



**SRF** Figure 16  
CONSULTING GROUP, INC.

**WASHINGTON AVENUE STATIONS WITH 1/4 & 1/2 MILE RADII**

Central Corridor LRT Northern Alignment Alternative  
University of Minnesota







**SRF** Figure 17  
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**NORTHERN ALIGNMENT STATIONS WITH 1/4 & 1/2 MILE RADII**

Central Corridor LRT Northern Alignment Alternative  
University of Minnesota







**SRF** Figure 18  
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**HOME COLLEGES OF UPASS HOLDERS WITH 1/4 & 1/2 MILE RADII FROM STATIONS**

Central Corridor LRT Northern Alignment Alternative  
University of Minnesota





## 4 Operations

### 4.1 Light Rail Transit

The operation of the CCLRT utilizing the Northern Alignment will comply with standard operating procedures for throughout the corridor. It is estimated that the travel speeds on the Northern Alignment will be higher relative to the Washington Avenue Alignment due to the lower number of at-grade crossing. While the Northern Alignment is approximately one-half mile longer, the higher travel speeds will likely offset the additional distance, resulting in a lower travel time for the Northern Alignment. Concurrence regarding travel times and ridership between the U of M, its consultants, and the CCPO has not yet been reached. A supplemental technical memorandum regarding CCLRT operations (including, but not limited to, travel speeds, track lengths, delay time at stations, travel time, and ridership) will be issued upon conformity of assumptions and concurrence of the project partners and their consultants.<sup>11</sup>

### 4.2 Bus Connections

There would be excellent transit connections to the Northern Alignment's three stations due to the already strong bus service serving the University of Minnesota. In addition, the free University of Minnesota shuttle service would also provide connections to the proposed Northern Alignment's stations. Moreover, with the implementation of the CCLRT, it is anticipated that Metro Transit and the University of Minnesota would both adjust existing bus service frequency and routes depending on LRT station location.

Examination of the current bus system concludes that the West Bank Station would have 24 connecting Metro Transit bus routes and two University of Minnesota bus routes; the Dinkytown Station would have four Metro Transit bus connections and two University of Minnesota connections; finally, the Stadium Village Station would have 25 Metro Transit bus connections and two University of Minnesota bus routes. Most of the routes connecting to the Stadium Village Station would need to be slightly diverted given the station's location nearly two blocks north of University Avenue.

#### Local Bus Routes

There are six local Metro Transit buses that would connect to the Northern Alignment.

- Route 2 runs through the heart of the University of Minnesota campus and would connect to the West Bank, Dinkytown, and Stadium LRT Stations.
- Route 3 runs through Dinkytown via 15th Avenue SE and into the East Bank campus before crossing the Washington Avenue Bridge on its way to the West Bank campus. Route 3 would connect to both the West Bank and Dinkytown Stations.

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<sup>11</sup> Travel times estimates for the Northern Alignment are preliminary. Additional minor refinements to the travel times estimates would likely reduce the travel time for the Northern Alignment.

- Route 6 runs on the edge of the East Bank campus through Dinkytown along University Avenue SE/4th Street SE and also makes stops in Stadium Village. This route would connect to the Dinkytown and Stadium Village Stations.
- Route 7 travels by the West Bank campus via Riverside Avenue and 19th Avenue S before entering downtown Minneapolis on Washington Avenue. Route 7 would connect to the West Bank Station.
- Route 16 is a major bus route running down University and Washington Avenues. It would connect to the West Bank and Stadium Village Stations.
- Route 22 runs north on Cedar Avenue S next to the West Bank campus and would connect to the West Bank Station.

#### **Accelerated Bus Routes**

- Route 50 offers limited stop service running along the same path as Route 16. Route 50 may be discontinued with the addition of the CCLRT on the same route.

#### **Express Bus Routes**

There are 22 express bus routes (111, 113, 114, 115, 118, 144, 152, 272, 355, 460, 465, 652, 680, 681, 685, 690, 692, 693, 694, 696, 697, and 698) that currently run down Washington Avenue through the University of Minnesota and would connect to both the West Bank and the Stadium Village Stations. Route 118 would also connect to the Dinkytown Station.

#### **University of Minnesota Campus Shuttle Service**

The University of Minnesota currently operates four different routes through its West Bank, East Bank, and St. Paul campuses. These routes may be modified based on CCLRT station locations.

- The Campus Connector (Metro Transit Route 121) travels to each of the three campuses and would connect to the West Bank and Stadium LRT Stations.
- The existing Washington Avenue Bridge Circulator (Metro Transit Route 122) would connect to the West Bank and Dinkytown LRT Stations.
- The East Bank Circulator (Metro Transit Route 123) would connect to the Dinkytown and Stadium LRT Stations.
- The St. Paul Circulator (Metro Transit Route 124) would not connect to any of the three proposed Northern Alignment stations.

### **4.3 Roadway Traffic Analysis**

A traffic analysis was completed for the roadway configuration associated with the Northern Alignment and is included in Appendix A. As described in Chapter 2, there is significant reconfiguration of roadways in the West Bank area. In the stadium area, the Northern Alignment would cross new roadways and intersections built in conjunction with the football stadium but would not by itself result in any additional roadway modifications.

Separate analysis was prepared for these two areas. In both cases, 2030 forecast volumes are based on the forecast 2030 traffic volumes incorporated into the 2030 Synchro model referenced in the East Bank Traffic Study No. 3 dated February 8, 2008, prepared by the Central Corridor Project Office. For the West Bank analysis, when necessary, adjustments to the 2030 forecast volumes to account for changes in routing. For the Stadium analysis, missing data was used from the University of Minnesota Stadium Environmental Impact Statement.

The East Bank/Dinkytown segment of the Northern Alignment has no impacts on vehicular traffic, since the alignment would not cross existing roadways.

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#### **4.3.1 West Bank Station Area**

A traffic analysis was prepared for the future roadway system in the West Bank Station area. The p.m. peak hour volumes used for this analysis are illustrated in Figure 19. To accommodate the Northern Alignment, modifications to the surrounding roadway system would be required.

Roadway removals include:

- Cedar Avenue ramps to/from Washington Avenue

Roadway additions to replace the removals include:

- Intersection of Washington Avenue with the on-ramp from northbound I-35W
- Ramp connection from the Washington Avenue intersection to Cedar Avenue S, replacing the previous interchange ramps
- Reconstructed T-intersections at Cedar Avenue S/Ramp Connection and Cedar Avenue S/3rd Street S
- Roadway improvements to allow bus access to the U of M West Bank LRT station

There would be only one roadway and LRT crossing (see Figure 20). This crossing is on Washington Avenue at a mid-block location below the 19th Avenue S Bridge.

The proposed signal phasing and lane configuration, all of which would be signalized, are listed below:

#### **Washington Avenue/Northbound I-35E Off-Ramp/Cedar Connecting Ramp**

- Northbound: left-thru lane, thru lane and a right-turn lane
- Southbound: dual left-turn lanes and a right-turn lane
- Eastbound: dual left-turn lanes and two thru lanes
- Westbound: two thru lanes and a right turn lane
- Phasing: Northbound and southbound will be split phased. Eastbound left-turns will be provided with protected only left-turn phasing, preferably lagging, with an southbound right-turn overlap
- Signal Operation: Actuated, but uncoordinated/free mode