



# Naperville

## TRANSPORTATION ADVISORY BOARD AGENDA ITEM

**SUBJECT:** West–Emerald–Osler Reconfiguration Feasibility Study Recommendation

OLD BUSINESS  
 PUBLIC HEARINGS

REPORTS AND RECOMMENDATIONS  
 CORRESPONDENCE

**ACTION REQUESTED:**

Approve staff’s recommendation to proceed with Option 1 – Traffic Signal at Osler Drive.

**TAB ACTION PREVIOUSLY TAKEN:**

Date of Action	Item No.	Action
N/A		

**SUBMITTED BY:** Kim Grabow, Project Engineer

**BACKGROUND:**

Beginning with the FY05-06 Capital Improvement Program (CIP), a project has been included in the CIP to conduct the engineering associated with a traffic signal installation at West Street and Emerald Drive (TC037) in FY07-08.

However, prior to starting the engineering work for TC037, the project was adjusted as a result of the Caroline Martin Mitchell Study discussions and conversations with Edward Hospital to improve the hospital’s access at West Street and Osler Drive. Given the close proximity of the West Street/Osler Drive and West Street/Emerald Drive intersections, the decision was made to evaluate other potential options for improving traffic flow along West Street, access from the adjacent properties and mobility of pedestrians and bicyclists.

Information about the roadways included in the project area is provided below:

*West Street* is a four-lane, north-south minor arterial roadway under the jurisdiction of the City of Naperville. The posted speed limit is 30 miles per hour (mph). A separate left turn lane is provided for southbound West Street at Osler Drive and Emerald Drive.

*Emerald Drive* is a two-lane, east-west neighborhood connector roadway under the jurisdiction of the City of Naperville with a posted speed limit of 25 mph. At its

intersection with West Street, Emerald Drive has one shared lane for right and left turn movements. The intersection of West and Emerald is all-way stop controlled.

*Osler Drive* is a two-lane, east-west private roadway under the jurisdiction of Edward Hospital with a posted speed limit of 15 mph. At its intersection with West Street, Osler Drive has separate right turn and left turn lanes. Osler Drive is one-way stop controlled at West Street.

### **DISCUSSION:**

TED staff hired Christopher B. Burke Engineering, Ltd. (CBBEL) to conduct a feasibility study that evaluated a number of potential options to improve vehicular traffic flow and access as well as pedestrian and bicycle mobility at the intersections of West Street with Osler Drive and Emerald Drive. CBBEL evaluated four options:

- Option 1 - Install a traffic signal at West Street and Osler Drive with a one-way stop for Emerald Drive at West Street.
- Option 2 - Install a traffic signal at West Street and Emerald Drive and retain the one-way stop for Osler Drive at West Street.
- Option 3 - Construct roundabouts at the intersections of West Street with Osler Drive and Emerald Drive.
- Option 4 - Install a traffic signal at West Street and Osler Drive and realign Emerald Drive to connect to Osler Drive rather than West Street.

The analysis conducted by the consultant determined that all four options would improve traffic flow on West Street and provide improved accommodations for pedestrians and bicyclists compared to the existing condition. There was variable improvement related to vehicular accessibility at Osler Drive and Emerald Drive depending upon each of the options.

As a result of the feasibility study analysis, the city's consultant recommended Option 3 – Roundabouts at the West/Emerald and West/Osler intersections. CBBEL recommended the roundabout option because it provides to greatest improvement to traffic flow on West Street as well as access for Osler Drive and Emerald Drive. Additionally, the roundabouts address the pedestrian safety concerns with the yield on-entry signs and pedestrian refuge islands.

The feasibility study is provided as Attachment 1.

### **Public Meeting Comments**

Following the completion of the feasibility study, TED staff presented the four options to the public at an open house meeting on Thursday, June 11, 2009. Approximately 40 members of the public attended the meeting. The meeting materials are provided as Attachment 2.

In general, the residents that attended the public meeting preferred Options 1 and 2 – Traffic signals at Osler or Emerald. There were also a number of comments to leave the intersections in their current configuration and enforce the no left turn restrictions during the AM and PM rush hours at Osler Drive. A few individuals liked the idea of Option 3 – Roundabouts at Osler and

Emerald, but many participants were concerned about installing roundabouts at this location. Very few people liked Option 4 – Realigning Emerald Drive to Connect to Osler. Residents that lived on Emerald Drive also voiced concerns about increasing the amount of traffic on Emerald Drive as they felt there was an existing speeding and cut-through problem on the roadway. A full summary of written comments from the meeting is provided in Attachment 3.

Meeting participants were asked to rank the options in order of preference from 1 (most preferred) to 4 (least preferred). Nineteen residents provided responses, which are provided below in Table 1.

