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RED ROCK CORRIDOR COMMUTER RAIL
LOWER AFTON

LOCATION & CONTEXT

AERIAL & SITE PHOTOS



Lower Afton Station Area (St. Paul)
Aerial Photo - 1/2 Mile Radius

PARAMETERS / CONTEXT

- The current Park & Ride lot is bounded on the west by Highway 61, on the north by Lower Afton Road and on the east by Point Douglas Road. There is a recently constructed high capacity storm sewer infrastructure located south of the existing Park & Ride lot.
- These roadways limit the space available to expand the parking lot in its current location. There is little potential for new development.
- The toe of the bluff east of the Park & Ride/Point Douglas Road limits any significant development opportunities due to the severe slope and regulatory protections.
- There are significant Right-of-Way, setbacks, easements and regulatory limitations surrounding the Park & Ride Site.
- The train tracks are west of Hwy 61, the Park & Ride is east of Hwy 61; Crossing Hwy 61 by pedestrians will be a significant issue.
- There are Native American Burial Mounds adjacent to the existing Park & Ride lot.
- Long-term expectations for parking demand is 275 stalls.

IDENTIFIERS

- The current Park & Ride facility is operating over capacity. Metro Transit is currently considering how best to expand the Park & Ride facilities.
- There is little opportunity for any significant real estate development. Zoning and comprehensive planning work restricts density and land uses in the area.
- The primary effort will be to: resolve vehicular and pedestrian access to the Park & Ride facility, accommodate additional Park & Ride capacity on the site, provide access across Highway 61 to/from the Park & Ride, locate the Commuter Rail platform in a location acceptable to all parties, and provide a safe and secure parking facility for transit customers.
- There are no existing trail connections to Pig's Eye Regional Park & Pig's Eye Lake, however, community plans identify future connections as a priority.

TECHNICAL ANALYSIS SUMMARY

TRAFFIC & ACCESS

The existing 114 space Lower Afton Park & Ride, southeast of Highway 61 at Lower Afton Road, is currently over capacity. The surface lot accesses Point Douglas Road with two driveways.

The following shows a list of signalized intersections in the study area. All other intersections are side-stop controlled.

- Highway 61 at Lower Afton Road – Signalized
- Lower Afton Road at McKnight Road – Signalized

The Minnesota Department of Transportation (MnDOT) long range plans do not include any improvements to Lower Afton Road or Point Douglas Road.

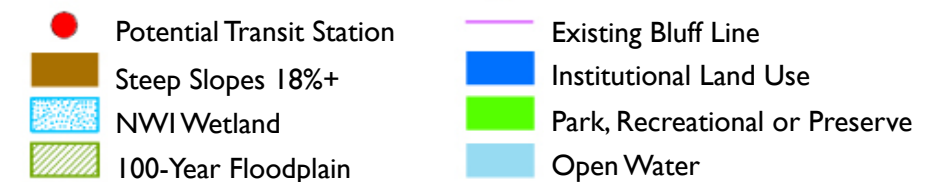
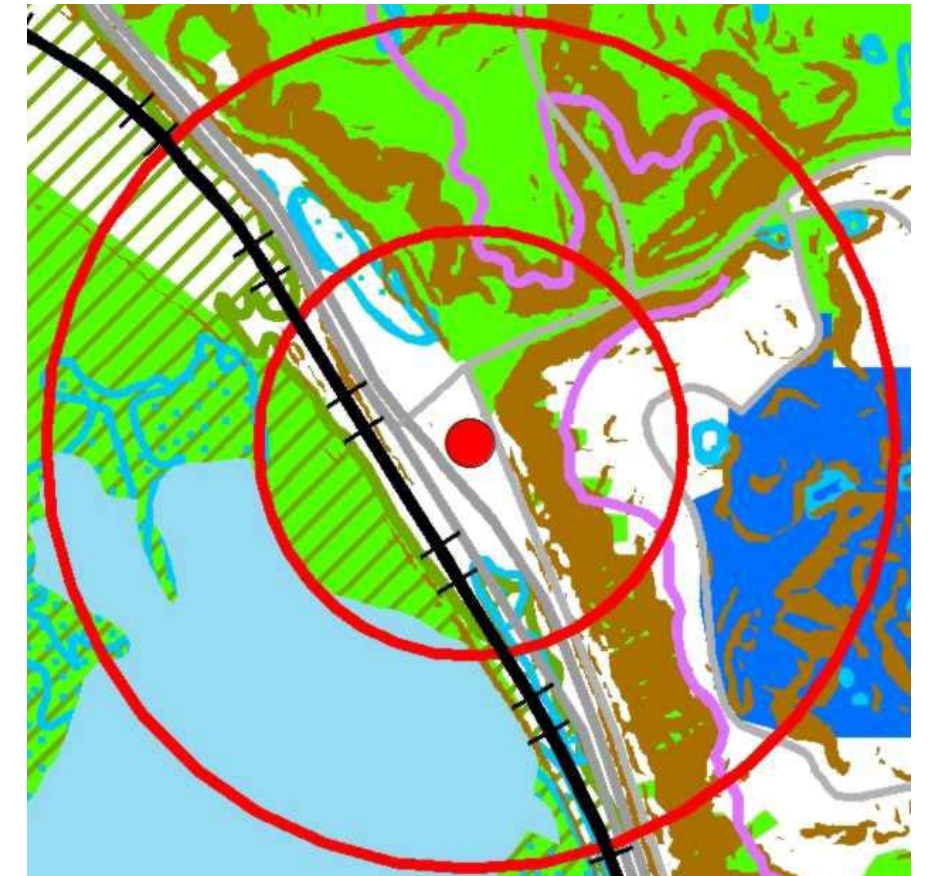


Planned Off Road Bike Trail

Plans for an off-road bike and pedestrian trail were approved in Spring 2011. The facility is expected to be constructed in the Fall of 2011 on the north side of Lower Afton Road, from Point Douglas Road to McKnight Road. This trail will provide new bicycle and pedestrian connections to the St. Paul Mississippi River Regional Trail and the existing on-street bikeway on Point Douglas Road.

