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March 2, 2016

**To: Board of Public Works**

**From: Robert Phillips, P.E.**  
City Engineer

**David Dryer, P.E.**  
City Traffic Engineer

**Subj: Capitol Square Contra-flow bike facility**

Board Members:

At the Pedestrian Bicycle Motor Vehicle Commission meeting on February 24, 2016, the Commission requested Staff provide the BPW a formal analysis of the feasibility of providing contraflow bicycle facilities on the North side of Mifflin St running from State St to Pinckney St.

Staff had reviewed this north side contraflow concept earlier but the concept was dismissed as the south side was found to be the preferred and safer location for a contraflow bike facility on this side of the capitol square.

A concept has been prepared and attached to this memo, however staff provides the following concerns with the concept:

- 1) When the concept is designed together with the actual physical survey of the square, the North side contra flow concept will in fact require the reconstruction of 7 granite planters and the full removal of two of the planters. 13 trees are also expected to need to be removed.
- 2) While there are many examples of bicycle facilities that are configured in a manner that transit patrons must cross to board and alight buses, the fact remains that it is a conflict point between cyclists and pedestrians. It is always a goal to minimize conflicts between the various modes of transportation. The State Street & Capitol Square are two of the premier transit & pedestrian areas of the City and include an average of 950 bus boardings per day. Adding in people getting off the bus and there could potentially be 2000 pedestrians crossing this area per day to access buses. The design requires the path to bend around the bus shelters and it is important to provide space for transit users. Staff would recommend any concept have 8 feet of pedestrian space for busses loading and unloading. It is not just a matter of providing space at the shelter only, as the square is a highly used transit transfer point--busses stop up and down these blocks.
- 3) The North side concept will require the elimination/or reduction of two sidewalk cafés, and the possibility for future cafés will be reduced.
- 4) The North concept would alter three traffic signals on the Square, not just the signal at the intersection of Wisconsin Ave and Mifflin. The Wisconsin Ave intersection can be easily implemented as bicyclists

can cross similar to pedestrians - with right turning traffic yielding to one-way contraflow bicycle traffic. However the operational impacts at the two intersections of State St and Mifflin and at Pinckney and Mifflin are more severe. At these two intersections there are new/additional conflicting movements introduced into the signal system that must be accounted for. The additional required separation of motorized traffic, pedestrians and bicyclists negatively impacts the overall efficiency of the intersection. These impacts accrue mainly to Madison Metro and the other pedestrians who now will experience greater delays on the square.

5) The sidewalk on the square was recently reconstructed. A significant amount of planning and engineering went into the current layout of the capitol square. The process was led by the State Street Design Committee. Approximately \$2 million in projects has been spent to install bus shelters, replace sidewalks, granite planters and trees from 2007-2010. Some options may also require removal of the large sculptures located at the Wisconsin Mifflin Street intersection and moving two bus shelters with water and electrical.

In Summary, the City of Madison strives to provide a transportation network that balances the needs of pedestrians, bicyclists, motor vehicles and transit. City Engineering & City Traffic Engineering staff do not support the implementation of a north side contraflow bike lane on the East and West Mifflin blocks of the Capitol Square. Staff recommends that a contraflow bike lane continue to be planned for the south side of the square. The Staff supported current design does not preclude the contraflow bike lane concept being done on the south side of Mifflin St in the future.

Sincerely,



Robert F. Phillips, P.E.  
City Engineer



David C. Dryer, P.E., CAPP  
City Traffic Engineer

RFP/DCD: cjp

cc: Pedestrian Bicycle Motor Vehicle Commission Members  
Alder Michael Vermeer

