

Evaluation of River Crossing Alternatives

Nicollet-Central Transit Alternatives

CONSIDERATIONS	HENNEPIN/FIRST AVENUE BRIDGE	CENTRAL/THIRD AVENUE BRIDGE
<i>One-Way Distance^a</i>	6,200 feet	6,900 feet
<i>Other Future Streetcar Lines Served</i>	Hennepin	Hennepin
	University/Fourth	University/Fourth
	Washington	
<i>Major Activity Centers Served</i>	Direct and indirect ways to access the Riverfront, Nicollet Island, East Hennepin and St. Anthony Main	Mostly indirect ways to access Riverfront, Nicollet Island and St. Anthony Main
<i>Existing Pedestrian and Bicycle Connections</i>	Direct and indirect access to the Riverfront and Nicollet Island	Access to north/east Riverfront via stairs
	North of the River, Hennepin/First could accommodate bike lane within the existing roadway right-of-way	Indirect to Nicollet Island and West Riverfront
<i>Walk Time for Existing Transit Riders</i>	For Route 10/59 patrons: Walk would be two to three blocks longer or shorter, if from the east or west	No change for existing patrons
<i>2030 Weekday Boardings^b</i>	20,100	19,400
Transit Travel Time		
<i>Enhanced Bus (41st Ave NE-46th St S)</i>	47 minutes	48.5 minutes
<i>Streetcar (41st Ave NE-46th St S)</i>	45.9 minutes	47.5 minutes
<i>Streetcar Starter Line (Eighth St NE-Lake St)</i>	25.2 minutes	26.8 minutes
2010 Traffic Volumes^c		
<i>AM Peak (Southbound)</i>	500 vehicles/lane	700 vehicles/lane
<i>PM Peak (Northbound)</i>	600 vehicles/lane	650 vehicles/lane
<i>Hennepin/First Avenue Conversion to Two-Way Traffic</i>	Would not preclude	No impact
<i>Cultural and Historic Resources</i>		Bridge on National Register of Historic Places
Estimated Annual Operating and Maintenance Cost of Build Alternative^d		
<i>Enhanced Bus (41st Ave NE-46th St S)</i>	\$13.6 million	\$13.9 million
<i>Streetcar (41st Ave NE-46th St S)</i>	\$20.1 million	\$20.6 million
<i>Streetcar Starter Line (Eighth St NE-Lake St)</i>	\$10.6 million	\$11.4 million
Estimated Capital Cost of Build Alternative^d		
<i>Enhanced Bus (41st Ave NE-46th St S)</i>	\$94 million	\$100 million
<i>Streetcar (41st Ave NE-46th St S)</i>	\$393 million	\$409 million
<i>Streetcar Starter Line (Eighth St NE-Lake St)</i>	\$182 million	\$189 million

^a Distance along alignment between Eighth Avenue NE and Washington Avenue.

^b Based on 2030 boardings for streetcar alternative between 41st Avenue NE and 46th Street S.

^c Source: City of Minneapolis.

^d In Year 2013 dollars.

