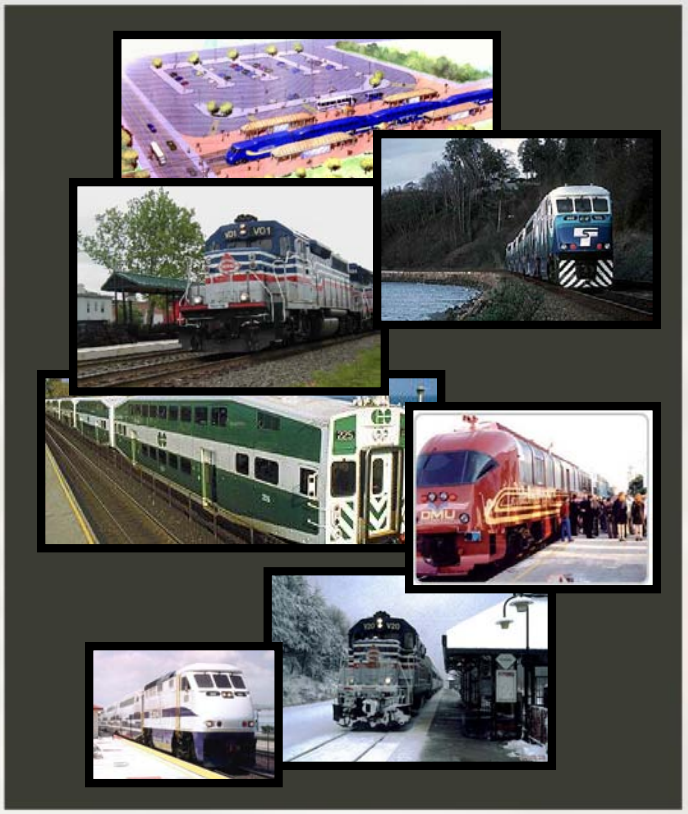
• BRT stops and typical frequency of service is consistent with travel patterns in the Red Rock Corridor.

Detailed Technology Screening – COMMUTER RAIL

ALTERNATIVE DESCRIPTION

Commuter Rail is an urban passenger train service that travels moderate distances (local) between a central city and adjacent suburbs or long haul (regional) passenger service between cities which operates on traditional freight rail corridors. It does not include heavy rail (subway) service or light rail service. Commuter rail service may be either locomotive-hauled or self-propelled, and is characterized by reduced fare multi-trip tickets, specific station-to-station fares, and usually only one or two stations in the central business district. It also is known as "suburban rail" and may cross the geographical boundaries of a state.

Example Systems: Chicago, IL; San Diego, CA; Los Angeles, CA; Seattle, WA.



EVALUATION CRITERIA

Evaluation of Proven Technology

- Implemented in many US Cities.
- Uses technology common to existing US rail system.

Evaluation of Compatibility with Existing Infrastructure

- Compatible with existing freight rail infrastructure in the corridor.
- Northstar commuter rail design will open the fall of 2009 and will connect with Hiawatha LRT in Minneapolis.

Evaluation of Financial Feasibility

- Typical construction costs per mile = $3 to $10 Million.
- No identified need for large capital expenditures (e.g. bridges or tunnels) to implement in this corridor.

Evaluation of Compatibility with Travel Demand Patterns

- Typical station spacing is 2 to 7 miles.
- Average operating speeds 18 to 55 mph.
- Compatible with existing development.

Detailed Technology Screening – PERSONAL RAPID TRANSIT

ALTERNATIVE DESCRIPTION

Personal Rapid Transit, or PRT, is a mass transit technology that borrows the best features of the automobile (on-demand, nonstop travel, from anywhere TO anywhere), but glides above traffic like a monorail. A fleet of small automated vehicles, each seating 3-6 people, will travel on overhead guideways linking many small stations scattered throughout an urban area. PRT is an undeveloped subset of a class of transit systems known as automated people movers (APMs). There are currently no PRTs in the United States.

Example Systems: Prototype system only, is not currently present in the United States



EVALUATION CRITERIA

Evaluation of Proven Technology

- No implementation of this system in United States
- Prototypes is being developed by a several companies world-wide

Evaluation of Compatibility with Existing Infrastructure

- Would require completely new infrastructure which is unlike any existing transportation infrastructure.
- Cannot operate in shared ROW with other transportation systems.

Evaluation of Financial Feasibility

- Construction and operating costs unknown beyond those provided by vendors without full scale prototype systems.

Evaluation of Compatibility with Travel Demand Patterns

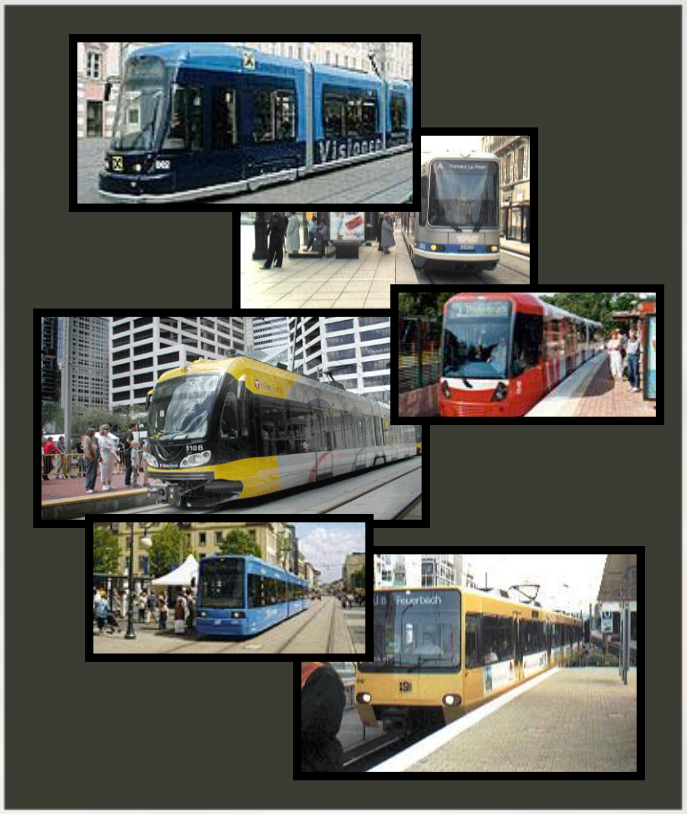
- Unknown – no operating data available.
- Vendors to date have suggested PRT is more suitable for downtown circulation than multi-mile corridor travel.

Detailed Technology Screening – LIGHT RAIL TRANSIT

ALTERNATIVE DESCRIPTION

Light rail transit (LRT) is an electrically-powered, two-rail technology capable of providing a broad range of passenger capacities, and operating as single vehicles or in short trains on a variety of alignment types. LRT is more than a vehicle technology. It is a mode combining vehicle technology very similar to that of streetcars, but operating primarily on a partially controlled right-of-way and typically at higher speeds and passenger loadings.

Example Systems: Minneapolis, MN; Houston, TX; San Diego, CA ; Portland, OR



EVALUATION CRITERIA

Evaluation of Proven Technology

• Proven technology in the US and Internationally.

Evaluation of Compatibility with Existing Infrastructure

• Compatible with other transit modes including Hiawatha LRT.
• Incompatible operating joint use in highway ROW such as Hwy 61.
• Cannot operate jointly with freight rail.

Evaluation of Financial Feasibility

• Average Construction Cost Per Mile = $15M to $54M.
• Significant costs associated with alignment through Hwy 61 / I-494 interchange, Hwy 61 bridge crossing at Hastings, and over railroad near Warner Road.

Evaluation of Compatibility with Travel Demand Patterns

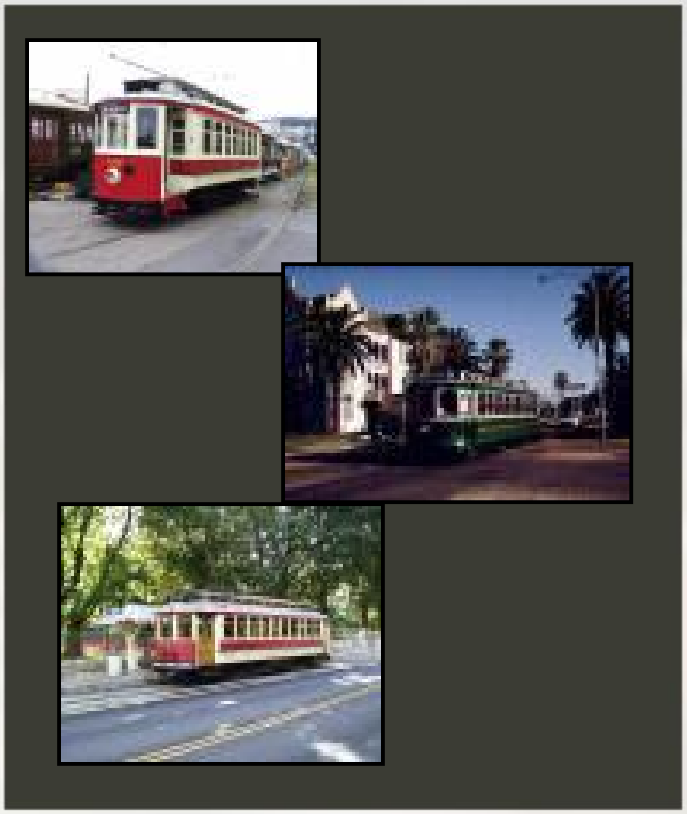
• Average Operating Speed: Street Running –20 MPH-Separate R/W up to 55 MPH.
• Typical station spacing ½ mile to 1 mile.
• More typically implemented in areas of higher development density than seen in this corridor.

Detailed Technology Screening – STREETCAR

ALTERNATIVE DESCRIPTION

Streetcar uses rail transit vehicles designed for local transportation, traditionally powered by electricity received from an overhead wire. Typically taking the place of local bus service in high density downtown areas, modern streetcars (also know as trolleys) usually operate jointly in local streets with other downtown vehicles. In in the past, some streetcar systems got power from a "slot" in the street or were powered by storage batteries where overhead wire systems were not possible.

Example Systems: New Orleans, LA; San Francisco, CA; Portland, OR; Memphis, TN



EVALUATION CRITERIA

Evaluation of Proven Technology

- Fully implemented systems are in existence in many US and International Cities.
- One of the first transit modes implemented in many US cities nearly 100 years ago.

Evaluation of Compatibility with Existing Infrastructure

- Streetcars are compatible with existing infrastructure, however could not be run jointly in highway ROW.
- Separation from Highway 61 would require separate ROW over river at Hastings and in crossing I-494.

Evaluation of Financial Feasibility

- Average costs per mile = $6 Million to $13 million (range includes some systems that included the infrastructure and the streetcars).
- Separation from Highway 61 would require separate ROW over river at Hastings and in crossing I-494.

Evaluation of Compatibility with Travel Demand Patterns

- Streetcars are used as downtown circulators and are designed to provide local transportation.
- Not typically used in City to City commuter systems with station spacing typical of this corridor.

Detailed Technology Screening – MAGLEV TECHNOLOGY

ALTERNATIVE DESCRIPTION

Maglev Technology is short for "magnetic levitation" and is a new technology that has been implemented for the first time in China in 2004. While trains in America run on steel wheels/track systems and seldom sustain speeds of 80 miles per hour or more, a Maglev train is operated by non-contact electromagnetic systems that actually lift, guide and propel the vehicle forward at speeds up to 300 miles per hour.

- Maglev track is much more expensive than railroad tracks.
- An entirely new guideway and ROW would have to be built for a Maglev system.

Example Systems: Shanghai, China and Germany





EVALUATION CRITERIA

Evaluation of Proven Technology

- First operational system opened in Shanghai 2004.
- No existing system in the United States.

Evaluation of Compatibility with Existing Infrastructure

- Requires completely separate dedicated guideway.
- Would require entirely new dedicated infrastructure including Hastings bridge crossing, I-494/Hwy 61 crossing and elevated guideway through St. Paul and Minneapolis.

Evaluation of Financial Feasibility

Extremely high costs associated with new technology and separate guideway including bridges and grade separation for entire length including downtown St. Paul and Minneapolis.

Evaluation of Compatibility with Travel Demand Patterns

- Limited station spacing (several miles) not supportive of travel patterns in the Red Rock Corridor

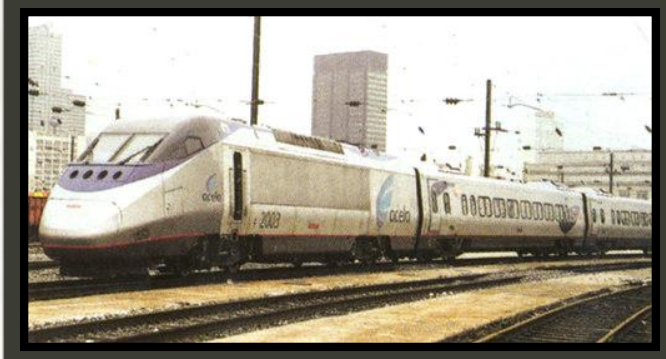
Detailed Technology Screening – HIGH SPEED RAIL

ALTERNATIVE DESCRIPTION

High Speed Rail service having the characteristics of intercity rail service which operates primarily on a dedicated guideway or track not used, for the most part, by freight, including, but not limited to, trains on welded rail, magnetically levitated (MAGLEV) vehicles on a special guideway, or other advanced technology vehicles, designed to travel at speeds in excess of those possible on other types of railroads. High Speed Rail has exclusive right of way and serves densely traveled corridors at speeds of 124 miles per hour and greater.

Example Systems: France, Japan and between Washington D.C. to New York





EVALUATION CRITERIA

Evaluation of Proven Technology

• High-speed intercity rail service currently operating in North America is in the corridor between New York and Washington, D.C.
• High-speed rail systems are common in other parts of the world, especially France, Germany, the United Kingdom, and Japan.

Evaluation of Financial Feasibility

• Implementation would require large sections of dedicated track ROW including grade separations and bridges.

Evaluation of Compatibility with Existing Infrastructure

• Implementation of steel rail system feasible in corridor, however, would require complete grade separation of all crossings and large investment to operate in proximity to existing freight rail system.

Evaluation of Compatibility with Travel Demand Patterns

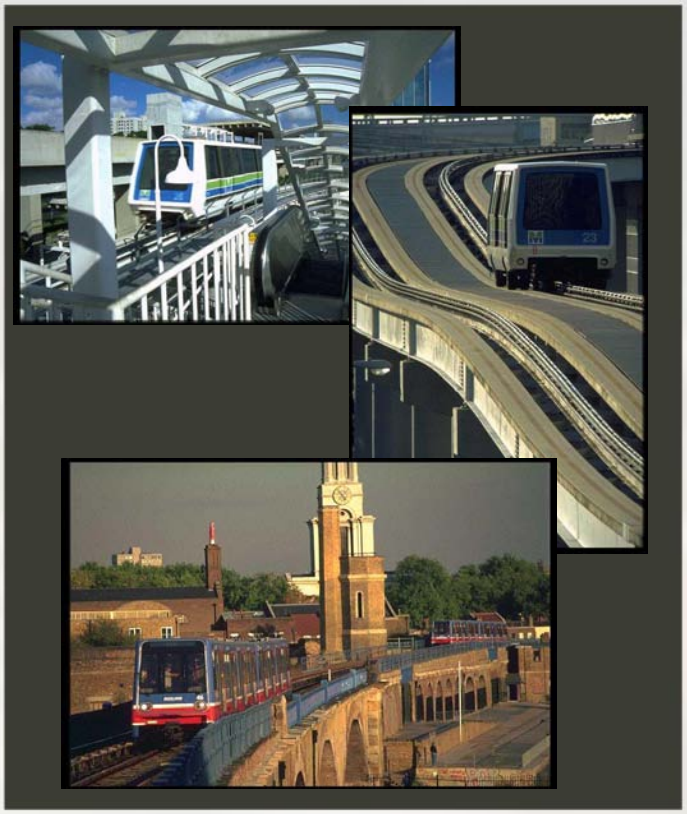
• Travel speeds range from 125 mph to 250 mph.
• Typical station spacing of over 10 miles.
• Intended to serve the regional passenger market similar to Amtrak, not commuter patterns.