ENVIRONMENTAL

The station is located in the Urban Open Space District of the Mississippi River Critical Area. Nearby is Pigs Eye Lake Park and Battle Creek Park which are considered 4(f) properties. Environmental designations may limit the use, size, and location of the facility and will likely require additional documentation, exemptions, and approvals. However, preliminary environmental review did not uncover any fatal flaws with this location. More detailed information is available in the Study Area Inventory and Analysis Technical Report and Environmental Analysis Memo, available under separate cover.



TECHNICAL ANALYSIS SUMMARY, CONTINUED

CULTURAL & HISTORICAL

The Battle Creek/Highwood area of St. Paul was once the location of the Highwood Passenger Rail Station. There are Native American Burial Mounds located to the southeast of the existing Park & Ride Facility.



Highwood Station, ca. 1901



"St. Paul from Pig's Eye." James Desvarreaux Larpenteur (1888).

MARKET ASSESSMENT

The market assessment was done within a framework that included a general bias against any future significant development. This was due to the location of the station area within the Mississippi River Critical Corridor; within MnDOT right-of-way; and the fact that there is no existing commercial development close to this station area. That stated, the Lower Afton station area was still evaluated for its potential to support future development. This included an analysis of demographic, economic, and market trends as a well as key station area characteristics that would influence the amount, type, and timing of new development. The general conclusion is that the Lower Afton station area has limited development potential. Important findings regarding this conclusion were as follows:

Lower Afton Station Area Characteristics

- Excellent access from Hwy 61
- Limited traffic controls at Lower Afton Rd and Frontage Rd can make turning at peak times difficult
- High visibility from Hwy 61
- Highway, railroad, and river are barriers to the west
- Parkland to the north
- Low density residential to the east
- Steep bluff
- Very little commercial development nearby

Lower Afton Station Area Development Potential

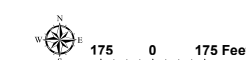
- Limited development potential (i.e. small scale convenience retail, a trail head with bike rental, etc.)
- Numerous physical constraints
- Limited available land, reduces flexibility
- Any new use would be sharp contrast to existing character
- North side of Lower Afton Road has the most development potential, but still very limited

OWNERSHIP PATTERNS / LAND USE / REGULATORY / POLICY

The site is near Battle Creek Regional Park, Pig's Eye Lake and is in the Mississippi River Critical Area. Ownership/Land Use is largely public R.O.W., single family residential, parks, and CP/BNSF R.O.W..



Lower Afton Station Area (St. Paul) - Property Ownership Near Station Site



- City Owned Property
- County Owned Property
- Mn/DOT Right of Way

RAIL ANALYSIS

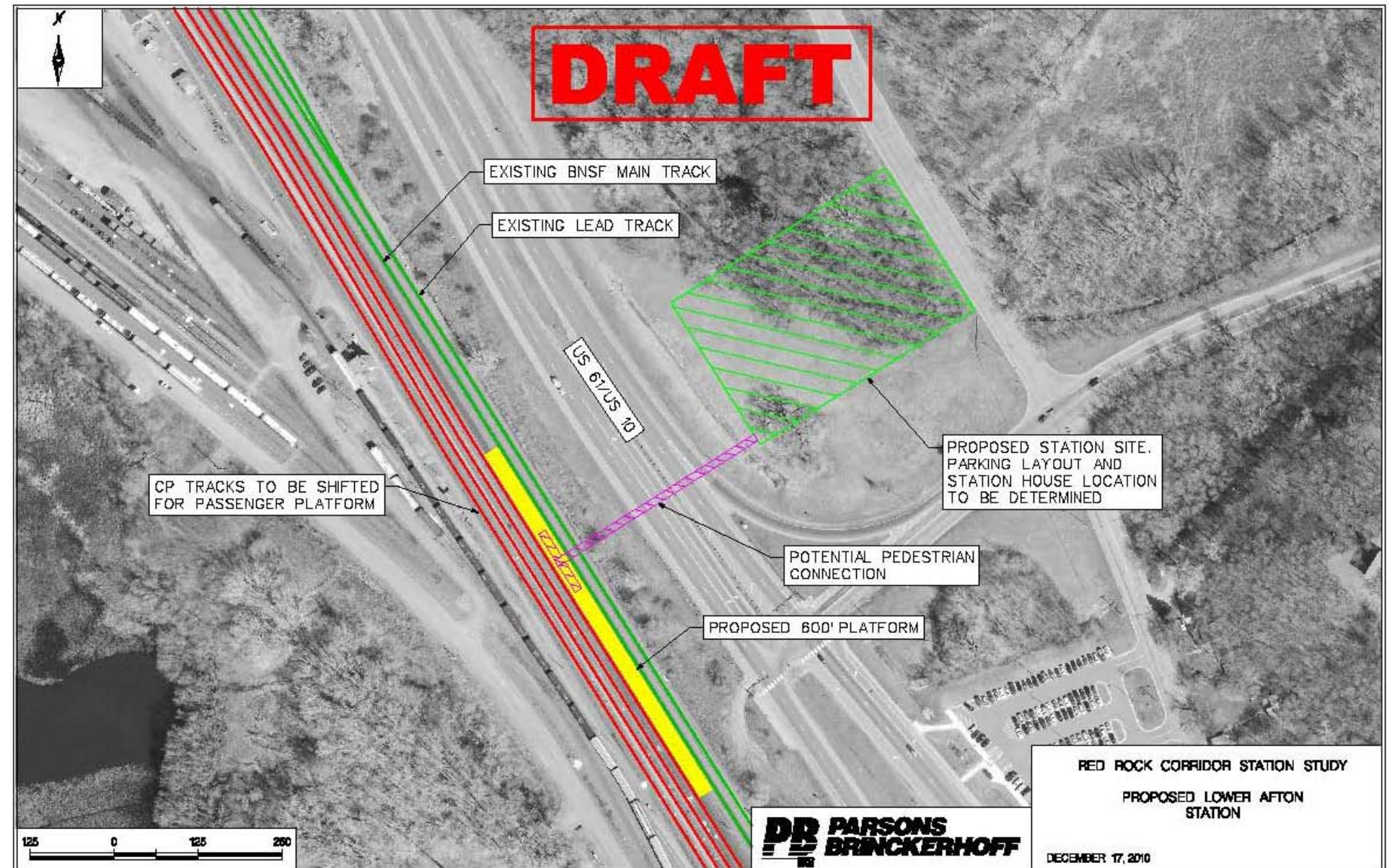
Lower Afton Station

The preferred location for the station platform is directly across from the proposed Park & Ride structure on the north side of Lower Afton Road. However, there are two major operational challenges at this location:

1. Highway 61 is located between the parking lot and the tracks.
2. The locations of existing and proposed tracks in the area create challenges with the platform location. Also, freight rail activities in the area limit the possible platform locations.

