



**CITY OF URBANA, ILLINOIS
DEPARTMENT OF PUBLIC WORKS**

ENGINEERING

MEMORANDUM

TO: Mayor Laurel L. Prussing and Members of the City Council

FROM: Joseph L. Smith, Senior Civil Engineer
Gale L. Jamison, Assistant City Engineer
William R. Gray, Public Works Director

DATE: February 23, 2012

RE: Roundabout Feasibilities for Philo Road and Florida Avenue and Race Street and Windsor Road

BACKGROUND/FACTS

At the August 22nd, 2011 meeting of the Committee of the Whole, intersection control options were presented by Mark Lenters of Ourston Roundabout Engineering for the intersections of Race Street and Windsor Road and Philo Road and Florida Avenue. More specifically, the feasibility of installing a modern roundabout was explored for each of the two intersections. These studies were prepared at the request of the City Council to meet the goals and objectives for sustainability in public infrastructure improvements. The meeting generated much public input from the visually impaired community. As a result of that input, the City Council asked staff to research options to accommodate the visually impaired users at roundabouts.

Subsequently, at the January 23rd meeting of the Committee of the Whole, a presentation was given by City staff on the potential treatments to improve the access for the visually impaired users of the intersection given the current practices, guidelines and ongoing research. Again there was substantial public input from the disabled community and concerns were raised about the usability of roundabouts by those who were not only visually impaired but had other physical disabilities.

Neither intersection is included in the priority 1, 2 or 3 for the CUUATS Selected Crash Intersection Locations (SCIL) report for the years 2005-2009 for either signalized or un-signalized intersections. Florida Avenue and Philo Road intersection has experienced 28 crashes in a 6 year period and Windsor Road and Race Street intersection has experienced 11 crashes in a 6 year period. Nine intersections in the City of Urbana are higher in priority based on volume class, average crash frequency, average crash rate or Equivalent Property Damage Only (EPDO) methods.

FINANCIAL IMPACTS/COSTS

Both intersections are identified in the Capital Improvement Plan for improvement in the 2011/2012 budget year for Florida/Philo traffic signal modernization (\$200,000) and in the 2013/2014 budget year for Windsor/Race traffic signal installation (\$210,000). The proposed roundabout construction costs are estimated at \$850,000 for Philo Road and Florida Avenue which includes engineering and

adding \$60,000 in visually impaired pedestrian enhancement treatments such as a pedestrian activated Rapid Flashing Beacons and additional signage and offset crosswalks. The construction costs are estimated at \$1,440,000 for Windsor and Race which includes engineering and adding \$127,000 for pedestrian actuated HAWK signals on the Windsor Road legs because current guidelines from the Federal government require pedestrian activated signals when there are multiple approach lanes to a roundabout. Additional signage and treatments will be added to the Race Street legs and is also included in that cost. As is evident the initial cost of roundabout construction far exceeds the proposed traffic signal work but both projects will recover the societal value of the improvements with collision reduction, reduced emissions, reduced delay and vehicle operating costs and improved safety for all. These societal cost benefit results are independent of the City Council's assessment of budget constraints and priorities of all projects listed in the ten year Capital Improvement Plan.

In order to construct the roundabouts it would require an additional \$650,000 for Philo Road/Florida Avenue budget and an additional \$1,125,000 for Windsor Road/Race Street budget based on current estimates and options needed to comply with the visually impaired pedestrian needs. A funding source will need to be identified to proceed with either intersection as a roundabout option. Current MFT projects funded show a surplus of approximately \$500,000 for fiscal year 2012/2013 but major projects planned in fiscal year 2013/2014 will lead to a deficit of \$3,400,000. Current Capital Replacement & Improvement projects funded show a surplus of approximately \$980,000 for fiscal year 2012/2013 but again major projects planned in the coming years will lead that fund to a \$50,000 deficit by the fiscal year 2015/2016. Several projects that are identified in the Capital Improvement Plan will need to be deferred and many projects that are not yet identified may increase in priority and force more deferrals. Additional research is needed to discover funding sources through State and Federal grants.

RECOMMENDATIONS

City staff is seeking City Council direction on the choice of intersection control for these two intersections. Of the two intersections Florida Avenue and Philo Road is the more urgent priority in the City budget in performing a maintenance type improvement and has a higher accident incidence than Windsor Road and Race Street. The option is to modernize the intersection with new traffic signal equipment and constructing it to conform to the latest FHWA and IDOT safety standards and guidelines for vehicles, pedestrians and bicycles at a cost of \$200,000 or alternatively construct a modern roundabout which could greatly improve vehicular and pedestrian safety and provide long term congestion relief at a cost of \$850,000 amid valid concerns from the disabled community that a roundabout does not adequately address their accessibility needs.

For the intersection of Windsor Road and Race Street it has been identified in the Capital Improvement Plan to install traffic signals in 2013. Traffic conditions presently exist to meet the MUTCD warrants for a traffic signal installation to relieve peak hour congestion. Future increases in traffic volumes will continue to worsen congestion and possibly increasing accidents. The option there is to install the traffic signals in 2013 at a cost of \$210,000 and add pavement reconstruction at a cost of \$240,000 making the entire project cost \$450,000 or construct a roundabout which would improve both safety and congestion at a cost of \$1,440,000 which would include mandated pedestrian signal enhancements for the visually impaired. City staff will continue to investigate what other communities are doing in developing a policy statement or guidelines to assist staff in selecting intersections that may warrant further study for the installation of a roundabout.