Detailed Technology Screening – AUTOMATED GUIDEWAY TRANSIT

ALTERNATIVE DESCRIPTION

Automated Guideway Transit/Monorail is an electric railway in which a rail car or train of cars is suspended from or straddles a guideway formed by a single beam or rail. Most monorails are either heavy rail or automated guideway systems.

Example Systems – Las Vegas NV; Seattle, WA.



EVALUATION CRITERIA

Evaluation of Proven Technology

• AGT systems existing primarily in airport areas but also serve transit riders in Seattle and Las Vegas.

Evaluation of Compatibility with Existing Infrastructure

• AGT systems are compatible with other transit modes in the study area, but can not share existing highway or railroad ROW.
• Requires completely new segregated guideway and ROW.

Evaluation of Financial Feasibility

• Typical construction costs per mile = $11 million to $116 million.
• Would require completely new segregated ROW including new river bridge crossing at Hastings.

Evaluation of Compatibility with Travel Demand Patterns

• Average operating speeds are 30 to 55 mph.
• Typical station spacing ½ mile to 1 mile.
• Typically used in areas of higher density than present in this corridor.

Detailed Technology Screening – FERRY SYSTEM

ALTERNATIVE DESCRIPTION

A ***ferry system*** consists of boats that transports people or vehicles across a body of water and typically operate on a regular schedule.

Example System: Washington State; San Francisco, CA



EVALUATION CRITERIA

Evaluation of Proven Technology

• Proven technology in areas where water does not freeze in winter.
• No similar year-round systems in use in northern climates such as Minnesota.

Evaluation of Compatibility with Existing Infrastructure

• Limited compatibility with existing transit modes in downtown areas.
• River lock infrastructure limits speed along river.
• Not compatible with existing transportation or development patterns in suburban portions of corridor.

Evaluation of Financial Feasibility

• Financially feasible outside of winter conditions.

Evaluation of Compatibility with Travel Demand Patterns

• A ferry system would provide limited access to origins and destinations for the Red Rock Corridor, particularly in suburban areas.
• Unreliable or potentially unavailable service in winter.

Detailed Technology Screening – HEAVY RAIL TRANSIT

ALTERNATIVE DESCRIPTION

Heavy Rail Transit typically referred to as a "subway" is an electric railway with the capacity for a heavy volume of traffic. It is characterized by high speed and rapid acceleration passenger rail cars operating singly or in multi-car trains on fixed rails; separated ROW from which all other vehicular and foot traffic are excluded; sophisticated signaling, and high platform loading.

Example Systems: Los Angeles, Chicago "L", New York City subway, San Francisco BART



EVALUATION CRITERIA

Evaluation of Proven Technology

• Technology exists in major metropolitan cities and is well proven

Evaluation of Compatibility with Existing Infrastructure

• Heavy rail is not compatible with other transit modes in the Minneapolis and St. Paul Area.
• Would require completely segregated ROW along entire length.

Evaluation of Financial Feasibility

• Heavy rail system would require acquisition of dedicated ROW and a completely segregated track and station system.
• Would require new river crossing at Hastings and miles of track in either tunnel or elevated configurations.
• High construction and operating costs.

Evaluation of Compatibility with Travel Demand Patterns

• Normal station spacing for such systems ranges from 1/2 mile to 5 miles.
• Used to serve very dense populations and corridors with ridership over 50,000 passengers per day.

Detailed Technology Screening – COMMUTER BUS SERVICE

ALTERNATIVE DESCRIPTION

Commuter Bus service speeds up longer trips, especially in major metropolitan areas during heavily-patronized peak commuting hours, by operating long distances without stopping. Examples include park-and-ride routes between suburban parking lots and the central business district that operate on freeways, and express buses on major streets that operate local service on the outlying portions of a route until a certain point and then operate non-stop to the central business district.

Example Systems: Minneapolis and St. Paul, MN; Washington, D.C.



EVALUATION CRITERIA

Evaluation of Proven Technology

• Commuter bus is prevalent in most metropolitan cities.
• Operates on a limited basis in Northstar and Red Rock corridors today.

Evaluation of Compatibility with Existing Infrastructure

• Commuter bus is currently being operated in the Twin Cities area.
• Express bus currently operated in the Red Rock Corridor by Metro Transit from Cottage Grove to downtown St. Paul and Minneapolis.

Evaluation of Financial Feasibility

• Low capital cost per passenger mile.
•No identified need for large capital expenditures (e.g. bridges or tunnels) to implement in this corridor.

Evaluation of Compatibility with Travel Demand Patterns

• Compatible with travel patterns in area which show a need for connections between corridor suburbs north of Hastings to downtown St. Paul and Minneapolis.

Detailed Technology Screening – LOCAL BUS SERVICE

ALTERNATIVE DESCRIPTION

Local Bus vehicles may stop every block or two along a route several miles long, is by far the most common type of bus service.

Examples Systems: Present in most major cities in the United States





EVALUATION CRITERIA

Evaluation of Proven Technology

• Proven technology in Twin Cities area and elsewhere across the US and World.

Evaluation of Compatibility with Existing Infrastructure

• Local bus currently provided by Metro Transit in corridor.
• Would provide distribution service for any fixed guideway system in corridor.

Evaluation of Financial Feasibility

• In service today and financially feasible in this corridor.

Evaluation of Compatibility with Travel Demand Patterns

• Local bus service supports connections to residential and commercial areas in the Red Rock Corridor.
• Due to frequent stops and long travel times, local service does not have high ridership for commuters to downtown areas.

APPENDIX D
Commuter Rail Service Plan Data

Running Time Analysis Results Table:

		WB (Midway Sub)				WB (Merriam Park)			WB		EB (Midway Sub)				EB (Merriam Park)			EB
		Miles	PTG '01	Option 1	Option 2	Miles	Option 3	Option 4	Option 5		Miles	PTG '01	Option 1	Option 2	Miles	Option 3	Option 4	Option 5
STATIONS																		
Hastings		*0.0*	0:00:00	0:00:00	0:00:00	*0.0*	0:00:00	0:00:00	0:00:00	→	*31.6*	1:02:00	1:02:33	1:05:52	*31.8*	0:54:46	0:58:02	0:32:40
Cottage Grove		*7.3*	0:10:00	0:11:10	0:11:10	*7.3*	0:11:10	0:11:10	0:11:10		*24.3*	0:53:00	0:50:46	0:54:05	*24.5*	0:42:59	0:46:14	0:20:52
Newport		*11.6*	0:16:00	0:17:03	0:17:03	*11.6*	0:17:03	0:17:03	0:17:03		*20.0*	0:47:00	0:44:49	0:48:08	*20.2*	0:37:02	0:40:17	0:14:55
Lower Afton		*15.9*	0:20:00	0:22:53	0:22:53	*15.9*	0:22:53	0:22:53	0:22:53		*16.0*	0:43:00	0:39:13	0:42:32	*16.2*	0:31:26	0:34:41	0:09:19
SPUD (Ar)		*19.5*	0:27:00	0:30:21	0:30:21	*19.5*	0:30:21	0:30:21	0:30:21		*12.1*	0:25:00	0:21:29	0:24:48	*12.3*	0:22:07	0:25:22	0:00:00
Snelling		*25.9*	0:49:00		0:51:43	*24.0*		0:40:38			*6.2*	0:14:00		0:12:42	*7.8*		0:16:34	
University		*28.4*	0:56:00		0:57:11	*28.5*		0:50:37			*3.3*	0:07:00		0:06:39	*3.3*		0:06:39	
Minneapolis	← READ DOWN (WB)	*31.6*	1:02:00	1:01:15	1:04:29	*31.8*	0:54:35	0:57:56		READ UP (EB)	*0.0*	0:00:00	0:00:00	0:00:00	*0.0*	0:00:00	0:00:00	
			Includes 2 more stops									Includes 2 more stops						

Also included are the running times used in the 2001 Parsons Transportation Group's (PTG) *Red Rock Corridor Commuter Rail Feasibility Study*. This study included two additional stops at Rice and Northeast Minneapolis which are between St. Paul Union Depot and Minneapolis.

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Speed Table for Running Time Analysis

Via BNSF Midway Subdivision (Westminster)				
Location	From MP	To MP	Miles	Speed
Hastings	391.0	391.5	0.50	25
	391.5	392.2	0.70	35
	392.2	392.5	0.29	25
	392.5	396.1	3.61	45
	396.1	398.3	2.20	70
Cottage Grove	398.3	402.6	4.34	70
Newport	422.6	426.5	3.99	70
Lower Afton	426.5	428.4	1.89	70
Dayton's Bluff	428.4	429.8	1.33	30
CP Hoffman	409.6	410.3	0.69	30
St. Paul UD	0.0	0.1	0.06	25
	0.1	0.5	0.43	30
	0.5	0.7	0.17	15
7th Avenue	0.1	0.6	0.52	30
	0.6	5.3	4.70	40
Snelling Ave	5.3	8.2	2.91	40
University	8.2	9.6	1.39	40
Minneapolis Jct	9.6	9.9	0.31	25
	9.9	11.2	1.29	40
5th St. Station	11.2	11.5	0.30	15

Via CP Meriam Park Subdivision and MNNR				
Location	From MP	To MP	Miles	Speed
Hastings	391.0	391.5	0.50	25
	391.5	392.2	0.70	35
	392.2	392.5	0.29	25
	392.5	396.1	3.61	45
	396.1	398.3	2.20	70
Cottage Grove	398.3	402.6	4.34	70
Newport	422.6	426.5	3.99	70
Lower Afton	426.5	428.4	1.89	70
Dayton's Bluff	428.4	429.8	1.33	30
CP Hoffman	409.6	410.3	0.69	30
St. Paul UD	410.3	411.3	1.01	30
	411.3	411.9	0.61	40
	411.9	412.3	0.35	30
	412.3	414.8	2.50	40
Snelling	414.8	415.1	0.39	40
	415.1	416.1	0.96	30
MNNR	0.0	1.8	1.79	30
	6.8	8.3	1.45	40
University	8.3	9.6	1.32	40
Minneapolis Jct	9.6	9.9	0.31	25
	9.9	11.2	1.29	40
5th St. Station	11.2	11.5	0.30	15

Underlining in milepost columns indicate a sequence change.

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Red Rock Corridor Pro Forma Train Schedules

WB (Midway Sub) - Option 1 Hastings - St. Paul and St. Paul - Minneapolis nonstop on BNSF Midway Sub.							
STATIONS	*Miles*		*#1*	*#3*	*#5*	*#7*	*#9*
Hastings (Lv)	-		5:34 AM	6:04 AM	6:34 AM	7:04 AM	7:34 AM
Cottage Grove	7.3		5:45 AM	6:15 AM	6:45 AM	7:15 AM	7:45 AM
Newport	11.6		5:51 AM	6:21 AM	6:51 AM	7:21 AM	7:51 AM
Lower Afton	15.9		5:57 AM	6:27 AM	6:57 AM	7:27 AM	7:57 AM
SPUD (Ar)	19.5		6:04 AM	6:34 AM	7:04 AM	7:34 AM	8:04 AM
SPUD (Lv)	19.5		6:14 AM	6:44 AM	7:14 AM	7:44 AM	8:14 AM
Minneapolis (Ar)	31.6		6:45 AM	7:15 AM	7:45 AM	8:15 AM	8:45 AM

EB (Midway Sub) - Option 1 Minneapolis - St. Paul non-stop on BNSF Midway Sub. and St. Paul - Hastings							
STATIONS	*Miles*		*#2*	*#4*	*#6*	*#8*	*#10*
Minneapolis (Lv)	-		4:25 PM	4:55 PM	5:25 PM	5:55 PM	6:25 PM
SPUD (Ar)	12.1		4:46 PM	5:16 PM	5:46 PM	6:16 PM	6:46 PM
SPUD (Lv)	12.1		4:56 PM	5:26 PM	5:56 PM	6:26 PM	6:56 PM
Lower Afton	16.0		5:04 PM	5:34 PM	6:04 PM	6:34 PM	7:04 PM
Newport	20.0		5:10 PM	5:40 PM	6:10 PM	6:40 PM	7:10 PM
Cottage Grove	24.3		5:16 PM	5:46 PM	6:16 PM	6:46 PM	7:16 PM
Hastings (Ar)	31.6		5:27 PM	5:57 PM	6:27 PM	6:57 PM	7:27 PM

Sample train schedule based on arriving and departing Minneapolis 5 minutes after Northstar peak period trains.

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Red Rock Corridor Pro Forma Train Schedules

WB (Midway Sub) - Option 2 Hastings - St. Paul and St. Paul - Minneapolis with 2 stops on BNSF Midway Sub.							
STATIONS	*Miles*		*#1*	*#3*	*#5*	*#7*	*#9*
Hastings (Lv)	-		5:31 AM	6:01 AM	6:31 AM	7:01 AM	7:31 AM
Cottage Grove	7.3		5:42 AM	6:12 AM	6:42 AM	7:12 AM	7:42 AM
Newport	11.6		5:48 AM	6:18 AM	6:48 AM	7:18 AM	7:48 AM
Lower Afton	15.9		5:54 AM	6:24 AM	6:54 AM	7:24 AM	7:54 AM
SPUD (Ar)	19.5		6:01 AM	6:31 AM	7:01 AM	7:31 AM	8:01 AM
SPUD (Lv)	19.5		6:11 AM	6:41 AM	7:11 AM	7:41 AM	8:11 AM
Snelling	25.9		6:33 AM	7:03 AM	7:33 AM	8:03 AM	8:33 AM
University	28.4		6:38 AM	7:08 AM	7:38 AM	8:08 AM	8:38 AM
Minneapolis (Ar)	31.6		6:45 AM	7:15 AM	7:45 AM	8:15 AM	8:45 AM

EB (Midway Sub) - Option 2 Minneapolis - St. Paul with 2 stops on BNSF Midway Sub. and St. Paul - Hastings							
STATIONS	*Miles*		*#2*	*#4*	*#6*	*#8*	*#10*
Minneapolis (Lv)	-		4:25 PM	4:55 PM	5:25 PM	5:55 PM	6:25 PM
University	3.3		4:31 PM	5:01 PM	5:31 PM	6:01 PM	6:31 PM
Snelling	6.2		4:38 PM	5:08 PM	5:38 PM	6:08 PM	6:38 PM
SPUD (Ar)	12.1		4:50 PM	5:20 PM	5:50 PM	6:20 PM	6:50 PM
SPUD (Lv)	12.1		5:00 PM	5:30 PM	6:00 PM	6:30 PM	7:00 PM
Lower Afton	16.0		5:07 PM	5:37 PM	6:07 PM	6:37 PM	7:07 PM
Newport	20.0		5:13 PM	5:43 PM	6:13 PM	6:43 PM	7:13 PM
Cottage Grove	24.3		5:19 PM	5:49 PM	6:19 PM	6:49 PM	7:19 PM
Hastings (Ar)	31.6		5:31 PM	6:01 PM	6:31 PM	7:01 PM	7:31 PM

Sample train schedule based on arriving and departing Minneapolis 5 minutes after Northstar peak period trains.