The first challenge can be addressed by the construction of a grade separated pedestrian overpass to provide passenger access from the Park & Ride lot to the track platform.

According to initial findings from the East Metro Rail Capacity Study (still underway at the time of publication of this report) the proposed platform location would involve shifting of some tracks in the area to create enough space in between main tracks to allow for a center platform with vertical circulation. Although this option might initially be more labor intensive to construct, it provides the most flexibility for operations in the congested area as requested by the railroads.



STATION AREA PLANS & VISION

STATION AREA VISION

The planning approach to the Lower Afton Station area is to provide expanded Park & Ride capacity in a context-sensitive design that maintains the environmental integrity of the area.

The commuter rail Park & Ride facilities will be located east of Hwy 61 which will require a grade separated connection from the park & ride facility to the rail platform. Currently, bus riders use the crosswalk to get to the bus stop on the west side of Highway 61. Although this meets safety standards, there are ongoing concerns about pedestrians crossing at grade here because of the volume and speed of traffic on Highway 61 and due to pedestrians crossing outside of the crosswalk. Either a tunnel or a bridge would improve safety and comfort of riders crossing Highway 61. An overhead bridge is recommended for planning purposes because it is perceived to be safer and more inviting than a tunnel and the topography lends itself to an overhead crossing.

Little to no development is possible under zoning guidelines, but there may be opportunities to use the parking facility as a gateway element into Battle Creek Regional Park. This small “welcome center” could provide information and orientation, rentals and convenience services to visitors to the park as well as to commuters. Connections to trails, stormwater management and landscaping will be primary considerations to create a facility that complements the neighborhood while serving the needs of commuters.



Bird's Eye View looking East towards proposed station.

Lower Afton Station Area Planning Principles

- Connect to existing trails and parks
- Incorporate sustainability where possible
- Existing infrastructure will provide the framework for new infrastructure
- Restore and repair the landscape by enhancing the natural elements
- Create an intermodal hub and gateway to Battle Creek Park

ILLUSTRATIVE PLAN - LONG TERM



Lower Afton Long Term Station Area Concept Plan (Year 2040+)

North Option for Park & Ride Location is Strongly Preferred, Recommended

Early community engagement revealed a desire by local residents and City staff to consider shifting Park & Ride facilities to the ROW on the north side of Lower Afton Road rather than expanding the existing facilities south of Lower Afton. Preliminary analysis of both sites revealed several advantages to locating an expanded Park & Ride facility north of Lower Afton Road including:

- Ramp at this site would help to alleviate concerns over siting Park & Ride facilities too close to residential uses along South Point Douglas Road
- The geometry of the available ROW is more regular and greater on the north option allowing for a more efficient ramp design
- The steeply sloping topography would allow a structured facility to be tucked in to the hillside thus greatly reducing visual impact in the largely natural landscape
- No sensitive cultural resources would be impacted
- Access into the site in AM peak times will be easier for most commuters, who are anticipated to be coming from the east on Lower Afton Rd

South Option for Park & Ride Location Lacks Support, Not Ideal

Preliminary explorations looking at siting the Park & Ride facilities south of Lower Afton Road on the site of the existing surface lot revealed significant community opposition and several other limiting factors including:

- Ramp at this site would be incompatible with and obstructive to residential uses along South Point Douglas Road
- The geometry of the available ROW is very limiting and reduces possibilities for an efficient ramp
- Sensitive cultural resources, burial mounds, would be adversely impacted
- An unsignalized intersection makes access in/out difficult during peak times



Lower Afton Station Area Preliminary Concept Plan showing South Option

STATION AREA PLANS & VISION, CONTINUED

PARKING STRATEGY

The Lower Afton Park & Ride is unique in that it is the closest station to the downtowns. Due to its proximity to downtown St. Paul, it is likely that the vast majority of riders at this location would be commuting to downtown Minneapolis. This is consistent with travel patterns of current riders. A bus rider survey that was conducted as part of the station area planning study showed that of the 47 respondents that get on the bus at the Lower Afton Park & Ride, 100% of them were boarding bus route 365 to Minneapolis.

The Metropolitan Council Park & Ride plan forecasts a need for 190 stalls to meet 2030 capacity at the Lower Afton Park & Ride. 275 stalls was assumed for planning purposes. Connections with local circulator bus routes 350 and/or 363 should also be pursued.

The existing surface lot currently has 114 stalls and is operating over capacity. Metro Transit is currently studying the expansion of the Park & Ride facilities at Lower Afton Road and is considering how best to expand the Park & Ride facilities.

No new development is proposed at the Lower Afton site except for a small Visitor's Center attached to the Park & Ride. The parking requirement for the Visitors Center was estimated to be 3 parking stalls according to city code, but 14 stalls were planned for preliminarily in order to accommodate users of the regional parks and trails.



Detailed plan of Park & Ride



Existing view of downtown St. Paul from South Point Douglas Road



The vision for the Lower Afton station includes restoring the existing Park & Ride facilities (shown above left) to a natural landscape; improving access to the St. Paul Mississippi River Regional Trail and other local trails and bikeways (shown above right); and providing a more visible gateway to Battle Creek Regional Park (shown below).



Illustration showing Park & Ride facilities nestled into sloping topography to preserve the views to downtown St. Paul from South Point Douglas Road.