Summary of Detailed Evaluation of Alternatives

Criteria	No-Build	Enhanced Bus (9.2 mi)	Modern Streetcar (9.2 mi)	Modern Streetcar Starter Line (3.4 mi)
Goal 1: Connect People and Places				
1.1	2010 population within one-half mile		93,900	54,800
1.2	2030 population within one-half mile		120,000	79,700
1.3	2010 employment within one-half mile		125,500	118,100
1.4	2030 employment within one-half mile		177,900	167,000
1.5	Existing major activity centers	All alternatives serve all or nearly all major activity centers		
1.6	Transit connections	Serves all of the transit connections within the 3.4-mile streetcar starter line plus Columbia Heights Transit Centre, 38th St and Orange Line at 46th St		Serves 12 of the 15 transit connections defined for the study (University Ave, downtown, Franklin, Midtown, Lake St, Orange Line)
1.7	Quality of pedestrian connections	Connections diminish somewhat farther north and south		Consistent quality of connections throughout alignment
1.8	Quality of bicycle connections	Connections diminish somewhat farther north and south		Consistent quality of connections throughout alignment
Goal 2: Increase the Attractiveness of Transit				
2.1	2030 ridership projections			
	Project boardings	N/A	13,400	19,900
	New corridor transit trips	N/A	--	900
2.2	Ability to accommodate growth in transit ridership through:	Use of articulated buses and/or more frequent service	Higher than expected ridership and/special events could be accommodated with increased frequency of service	
Goal 3: Catalyze and Support Economic Development				
3.1	Estimate of development potential (SF) <i>(Based on existing zoning)</i>		118,500,000	82,200,000
3.2	Potential value of development (2013 \$)		\$ 4.84 billion	\$ 2.19 billion
3.3	Potential for alternative to spur development <i>(Based on May 2013 Developer Forum, Peer Review, and review of local plans, policies and guidelines)</i>	Lowest potential	Medium potential	Highest potential
Goal 4: Integrate with the Existing Transportation System				
4.1	Impact on corridor traffic	Minimal impacts for all alternatives		
4.2	Impact on parking	Minimal impacts for all alternatives		
4.3	Impact on freight railroad operations	Minimal impacts for all alternatives		

Summary of Detailed Evaluation of Alternatives

Criteria	No-Build	Enhanced Bus (9.2 mi)	Modern Streetcar (9.2 mi)	Modern Streetcar Starter Line (3.4 mi)
Goal 5: Support Healthy Communities and Environmental Practices				
5.1 Potential impacts on historical, cultural and natural resources				
Number of archeology sites within one-quarter mile		3		3
Number of architectural sites within one-quarter mile		313		293
Natural resources within one-half mile		Minimal impacts for all alternatives		
5.2 Year 2030 transit-reliant ridership				
Project boardings by transit-reliant persons	N/A	4,800	7,500	4,200
% of project boardings by transit-reliant persons	N/A	36%	38%	46%
5.3 Benefits to low-income and minority population				
Population living below poverty served		21,600		13,100
% of population living below poverty		23%		24%
Non-white population served		26,100		16,300
% of population that is non-white		28%		30%
Population without access to automobile		15,100		11,200
% of population without access to automobile		16%		20%
5.4 Affordable housing				
Number of affordable housing units		4,600		4,200
% of housing units that are affordable		9%		13%
5.5 Environmental benefits <i>(Relative to No-Build)</i>	N/A	Minimal impacts for all Build alternatives		
Regional air pollution <i>(Regional change, in kilograms)</i>	N/A	No significant difference between alternatives. Alternatives are within +/- 0.5%		
Safety	N/A	No significant difference between alternatives		
Goal 6: Develop an Implementable Project with Community Support				
6.1 Cost Effectiveness				
Passenger boardings per vehicle revenue hour				
Project	N/A	42	90	75
Other buses in corridor ¹	64	34	37	51
Corridor total	64	38	58	56
O&M cost per passenger boarding				
Project	N/A	\$3.17	\$3.12	\$3.60
Other buses in corridor ¹	\$1.58	\$3.00	\$2.90	\$1.97
Corridor total	\$1.58	\$3.10	\$3.04	\$2.39
Annual O&M cost estimate				
Project	N/A	\$13,600,000	\$20,100,000	\$10,600,000
Other buses in corridor ¹	\$18,900,000	\$9,700,000	\$11,400,000	\$16,600,000
System-wide change vs. No-Build	N/A	\$4,400,000	\$12,400,000	\$8,300,000
Project capital cost estimate (2013 \$)	Would require use of hybrid articulated buses	\$94,000,000	\$393,000,000	\$182,000,000
Cost-effectiveness (2013 \$) ²	N/A	\$1.87	\$4.37	\$5.25
6.2 Community Support				
Public sentiment		Qualitative - Pending next round of outreach activities		
Business/developer community sentiment		Qualitative - Pending next round of outreach activities		

¹ Other buses in corridor defined as follows: No-Build -- Routes 10, 18, and 59. Build alternatives -- Local, limited stop and Grand Avenue circulator.

² Project incremental annualized capital cost + project incremental annual O&M cost divided by 2030 project boardings relative to No-Build alternative. 2030 project boardings annualized using Routes 10 and 18 factor (320).