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Red Rock Corridor Pro Forma Train Schedules

WB (Merriam Park) - Option 3 Hastings - St. Paul and St. Paul - Minneapolis nonstop on CP Merriam Park Sub.							
STATIONS	*Miles*		*#1*	*#3*	*#5*	*#7*	*#9*
Hastings (Lv)	-		5:51 AM	6:21 AM	6:51 AM	7:21 AM	7:51 AM
Cottage Grove	7.3		6:02 AM	6:32 AM	7:02 AM	7:32 AM	8:02 AM
Newport	11.6		6:08 AM	6:38 AM	7:08 AM	7:38 AM	8:08 AM
Lower Afton	15.9		6:14 AM	6:44 AM	7:14 AM	7:44 AM	8:14 AM
SPUD (Ar)	19.5		6:21 AM	6:51 AM	7:21 AM	7:51 AM	8:21 AM
SPUD (Lv)	19.5		6:23 AM	7:01 AM	7:31 AM	8:01 AM	8:31 AM
Minneapolis (Ar)	31.8		6:45 AM	7:25 AM	7:55 AM	8:25 AM	8:55 AM

EB (Merriam Park) - Option 3 Minneapolis - St. Paul non-stop on CP Merriam Park Sub. and St. Paul - Hastings							
STATIONS	*Miles*		*#2*	*#4*	*#6*	*#8*	*#10*
Minneapolis (Lv)	-		4:25 PM	4:55 PM	5:25 PM	5:55 PM	6:25 PM
SPUD (Ar)	12.3		4:47 PM	5:17 PM	5:47 PM	6:17 PM	6:47 PM
SPUD (Lv)	12.3		4:49 PM	5:19 PM	5:49 PM	6:19 PM	6:49 PM
Lower Afton	16.2		4:56 PM	5:26 PM	5:56 PM	6:26 PM	6:56 PM
Newport	20.2		5:02 PM	5:32 PM	6:02 PM	6:32 PM	7:02 PM
Cottage Grove	24.5		5:08 PM	5:38 PM	6:08 PM	6:38 PM	7:08 PM
Hastings (Ar)	31.8		5:20 PM	5:50 PM	6:20 PM	6:50 PM	7:20 PM

Sample train schedule based on arriving and departing Minneapolis 5 minutes after Northstar peak period trains.

LTK

LTK Engineering Services

Red Rock Corridor Pro Forma Train Schedules

WB (Merriam Park) - Option 4 Hastings - St. Paul and St. Paul - Minneapolis with 2 stops on CP Merriam Park Sub.							
STATIONS	*Miles*		*#1*	*#3*	*#5*	*#7*	*#9*
Hastings (Lv)	-		5:47 AM	6:17 AM	6:47 AM	7:17 AM	7:47 AM
Cottage Grove	7.3		5:58 AM	6:28 AM	6:58 AM	7:28 AM	7:58 AM
Newport	11.6		6:04 AM	6:34 AM	7:04 AM	7:34 AM	8:04 AM
Lower Afton	15.9		6:10 AM	6:40 AM	7:10 AM	7:40 AM	8:10 AM
SPUD (Ar)	19.5		6:17 AM	6:47 AM	7:17 AM	7:47 AM	8:17 AM
SPUD (Lv)	19.5		6:19 AM	6:49 AM	7:19 AM	7:49 AM	8:19 AM
Snelling	24.0		6:27 AM	6:57 AM	7:27 AM	7:57 AM	8:27 AM
University	28.5		6:37 AM	7:07 AM	7:37 AM	8:07 AM	8:37 AM
Minneapolis (Ar)	31.8		6:45 AM	7:15 AM	7:45 AM	8:15 AM	8:45 AM

EB (Merriam Park) - Option 4 Minneapolis - St. Paul with 2 stops on CP Merriam Park Sub. and St. Paul - Hastings							
STATIONS	*Miles*		*#2*	*#4*	*#6*	*#8*	*#10*
Minneapolis (Lv)	-		4:25 PM	4:55 PM	5:25 PM	5:55 PM	6:25 PM
University	3.3		4:31 PM	5:01 PM	5:31 PM	6:01 PM	6:31 PM
Snelling	7.8		4:41 PM	5:11 PM	5:41 PM	6:11 PM	6:41 PM
SPUD (Ar)	12.3		4:50 PM	5:20 PM	5:50 PM	6:20 PM	6:50 PM
SPUD (Lv)	12.3		4:52 PM	5:22 PM	5:52 PM	6:22 PM	6:52 PM
Lower Afton	16.2		5:00 PM	5:30 PM	6:00 PM	6:30 PM	7:00 PM
Newport	20.2		5:05 PM	5:35 PM	6:05 PM	6:35 PM	7:05 PM
Cottage Grove	24.5		5:11 PM	5:41 PM	6:11 PM	6:41 PM	7:11 PM
Hastings (Ar)	31.8		5:23 PM	5:53 PM	6:23 PM	6:53 PM	7:23 PM

Sample train schedule based on arriving and departing Minneapolis 5 minutes after Northstar peak period trains.

LTK

LTK Engineering Services

Red Rock Corridor Pro Forma Train Schedules

WB - Option 5 Hastings - St. Paul only							
STATIONS	*Miles*		*#1*	*#3*	*#5*	*#7*	*#9*
Hastings (Lv)	-		6:10 AM	6:40 AM	7:10 AM	7:40 AM	8:10 AM
Cottage Grove	7.3		6:21 AM	6:51 AM	7:21 AM	7:51 AM	8:21 AM
Newport	11.6		6:27 AM	6:57 AM	7:27 AM	7:57 AM	8:27 AM
Lower Afton	15.9		6:33 AM	7:03 AM	7:33 AM	8:03 AM	8:33 AM
SPUD (Ar)	19.5		6:40 AM	7:10 AM	7:40 AM	8:10 AM	8:40 AM

EB - Option 5 St. Paul - Hastings only							
STATIONS	*Miles*		*#2*	*#4*	*#6*	*#8*	*#10*
SPUD (Lv)	-		4:20 PM	4:50 PM	5:20 PM	5:50 PM	6:20 PM
Lower Afton	3.9		4:29 PM	4:59 PM	5:29 PM	5:59 PM	6:29 PM
Newport	7.9		4:35 PM	5:05 PM	5:35 PM	6:05 PM	6:35 PM
Cottage Grove	12.2		4:41 PM	5:11 PM	5:41 PM	6:11 PM	6:41 PM
Hastings (Ar)	19.5		4:53 PM	5:23 PM	5:53 PM	6:23 PM	6:53 PM

Sample train schedule based on St. Paul Union Depot morning arrivals and afternoon departures as the same as Northstar's Minneapolis schedule.

APPENDIX E
Ridership Data

BUS ALTERNATIVES
Year 2030 Average Weekday Work Person Trip Comparison

To Minneapolis CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	326	53	54	61	69	16.16%	16.43%	18.56%	21.08%
Cottage Grove	1,235	195	230	261	271	15.83%	18.63%	21.14%	21.98%
Woodbury	906	263	269	275	277	29.05%	29.69%	30.35%	30.59%
Newport	156	50	56	60	61	32.12%	36.24%	38.68%	39.43%
St. Paul Park	99	30	31	34	35	29.84%	31.49%	34.01%	34.82%
St. Paul CBD	550	343	343	343	343	62.44%	62.44%	62.44%	62.44%
Other Corridor (Core)	2,561	812	817	822	824	31.70%	31.88%	32.08%	32.16%
Other Corridor (Ring)	164	31	38	44	46	19.09%	23.15%	26.67%	27.79%
Total	**5,996**	**1,777**	**1,838**	**1,899**	**1,925**	**29.64%**	**30.65%**	**31.67%**	**32.11%**

To St. Paul CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	737	24	35	60	72	3.26%	4.79%	8.21%	9.73%
Cottage Grove	4,957	339	429	508	545	6.85%	8.65%	10.25%	10.98%
Woodbury	1,888	225	234	241	247	11.93%	12.37%	12.79%	13.07%
Newport	211	33	37	40	41	15.73%	17.64%	19.00%	19.65%
St. Paul Park	203	32	33	35	37	15.67%	16.18%	17.46%	18.04%
Minneapolis CBD	560	310	310	310	310	55.39%	55.39%	55.39%	55.39%
Other Corridor (Core)	5,385	752	756	763	769	13.96%	14.03%	14.17%	14.28%
Other Corridor (Ring)	379	18	25	32	34	4.77%	6.71%	8.34%	9.06%
Total	**14,320**	**1,734**	**1,859**	**1,990**	**2,054**	**12.11%**	**12.98%**	**13.90%**	**14.35%**

BUS ALTERNATIVES
Year 2030 Average Weekday Non-Work Person Trip Comparison

To Minneapolis CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	68	14	14	15	17	20.26%	20.30%	22.52%	24.22%
Cottage Grove	452	41	46	51	52	9.03%	10.23%	11.20%	11.49%
Woodbury	396	37	38	39	39	9.24%	9.50%	9.79%	9.88%
Newport	129	14	16	17	17	10.98%	12.26%	13.00%	13.19%
St. Paul Park	57	7	8	8	8	12.72%	13.50%	14.29%	14.56%
St. Paul CBD	1,233	296	296	296	296	24.01%	24.01%	24.01%	24.01%
Other Corridor (Core)	1,582	179	180	181	181	11.33%	11.39%	11.46%	11.47%
Other Corridor (Ring)	18	0	0	0	0	0.33%	0.33%	0.33%	0.39%
Total	**3,934**	**588**	**597**	**607**	**610**	**14.94%**	**15.18%**	**15.42%**	**15.51%**

To St. Paul CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	117	0	1	1	1	0.34%	0.47%	0.66%	0.74%
Cottage Grove	679	12	15	16	17	1.83%	2.17%	2.42%	2.56%
Woodbury	545	20	20	20	20	3.66%	3.67%	3.68%	3.69%
Newport	246	26	27	28	29	10.53%	11.08%	11.47%	11.70%
St. Paul Park	119	18	18	18	18	14.78%	14.81%	15.15%	15.35%
Minneapolis CBD	1,357	227	227	227	227	16.73%	16.73%	16.73%	16.73%
Other Corridor (Core)	3,587	277	277	277	277	7.73%	7.72%	7.72%	7.73%
Other Corridor (Ring)	43	0	0	0	0	0.05%	0.05%	0.05%	0.07%
Total	**6,693**	**580**	**584**	**588**	**590**	**8.67%**	**8.73%**	**8.78%**	**8.81%**

BUS ALTERNATIVES
Year 2030 Average Weekday Total Person Trip Comparison

To Minneapolis CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	394	66	67	76	85	16.87%	17.10%	19.25%	21.62%
Cottage Grove	1,686	236	276	312	323	14.01%	16.38%	18.48%	19.17%
Woodbury	1,302	300	307	314	316	23.02%	23.54%	24.09%	24.29%
Newport	285	64	72	77	78	22.55%	25.38%	27.05%	27.55%
St. Paul Park	156	37	39	42	43	23.62%	24.96%	26.84%	27.46%
St. Paul CBD	1,783	639	639	639	639	35.87%	35.87%	35.87%	35.87%
Other Corridor (Core)	4,143	991	997	1,003	1,005	23.92%	24.06%	24.21%	24.26%
Other Corridor (Ring)	182	31	38	44	46	17.23%	20.89%	24.06%	25.07%
Total	**9,930**	**2,365**	**2,435**	**2,506**	**2,536**	**23.82%**	**24.52%**	**25.24%**	**25.54%**

To St. Paul CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	854	24	36	61	73	2.86%	4.20%	7.17%	8.49%
Cottage Grove	5,636	352	444	525	562	6.24%	7.87%	9.31%	9.97%
Woodbury	2,433	245	254	262	267	10.07%	10.42%	10.75%	10.97%
Newport	457	59	64	68	70	12.93%	14.11%	14.94%	15.37%
St. Paul Park	322	49	50	53	55	15.34%	15.68%	16.61%	17.05%
Minneapolis CBD	1,917	537	537	537	537	28.02%	28.02%	28.02%	28.02%
Other Corridor (Core)	8,972	1,029	1,033	1,040	1,046	11.47%	11.51%	11.60%	11.66%
Other Corridor (Ring)	421	18	25	32	34	4.29%	6.03%	7.50%	8.14%
Total	**21,013**	**2,314**	**2,443**	**2,578**	**2,644**	**11.01%**	**11.63%**	**12.27%**	**12.58%**

COMMUTER RAIL ALTERNATIVES
Average Weekday Work Person Trip Comparison

To Minneapolis CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	254	63	188	252	326	3	0	0	0	53	1.18%	0.00%	0.00%	0.00%	16.16%
Cottage Grove	845	580	816	1,091	1,235	105	56	88	130	195	12.43%	9.61%	10.77%	11.96%	15.83%
Woodbury	701	515	697	837	906	158	97	147	156	263	22.56%	18.80%	21.09%	18.58%	29.05%
Newport	102	98	97	103	156	50	12	12	16	50	49.02%	12.01%	11.98%	15.56%	32.12%
St. Paul Park	87	69	68	79	99	8	9	8	10	30	9.20%	12.42%	12.36%	12.60%	29.84%
St. Paul CBD	411	248	248	218	550	238	140	140	125	343	57.91%	56.24%	56.25%	57.68%	62.44%
Other Corridor (Core)	1,991	1,556	1,996	2,306	2,561	265	222	301	314	812	13.31%	14.27%	15.08%	13.63%	31.70%
Other Corridor (Ring)	170	170	170	157	164	28	0	0	0	31	16.52%	0.00%	0.00%	0.00%	19.09%
Total	**4,559**	**3,298**	**4,279**	**5,042**	**5,996**	**855**	**535**	**695**	**752**	**1,777**	**18.76%**	**16.21%**	**16.25%**	**14.91%**	**29.64%**

To St. Paul CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	336	266	325	353	737	0	0	0	0	24	0.00%	0.00%	0.00%	0.00%	3.26%
Cottage Grove	2,271	1,029	2,225	2,291	4,957	187	47	156	97	339	8.23%	4.58%	7.00%	4.25%	6.85%
Woodbury	1,002	561	984	977	1,888	74	35	91	67	225	7.39%	6.30%	9.22%	6.87%	11.93%
Newport	149	144	140	125	211	8	11	10	9	33	5.39%	7.55%	7.45%	6.85%	15.73%
St. Paul Park	279	114	110	107	203	30	9	8	7	32	10.75%	7.79%	7.65%	6.73%	15.67%
Minneapolis CBD	651	402	393	327	560	194	153	149	118	310	29.80%	37.98%	37.98%	35.93%	55.39%
Other Corridor (Core)	2,942	1,970	2,948	2,745	5,385	178	118	206	159	752	6.05%	5.97%	6.99%	5.78%	13.96%
Other Corridor (Ring)	204	204	204	154	379	0	0	0	0	18	0.00%	0.00%	0.00%	0.00%	4.77%
Total	**7,833**	**4,690**	**7,330**	**7,079**	**14,320**	**671**	**373**	**621**	**456**	**1,734**	**8.57%**	**7.94%**	**8.47%**	**6.45%**	**12.11%**

COMMUTER RAIL ALTERNATIVES
Average Weekday Non-Work Person Trip Comparison

To Minneapolis CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	-N/A-	45	45	50	68	-N/A-	0	0	0	14	-N/A-	0.00%	0.00%	0.00%	20.26%
Cottage Grove	-N/A-	317	317	351	452	-N/A-	15	15	24	41	-N/A-	4.81%	4.81%	6.80%	9.03%
Woodbury	-N/A-	286	286	297	396	-N/A-	17	17	19	37	-N/A-	6.01%	6.01%	6.48%	9.24%
Newport	-N/A-	72	72	76	129	-N/A-	3	3	4	14	-N/A-	3.98%	3.98%	5.90%	10.98%
St. Paul Park	-N/A-	45	45	49	57	-N/A-	2	2	3	7	-N/A-	4.95%	4.95%	6.18%	12.72%
St. Paul CBD	-N/A-	559	559	549	1,233	-N/A-	91	91	99	296	-N/A-	16.27%	16.27%	18.07%	24.01%
Other Corridor (Core)	-N/A-	1,366	1,366	1,425	1,582	-N/A-	80	80	81	179	-N/A-	5.83%	5.83%	5.65%	11.33%
Other Corridor (Ring)	-N/A-	23	23	22	18	-N/A-	0	0	0	0	-N/A-	0.00%	0.00%	0.00%	0.33%
Total	**0**	**2,714**	**2,714**	**2,818**	**3,934**	**0**	**208**	**208**	**230**	**588**	**-N/A-**	**7.67%**	**7.67%**	**8.17%**	**14.94%**

