



## Request for City Council Committee Action From the Departments of Public Works

**Date:** February 10, 2009

**To:** Honorable Sandra Colvin Roy, Chair Transportation & Public Works Committee

**Subject:** Hennepin Ave One-way to Two-way (PV050) and 1<sup>st</sup> Ave N One-way to Two-way (PV049), Project (1<sup>st</sup> St N to 12<sup>th</sup> St N) Layout Update

**Recommendation:**  
Receive and File

**Previous Directives:**  
January 9, 2009 Council Resolution 2009R-005 – Approving the Layout

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Don Elwood, P.E., Director, Transportation Planning & Engineering, 673-3622

**Approved by:**  

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Steven A. Kotke, P.E., City Engineer, Director of Public Works

**Presenters:** Jenifer Loritz, P.E., Project Manager, Transportation Planning & Engineering  
Steve Mosing, P.E., PTOE, Project Manager, Traffic and Parking Services

**Reviews:**

Permanent Review Committee (PRC):	Not Applicable
Civil Rights Affirmative Action Plan:	Not Applicable
Policy review Group (PRG):	Not Applicable

**Financial Impact**  
No Financial Impact

### Background/Supporting Information

The Hennepin Ave and 1<sup>st</sup> Ave N One-way to Two-way Conversion projects were identified in the City's Five Year Capital Improvement Program for construction in 2009. The projects were recommended by and are consistent with the 10-Year Downtown Action Plan that was approved by the City Council in June of 2007. The projects will consist of the reconstruction of the signal systems, seal coat and striping along with geometric changes at the intersection of 1<sup>st</sup> Ave N and 12<sup>th</sup> St N and on 1<sup>st</sup> Ave N between 8<sup>th</sup> St N and 9<sup>th</sup> St N. These projects are being accomplished at the same time because they currently act as one-way pairs.

Staff has been asked to consider different options for including a bicycle connection between Hennepin Ave and 1<sup>st</sup> Ave N on the south edge of the project limits. While a connection is

currently provided via 10<sup>th</sup> St and 11<sup>th</sup> St it was desirable to pursue another connection that was geared more towards “B” level riders. Staff considered the following three options:

1. Option 1 would extend the south-bound bicycle lane along 1<sup>st</sup> Ave N to 12<sup>th</sup> St, add a designated bicycle lane along 12<sup>th</sup> St to Hennepin Ave, and extend the north-bound bicycle lane along Hennepin Ave to 11<sup>th</sup> St. Bike boxes would be included at both Hennepin Ave and 11<sup>th</sup> St and 1<sup>st</sup> Ave N and 12<sup>th</sup> St to help with intersection turning movements. **Option 1 is the Staff Recommended Option.**
2. Option 2 would be contingent upon approval of a funding application for adding bicycle lanes in both directions along 13<sup>th</sup> St between Hennepin Ave and 1<sup>st</sup> Ave N, the lanes would connect to a new off-street bicycle path adjacent to the I394 exit ramp which would bring bicyclists to the intersection of 1<sup>st</sup> Ave N and 12<sup>th</sup> St. The south-bound bicycle lane along 1<sup>st</sup> Ave N would be extended to 12<sup>th</sup> St. This option is not recommended due to the uncertainty of the funding approval.
3. Option 3 would extend the south-bound bicycle lane along 1<sup>st</sup> Ave N to 12<sup>th</sup> St and add designated bicycle lanes along 12<sup>th</sup> St to Hennepin Ave in both directions. In order to provide the safest feasible contra-flow bicycle lane, a two foot median would need to be constructed; this option would result in the loss of one traffic lane along 12<sup>th</sup> St. Option 3 is not recommended for reasons which are expanded upon below.

Staff was asked to consider contra-flow bicycle lanes as a possible design solution, this is reflected in option 3 described above. Staff is unable to recommend this option as a feasible solution for the following reasons:

1. Option 1, which does not include a contra-flow bicycle lane, accomplishes the same end goal, costs less and meets accepted bicycle design standards; therefore staff cannot justify taking on the added liability of deviating from design standards to approve a contra-flow bicycle lane.
2. On-street bicycle lane design is guided by several design sources which are based upon carefully gathered data and research which always have safety as a top consideration. The following design sources have recommended against contra-flow bicycle lanes:
  - a. *AASHTO Guide for the Development of Bicycle Facilities, 1999*
  - b. *FHWA. FHWA University Course on Bicycle and Pedestrian Transportation, Lesson 15, 2006.*
  - c. *MnDot Bikeway Facility Design Manual*
    - i. There are other states as well that have adopted design guides that recommend against contra-flow bicycle lanes including North Carolina and Oregon.

Although contra-flow bicycle lanes have been implemented around the nation, there are several primary safety issues to consider:

- a. A contra-flow bicycle lane would oppose approximately 10,000 vehicles per day which is not likely to be a “comfortable” facility for “B” level riders.
- b. A contra-flow bicycle lane would encourage wrong way bicycle riding. If bicyclists were to continue across 1<sup>st</sup> Ave N on 12<sup>th</sup> St they would be riding against traffic on a bridge structure which only provides two 14 foot lanes with no shoulder.
- c. Bicyclists traveling against the traffic flow will have vehicle headlights directly in their line of sight.
- d. Contra-flow lanes violate the expectations of motorists, when this happens

- motorists and/or bicyclists tend to react to situations in a more unpredictable manner which causes safety concerns.
- e. Corridor consistency is key to minimizing user confusion.
  - f. Maintenance and snow removal for the contra-flow lane with the median barrier would require special consideration.
  - g. The additional cost to construct the two foot median barrier and contra-flow bicycle lane is approximately \$141,000 which is not anticipated in the current project budget.

Option 1 is the staff recommended option. Public Works constantly monitors crashes and potential mitigation. Bicycle-vehicle crashes are a concern as the volume of on street bicycle users increases. It is of utmost importance that the infrastructure provided for both motor vehicles and bicycles is consistent with established guidance and practice which is the most viable means of providing safe and efficient operation. Staff felt that option 1 best met the criteria for a “B” level rider connection which is demonstrated in the chart below.

<b>CRITERIA</b>	<b>OPTION 1</b>	<b>OPTION 2</b>	<b>OPTION 3</b>
Safety	<b>X</b>	<b>X</b>	
Constructability	<b>X</b>		
Cost / Budget	<b>X</b>		
Design Standards	<b>X</b>	<b>X</b>	
“B” Level Design	<b>X</b>	<b>X</b>	
Mode / User Efficiency	<b>X</b>	<b>X</b>	
Distance Traveled (Directness)	<b>X</b>		<b>X</b>
Minimize Impacts to Traffic Operations	<b>X</b>	<b>X</b>	

Cc: Council Member Lisa Goodman, Ward 7