Preserving Views and Protecting Nature

Unlike other transit stations along the Red Rock corridor, which emphasize transit oriented development, the Lower Afton station is focused on sensitively accommodating commuters while taking special care to preserve, restore, and enhance the natural elements of the site including the bluffs, parks, trails, and views of the Mississippi River valley and downtown St. Paul.

STATION AREA PLANS & VISION, CONTINUED

Additional Views and Illustrations



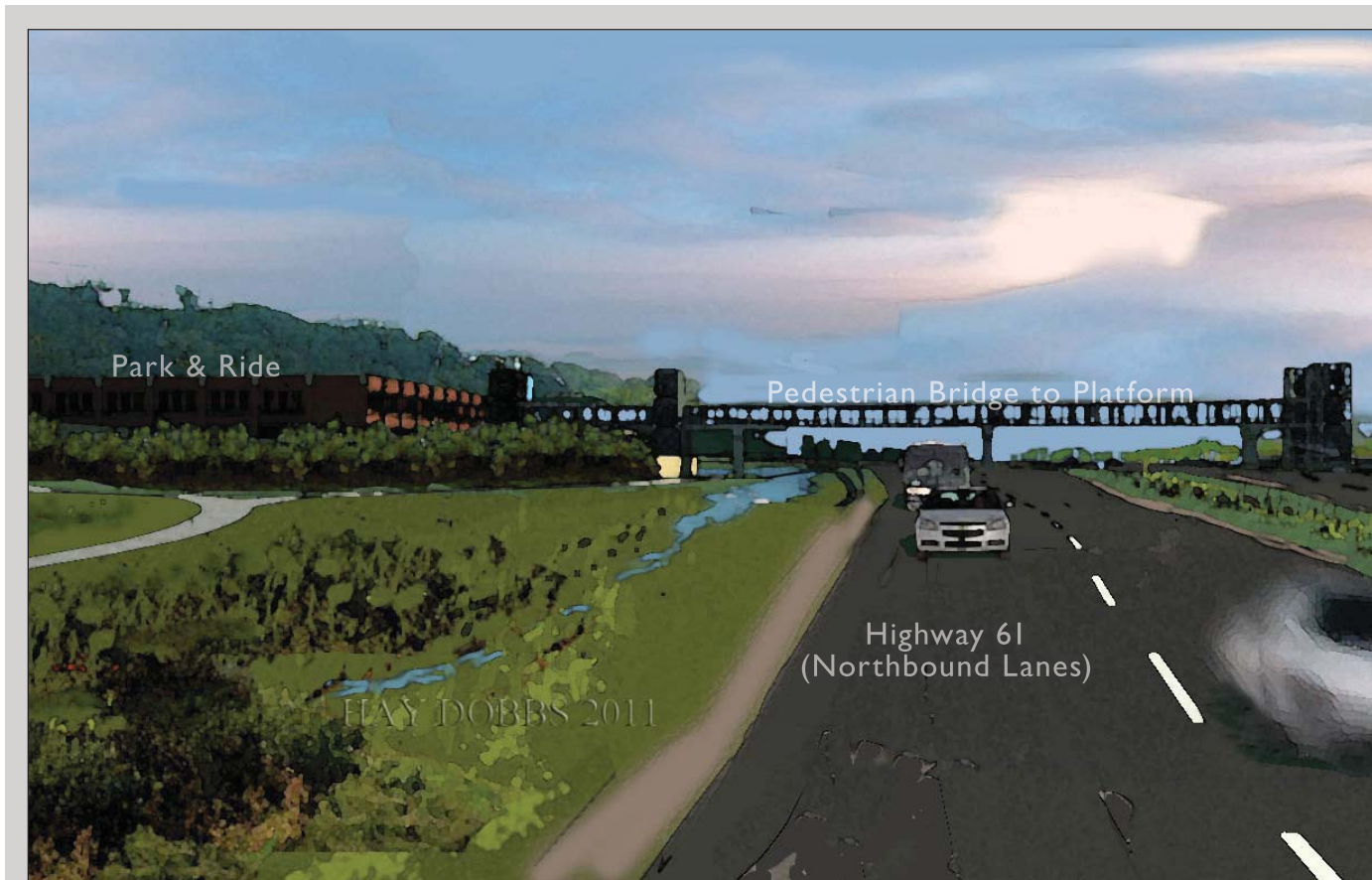
View looking south towards bus drop off area and pedestrian bridge.



This view from the rail platform looking east shows the pedestrian bridge stretching over Highway 61, and the sloping topography throughout the station area.



Aerial view looking north towards bus drop off



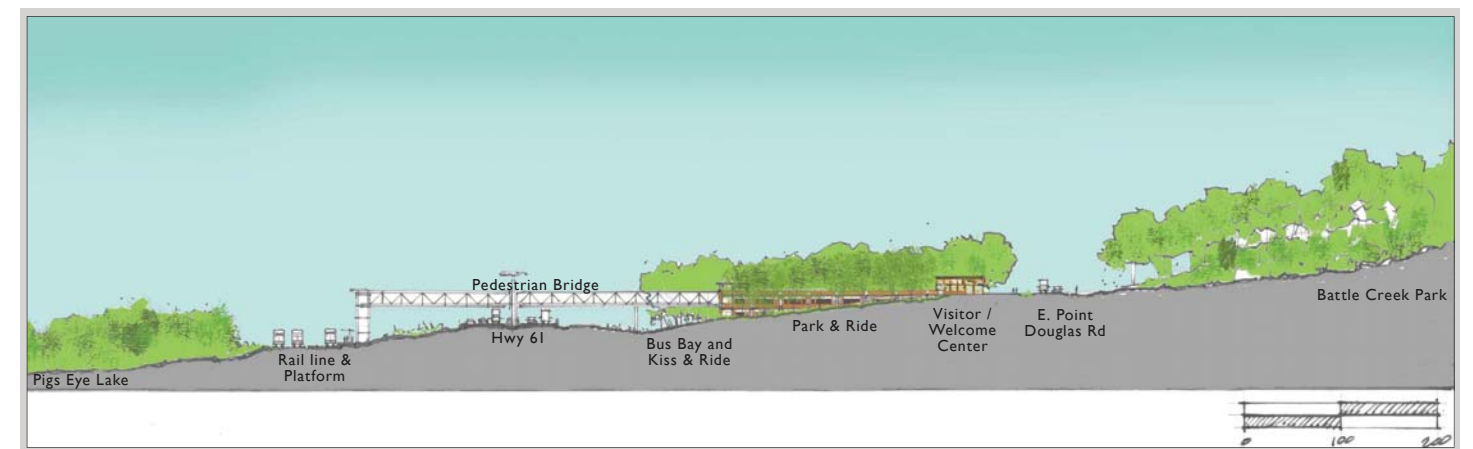
View of pedestrian bridge looking south from Highway 61



This view looking south from Lower Afton Road shows the new bike and pedestrian trail, the welcome center, the park & ride ramp, and the pedestrian bridge over the highway.