To St. Paul CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	-N/A-	66	66	67	117	-N/A-	0	0	0	0	-N/A-	0.00%	0.00%	0.00%	0.34%
Cottage Grove	-N/A-	427	427	448	679	-N/A-	10	10	10	12	-N/A-	2.24%	2.24%	2.15%	1.83%
Woodbury	-N/A-	416	416	510	545	-N/A-	12	12	12	20	-N/A-	2.77%	2.77%	2.34%	3.66%
Newport	-N/A-	148	148	179	246	-N/A-	7	7	8	26	-N/A-	4.42%	4.42%	4.47%	10.53%
St. Paul Park	-N/A-	76	76	85	119	-N/A-	3	3	3	18	-N/A-	3.72%	3.72%	3.87%	14.78%
Minneapolis CBD	-N/A-	842	842	861	1,357	-N/A-	86	86	66	227	-N/A-	10.19%	10.19%	7.70%	16.73%
Other Corridor (Core)	-N/A-	2,559	2,559	2,903	3,587	-N/A-	122	122	130	277	-N/A-	4.78%	4.78%	4.48%	7.73%
Other Corridor (Ring)	-N/A-	66	66	45	43	-N/A-	0	0	0	0	-N/A-	0.00%	0.00%	0.00%	0.05%
Total	**0**	**4,599**	**4,599**	**5,098**	**6,693**	**0**	**239**	**239**	**229**	**580**	**-N/A-**	**5.19%**	**5.19%**	**4.50%**	**8.67%**

Note: CTPP represents only work trips

COMMUTER RAIL ALTERNATIVES
Average Weekday Total Person Trip Comparison

To Minneapolis CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	254	108	233	302	394	3	0	0	0	66	1.18%	0.00%	0.00%	0.00%	16.87%
Cottage Grove	845	897	1,133	1,442	1,686	105	71	103	154	236	12.43%	7.91%	9.10%	10.70%	14.01%
Woodbury	701	801	983	1,135	1,302	158	114	164	175	300	22.56%	14.23%	16.70%	15.41%	23.02%
Newport	102	171	170	179	285	50	15	15	20	64	49.02%	8.60%	8.56%	11.45%	22.55%
St. Paul Park	87	114	113	127	156	8	11	11	13	37	9.20%	9.46%	9.40%	10.15%	23.62%
St. Paul CBD	411	807	807	766	1,783	238	231	231	225	639	57.91%	28.57%	28.58%	29.32%	35.87%
Other Corridor (Core)	1,991	2,922	3,361	3,731	4,143	265	302	380	395	991	13.31%	10.32%	11.32%	10.58%	23.92%
Other Corridor (Ring)	170	193	193	179	182	28	0	0	0	31	16.52%	0.00%	0.00%	0.00%	17.23%
Total	**4,559**	**6,012**	**6,993**	**7,861**	**9,930**	**855**	**743**	**904**	**982**	**2,365**	**18.76%**	**12.35%**	**12.92%**	**12.49%**	**23.82%**

To St. Paul CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	336	332	391	419	854	0	0	0	0	24	0.00%	0.00%	0.00%	0.00%	2.86%
Cottage Grove	2,271	1,456	2,652	2,739	5,636	187	57	165	107	352	8.23%	3.89%	6.23%	3.90%	6.24%
Woodbury	1,002	976	1,400	1,486	2,433	74	47	102	79	245	7.39%	4.80%	7.30%	5.32%	10.07%
Newport	149	292	288	304	457	8	17	17	17	59	5.39%	5.96%	5.89%	5.44%	12.93%
St. Paul Park	279	190	186	192	322	30	12	11	11	49	10.75%	6.17%	6.05%	5.47%	15.34%
Minneapolis CBD	651	1,245	1,236	1,188	1,917	194	239	235	184	537	29.80%	19.17%	19.04%	15.48%	28.02%
Other Corridor (Core)	2,942	4,529	5,507	5,648	8,972	178	240	329	289	1,029	6.05%	5.30%	5.97%	5.11%	11.47%
Other Corridor (Ring)	204	270	270	199	421	0	0	0	0	18	0.00%	0.00%	0.00%	0.00%	4.29%
Total	**7,833**	**9,290**	**11,929**	**12,177**	**21,013**	**671**	**611**	**860**	**686**	**2,314**	**8.57%**	**6.58%**	**7.21%**	**5.63%**	**11.01%**

Note: CTPP represents only work trip

BUS ALTERNATIVES
Year 2030 Average Weekday Work Person Trip Comparison

To Minneapolis CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	326	53	54	61	69	16.16%	16.43%	18.56%	21.08%
Cottage Grove	1,235	195	230	261	271	15.83%	18.63%	21.14%	21.98%
Woodbury	906	263	269	275	277	29.05%	29.69%	30.35%	30.59%
Newport	156	50	56	60	61	32.12%	36.24%	38.68%	39.43%
St. Paul Park	99	30	31	34	35	29.84%	31.49%	34.01%	34.82%
St. Paul CBD	550	343	343	343	343	62.44%	62.44%	62.44%	62.44%
Other Corridor (Core)	2,561	812	817	822	824	31.70%	31.88%	32.08%	32.16%
Other Corridor (Ring)	164	31	38	44	46	19.09%	23.15%	26.67%	27.79%
Total	**5,996**	**1,777**	**1,838**	**1,899**	**1,925**	**29.64%**	**30.65%**	**31.67%**	**32.11%**

To St. Paul CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	737	24	35	60	72	3.26%	4.79%	8.21%	9.73%
Cottage Grove	4,957	339	429	508	545	6.85%	8.65%	10.25%	10.98%
Woodbury	1,888	225	234	241	247	11.93%	12.37%	12.79%	13.07%
Newport	211	33	37	40	41	15.73%	17.64%	19.00%	19.65%
St. Paul Park	203	32	33	35	37	15.67%	16.18%	17.46%	18.04%
Minneapolis CBD	560	310	310	310	310	55.39%	55.39%	55.39%	55.39%
Other Corridor (Core)	5,385	752	756	763	769	13.96%	14.03%	14.17%	14.28%
Other Corridor (Ring)	379	18	25	32	34	4.77%	6.71%	8.34%	9.06%
Total	**14,320**	**1,734**	**1,859**	**1,990**	**2,054**	**12.11%**	**12.98%**	**13.90%**	**14.35%**

BUS ALTERNATIVES
Year 2030 Average Weekday Non-Work Person Trip Comparison

To Minneapolis CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	68	14	14	15	17	20.26%	20.30%	22.52%	24.22%
Cottage Grove	452	41	46	51	52	9.03%	10.23%	11.20%	11.49%
Woodbury	396	37	38	39	39	9.24%	9.50%	9.79%	9.88%
Newport	129	14	16	17	17	10.98%	12.26%	13.00%	13.19%
St. Paul Park	57	7	8	8	8	12.72%	13.50%	14.29%	14.56%
St. Paul CBD	1,233	296	296	296	296	24.01%	24.01%	24.01%	24.01%
Other Corridor (Core)	1,582	179	180	181	181	11.33%	11.39%	11.46%	11.47%
Other Corridor (Ring)	18	0	0	0	0	0.33%	0.33%	0.33%	0.39%
Total	**3,934**	**588**	**597**	**607**	**610**	**14.94%**	**15.18%**	**15.42%**	**15.51%**

To St. Paul CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	117	0	1	1	1	0.34%	0.47%	0.66%	0.74%
Cottage Grove	679	12	15	16	17	1.83%	2.17%	2.42%	2.56%
Woodbury	545	20	20	20	20	3.66%	3.67%	3.68%	3.69%
Newport	246	26	27	28	29	10.53%	11.08%	11.47%	11.70%
St. Paul Park	119	18	18	18	18	14.78%	14.81%	15.15%	15.35%
Minneapolis CBD	1,357	227	227	227	227	16.73%	16.73%	16.73%	16.73%
Other Corridor (Core)	3,587	277	277	277	277	7.73%	7.72%	7.72%	7.73%
Other Corridor (Ring)	43	0	0	0	0	0.05%	0.05%	0.05%	0.07%
Total	**6,693**	**580**	**584**	**588**	**590**	**8.67%**	**8.73%**	**8.78%**	**8.81%**

BUS ALTERNATIVES
Year 2030 Average Weekday Total Person Trip Comparison

To Minneapolis CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	394	66	67	76	85	16.87%	17.10%	19.25%	21.62%
Cottage Grove	1,686	236	276	312	323	14.01%	16.38%	18.48%	19.17%
Woodbury	1,302	300	307	314	316	23.02%	23.54%	24.09%	24.29%
Newport	285	64	72	77	78	22.55%	25.38%	27.05%	27.55%
St. Paul Park	156	37	39	42	43	23.62%	24.96%	26.84%	27.46%
St. Paul CBD	1,783	639	639	639	639	35.87%	35.87%	35.87%	35.87%
Other Corridor (Core)	4,143	991	997	1,003	1,005	23.92%	24.06%	24.21%	24.26%
Other Corridor (Ring)	182	31	38	44	46	17.23%	20.89%	24.06%	25.07%
Total	**9,930**	**2,365**	**2,435**	**2,506**	**2,536**	**23.82%**	**24.52%**	**25.24%**	**25.54%**

To St. Paul CBD

	Model 2030 Person Trips	Model 2030 Enhanced No Build Transit Trips	Model 2030 Bus Opt1 Transit Trips	Model 2030 Bus Opt2 Transit Trips	Model 2030 Bus Opt3 Transit Trips	Model 2030 Enhanced No Build Mode Share	Model 2030 Bus Opt1 Mode Share	Model 2030 Bus Opt2 Mode Share	Model 2030 Bus Opt3 Mode Share
Hastings	854	24	36	61	73	2.86%	4.20%	7.17%	8.49%
Cottage Grove	5,636	352	444	525	562	6.24%	7.87%	9.31%	9.97%
Woodbury	2,433	245	254	262	267	10.07%	10.42%	10.75%	10.97%
Newport	457	59	64	68	70	12.93%	14.11%	14.94%	15.37%
St. Paul Park	322	49	50	53	55	15.34%	15.68%	16.61%	17.05%
Minneapolis CBD	1,917	537	537	537	537	28.02%	28.02%	28.02%	28.02%
Other Corridor (Core)	8,972	1,029	1,033	1,040	1,046	11.47%	11.51%	11.60%	11.66%
Other Corridor (Ring)	421	18	25	32	34	4.29%	6.03%	7.50%	8.14%
Total	**21,013**	**2,314**	**2,443**	**2,578**	**2,644**	**11.01%**	**11.63%**	**12.27%**	**12.58%**

COMMUTER RAIL ALTERNATIVES
Average Weekday Work Person Trip Comparison

To Minneapolis CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	254	63	188	252	326	3	0	0	0	53	1.18%	0.00%	0.00%	0.00%	16.16%
Cottage Grove	845	580	816	1,091	1,235	105	56	88	130	195	12.43%	9.61%	10.77%	11.96%	15.83%
Woodbury	701	515	697	837	906	158	97	147	156	263	22.56%	18.80%	21.09%	18.58%	29.05%
Newport	102	98	97	103	156	50	12	12	16	50	49.02%	12.01%	11.98%	15.56%	32.12%
St. Paul Park	87	69	68	79	99	8	9	8	10	30	9.20%	12.42%	12.36%	12.60%	29.84%
St. Paul CBD	411	248	248	218	550	238	140	140	125	343	57.91%	56.24%	56.25%	57.68%	62.44%
Other Corridor (Core)	1,991	1,556	1,996	2,306	2,561	265	222	301	314	812	13.31%	14.27%	15.08%	13.63%	31.70%
Other Corridor (Ring)	170	170	170	157	164	28	0	0	0	31	16.52%	0.00%	0.00%	0.00%	19.09%
Total	**4,559**	**3,298**	**4,279**	**5,042**	**5,996**	**855**	**535**	**695**	**752**	**1,777**	**18.76%**	**16.21%**	**16.25%**	**14.91%**	**29.64%**

To St. Paul CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	336	266	325	353	737	0	0	0	0	24	0.00%	0.00%	0.00%	0.00%	3.26%
Cottage Grove	2,271	1,029	2,225	2,291	4,957	187	47	156	97	339	8.23%	4.58%	7.00%	4.25%	6.85%
Woodbury	1,002	561	984	977	1,888	74	35	91	67	225	7.39%	6.30%	9.22%	6.87%	11.93%
Newport	149	144	140	125	211	8	11	10	9	33	5.39%	7.55%	7.45%	6.85%	15.73%
St. Paul Park	279	114	110	107	203	30	9	8	7	32	10.75%	7.79%	7.65%	6.73%	15.67%
Minneapolis CBD	651	402	393	327	560	194	153	149	118	310	29.80%	37.98%	37.98%	35.93%	55.39%
Other Corridor (Core)	2,942	1,970	2,948	2,745	5,385	178	118	206	159	752	6.05%	5.97%	6.99%	5.78%	13.96%
Other Corridor (Ring)	204	204	204	154	379	0	0	0	0	18	0.00%	0.00%	0.00%	0.00%	4.77%
Total	**7,833**	**4,690**	**7,330**	**7,079**	**14,320**	**671**	**373**	**621**	**456**	**1,734**	**8.57%**	**7.94%**	**8.47%**	**6.45%**	**12.11%**

COMMUTER RAIL ALTERNATIVES
Average Weekday Non-Work Person Trip Comparison

To Minneapolis CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	-N/A-	45	45	50	68	-N/A-	0	0	0	14	-N/A-	0.00%	0.00%	0.00%	20.26%
Cottage Grove	-N/A-	317	317	351	452	-N/A-	15	15	24	41	-N/A-	4.81%	4.81%	6.80%	9.03%
Woodbury	-N/A-	286	286	297	396	-N/A-	17	17	19	37	-N/A-	6.01%	6.01%	6.48%	9.24%
Newport	-N/A-	72	72	76	129	-N/A-	3	3	4	14	-N/A-	3.98%	3.98%	5.90%	10.98%
St. Paul Park	-N/A-	45	45	49	57	-N/A-	2	2	3	7	-N/A-	4.95%	4.95%	6.18%	12.72%
St. Paul CBD	-N/A-	559	559	549	1,233	-N/A-	91	91	99	296	-N/A-	16.27%	16.27%	18.07%	24.01%
Other Corridor (Core)	-N/A-	1,366	1,366	1,425	1,582	-N/A-	80	80	81	179	-N/A-	5.83%	5.83%	5.65%	11.33%
Other Corridor (Ring)	-N/A-	23	23	22	18	-N/A-	0	0	0	0	-N/A-	0.00%	0.00%	0.00%	0.33%
Total	**0**	**2,714**	**2,714**	**2,818**	**3,934**	**0**	**208**	**208**	**230**	**588**	**-N/A-**	**7.67%**	**7.67%**	**8.17%**	**14.94%**

To St. Paul CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	-N/A-	66	66	67	117	-N/A-	0	0	0	0	-N/A-	0.00%	0.00%	0.00%	0.34%
Cottage Grove	-N/A-	427	427	448	679	-N/A-	10	10	10	12	-N/A-	2.24%	2.24%	2.15%	1.83%
Woodbury	-N/A-	416	416	510	545	-N/A-	12	12	12	20	-N/A-	2.77%	2.77%	2.34%	3.66%
Newport	-N/A-	148	148	179	246	-N/A-	7	7	8	26	-N/A-	4.42%	4.42%	4.47%	10.53%
St. Paul Park	-N/A-	76	76	85	119	-N/A-	3	3	3	18	-N/A-	3.72%	3.72%	3.87%	14.78%
Minneapolis CBD	-N/A-	842	842	861	1,357	-N/A-	86	86	66	227	-N/A-	10.19%	10.19%	7.70%	16.73%
Other Corridor (Core)	-N/A-	2,559	2,559	2,903	3,587	-N/A-	122	122	130	277	-N/A-	4.78%	4.78%	4.48%	7.73%
Other Corridor (Ring)	-N/A-	66	66	45	43	-N/A-	0	0	0	0	-N/A-	0.00%	0.00%	0.00%	0.05%
Total	**0**	**4,599**	**4,599**	**5,098**	**6,693**	**0**	**239**	**239**	**229**	**580**	**-N/A-**	**5.19%**	**5.19%**	**4.50%**	**8.67%**

