Lower Afton Station Area Plan

LOCATION & CONTEXT
AERIAL & SITE PHOTOS PARAMETERS / CONTEXT

The Aerial photo shows the location of the proposed Lower Afton Station, located on the right of way south of Lower Afton Road, West of Point Douglas Road, and East of Highway 61. A half-mile radius line is drawn around the site.
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 at or 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

Photos on this page show automobile traffic at the Highway 61/Lower Afton intersection; bus riders waiting for the express bus; and a cyclist on a trail. A map shows bluffs in the Lower Afton station area.

The existing Lower Afton Park & Ride currently functions over capacity as a 114-space Park & Ride lot southeast of the intersection of Highway 61 at Lower Afton Road in St Paul. 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. Pigs Eye Lake Park and Battle Creek Park are considered 4(f) properties. More detailed information is available in the Study Area Inventory and Analysis Technical Report.

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.

Photos show the Highwood train station, circa 1901, and the painting "St. Paul from Pig's Eye" by James Desvarreaux Larpenteur, 1888.

Market Assessment

Lower Afton Station Area Characteristics

- Excellent access from Hwy 61
- Limited 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

Three photos show nearby homes, with the caption, “Single family residential homes, many Victorian, line the toe of the bluff along Point Douglas Road.”

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.

A map shows the outline of parcels within ¼ mile of the proposed station, noting city, county, and MnDOT ownership.

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 challenge 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.

The constraints at the Lower Afton site are not simply resolved by this solution. Further, and possibly extensive, consideration is required involving both rail operators (BNSF and CP) and the overall Red Rock corridor initiative. We suggest that, for station planning purposes, a solution(s) that flexibly accommodate this platform option be considered if possible.

A diagram shows the proposed location of the rail platform just west the Existing BSNF main track and lead track, next to Highway 61 and the Lower Afton intersection. The platform is proposed to be 800’ in length, with a pedestrian connection to the park and ride site. The park and ride is located on at the northwest corner of the Point Douglas and Lower Afton intersection, in MnDOT right of way. The CP tracks would need to be shifted to accommodate the passenger platform.

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.

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
• Create an intermodal hub and gateway to Battle Creek Park

A rendering of the station shows a bird's eye view looking east at the park and ride. A two-story parking deck is tucked into the hillside, with the top floor level with the Point Douglas entrance. A pedestrian bridge leads from the top floor of the deck, across Highway 61, to the rail platform.

ILLUSTRATIVE PLAN - LONG TERM

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

A drawing shows the Lower Afton Long Term Station Area Concept Plan, Year 2040+, with the Park and Ride moved to the north side of Lower Afton and circulation roads around it enter and exit onto Point Douglas. The existing areas will remain residential, and the existing park and ride location on the south side of Lower Afton will be restored to natural landscape and ponding. The diagram shows the potential for a small visitors/welcome center at the entrance to the park and ride that could be used for Battle Creek Regional Park. The pedestrian bridge to the rail platform is shown to provide a future extension further west into the Pig's Eye Lake area.

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

A drawing of the south site shows a parking ramp on the same location as the existing park and ride, with a pedestrian bridge over Highway 61 to the rail platform.

PARKING STRATEGY

The Lower Afton Park & Ride is unique in that it is the closest station to the downtowns. Due to its proximity to dowtown 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 the 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.

The drawing on this page shows a zoomed version of the concept plan, with a more detailed diagram of the parking deck. Buses are shown to circulate around the parking ramp, dropping off near the pedestrian bridge to connect passengers to the train. Cars would enter through the south driveway and exit through the north driveway on new circulation roads. A visitors center is placed in the southeast corner of the ramp, near Point Douglas.

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.

Photos show the existing view of downtown St. Paul from South Point Douglas Road, the existing Park & Ride facilities, access to the St. Paul Mississippi River Regional Trail and other local trails and bikeways, and the existing gateway to Battle Creek Regional

Park. An illustration shows Park & Ride facilities nestled into sloping topography to preserve the viewshed to downtown St. Paul from South Point Douglas Road.

Additional Views and Illustrations

Renderings show the view looking south towards the bus drop off area and pedestrian bridge; the view from the rail platform looking east showing the pedestrian bridge stretching over Highway 61; the sloping topography throughout the station area, and an aerial view looking north towards the bus drop off; the view of pedestrian bridge looking south from Highway 61; the view looking south from Lower Afton Road showing the new bike and pedestrian trail, the welcome center, the park & ride ramp, and the pedestrian bridge over the highway; the aerial view looking north towards bus drop off; and the cross section showing the elevation sloping from the high point at Point Douglas, down to the rail line and platform.

LAND USE PLAN

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

The land use map shows the park and ride on the north side of Lower Afton, and the all other land uses unchanged.

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 open 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.

The map shows the existing trail on Point Douglas Road, as well as planned regional trails on the west side of Point Douglas, around and connecting to the park and ride and up the east side of Highway 61, and on the north side of Lower Afton. A proposed sidewalk is shown around the proposed park and ride, and the pedestrian bridge to the rail platform is shown to provide a future extension further west into the Pig’s Eye Lake area.

RECOMMENDED BUILDING HEIGHTS & TYPE (YEAR 2040)

A chart showing the potential building scale and type shows the limited potential for station development. A civic/institutional/office space (the welcome/visitors center) is proposed to be a single 1-story 1,625 square foot building. The job growth potential is 5 workers to staff this space. Park and Ride demand is estimated at 275 cars, with an

additional 14 parking spaces for park visitors. The planning area, which includes both the north and south site options, is about 14.3 acres in size.

INVESTMENTS

WHO PAYS FOR WHAT?

The preliminary cost estimates identified costs for both the transit station, which would be publically 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 stations, 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

The private investment potential is estimated at $521,600 and the public transit and infrastructure investment for this station area is estimated at $15,094,900.

A diagram shows that the visitors center could be privately finances, while the rest of the improvements would come from public sources.

IMPLEMENTATION MATRIX

The matrix 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	
TASK DESCRIPTION	IMMEDIATE TERM (0- 5 YEARS)
Adopt Red Rock Corridor Station Area Planning Final Report	City (lead) responsibility
Update Comprehensive Plan and Land Use Regulations to support the Station Area Plan	City (lead) & county responsibility
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	City, Met Council/Metro Transit (lead), MnDOT, and District Council responsibility
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	City (Parks lead), and County responsibility
Coordinate with Ramsey County to explore opportunities for a gateway and visitors center for Battle Creek Regional Park as part of the transit facility	City and County responsibility
Continue coordination of environmental review and investigation processes	City, County (lead) Met Council/Metro Transit, MnDOT, and MPCA, SHPO responsibility
Continue coordination with Railroads to establish rail infrastructure improvements needed to implement a commuter rail platform at Lower Afton	City, County (lead) Met Council/Metro Transit, and CP Rail, BNSF Rail responsibility
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	City, County, Met Council/Metro Transit, MnDOT responsibility

Continue to engage the public and work with local stakeholders to promote improved transit and economic development in the Red Rock Corridor	City, County, Met Council/Metro Transit, MnDOT, Red Rock CAC responsibility