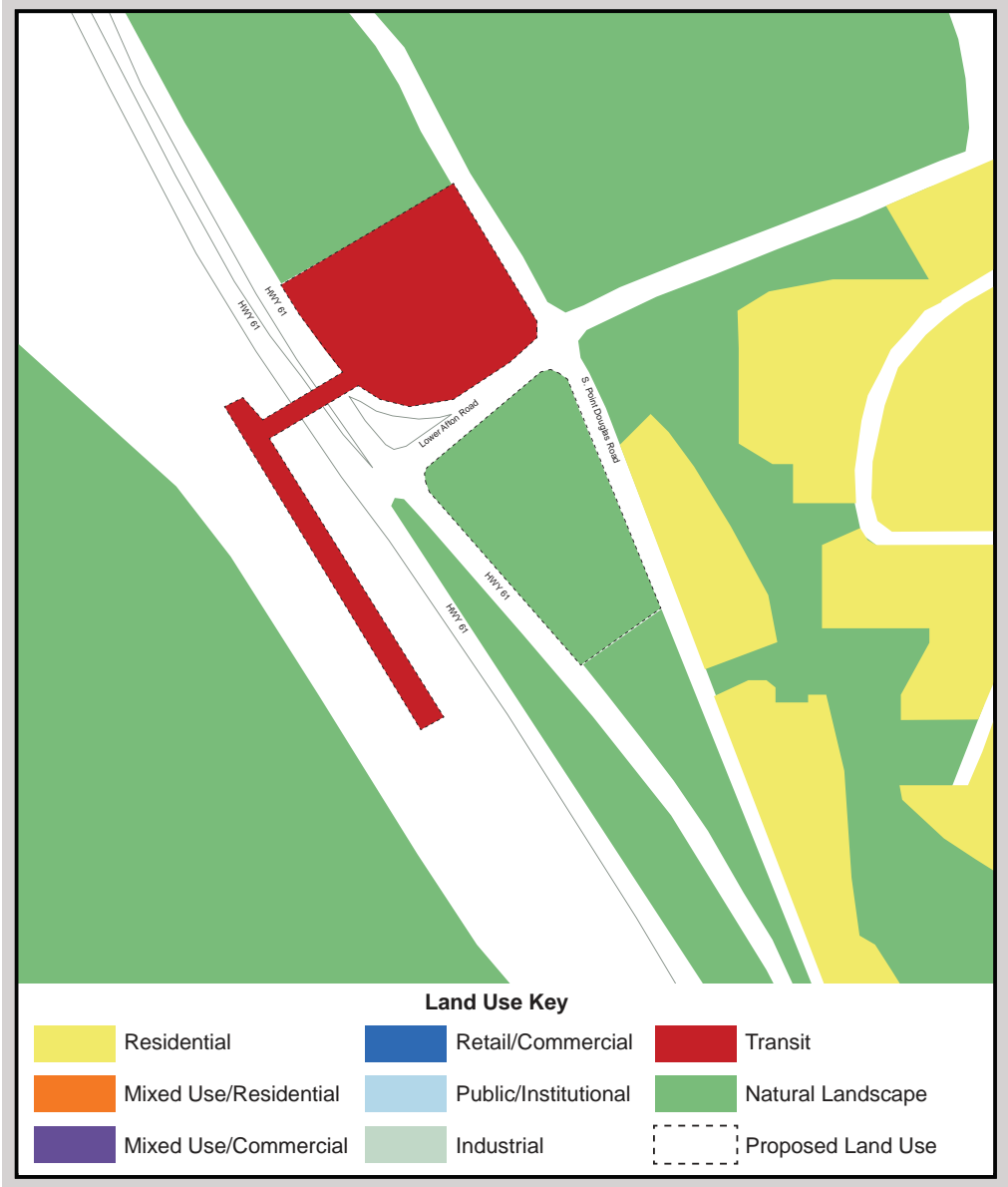


View of drop off area and pedestrian bridge to platform



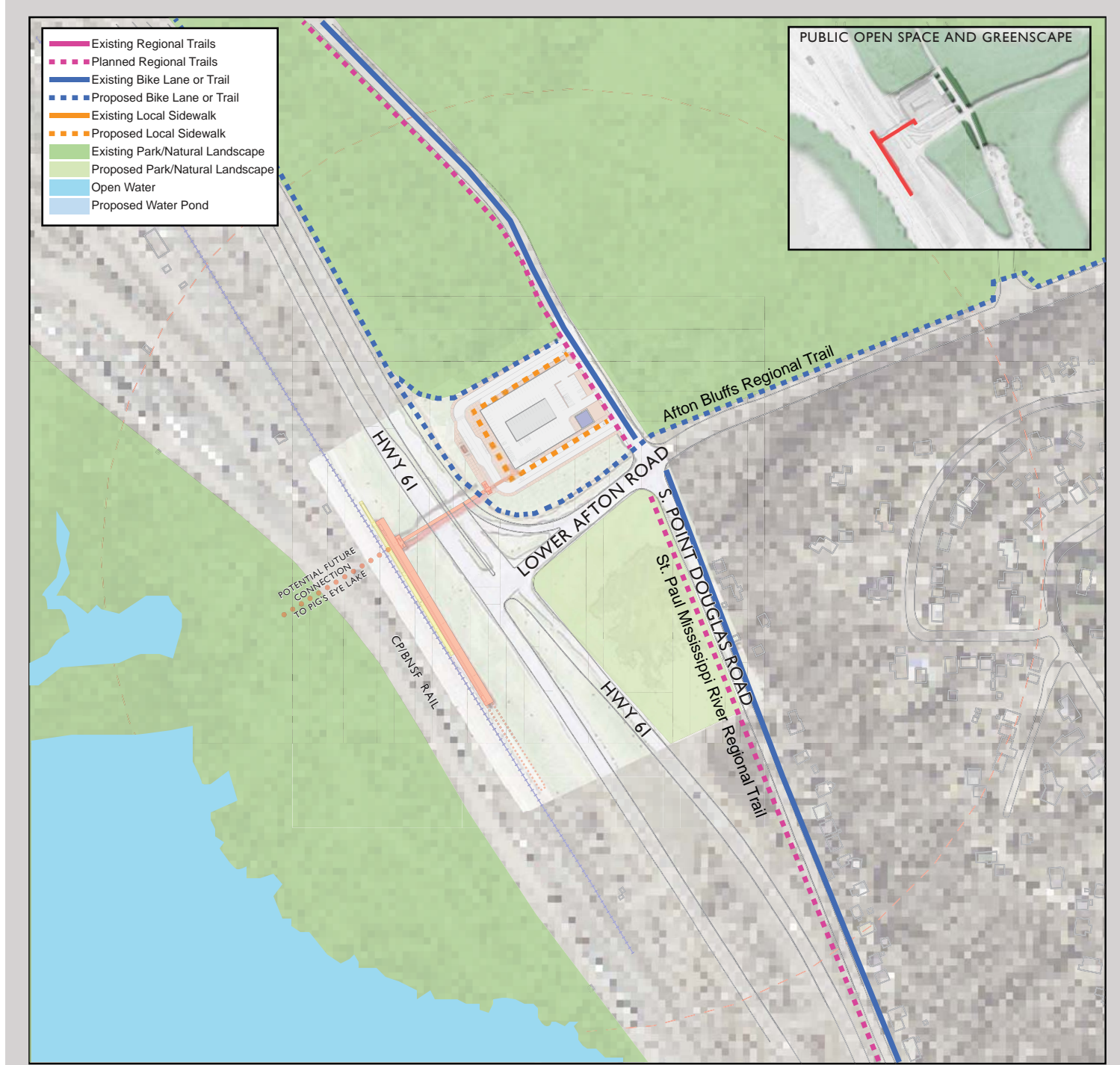
Cross section showing elevation changes from Battle Creek Park down to rail lines and platform

LAND USE PLAN



All proposed elements of the conceptual plan take place within MnDOT Right Of Way. No other land use changes are proposed.

TRAIL CONNECTIONS AND GREENSPACE



LOWER AFTON TRAIL CONNECTIONS AND GREENSPACE

The intention of the public open space design is to connect the regional and local trails to the transit facility while nesting the parking structure into the hillside.

A small semi-public plaza is shown on the southeast side of the Welcome Center. Trails connect near the parking structure to allow for easy access to transit.

The overall look and feel of the public space is intended to be more informal and natural to create a park-like setting around the facility.

In the long term, it is possible that the overhead connection from the parking facility to the commuter rail platform could be extended west to allow for future access to Pigs Eye Lake, west of the railroad tracks.