Note: CTPP represents only work trips

COMMUTER RAIL ALTERNATIVES
Average Weekday Total Person Trip Comparison

To Minneapolis CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	254	108	233	302	394	3	0	0	0	66	1.18%	0.00%	0.00%	0.00%	16.87%
Cottage Grove	845	897	1,133	1,442	1,686	105	71	103	154	236	12.43%	7.91%	9.10%	10.70%	14.01%
Woodbury	701	801	983	1,135	1,302	158	114	164	175	300	22.56%	14.23%	16.70%	15.41%	23.02%
Newport	102	171	170	179	285	50	15	15	20	64	49.02%	8.60%	8.56%	11.45%	22.55%
St. Paul Park	87	114	113	127	156	8	11	11	13	37	9.20%	9.46%	9.40%	10.15%	23.62%
St. Paul CBD	411	807	807	766	1,783	238	231	231	225	639	57.91%	28.57%	28.58%	29.32%	35.87%
Other Corridor (Core)	1,991	2,922	3,361	3,731	4,143	265	302	380	395	991	13.31%	10.32%	11.32%	10.58%	23.92%
Other Corridor (Ring)	170	193	193	179	182	28	0	0	0	31	16.52%	0.00%	0.00%	0.00%	17.23%
Total	**4,559**	**6,012**	**6,993**	**7,861**	**9,930**	**855**	**743**	**904**	**982**	**2,365**	**18.76%**	**12.35%**	**12.92%**	**12.49%**	**23.82%**

To St. Paul CBD

	CTPP 2000 x 1.5 Person Trips	Model 2000 (UnAdj.) Person Trips	Model 2000 Person Trips	Model 2005 Person Trips	Model 2030 Enhanced No Build Person Trips	CTPP 2000 x 1.5 Transit Trips	Model 2000 (UnAdj.) Transit Trips	Model 2000 Transit Trips	Model 2005 Transit Trips	Model 2030 Enhanced No Build Transit Trips	CTPP 2000 x 1.5 Mode Share	Model 2000 (UnAdj.) Mode Share	Model 2000 Mode Share	Model 2005 Mode Share	Model 2030 Enhanced No Build Mode Share
Hastings	336	332	391	419	854	0	0	0	0	24	0.00%	0.00%	0.00%	0.00%	2.86%
Cottage Grove	2,271	1,456	2,652	2,739	5,636	187	57	165	107	352	8.23%	3.89%	6.23%	3.90%	6.24%
Woodbury	1,002	976	1,400	1,486	2,433	74	47	102	79	245	7.39%	4.80%	7.30%	5.32%	10.07%
Newport	149	292	288	304	457	8	17	17	17	59	5.39%	5.96%	5.89%	5.44%	12.93%
St. Paul Park	279	190	186	192	322	30	12	11	11	49	10.75%	6.17%	6.05%	5.47%	15.34%
Minneapolis CBD	651	1,245	1,236	1,188	1,917	194	239	235	184	537	29.80%	19.17%	19.04%	15.48%	28.02%
Other Corridor (Core)	2,942	4,529	5,507	5,648	8,972	178	240	329	289	1,029	6.05%	5.30%	5.97%	5.11%	11.47%
Other Corridor (Ring)	204	270	270	199	421	0	0	0	0	18	0.00%	0.00%	0.00%	0.00%	4.29%
Total	**7,833**	**9,290**	**11,929**	**12,177**	**21,013**	**671**	**611**	**860**	**686**	**2,314**	**8.57%**	**6.58%**	**7.21%**	**5.63%**	**11.01%**

Note: CTPP represents only work trip

APPENDIX F
Capital Cost Data

STATION COST ASSUMPTIONS

Hastings Station

Two platforms are proposed for this station. An existing structure is expected to be utilized for a platform shelter, and therefore the platforms have been shown to account for track and building locations. In reality, due to space available, one large platform is created encompassing the structure. The cost estimate does not include at this time costs associated with rehabilitating the existing depot structure. Station areas parking would be located on a parcel across the street and to the west of the platform area. Potential ponding or water storage/treatment would also be provided at the station. Two entry/exit locations are proposed. Based on ridership forecasts, approximately 90 parking spaces would be required at this location.

Cottage Grove Station

Due to track availability, one platform would be required at this location. Additionally, the existing commuter/park-and-ride lot has a capacity of approximately 560 parking stalls and would therefore be considered adequate to support the ridership forecast for this station

Newport Station

Based on ridership forecasts, 125 parking spaces are proposed at this station with 2 entry/exit locations. Due to existing structures and parking use, pond requirements may be reduced.

A surface crossing would be provided for pedestrians to cross 7th Ave. A pedestrian bridge over the rail would be required to give pedestrians access to the inbound train from the second platform.

Lower Afton Rd Station

Access is currently available from an existing parking lot to the proposed station location via a traffic signal on TH 61. Current bus patrons take this route. There would be no additional parking needed as the available lot has capacity. Two platforms would be expected; however the track spacing may be somewhat of a concern and warrant additional improvements.

Two cost options are presented, with and without the pedestrian bridge over TH 61. Such an option could be a staged venture to assist in controlling costs. Both options include a pedestrian bridge over the rail to give pedestrians access to the inbound train from the second platform.

MAINTENANCE/OPERATIONS FACILITY - Cottage Grove, MN							
				TECHNICAL MEMO #4			
				2001 $	2007 $		2007 $
	UNIT	QTY	UNIT COST		1.362871173	UNIT COST	1
Maintenance/Operations Facility	LS	1	$ 20,649,600	$ 20,649,600	$ 28,142,745	$22,260,000	$22,260,000
Property Acquistion	AC	38	$ -	$ -	$ -	$ 70,000	$ 2,660,000
SUBTOTAL				$ 20,649,600	$ 28,142,745		$24,920,000
Engineering (25%)				$ 5,162,400	$ 7,035,686		$ 6,230,000
Contingency (30%)				$ 6,194,880	$ 8,442,823		$ 7,476,000
Project Oversight (10%)							$ 2,492,000
TOTAL				**$ 32,006,880**	**$ 43,621,254**		**$41,118,000**

*Based on current Northstar Commuter Rail project costs for the Maintenance Facility site and property acquisition at Big Lake, MN.

CAPACITY UPGRADES – HASTINGS TO ST. PAUL SECTION

			TOTAL COST				
			TECHNICAL MEMO #4				
DESCRIPTION	UNIT	QTY	UNIT COST	2001 $	2007 $	UNIT COST*	2007 $
Hastings CP - upgrade power switch and provide turnout					1.362871173		1
#20 Turnout	EA	1	$ 130,000	$ 130,000	$ 177,173	$ -	$ -
#24 Turnout	EA	1	$ -	$ -	$ -	$ 600,000	$ 600,000
Power Switch	EA	1	$ 200,000	$ 200,000	$ 272,574	$ 300,000	$ 300,000
Grade Crossings 2nd & 3rd Streets	EA	2	$ 50,000	$ 100,000	$ 136,287	$ 70,000	$ 140,000
Grade Crossing Signals - Modify existing system	EA	2	$ 50,000	$ 100,000	$ 136,287	$ 70,000	$ 140,000
SUBTOTAL				$ 530,000	$ 722,322		$ 1,180,000
St. Croix BNSF/CP - construct crossover and increase spead in area							
#11 Crossover	EA	2	$ 260,000	$ 520,000	$ 708,693	$ -	$ -
#11 Turnout	EA	1	$ 130,000	$ 130,000	$ 177,173	$ -	$ -
#24 Crossover	EA	2	$ -	$ -	$ -	$1,250,000	$ 2,500,000
#24 Turnout	EA	1	$ -	$ -	$ -	$ 600,000	$ 600,000
Reconfigure Main 2 and CP Connection to accommodate new turnout and crossovers	LS	1	$ 400,000	$ 400,000	$ 545,148	$ 550,000	$ 550,000
Power Switch	EA	5	$ 200,000	$1,000,000	$ 1,362,871	$ 300,000	$ 1,500,000
Remove #11 Crossover	EA	1	$ 20,000	$ 20,000	$ 27,257	$ 30,000	$ 30,000
Upgrade CP Main to 45 mph MP 391.5 - 392.1 Ties and Surfacing	EA	0.6	$ 150,000	$ 90,000	$ 122,658	$ 210,000	$ 126,000
SUBTOTAL				$2,160,000	$ 2,943,802		$ 5,306,000
Newport-Dunn CP/BNSF - construct crossovers and increase speed in area							
#11 Crossover @ MP 402.6 and 405.1	EA	2	$ 160,000	$ 320,000	$ 436,119	$ -	$ -
#11 Turnout	EA	2	$ 80,000	$ 160,000	$ 218,059	$ -	$ -
#20 Crossover @ MP 402.6 and 405.1	EA	2	$ -	$ -	$ -	$ 1,000,000	$ 2,000,000
#20 Turnout	EA	2	$ -	$ -	$ -	$ 500,000	$ 1,000,000
Power Switch	EA	6	$ 200,000	$1,200,000	$ 1,635,445	$ 300,000	$ 1,800,000
Upgrade CP Drill Track to 25 mph Running Track	MI	2.5	$ 300,000	$ 750,000	$ 1,022,153	$ 450,000	$ 1,125,000
Signalize 25 mph Running Trck	MI	2.5	$ 500,000	$1,250,000	$ 1,703,589	$ 700,000	$ 1,750,000
Construct Drill Track	MI	2.5	$ 700,000	$1,750,000	$ 2,385,025	$ 950,000	$ 2,375,000
Grade crossing signals modify for additional track	EA	1	$ 50,000	$ 50,000	$ 68,144	$ 70,000	$ 70,000
Grading additional track	CY	90000	$ 3	$ 270,000	$ 367,975	$ 5	$ 450,000
Drainage - extend 4 culverts for additional track	LS	1	$ 100,000	$ 100,000	$ 136,287	$ 140,000	$ 140,000
#11 Crossover @ MP 405.2	EA	1	$ 260,000	$ 260,000	$ 354,347	$ -	$ -
#24 Crossover @ MP 405.2	EA	1	$ -	$ -	$ -	$ 600,000	$ 600,000

Construct addt'l crossover trackage due to wide track centers	MI	0.1	$ 700,000	$ 70,000	$ 95,401	$ 100,000	$ 10,000
Grading additional track	CY	5000	$ 3	$ 15,000	$ 20,443	$ 5	$ 25,000
Power Switch	EA	2	$ 200,000	$ 400,000	$ 545,148	$ 300,000	$ 600,000
SUBTOTAL				$6,595,000	$ 8,988,135		$ 11,945,000

SUMMARY OF COSTS					
SUBTOTAL		$9,285,000	$ 12,654,259		$ 18,431,000
Railroad Real Estate Costs**		**$9,285,000**	**$ 12,654,259**		**$ 73,724,000**

*Based on current Northstar Commuter Rail project costs for track upgrades

**Based on current Real Estate costs incurred for the Northstar Commuter Rail project

RED ROCK CORRIDOR CAPITAL COST ESTIMATE						
HOFFMAN JUNCTION/SPUD IMPROVEMENTS						
Source: St. Paul Union Depot (SPUD) Analysis, November 2003						
		UNITS	**UNIT COST**	**QTY**	**COST (2003$)**	**COST (2007$)**
Build "Flyover" as an Alternate to the Duck-Under						
Build Flyover for Crossing BNSF, UP at East End						
	Structure	LF	$ 7,500	4600	$ 34,500,000	$ 40,360,000
	Install DF Track	TF	$ 260	9200	$ 2,392,000	$ 2,800,000
	Signals and Comm.	TF	$ 100	9200	$ 920,000	$ 1,080,000
	Tie ins to Other Locations	EA	$ 200,000	2	$ 400,000	$ 470,000
	Environmental Mitigation	LS	$ 2,000,000	1	$ 2,000,000	$ 2,340,000
				TOTAL	**$ 40,212,000**	**$ 47,050,000**
Building Duck Under for both UP Wye Tracks and BNSF Main Tracks						
Build Shoo-fly for UP						
	Building Shoo-fly Grade	TF	$ 100	2000	$ 200,000	$ 230,000
	Build Shoo-fly Track	TF	$ 175	2000	$ 350,000	$ 410,000
	Buildi Shoo-fly Turnout	EA	$ 150,000	1	$ 150,000	$ 180,000
	Signals and Comm.	LS	$ 300,000	1	$ 300,000	$ 350,000
Build new Up Alignment						
	Build Retained Fill	TF	$ 150	1600	$ 240,000	$ 280,000
	Grading for Balance of Track	TF	$ 150	1400	$ 210,000	$ 250,000
	Build Box Structure for RR Under	LS	$ 750,000	1	$ 750,000	$ 880,000
	Build Track on New Alignment	TF	$ 175	3000	$ 525,000	$ 610,000
	Retire East Tail Turnout	EA	$ 15,000	1	$ 15,000	$ 20,000
	Retire East Tail Track	TF	$ 15	780	$ 11,700	$ 10,000
	Retire UP Turnout	EA	$ 15,000	1	$ 15,000	$ 20,000
	Building New Turnout for Escape	EA	$ 150,000	1	$ 150,000	$ 180,000
	Grade for New Terminal Escape Track	TF	$ 100	600	$ 60,000	$ 70,000
	Build New Terminal Escape Track	TF	$ 175	400	$ 70,000	$ 80,000
	Signals and Comm, Turnouts	EA	$ 200,000	1	$ 200,000	$ 230,000
	Tie ins to Other Locations	EA	$ 200,000	4	$ 800,000	$ 940,000
Build Shoo-fly for BNSF						
	Build Shoo-fly Grade	TF	$ 150	6800	$ 1,020,000	$ 1,190,000
	Build Shoo-fly Track	TF	$ 175	6800	$ 1,190,000	$ 1,390,000
	Build Shoo-fly Turnout 2	EA	$ 125,000	2	$ 250,000	$ 290,000
	Signals and Comm, Turnout	EA	$ 200,000	2	$ 400,000	$ 470,000
	Tie Ins to Other Locations	EA	$ 200,000	3	$ 600,000	$ 700,000
Build New BNSF Alignment						
	Build Retained Fill	TF	$ 150	4000	$ 600,000	$ 700,000
	Grade for Balance of Track	TF	$ 150	2800	$ 420,000	$ 490,000
	Build Box Structure for RR Under	LS	$ 840,000	1	$ 840,000	$ 980,000
	Build Track on New Alignment	TF	$ 175	6800	$ 1,190,000	$ 1,390,000

	Build New Turnouts	EA	$ 150,000	2	$ 300,000	$ 350,000
	Signals and Comm, Turnouts	EA	$ 200,000	2	$ 400,000	$ 470,000
	Tie ins to Other Locations	EA	$ 200,000	2	$ 400,000	$ 470,000
	Modifications to 7th Street Interlocking	LS	$ 1,500,000	1	$ 1,500,000	$ 1,750,000
	Environmental Mitigation	LS	$ 500,000	1	$ 500,000	$ 580,000
Build Transition from Station Track to UP Wye						
	Excavation	LF	$ 80	1500	$ 120,000	$ 140,000
	Grading	LF	$ 225	1500	$ 337,500	$ 390,000
	Retaining Walls	CY	$ 250	3300	$ 825,000	$ 970,000
	Subgrade and Trackbed Drainage	LS	$ 400,000	1	$ 400,000	$ 470,000
Build Retaining Cut from UP Wye to BNSF						
	Excavation	LF	$ 80	2500	$ 200,000	$ 230,000
	Grading	LF	$ 225	2500	$ 562,500	$ 660,000
	Retaining Walls	CY	$ 300	1650	$ 495,000	$ 580,000
	Subgrade and Trackbed Drainage	LS	$ 400,000	1	$ 400,000	$ 470,000
Build Transition from BNSF To End of Project						
	Excavation	LF	$ 80	2500	$ 200,000	$ 230,000
	Grading	LF	$ 225	2500	$ 562,500	$ 660,000
	Retaining Walls	CY	$ 250	6300	$ 1,575,000	$ 1,840,000
	Subgrade and Trackbed Drainage	LS	$ 400,000	1	$ 400,000	$ 470,000
Track Construction						
	Build Double Track Line	TF	$ 175	8980	$ 1,571,500	$ 1,840,000
Special Drainage and Utility Issues						
	Drainage	LS	$ 100,000	1	$ 100,000	$ 120,000
	Pumping Stations	EA	$ 100,000	3	$ 300,000	$ 350,000
Public Utilities						
	Relocate/Remove	LS	$ 50,000	1	$ 50,000	$ 60,000
	Relocate RR Fiber Optics	LS	$ 1,500,000	1	$ 1,500,000	$ 1,750,000
Install Train Control System						
	Signals and Comm.	TF	$ 100	8980	$ 898,000	$ 1,050,000
	Ties in to Other Locations	EA	$ 200,000	2	$ 400,000	$ 470,000
				TOTAL	**$ 24,553,700**	**$ 28,240,000**
Item 5 - Restore SPUD Track Bed						**$ 1.16986**
Preparation of New Track						
	Remove Existing Pavement	SY	$ 35	5260	$ 184,100	$ 220,000
	Remove Pavement East of Slab in Trackbed	SY	$ 35	1960	$ 68,600	$ 80,000
	Rehab, Waterproof and Drain Structure	SY	$ 45	5260	$ 236,700	$ 280,000
	Building Slab East of Parking Structure	TF	$ 320	1190	$ 380,800	$ 450,000
Install New Track						
	Install DF Track	TR	$ 260	4830	$ 1,255,800	$ 1,470,000
	Grade for Ballasted Track	LF	$ 150	3845	$ 576,750	$ 670,000
	Install Turnouts	EA	$ 125,000	7	$ 875,000	$ 1,020,000
	Install Ballasted Track	LF	$ 175	8000	$ 1,400,000	$ 1,640,000
				TOTAL	**$ 4,977,750**	**$ 5,830,000**