Table 1 – Option Preference Survey Results

Option	Responses																		TOTAL	Average	
	2	2	4	1	4	3	2	2	4	2	4	*	1	3	1	1	1	1			1
Signal at Osler	2	2	4	1	4	3	2	2	4	2	4	*	1	3	1	1	1	1	1	39	2.2
Signal at Emerald	3	1	2	*	1	3	1	1	4	1	1	1	*	1	*	2	2	4	*	28	1.9
Roundabouts	1	3	1	*	4	4	4	4	4	3	4	*	*	2	*	3	3	4	*	44	3.1
Realign Emerald	4	4	3	*	4	4	3	3	4	4	4	*	*	4	*	4	4	4	*	53	3.8
Notes:																					
* - Did not provide a response for the alternative.																					
1 - Most Preferred, 4 - Least Preferred																					

The results of the survey were consistent with the comments that were expressed at the public meeting. The order of preference was Option 2 – Traffic Signal at Emerald, Option 1 – Traffic Signal at Osler, Option 3 – Roundabouts, and finally Option 4 – Realign Emerald. In terms of rankings, 7 out of 19 people ranked Option 1 (signal at Osler) as the most preferred and 8 out of 19 people ranked Option 2 (signal at Emerald) as most preferred. Opinion was essentially split between Options 1 and 2.

Organizational Stakeholder Comments

City staff also met with representatives from Edward Hospital, Naperville Park District and Naperville School District 203 to obtain their feedback regarding the four options. Overall, the three organizations agreed that Options 1 and 2 were preferred with Option 1 – Traffic Signal at Osler as the most preferred because it places the traffic signal at the hospital entrance and Osler Drive is the preferred access point for the Garden Plots.

The organizations had concerns about the roundabout option near the hospital and park district properties due to the number of young drivers (high school students) and drivers unfamiliar with the area (hospital users) that use West Street. The park district was also concerned that the roundabout option would require the city to obtain additional right-of-way from the Garden Plots property. Option 4 was seen to negatively impact the hospital operations due to the additional residential traffic on Osler Drive and the loss of the open space near Linden Oaks.

Staff Recommendation

Based upon the information provided in the feasibility study report, comments from the general public and the adjacent organizations and internal staff discussions, staff is recommending Option 1 – Traffic Signal at Osler Drive for TAB approval.

TED staff is recommending Option 1 (signal at Osler) rather than Option 2 – (signal at Emerald) Drive for the following reasons:

- Options 1 and 2 were both well received by the residents as well as the organizational stakeholders. The rankings from the residents showed that Options 1 and 2 were split for most preferred. The organizational stakeholders all preferred Option 1 over Option 2.
- Options 1 and 2 both improve traffic flow on West Street. The average delay for vehicles on West Street is lower with Option 1 (signal at Osler).
- The delay experienced by vehicles attempting to exit Osler Drive with Options 1 and 2 is generally consistent with the existing condition. Neither option would provide a greater benefit.
- The delay experienced by vehicles attempting to exit Emerald Drive with Options 1 and 2 is generally greater than the delay experienced in the existing condition. However, the amount of delay is lower with Option 1 (signal at Osler).
- Many of the comments expressed at the public meeting were in regards to the perception of speeding and cut-through traffic on Emerald Drive. A traffic signal at Emerald Drive could increase the amount of traffic on Emerald Drive in the neighborhood.
- Traffic volumes are greater on Osler Drive (approximately 6,000 vehicles per day) compared to Emerald Drive (approximately 4,000 vehicles per day). The traffic signal will also provide for improved accessibility to the Garden Plots.
- Staff evaluated the sight distance at Emerald Drive and found that there is sufficient sight distance for vehicles to make a right or left turn from Emerald Drive.
- The traffic signal at Osler Drive can be coordinated to provide gaps for traffic on Emerald Drive attempting to turn left onto West Street.

There are many benefits to installing a roundabout rather than a traffic signal at an intersection and staff feels that the city should consider roundabouts in other areas of the city. However, staff feels that this location may not be appropriate given the close proximity of the intersections to each other, and the high volume of new drivers (high school students) and drivers unfamiliar with the area (hospital visitors). Additionally, the roundabout option required the acquisition of right-of-way, which would increase the cost of the project and impact the Garden Plots.

Option 4 was not recommended because it was felt that the realignment of Emerald Drive to Osler Drive would not improve access for the residential area on Emerald Drive. The analysis found that traffic on Osler Drive would back up past the intersection with Emerald Drive causing additional delays for vehicles on Emerald Drive. Staff was also concerned that this would encourage non-hospital traffic use of Osler Drive, which is a private roadway under the jurisdiction of Edward Hospital.

#### Next Steps

Once a recommendation is approved by the City Council, TED staff will coordinate with Edward Hospital, Naperville Park District and School District 203 to develop a project timeline for engineering and construction. A new project will be included in the FY11-15 CIP for the City Council's consideration in January 2009.

**RECOMMENDATION:**

Approve staff's recommendation to proceed with Option 1 – Traffic Signal at Osler Drive.

**ATTACHMENTS:**

1. West-Emerald-Osler Feasibility Study Report
2. June 11, 2009 Meeting Materials
3. June 11, 2009 Public Comments