RECOMMENDED BUILDING HEIGHTS & TYPE (YEAR 2040)



Lower Afton
Final Concept Plan - North Option

Lower Afton - Building Scale & Type Summary*

Land Use Type	Building #	Footprint Area (SF)	# Stories	Total
Residential		-		- sf
Commercial				- sf
Mixed Use		-		- sf
Civic/Institutional/Office	1	1,625	1	1,625 sf
Industrial		-		- sf

Recommended Building Scale & Type Summary			
Residential			0 sf
Commercial			0 sf
Mixed Use			0 sf
Civic/Institutional/Office			1,625 sf
Industrial			-
# of Housing Units @ 1200sf each (2BR)			0 Housing Units
Job Growth Potential (@ 350sf per worker)			5 Jobs
Park & Ride (commuter demand)			275 Cars
Parking (new development demand)			14 Cars
Planning Study Focus Area (includes both North & South Option)			~ 13.4 Acres

*plans and calculations are conceptual, based on full build out projections for beyond the year 2040, and may shift as a result of on-going station area planning and programming efforts. Residential SF counts 100% toward Housing Units; Commercial, Civic, Institutional, Office, and Industrial SF counts 100% towards Job Growth; and Mixed Use SF counts 50% towards Housing Units and 50% towards Job Growth.

INVESTMENTS

WHO PAYS FOR WHAT?