Item 8 - Add Red Rock Commuter Trains						
Install Station Track Five						
	Remove Existing Pavement	SY	$ 35	1220	$ 42,700	$ 50,000
	Remove Temporary Portion of Track 4	TF	$ 10	120	$ 1,200	$ -
	Rehab, Waterproof and Drain Structure	SY	$ 45	1220	$ 54,900	$ 60,000
	Building Slab on Grade	TF	$ 320	460	$ 147,200	$ 170,000
	Install DF Track	TF	$ 260	1370	$ 356,200	$ 420,000
Install East Interlocking Trackwork and Approaches						
	Remove Temporary Track	TF	$ 15	940	$ 14,100	$ 20,000
	Remove Temporary Turnouts	EA	$ 15,000	3	$ 45,000	$ 50,000
	Grade for Ballasted Track	LF	$ 150	3395	$ 509,250	$ 600,000
	Install Ballasted Track	LF	$ 175	3395	$ 594,125	$ 700,000
	Install Turnotus	EA	$ 125,000	9	$ 1,125,000	$ 1,320,000
	Realign Track	TF	$ 20	320	$ 6,400	$ 10,000
Install East End Interlocking and Train Control						
	Install New Control Point	EA	$ 750,000	1	$ 750,000	$ 880,000
	Signal Track	TF	$ 100	6395	$ 639,500	$ 750,000
	Power Turnouts and Signals	EA	$ 200,000	9	$ 1,800,000	$ 2,110,000
	Crossing Frogs and Signals	EA	$ 100,000	0	$ -	$ -
	Tie Into Other Locations	EA	$ 200,000	3	$ 600,000	$ 700,000
Install West Interlocking Trackwork and Approaches						
	Remove Temporary Track	TF	$ 10	100	$ 1,000	$ -
	Remove Temporary Turnouts	EA	$ 10,000	0	$ -	$ -
	Install Elevated Struct for Northwest Lead	LF	$ 5,000	650	$ 3,250,000	$ 3,800,000
	Traffic Engineering for Structure	LS	$ 300,000	1	$ 300,000	$ 350,000
	Grade for Ballasted Track	LF	$ 150	630	$ 94,500	$ 110,000
	Install Ballasted Track	LF	$ 175	630	$ 110,250	$ 130,000
	Install Turnouts	EA	$ 125,000	1	$ 125,000	$ 150,000
	Realign Track	TF	$ 20	0	$ -	$ -
Install West End Interlocking Signals & Comm						
	Install New Control Point	EA	$ 500,000	1	$ 500,000	$ 580,000
	Signal Track	TF	$ 100	3880	$ 388,000	$ 450,000
	Power Turnouts and Signals	EA	$ 200,000	4	$ 800,000	$ 940,000
	Crossing Frogs and Signals	EA	$ 100,000	0	$ -	$ -
	Tie Into Other Locations	EA	$ 200,000	2	$ 400,000	$ 470,000
Install Platforms						
	Renovate Platform 5-6	SF	$ 20	20930	$ 418,600	$ 490,000
	Build New Portion of 5-6	SF	$ 100	7820	$ 782,000	$ 910,000
	Renovate Platform 3-4	SF	$ 20	9430	$ 188,600	$ 220,000
	Building New Portion of 3-4	SF	$ 100	7820	$ 782,000	$ 910,000
	Install Canopies, Lighting, etc. 5-6	SF	$ 180	26900	$ 4,842,000	$ 5,660,000
	Lengthen Canopies, etc. 4-5	SF	$ 180	17200	$ 3,096,000	$ 3,620,000
Vertical Circulation						
	Stairs, Elevator, Escalator	EA	$ 900,000	1	$ 900,000	$ 1,050,000
Trackside Utilities						

	Add 480 Receptacle	EA	$ 35,000	1	$ 35,000	$ 40,000
Public Utilities						
	Relocate/Remove	LS	$ 20,000	1	$ 20,000	$ 20,000
				TOTAL	**$ 23,718,525**	**$ 27,740,000**
Item 14 - Connect St. Paul Union Depot Trackage to Freight Lines						
Building East Connection to UP, BNSF						
	Retire UP Wye Turnout	EA	$ 15,000	1	$ 15,000	$ 20,000
	Grade for Station Connection	TF	$ 150	215	$ 32,250	$ 40,000
	Install Turnout in UP Wye Track	EA	$ 150,000	2	$ 300,000	$ 350,000
	Building Station Connection	TF	$ 175	215	$ 37,625	$ 40,000
	Realignt and Surface UP Wye Track	TF	$ 15	2000	$ 30,000	$ 40,000
	Install Turnout in BNSF Main	EA	$ 150,000	1	$ 150,000	$ 180,000
	Realign and Surface BNSF Main	TF	$ 15	2000	$ 30,000	$ 40,000
	Rehab UP/BNSF Conn.	TF	$ 50	1300	$ 65,000	$ 80,000
Install Train Control on union Pacific Trackage						
	Install New Control Point	EA	$ 350,000	1	$ 350,000	$ 410,000
	Power Turnouts and Signals	EA	$ 200,000	2	$ 400,000	$ 470,000
	Tie Into Other Locations	LS	$ 200,000	1	$ 200,000	$ 230,000
Install Train Control on BNSF Trackage						
	Install New Control Point	EA	$ 350,000	1	$ 350,000	$ 410,000
	Power Turnouts and Signals	EA	$ 200,000	1	$ 200,000	$ 230,000
	Signal Track	TF	$ 100	1300	$ 130,000	$ 150,000
	Tie Into Other Locations	LS	$ 600,000	1	$ 600,000	$ 700,000
	Pay Capitalized Mtc. On Turnouts	EA	$ 280,000	2	$ 560,000	$ 660,000
Building West Connection to CP						
	Grade for Construction	TF	$ 150	100	$ 15,000	$ 20,000
	Realign CP Main Track	TF	$ 15	1300	$ 19,500	$ 20,000
	Resurface and Adjust Rail to Chestnut St.	TF	$ 20	3050	$ 61,000	$ 70,000
	Install Mainline Turnout	EA	$ 125,000	1	$ 125,000	$ 150,000
	Build Station Connect	TF	$ 175	100	$ 17,500	$ 20,000
	Inspect/Repair Retaining Wall	SF	$ 25	22500	$ 562,500	$ 660,000
	Pay Capitalized Mtc. On Turnouts	EA	$ 280,000	1	$ 280,000	$ 330,000
Replace "Robert Street" Interlocker						
	Install New Control Point	EA	$ 500,000	1	$ 500,000	$ 580,000
	Power Turnouts and Signals	EA	$ 200,000	3	$ 600,000	$ 700,000
	Crossing Frogs and Signals	EA	$ 100,000	2	$ 200,000	$ 230,000
	Tie Into Other Locations	EA	$ 200,000	4	$ 800,000	$ 940,000
				TOTAL	**$ 6,630,375**	**$ 7,770,000**

RED ROCK CORRIDOR CAPITAL COST ESTIMATE
ROLLING STOCK

DESCRIPTION	UNIT COST	QTY	TOTAL COST
Locomotives	$2,600,000.00	5	$13,000,000.00
Trailer Coaches	$2,300,000.00	5	$11,500,000.00
Cab Coaches	$2,400,000.00	5	$12,000,000.00
		Subtotal	**$36,500,000.00**
		Engineering (25%)	$ 9,130,000.00
		Contingency (30%)	$10,950,000.00
		Project Oversight (10%)	$ 3,650,000.00
		Total	**$60,230,000.00**

Source: Northstar Commuter Rail Project

RED ROCK CORRIDOR CAPITAL COST ESTIMATE
STORAGE TRACK

				TECHNICAL MEMO #4			
				2001 $	2007 $		2007 $
	UNIT	QTY	UNIT COST		1.362871173	UNIT COST*	1
Hastings - Storage Track	TF	1600	$ 131	$ 210,000	$ 290,000	$ 230	$ 370,000
Subtotal				$ 210,000	$ 290,000		$ 370,000
Engineering (25%)				$ 50,000	$ 70,000		$ 90,000
Contingency (30%)				$ 60,000	$ 90,000		$ 110,000
Project Oversight (10%)				$ -	$ -		$ 40,000
TOTAL				**$ 320,000**	**$ 450,000**		**$ 610,000**

*Based on current Northstar Commuter Rail project costs

STATION COSTS					
DESCRIPTION	**UNIT**	**QTY**	**2007 AVG UNIT COST**	**TOTAL COST (2006 $)**	**2007 $**
Lower Afton Road					**1.06**
Platform Base Cost	EA	2	$ 682,000	$ 1,286,792	$ 1,364,000
Platform Electrical Cost	EA	1	$ 187,000	$ 176,415	$ 187,000
Civil/Landscaping (by Parking Space)	EA	0	$ 3,000	$ -	$ -
Communication (by Platform)	EA	2	$ 336,000	$ 633,962	$ 672,000
Property Acquisition (per Tech Memorandum #4)	AC	3	$ -	$ -	$ -
Pedestrian bridge over rails	EA	1	$ 223,855	$ 223,855	$ 237,287
Stair Tower	EA	2	$ 879,493	$ 1,758,986	$ 1,864,525
SUBTOTAL 1				$ 4,080,011	$ 4,324,812
Engineering (25%)				$ 1,020,003	$ 1,081,203
Contingency (30%)				$ 1,224,003	$ 1,297,444
Project Oversight (10%)				$ 408,001	$ 432,481
TOTAL 1				**$ 6,732,018**	**$ 7,135,940**
Platform Base Cost	EA	2	$ 682,000	$ 1,286,792	$ 1,364,000
Platform Electrical Cost	EA	1	$ 187,000	$ 176,415	$ 187,000
Civil/Landscaping (by Parking Space)	EA	0	$ 3,000	$ -	$ -
Communication (by Platform)	EA	2	$ 336,000	$ 633,962	$ 672,000
Property Acquisition (per Tech Memorandum #4)	AC	3	$ -	$ -	$ -
Pedestrian bridge over rails	EA	1	$ 223,855	$ 223,855	$ 237,287
Stair Tower	EA	2	$ 879,493	$ 1,758,986	$ 1,864,525
Pedestrian bridge over highway	EA	1	$ 1,651,602	$ 1,651,602	$ 1,750,698
Stair Tower	EA	1	$ 879,493	$ 879,493	$ 932,263
SUBTOTAL 2				$ 6,611,107	$ 7,007,773
Engineering (25%)				$ 1,652,777	$ 1,751,943
Contingency (30%)				$ 1,983,332	$ 2,102,332
Project Oversight (10%)				$ 661,111	$ 700,777
TOTAL 2				**$ 10,908,326**	**$ 11,562,825**
DESCRIPTION	**UNIT**	**QTY**	**2007 AVERAGE UNIT COST**	**TOTAL COST (2006 $)**	**2007 $**
Newport					
Platform Base Cost	EA	2	$ 682,000	$ 1,286,792	$ 1,364,000
Platform Electrical Cost	EA	1	$ 187,000	$ 176,415	$ 187,000
Civil/Landscaping (by Parking Space)	EA	127	$ 3,000	$ 359,434	$ 381,000
Communication (by Platform)	EA	2	$ 336,000	$ 633,962	$ 672,000
Property Acquisition (per Tech Memorandum #4)	AC	4	$ 81,780.000	$ 308,604	$ 327,120
Pedestrian bridge over rails	EA	1	$ 223,855	$ 223,855	$ 237,287
Stair Tower	EA	2	$ 879,493	$ 1,758,986	$ 1,864,525
SUBTOTAL				$ 4,748,049	$ 5,032,932
Engineering (25%)				$ 1,187,012	$ 1,258,233
Contingency (30%)				$ 1,424,415	$ 1,509,880

Project Oversight (10%)				$ 474,805	$ 503,293
TOTAL				**$ 7,834,281**	**$ 8,304,338**
DESCRIPTION	**UNIT**	**QTY**	**2007 AVERAGE UNIT COST**	**TOTAL COST (2006 $)**	**2007 $**
Hastings					
Platform Base Cost	SFT	22670	$ 46	$ 980,233	$ 1,039,047
Platform Electrical Cost	EA	1	$ 264,000	$ 249,057	$ 264,000
Civil/Landscaping (by Parking Space)	EA	119	$ 3,000	$ 336,792	$ 357,000
Communication (by Platform)	EA	2	$ 336,000	$ 633,962	$ 672,000
Property Acquisition (per Tech Memorandum #4)	AC	2	$ 681,500.000	$ 1,285,849	$ 1,363,000
SUBTOTAL				$ 3,485,893	$ 3,695,047
Engineering (25%)				$ 871,473	$ 923,762
Contingency (30%)				$ 1,045,768	$ 1,108,514
Project Oversight (10%)				$ 348,589	$ 369,505
TOTAL				**$ 5,751,724**	**$ 6,096,828**
DESCRIPTION	**UNIT**	**QTY**	**2007 AVERAGE UNIT COST**	**TOTAL COST (2006 $)**	**2007 $**
Cottage Grove					
Platform Base Cost	Ea	1	$ 682,000	$ 643,396	$ 682,000
Platform Electrical Cost	EA	1	$ 264,000	$ 249,057	$ 264,000
Civil/Landscaping (by Parking Space)	EA	0	$ 3,000	$ -	$ -
Communication (by Platform)	EA	1	$ 336,000	$ 316,981	$ 336,000
Property Acquisition (per Tech Memorandum #4)	AC	7	$ 81,780.000	$ 540,057	$ 572,460
SUBTOTAL				$ 1,749,491	$ 1,854,460
Engineering (25%)				$ 437,373	$ 463,615
Contingency (30%)				$ 524,847	$ 556,338
Project Oversight (10%)				$ 174,949	$ 185,446
TOTAL				**$ 2,886,659**	**$ 3,059,859**
SUMMARY OF COSTS				**2006 $**	**2007 $**
Lower Afton Rd (Both Ped Crossings)				$ 6,611,107	$ 7,007,773
Newport-Dunn				$ 4,748,049	$ 5,032,932
Hastings				$ 3,485,893	$ 3,695,047
Cottage Grove				$ 1,749,491	$ 1,854,460
SUBTOTAL				$ 16,594,539	$ 17,590,212
Engineering (25%)				$ 4,148,635	$ 4,397,553
Contingency (30%)				$ 4,978,362	$ 5,277,064
Project Oversight (10%)				$ 1,659,454	$ 1,759,021
TOTAL				**$ 27,380,990**	**$ 29,023,849**
Average Cost per Platform in 2007 (No Electrical, Add'l Structures)				**$ 682,000**	
Average Platform Cost per Sq Ft in 2007 (No Electrical, Add'l Structures)				**$ 46**	

Average Electrical Cost per Platform in 2007 (No Add'l Structures)				**$ 264,000**	*Hastings*
Average Electrical Platform Cost per Sq Ft in 2007 (No Add'l Structures)				**$ 18**	*Cottage Grove*
Average Electrical Cost per Platform in 2007 (With Add'l Structures)				**$ 187,000**	*Lower Afton Rd*
Average Electrical Platform Cost per Sq Ft in 2007 (With Add'l Structures)				**$ 13**	*Newport*
Average Civil/Landscaping Cost per Station in 2007				**$ 1,367,000**	
Average Civil/Landscaping Cost per Parking Space in 2007 (per MHermann)				**$ 3,000**	
Average Communication Cost per Platform in 2007				**$ 336,000**	
Note: Costs were averaged regardless of additional structures or parking					
Property Acquisition costs were taken directly from Technical Memorandum #4					
DESCRIPTION	**UNIT**	**QTY**	**UNIT COST**	**TOTAL COST (2001 $)**	**2007 $**
MEMORANDUM #4					
Depot Restoration	EA	1	$ 1,200,000	$ 1,200,000	$ 1,635,445
Platform	EA	2	$ 430,000	$ 860,000	$ 1,172,069
Property Acquisition	AC	2	$ 500,000	$ 1,000,000	$ 1,362,871
Parking/Drop Off	EA	300	$ 2,200	$ 660,000	$ 899,495
Ticket Vending Machines	EA	1	$ 83,000	$ 83,000	$ 113,118
Public Address and VMS	EA	1	$ 78,000	$ 78,000	$ 106,304
Site Landscaping	SF	21780	$ 2	$ 43,560	$ 59,367
Site Lighting Allowance	LS	1	$ 75,000	$ 75,000	$ 102,215
Busway and Crosswalks	SY	1500	$ 70	$ 105,000	$ 143,101
Walk and Paving	SY	1500	$ 30	$ 45,000	$ 61,329
Site Utilities Allowance	LS	1	$ 120,000	$ 120,000	$ 163,545
Site Preparation	SY	18000	$ 4	$ 72,000	$ 98,127
Site Signage Allowance	LS	1	$ 10,000	$ 10,000	$ 13,629
Platform	EA	2	$ 430,000	$ 860,000	$ 1,172,069
Property Acquisition	AC	7	$ 60,000	$ 420,000	$ 572,406
Parking/Drop Off	EA	500	$ 2,200	$ 1,100,000	$ 1,499,158
Ticket Vending Machines	EA	1	$ 83,000	$ 83,000	$ 113,118
Public Address and VMS	EA	1	$ 78,000	$ 78,000	$ 106,304
Site Landscaping	SF	70000	$ 2	$ 140,000	$ 190,802
Site Lighting Allowance	LS	1	$ 75,000	$ 75,000	$ 102,215
Busway and Crosswalks	SY	24000	$ 70	$ 1,680,000	$ 2,289,624
Walk and Paving	SY	2400	$ 30	$ 72,000	$ 98,127
Site Utilities Allowance	LS	1	$ 120,000	$ 120,000	$ 163,545
Site Preparation	SY	46000	$ 4	$ 184,000	$ 250,768
Site Signage Allowance	LS	1	$ 10,000	$ 10,000	$ 13,629
Platform	EA	2	$ 430,000	$ 860,000	$ 1,172,069
Property Acquisition	AC	4	$ 60,000	$ 240,000	$ 327,089

Parking/Drop Off	EA	300	$ 2,200	$ 660,000	$ 899,495
Ticket Vending Machines	EA	1	$ 83,000	$ 83,000	$ 113,118
Public Address and VMS	EA	1	$ 78,000	$ 78,000	$ 106,304
Site Landscaping	SF	50000	$ 2	$ 100,000	$ 136,287
Site Lighting Allowance	LS	1	$ 75,000	$ 75,000	$ 102,215
Busway and Crosswalks	SY	2000	$ 70	$ 140,000	$ 190,802
Walk and Paving	SY	1500	$ 30	$ 45,000	$ 61,329
Site Utilities Allowance	LS	1	$ 75,000	$ 75,000	$ 102,215
Site Preparation	SY	37000	$ 4	$ 148,000	$ 201,705
Site Signage Allowance	LS	10000	$ 1	$ 10,000	$ 13,629
Elevators/stairs @27ft rise	EA	1	$ 200,000	$ 200,000	$ 272,574
Pedestrian Bridge Overpass	EA	1	$ 600,000	$ 600,000	$ 817,723
Platform	EA	2	$ 430,000	$ 860,000	$ 1,172,069
Property Acquisition	AC	3	$ -	$ -	$ -
Parking/Drop Off	EA	300	$ 2,200	$ 660,000	$ 899,495
Ticket Vending Machines	EA	1	$ 83,000	$ 83,000	$ 113,118
Public Address and VMS	EA	1	$ 78,000	$ 78,000	$ 106,304
Site Landscaping	SF	18000	$ 2	$ 36,000	$ 49,063
Site Lighting Allowance	LS	1	$ 75,000	$ 75,000	$ 102,215
Busway and Crosswalks	SY	1200	$ 70	$ 84,000	$ 114,481
Walk and Paving	SY	1400	$ 30	$ 42,000	$ 57,241
Site Utilities Allowance	LS	1	$ 50,000	$ 50,000	$ 68,144
Site Preparation	SY	10000	$ 4	$ 40,000	$ 54,515
Site Signage Allowance	LS	10000	$ 1	$ 10,000	$ 13,629
Elevators/stairs @27ft rise	EA	1	$ 200,000	$ 200,000	$ 272,574
Pedestrian Bridge Overpass	EA	1	$ 1,200,000	$ 1,200,000	$ 1,635,445
SUBTOTAL 1				$ 15,905,560	$ 21,677,229
Engineering (25%)				$ 3,976,390	$ 5,419,307
Contingency (30%)				$ 4,771,668	$ 6,503,169
Project Oversight (10%)				$ 1,590,556	$ 2,167,723
TOTAL 1				**$ 26,244,174**	**$ 35,767,428**

APPENDIX G
BNSF Railway and CP Railway Letters

DJ Mitchell II
Assistant Vice President
Passenger Operations

BNSF Railway Company
P.O. Box 961034
2600 Lou Menk Drive
Fort Worth, Texas
76161-0034
(817) 352-1230
(817) 234-7454
dj.mitchell@bnsf.com

October 24, 2007

WASHINGTON COUNTY
OCT 29 2007
PUBLIC WORKS

Mr. Michael Rogers
Associate Transportation Planner
Washington County
11660 Myeron Road North
Stillwater, MN 55082

Dear Mr. Rogers:

Thank you for the opportunity to comment on the Red Rock Corridor Alternatives Analysis Final Report.

Please be aware that these comments are being offered in light of the implementation schedule assumptions found under Figure 11-1 of the Final Report. As you know, Figure 11-1 calls for construction of commuter rail improvements in the "Long Term", some 5-10 years into the future. At such time the project's public sponsor wants to move ahead and 5-10 years have indeed passed, BNSF will ask for an update to the proposed project's underlying assumptions, data, modeling, and conclusions to reflect, for example, then-current train counts, costs, operating plans, track speeds, track and signal configurations, and future traffic projections.

Turning to what is found in the Final Report, absent more detailed modeling, it is difficult to confirm the validity of proposed train travel times used in calculating ridership estimates. However, travel times seem somewhat optimistic, given that three station stops at intervals of approximately every 4 miles are located within the12 miles of rail line that can accommodate 70 MPH speeds. BNSF's commuter train 1218 operating between Westmont and Chicago Union Station calls at three intermediate stations and has a scheduled run time of 31 minutes. However, while speeds approaching SPUD are comparable to those approving Chicago Union Station, the reduced speed limits near Hastings between MP 391 and 396 are not comparable to the 70 MPH speed limit governing the movement of train 1218 immediately after it leaves Westmont.

Without a much more thorough review of modeling inputs, it is also difficult to confirm that sufficient capital improvements are planned to accommodate joint freight and commuter operations. We do believe that the proposed reverse-of-peak-period-direction commuter trains operating in the morning and evening rush hours will consume more than their share of track capacity and that when service is extended between Hastings and Minneapolis, there does not appear to be enough time in the proposed schedule to flip the

train back to the beginning of its run and make it ready for another peak period direction trip.

If the proposed Red Rock Corridor project moves ahead, we will examine planned capacity improvements in light of our standard commuter rail territory design assumptions, which at a minimum include:

- Crossovers at intervals of approximately every 5 to 7 miles;
- Fully centralized traffic controlled double mainline track;
- Industrial tracks that are sufficiently long to allow the servicing of industries off the mainlines;
- Sufficiently long access and egress tracks around freight yard facilities to: a) allow arriving trains to leave the mainline before they begin operating at restricted speed; and, b) provide departing trains enough distance to allow them to marginally increase their speed before entering the mainlines; and,
- Staging tracks so that freight trains may hold just outside the terminal locations of commuter service so that they can proceed as close as is safely possible after the departure of a commuter train.

At the appropriate time, station locations will also need to be checked to confirm that:

- They are not located on curves;
- Trains calling a stations will not be delayed in block; and,
- All appropriate pedestrian warning devices have been identified.

To assist in any future thinking about the Red Rock Corridor, I have enclosed a copy of our current Commuter Principles for your review and consideration. If you have any questions, please feel free to call me.

Sincerely,

DJ Mitchell II
Passenger Operations

CC: Pat Casler
Brian Sweeney
Rick Weicher
David Rankin
Don Heron, CPR

BNSF is willing to cooperate on commuter rail studies and provide state and local officials with information. Where commuter service is proposed on a minimally used line that BNSF is willing to sell, BNSF shall be paid fair market value for the property. Where commuter service is proposed on a line BNSF intends to continue owning and to be jointly used for commuter and freight use, the following principles apply:

- Any commuter operation cannot degrade BNSF's freight service, negatively affect BNSF's freight customers or BNSF's ability to provide them with service.

- BNSF must be compensated for any and all costs incurred in providing commuter service and make a reasonable return for providing the service.

- Capital investments necessary for commuter service are the responsibility of the public, including investments for future capacity which is potentially more expensive, especially in urbanized areas.

- BNSF will not incur any liability for commuter operations that it would not have but for those operations. These operations are provided by BNSF primarily as a public service; the relatively modest compensation BNSF receives does not begin to justify assuming the significant liability associated with passenger service.

- Studies of how commuter service might be provided must take into account not only the current freight traffic levels, but projected freight traffic growth.

- Investments made for commuter projects must not result in BNSF incurring a higher tax burden. Property improvements should not become part of our tax base; materials used should be exempt from all sales and use taxes, etc. or BNSF must be made whole for any increased tax burden.

- BNSF must retain operating control of rail facilities used for commuter service. All dispatching, maintenance and construction must be done under the control of BNSF. Passenger stations, parking lots and other non-rail facilities may be publicly owned and operated.

- Studies must reflect BNSF's actual operating conditions and cost structures. For example, construction work estimates must reflect our labor contract costs, schedules cannot assume that we will not operate any freight trains during peak commuter periods, etc.

- BNSF will limit commuter operations to the commuter schedules initially agreed upon and for which the capital improvement plan has been designed. Future expansions will have to undergo the same analysis and provide any required capital improvements before schedules can be altered, service added, or stations added.

- Improvements must include grade crossing protection and intertrack fencing as required to minimize the risk of accidents, due to liability and service interruption concerns.

CANADIAN PACIFIC RAILWAY

Business Development

Suite 800
501 Marquette Avenue
Minneapolis, Minnesota 55402

Tel (612) 904-5920
Tel (Toll Free)
1-800-777-4499, Ext. 5920
Fax (612) 904-5962

October 4, 2007

Mr. Michael Rogers
Associate Transportation Planner
Washington County
11660 Myeron Road North
Stillwater, MN 55082

Dear Mr. Rogers,

We enjoyed the discussion with you and members of the Red Rock analysis team on September 28, 2007

The draft final report of the "Alternatives Analysis for the Red Rock Corridor", prepared by Kimley Horn and Associates Inc. has identified issues and has allocated capital cost estimates for many elements of what would be needed to integrate commuter trains onto a busy freight network.

If the project moves to the next level of funding, we would work with the Red Rock Corridor Commission and BNSF to hone the scope and details of how a commuter train system would work. All parties will soon benefit from observing the upcoming successful implementation of the Northstar commuter rail project.

Sincerely,

Judith A Mitchell

Judith A. Mitchell
Director – Business Development

cc: Don Heron, Director Passenger Rail
Ray Strelesky, Manager Project Services

WASHINGTON COUNTY
OCT 0 5 2007
PUBLIC WORKS

APPENDIX H
Operating Cost Data

Red Rock Commuter Rail
O&M Cost Estimate

Peak Locomotives	4		
Peak Cars	8		
Annual Train Trips	3684		
Annual Rev Train-Miles	71838		
Annual Rev Car-Miles	143676		
Annual Rev Loco-Miles	71838		
Annual Rev Train-Hours	1903.4		
Passenger Stations	5		
Route Miles	19.5		
Yards	1		
Running Time per trip	31 min	0.52 Hr	
Fuel Usage	1.7 Gal per Rev Train Mile		

Detailed Cost Estimate

Div/Dept/Cost Item	Cost Type	Factor	Unit	FTEs	Avg Salary	Item Expense	Dept Expense	Div Expense
Metro Transit Rail Div								**$ 2,583,740**
Risk Management								
Casualty & Liability		$ 292	Train-Hr			$ 555,793		
Casualty & Liability		$ 13,503	Rt-Mile			$ 263,309	**$ 819,101**	
Vehicle Maintenance								
Earnings								
Admin			Fixed	1.0	$ 87,131	$ 87,131		
Clerical			Fixed	1.0	$ 35,270	$ 35,270		
Car Cleaners		0.125	Peak Cars	1.0	$ 34,008	$ 34,008		
Mechanic Foreperson			Fixed	1.0	$ 54,205	$ 54,205		
Mechanic		0.1	Per 10,000 Car & Loco Miles	3.0	$ 46,791	$ 140,373		
Overtime		0.1	Cleaner & Mech Wages			$ 22,859		
Fringe Benefits		56%	Dept Earnings			$ 209,354		
Locomotive Maint/Repair		$ 4,545	Per Peak Locomotive			$ 18,180		
Car Cleaning Detail Svcs		$ 1,484	Per Peak Cars			$ 11,872		
Other Professional Svcs		$ 2,772	Dept Employees			$ 19,404		
Repair Parts		$ 0.16	Car + Loco Miles			$ 34,482		
Stby Electricity - Yard		$ 21,818	Per Peak Locomotive			$ 87,272		
Diesel Fuel		$ 2.37	$ per gallon	122,125	Gal per year	$ 289,435		
Other		$ 725	Dept Employees			$ 5,075	**$ 1,048,920**	
Facility Maintenance								
Earnings - Maintenance Person			Fixed	1.0	$ 45,219	$ 45,219		
Overtime		0.1	Maint Person Wages			$ 4,522		
Fringe Benefits		56%	Dept Earnings			$ 27,855		
Contract Svcs - Stations		$ 42,075	Station			$ 210,375		
Contract Svcs - Yards & Leads		$ 75,000	Yard			$ 75,000		
Materials & Supplies		$ 8,333	Station			$ 41,665		
Utilities - Yard		$ 57,500	Yard			$ 57,500		
Utilities - Station		$ 5,278	Station			$ 26,390	**$ 488,526**	
Revenue Collection								
Earnings - Admin			Fixed	1.0	$ 79,643	$ 79,643		
Fringe Benefits		56%	Dept Earnings			$ 44,600		
Money Counting Security		$ 11,159	Station			$ 55,795		
TVM Maint & Repair		$ 5,556	Station			$ 27,780		
Materials & Supplies		$ 3,875	Station			$ 19,375	**$ 227,193**	
Metro Transit Bus Division								**$ 735,341**
Finance								
Earnings - Accounts Payable			Fixed	0.5	$ 41,974	$ 20,987		
Earnings - Money Counting			Fixed	0.5	$ 39,957	$ 19,979		
Fringe Benefits		56%	Dept Earnings			$ 22,941		
Contractural Svcs		$ 21,254	Dept Employee			$ 21,254		
Other Non-Labor Expenses		$ 849	Dept Employee			$ 849	**$ 86,009**	
Human Resources								
Council Fees paid by MetroTransit		$ 1,776	Per Rail Div Employee			$ 15,984	**$ 15,984**	
Information Services								
Council Fees paid by MetroTransit		$ 3,429	Per Rail Div Employee			$ 30,861	**$ 30,861**	
Purchasing								
Earnings			Fixed	0.5	$ 50,398	$ 25,199		
Fringe Benefits		56%	Dept Earnings			$ 14,111	**$ 39,310**	
Marketing								
Earnings			Fixed	0.25	$ 63,045	$ 15,761		
Fringe Benefits		56%	Dept Earnings			$ 8,826		
Contractural Svcs		$ 100,000	Fixed			$ 100,000		
Materials & Supplies		39109	Dept Employee			$ 9,777	**$ 134,365**	
Safety								
Earnings			Fixed	0.5	$ 57,366	$ 28,683		
Fringe Benefits		56%	Dept Earnings			$ 16,062	**$ 44,745**	
Police / Security								
Earnings			Fixed	2.0	$ 58,448	$ 116,896		
Fringe Benefits		56%	Dept Earnings			$ 65,462		
Security Svcs		$ 200,000	Yard			$ 200,000		
Other Non-Labor Expenses		$ 854	Dept Employee			$ 1,708	**$ 384,066**	
Railroad Expenses								**$ 3,387,571**
Train Operations								
Operations Fees		586	Annual Dollars per Trip			$ 2,158,824		
Mgmt Fees		15%	Of Ops Fees			$ 323,824		
ROW Maintenance Fees		$ 43,000	Annual Dollars per Rt-Mile			$ 838,500		
Misc.		2%	of total RR Fees			$ 66,423	**$ 3,387,571**	
Total Operating Costs								**$ 6,706,651**