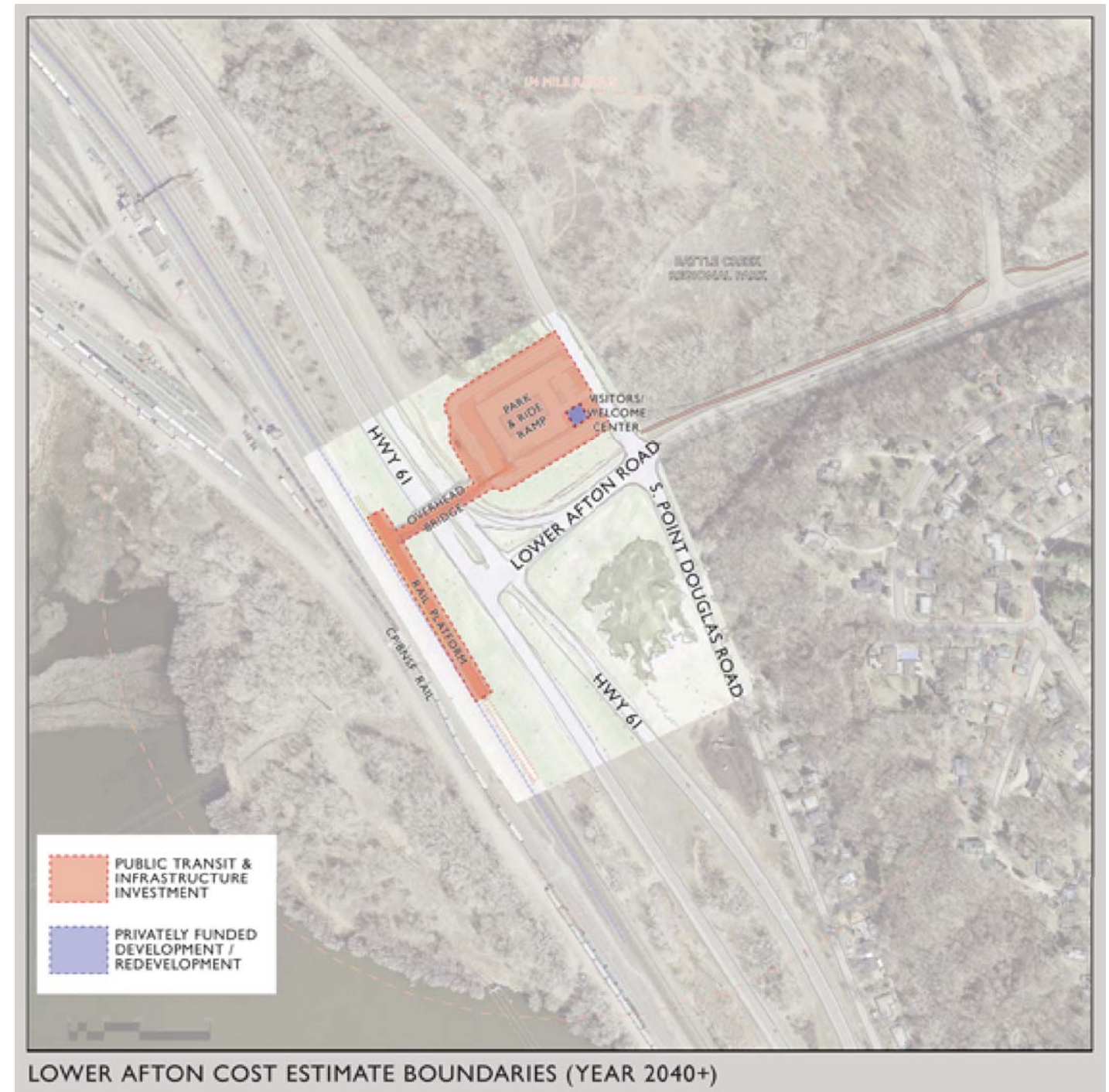
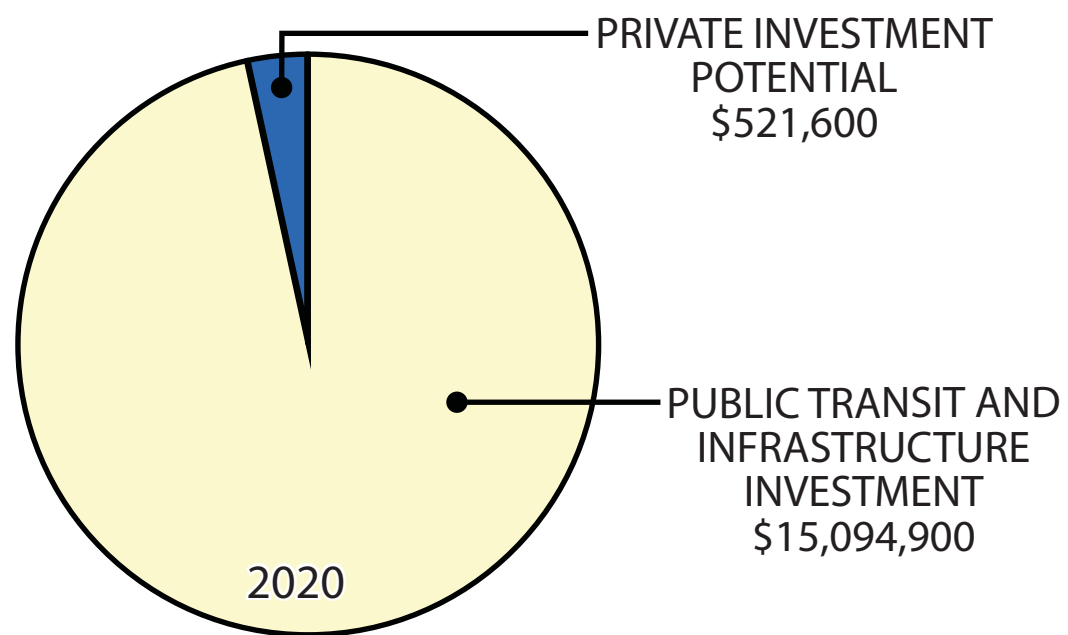
The preliminary cost estimates identified costs for both the transit station, which would be publicly funded, as well as potential development and redevelopment in the surrounding station areas, which would be privately funded. The public funds would cover the costs of the rail platform, any necessary pedestrian bridges, new roadways to access the station, and parking lots or ramps for commuters. The private funds would cover the costs associated with new development or redevelopment including new residential, office, commercial, and mixed-use building projects. The pie charts below show the relationship between public funds to build the stations and the potential for private investment in development and redevelopment surrounding the stations.

HOW MUCH WILL NEED TO BE INVESTED?

The cost estimates include implementation of stations in two phases: initial commuter rail service anticipated in the year 2020, and expansion warranted by the year 2040. The cost estimates include the costs associated with the following elements:

- Rail Platform
- Transit Plaza
- Ticketing & Signage
- Pedestrian Bridges
- Parking Facilities
- Roadways
- Utilities
- Environmental Restoration

Costs associated with track relocations or improvements along the rail corridor are not included in the cost estimate. Please refer to the Cost Estimate Memo, available under separate cover, for additional information.