Cost / Rev Train-Hr	$ 3,524
Cost / Rev Car-Mile	$ 46.68

APPENDIX I
Public Involvement Materials

BUILDING MOMENTUM

RED ROCK CORRIDOR



RED ROCK CORRIDOR COMMISSION MEMBERS

Myra Peterson, Chair
Commissioner
Washington County
Regional Railroad Authority

Joe Harris, Vice-Chair
Commissioner
Dakota County
Regional Railroad Authority

Jim McDonough
Commissioner
Ramsey County
Regional Railroad Authority

Mark Stenglein
Commissioner
Hennepin County
Regional Railroad Authority

Paul Hicks
Mayor
City of Hastings

Jim Keller
Town Board Member
Denmark Township

Sandy Shiely
Mayor
City of Cottage Grove

John Hunziker
Mayor
City of St. Paul Park

Emily White
Council Member
City of Newport

Lee Helgen
Council Member
City of St. Paul

Cam Gordon
Council Member
City of Minneapolis

EX-OFFICIO MEMBERS

Ron Allen
Commissioner
Goodhue County

Bob Kastner
City of Red Wing

Marc Mogan, Tribal Engineer
Prairie Island Indian Community

Canadian Pacific Railway

WHERE IS THE RED ROCK CORRIDOR?

The Red Rock Corridor runs along Highway 61 and Interstate 94 from Hastings through Saint Paul, connecting to downtown Minneapolis. The Corridor shares its alignment with the proposed high-speed rail line between the Twin Cities and Chicago.

IS THERE A NEED FOR TRANSPORTATION IMPROVEMENTS IN THE CORRIDOR?

YES! *The Corridor is becoming increasingly congested and demand for transportation options is growing.* Commute times from Hastings to St. Paul are projected to increase from 47 minutes in 2005 to 62 minutes in 2030. Population in the Corridor is expected to grow nearly 30% from 2000 to 2030.

WHAT ARE THE PROJECT GOALS?

- Cost-effectively address transportation problems in the Corridor.
- Provide transportation options (mode choices) to people in the Corridor.
- Stimulate community and economic development.
- Enhance regional transit system performance.
- Improve quality of natural and built environment.

WHAT'S NEW IN THE CORRIDOR PLANNING?

Long-term plans for implementing commuter rail in the Corridor are underway, as well as short-term plans for improving transit services and building a strong base for transit use.

The preliminary results of the Alternatives Analysis Study reveal that expanding bus service, increasing bus frequency and providing more park and ride facilities are the first steps toward building a stronger transit base in the Corridor. This stronger base is a key component in the phasing of Corridor improvements prior to the construction of commuter rail.

WHAT IS COMMUTER RAIL?

Commuter rail service makes use of the existing railroad tracks. Commuter trains are diesel-powered and run on the same tracks used to move goods and freight.

WHO ARE THE DECISION MAKERS?

The Red Rock Corridor Commission is charged with planning for transportation improvements in the Corridor. The Commission is comprised of elected officials from counties and cities in the Corridor. Washington County Commissioner Myra Peterson serves as the Commission's Chair.

HOW CAN I GET INVOLVED?

- Visit *www.redrockcorridor.com*
- Contact Project Manager Michael Rogers,
  Washington County Regional Railroad Authority
  at 651-430-4338
  or michael.rogers@co.washington.mn.us

BUILDING MOMENTUM

RED ROCK CORRIDOR

RED ROCK CORRIDOR IMPLEMENTATION

PROVIDING TRANSPORTATION CHOICES THAT INCREASE MOBILITY, AVOID CONGESTION, AND REDUCE TRAVEL TIME.

STRATEGIES: SHORT TERM (0-5 YEARS)

BUILD THE BASE
- *Increase transit service*
- *Add and expand park & rides*

PLAN FOR THE FUTURE
- *Conduct Station Planning*
- *Update Comprehensive Plans*
- *Conduct a Bus Feasibility Study*
- *Reevaluate the Corridor*
- *Evaluate Northstar Corridor's opening*

ADVOCATE FOR THE CORRIDOR
- *Increase transit funding*
- *Collaborate with High Speed Rail*
- *Partner with Amtrak & freight railroads*

HIGH SPEED RAIL ADVOCACY
- *Develop a Coalition:*
  - *Cities and Counties*
  - *Mn/DOT & Metropolitan Council*
  - *Prairie Island Indian Community*
  - *Freight railroads, Amtrak, & other stakeholders*
- *Advocate for:*
  - *Amtrak & High Speed Rail Authorization*
  - *State & Federal Funding*
- *Build the Base:*
  - *Complete a passenger rail study from Minneapolis to Red Wing*
  - *Fund environmental work*
  - *Collaborate with Red Rock*

INTERMEDIATE (5-10 YEARS)

BUILD THE BASE
- *Complete short term projects*
- *Identify/implement future projects*

PLAN FOR THE FUTURE
- *Reevaluate the Corridor*
- *Northstar Corridor commuter rail opening (2009)*
- *Central Corridor light rail opening (2014)*
- *New Starts changes*

ADVOCATE FOR THE CORRIDOR
- *Increase transit funding*
- *Collaborate with High Speed Rail*
- *Partner with Amtrak & freight railroads*

HIGH SPEED RAIL ADVOCACY
- *Expand the Coalition*
- *Advocate for State & Federal Funding*
- *Build the Base:*
  - *Complete environmental work*
  - *Increase service to Chicago*
  - *Start service to Rochester*
- *Evaluate performance of similar corridors*
- *Collaborate with Red Rock Corridor*

LONG TERM

BUILD THE BASE
- *Complete Intermediate projects*
- *Construct Commuter Rail*

PLAN FOR THE FUTURE
- *Determine Corridor phasing/length*
- *Update Comprehensive Plans*

ADVOCATE FOR THE CORRIDOR
- *Increase transit funding*
- *Partner with Amtrak & freight railroads*

HIGH SPEED RAIL
OPEN FOR SERVICE

Red Rock Open House Comment Summary

September 29, 2004

- I would like to see implementation of a duel mode system in this corridor. BRT could be run throughout the day with Commuter Rail service running during peak travel times. Shared facilities and fare collection systems would provide maximum service flexibility.

- To provide the most rapid deployment of transit benefits and to make best use of funds, as they become available, we must pursue a flexible and incremental development plan.

- After station locations have been identified, construction of Park-and-Ride facilities should begin immediately in connection with Express Bus service.

- Purchase of a fare collection system should be combined with either the North Star or Central Corridor systems to achieve cost savings.

- Travel advantages can be built incrementally along the corridor to improve travel times.

- Eventually, platforms can be built and vehicles purchased for commuter rail and BRT along the corridor.

- BRT service should be considered from Hastings to St. Paul, with connections to other transit in St. Paul. Express bus service and commuter rail should also include service to Minneapolis.

- Coordination of development in this corridor with other transportation initiatives could provide significant cost savings.

- Implementation of any rail service should come after initiation of service as part of the Midwest Regional Rail Initiative. This could reduce ROW improvement costs.

- Installation of a fare collection system should be timed to coordinate with development of another transit corridor. Economies of scale can be accomplished by coordinating purchase of fare collection systems with either the Northstar or Central Corridor projects.

- If BRT is selected for development in either the Central Corridor or Riverview Corridor, these should be developed together with BRT in the Red Rock Corridor as a single integrated service.

- Similarly, acquisition of vehicles could be coordinated with other projects (e.g. Northstar or Riverview).

- The value of this service will be greatly enhanced by a first-class connection to the MSP International Airport. If the Riverview Corridor is not developed, a southern option connecting to the Hiawatha line at Lake Street should be considered.

- I am very excited about <u>any</u> enhancement to public transit, especially serving St. Anthony Park. We live near the Burlington Northern tracks- would be concerned about high speeds (vibrations at our foundation- ouch!) but glad to have rail in town. I lived in the east much of my life and I really miss the car-free life. (A. Holzman, St. Paul)

- Commuter rail best: 1) avoids "y" at Union Depot; 2) intersects with Amtrak and Central Corridor LRT; 3) continuity of mode with Northstar; 4) Developers will invest at station areas, unlike BRT/express bus; 5) longer life cycle worth up front costs; 6) attracts riders BRT can't; 7) Prior/University best stop between downtowns because of LRT. Hence, the CP route would be best. (M. Hollinshead, St. Paul)

Red Rock Corridor Open House Comments As Noted by Project Staff
September 17, 2007

Below is a summary of comments and questions received from participants at the Open House Meetings. The list below is a summary; and does not represent direct quotes from individuals.

Main Themes from the Comments Received

- Overall people were very interested in and supportive of the project.
- Many people commented that they wished commuter rail could be implemented sooner.
- There was a lot of interest in how the corridor connected to others corridors or destinations.
- Ridership projections seemed low to many people.
- There were many questions asking for clarification regarding the differences between commuter rail, high speed rail, and light rail transit.
- There was much support for high speed rail.
- There was much interest in express bus service or expanded bus service.
- People wanted to know how they could help advance the project.

Hastings

- Why are the ridership projections so low? Surprise at the low numbers was expressed.
- The ridership model is flawed; the integrity of the model was questioned.
- Interest in High Speed Rail
- Can the Midway Amtrak station accommodate commuter rail and light rail?
- The bus system is not good down here (Hastings).
- How is the 35W Bridge affecting the available funding for the project?
- What politics are involved in implementing transit?
- Where does the funding come from for the project?
- How would the gas tax affect the project?
- Interest in learning more about the Robert Street project.
- What are the issues with the railroads?
- Nostalgic comments about the past railroad services and support for high speed rail.
- Acknowledgment of/support for bus service in the interim.
- Transit makes sense with connections.
- Every bit of transit helps.
- Desire to see the project proceed sooner.
- How does the cost of this project compare to road costs?
- Will you need to replace the bridge in Hastings?

St. Anthony

- Can the proposed gas tax be used for the project?
- People in our community need more information on this project.

- Where will the route be and will it connect to other corridors?

Cottage Grove

- Where will the stations be?
- What routes and times did the study look at for express bus?
- When will commuter rail be built?
- Which railroad will be used?
- Is the project in the existing right of way?
- Questions about personal and car safety issues at the park and rides.
- Who funds the projects and studies?
- What is commuter rail and how does it differ from light rail transit?
- Why isn't there a reverse commute in the middle of the day?
- The stepped implementation with the bus option makes sense.
- We need to invest in capital improvements or other cities will get the federal funds.
- What does this project cost?
- High speed rail would help.
- How does Red Rock fit into the larger system?
- Each additional line becomes more valuable.
- How does Red Rock connect to other transit lines?
- When will commuter rail be built?
- How does high speed rail work?
- What are the successful elements of commuter rail?
- Why is the Twin Cities so far behind other cities in transit development?
- Can the trains run more often than just during rush hour?
- What can citizens do to promote this?
- What percent of the funds come from the federal government and the state government?
- How does high speed rail work?

Red Wing

- How can citizens advance this project?
- What is the City of Red Wing's involvement in the project?
- Why doesn't the corridor extend to Red Wing? Will it extend to Red Wing in the future?
- What is the difference between high speed rail and commuter rail?
- What is the timeframe for implementation?
- Can we get express bus service to Hastings?
- The loss of the Jefferson and Greyhound lines left a void in service.
- What track improvements are needed?
- Will the corridor connect to the airport and the Mall of America?
- What is happening with Central and Northstar Corridors?
- Nostalgia for the streetcars.
- How can we support this project?

- How can we get commuter rail sooner than planned.
- Need to tell people how much this project will cost.
- Support for high speed rail.
- How can we help?
- Look at the Red Wing Area Fund for financial resources. This is a public/private partnership fund that could help with stations.
- Lots of private companies are running their own buses to fill the need for transit.
- The "shoe" executives provide an example of a need for a reverse commute. Is there a way to have a reverse commute?
- The project makes sense, especially with high speed rail.
- How does the cost of gas impact this project and others?

Notes from Comment Cards

The comments below were written on the comment cards provided at the Open House Meetings.

"Once Union Depot is rebuilt use the current Amtrak Station as a junction point between Central Corridor and commuter rail. We need high speed rail to Chicago."

"We would love to see Red Rock come to Red Wing."

"High speed rail is imperative. Then we can piggy back on the rails for commuter rail."

"I would be very interested in how all this would play out. I'd like to see it work."

"I would like to see the red rock corridor come to Red Wing for those who don't drive drive (sic) at all and would like to go to the cities to watch a game of some sort."

"What happens to the property owners adjacent to the railroad on Lower Prairie Island Indian Community?"

APPENDIX J
Red Rock Corridor Commission
Resolution 2007-100

Red Rock Corridor Commission
Resolution 2007-01

Resolution Approving and Adopting the Red Rock Corridor Alternatives Analysis

WHEREAS, the Red Rock Corridor Commission was established in 1998 to address transportation needs in the Red Rock Corridor; and

WHEREAS, an Alternatives Analysis report has been in preparation since 2004; and

WHEREAS, a complete range of alternatives were evaluated based on a systematic alignment and technology screening process; and

WHEREAS, bus alternatives and commuter rail alternatives were evaluated in terms of ridership, travel time, estimated capital costs, and estimated operating costs; and

WHEREAS, a series of public open houses were held along the Corridor and materials were made available to the public at multiple viewing locations resulting in no additional public comments that would affect the outcome of the Alternatives Analysis; and

WHEREAS, the Alternatives Analysis has been completed with the recommendation of a phased approach to building transit services in the Red Rock Corridor, and

WHEREAS, The Red Rock Corridor Technical Advisory Committee has reviewed the Alternatives Analysis and recommends its approval and adoption.

NOW THEREFORE BE IT RESOLVED, that the Red Rock Corridor Commission, acting in its capacity as the decision-making body for the Red Rock Corridor, does hereby approve and adopt the Red Rock Corridor Alternatives Analysis.

Approved:

Myra Peterson
Chairperson

11/29/07
Date Approved by Commission

I hereby certify that the foregoing resolution is a true and correct copy of the Resolution presented to and adopted by the Red Rock Corridor Commission at a duly authorized meeting thereof held on the 29th day of Nov., 2007 as shown by the minutes of said meeting in my possession.