IMPLEMENTATION & NEXT STEPS

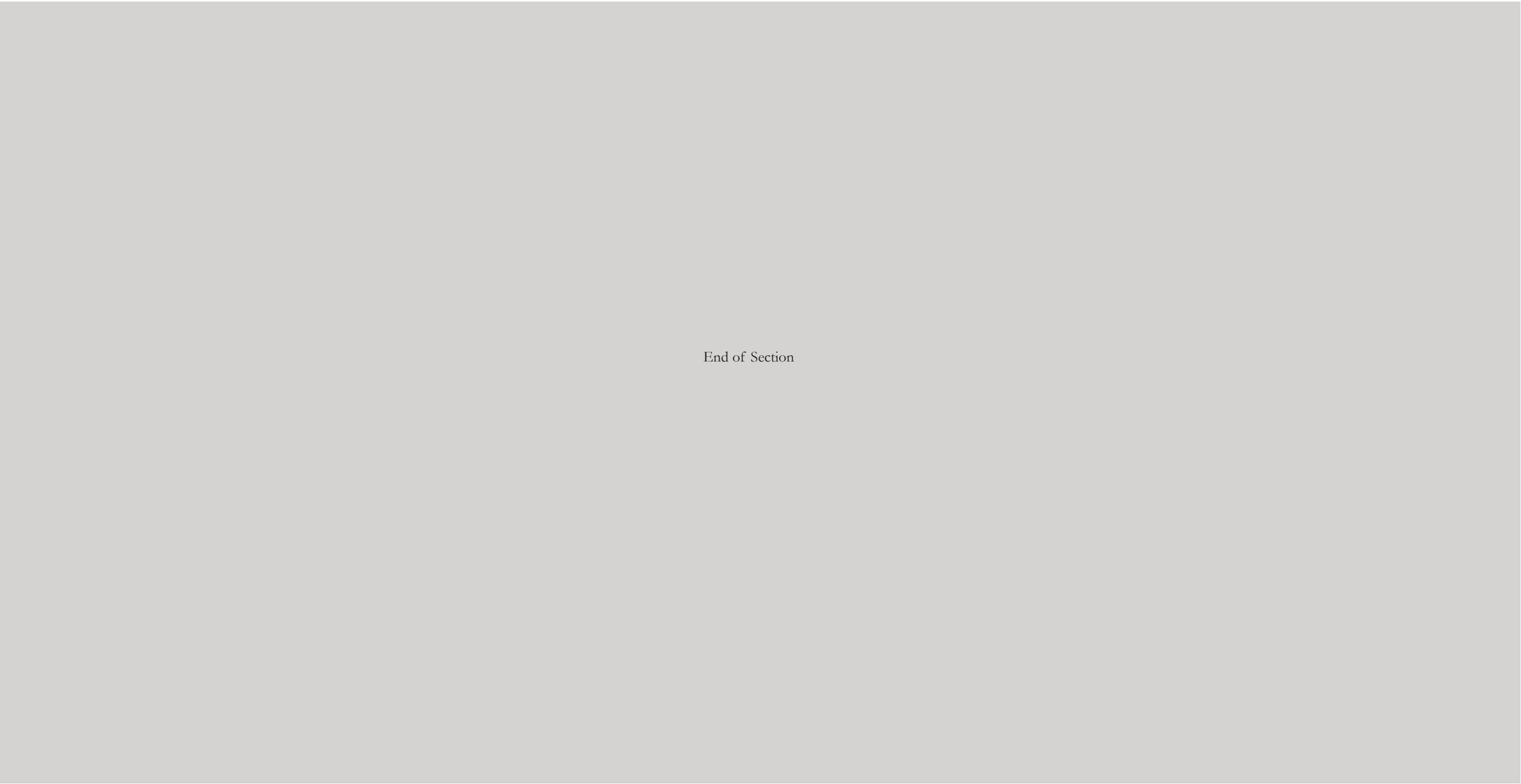
IMPLEMENTATION MATRIX

The matrix to the right identifies station-specific tasks and goals in implementing commuter rail in the Red Rock Corridor. The tasks are broken down into the Immediate Term (0-5 years), Mid Term (6-10 years), and Long Term (11+ years) and also identify the responsible parties for each task - the lead agency is marked with an asterisk.

In addition to the station-specific matrix in each station chapter, there is a corridor-wide implementation strategies matrix in the introduction section.

More detailed information on implementation strategies are available in the Implementation Guide, available under separate cover.

LOWER AFTON IMPLEMENTATION STRATEGIES	TIMEFRAME			RESPONSIBILITY (*Lead)				
	IMMEDIATE TERM (0- 5 YEARS)	MID TERM (6-10 YEARS)	LONG TERM (11+ YEARS)	CITY	COUNTY / RRCC	MET COUNCIL / METRO TRANSIT	Mn/DOT	OTHER
Adopt Red Rock Corridor Station Area Planning Final Report	X			X*				
Update Comprehensive Plan and Land Use Regulations to support the Station Area Plan	X			X*	X			
Work with Metro Transit to consider how best to add capacity at the existing Park & Ride facility while considering the long-term vision for the transit station area	X			X		X*	X	St. Paul's District I Community
Work with the Great River Project planning and design team to coordinate a long term vision for a transit station that is integrated and connected to the river and surrounding park areas	X			X	X			St. Paul Parks & Recreation Dept.*
Coordinate with Ramsey County to explore opportunities for a gateway and visitors center for Battle Creek Regional Park as part of the transit facility	X	X		X	X*			
Continue coordination of environmental review and investigation processes	X	X		X	X*	X	X	MN Pollution Control Agency, State Historic Preservation Office
Continue coordination with Railroads to establish rail infrastructure improvements needed to implement a commuter rail platform at Lower Afton	X	X		X	X*	X		Canadian Pacific and Burlington Northern Sante Fe Railroads
Coordinate potential infrastructure improvements for implementing transit station including Lower Afton Road and South Point Douglas Road intersection improvements and relocation or introduction of utilities	X	X		X	X	X	X	
Continue to engage the public and work with local stakeholders to promote improved transit and economic development in the Red Rock Corridor	X	X	X	X*	X	X	X	Red Rock Citizens Advisory Committee
Design Development and Final Design of Transit Station		X		X	X	X*	X	
Construct Transit Station			X	X	X	X*	X	



End of Section