North Avenue Reconstruction Project

CSS Meeting #4

December 9, 2015
Agenda

• Convene the Meeting
• Review of CSS Advisory Group Meetings 1 - 3
• Drainage and Stormwater Process Discussion
• Speed Survey and Traffic Counts Results and Discussion
• Initial Alternatives
• Adjourn
REVIEW OF CSS ADVISORY GROUP MEETINGS 1 – 3
CSS Meeting #1

• Issues affecting North Avenue
  – Speeding, access, lack of bike/ped facilities, good visual setting, RR crossing delays & safety, roadway configuration

• Vision for the future North Avenue
  – Better intersection configurations, safety, address speeding, stormwater treatment, stormwater treatment
CSS Meeting #2

• Individual and group weighting exercises
  – Improve access to/from North Avenue
  – Address speeding/safety
  – Improve curves/intersections

• Individual and group weighting exercises
  – Improve access to/from North Avenue
  – Address speeding/safety
  – Improve curves/intersections
CSS Meeting #3

• Crash analysis & discussion
• Review of “draft” Purpose and Need
  – Safety, capacity, roadway deficiencies, consistency with local plans
• Proposed typical sections
• Locations for traffic counts and speed study
DRAINAGE & STORMWATER PROCESS DISCUSSION
Drainage & Stormwater Process

• The North Avenue project lies within the service area of the Milwaukee Metropolitan Sewerage District (MMSD)
  – Managing storm water on the corridor will initially be guided by their regulations, in part known as “Chapter 13”

• Chapter 13 rules address the need for a uniformly applied set of regulations to manage the increases in runoff

• The overall mission of these regulations is as follows:
  – To manage existing flooding problems and prevent formation of new problems
  – Enhance water quality through thoughtful stormwater management and application of green features
Drainage & Stormwater Process

• The proposed alternatives will add to the amount of paved areas within the local watershed
  – New impervious (paved) areas will be an important consideration as increased peak flow rates and runoff volumes are managed

• Chapter 13 rules require use of performance standards to control these increases for which the goal is to preserve existing drainage flow rates and prevent downstream flooding
  – The performance standards dictate that proposed drainage improvements must evaluate the 1% probability (100-year) storm event and 50% probability (2-year) storm events to ensure that peak flow rates and volume of runoff are not increased over existing or pre-project values
Drainage & Stormwater Process

• Utilizing green features to promote water quality and managing the stormwater closest to where it falls are two BMPs that MMSD prefers
  – Existing drainage patterns are an important consideration as proposed drainage alternatives are developed
  – Siting and identifying how “green” features, such as bio retention swales, might fit within the various corridor alternatives is also important

• Chapter 13 rules specify that the local government unit submits the preliminary plans, analyses and storm water management plan documents to MMSD for review and approval
  – After the overall storm water management plan is approved, further engineering details regarding the final configuration of storm sewers, culverts, and water quality features will be prepared

• Rules

• Technical Guidance/Criteria
SPEED SURVEY AND TRAFFIC COUNTS RESULTS AND DISCUSSION
Speed Studies

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Time of Day</th>
<th>Weather/ Pavement Condition</th>
<th>Posted Speed</th>
<th>Average Speed</th>
<th>85th Percentile Speed</th>
<th>Speed Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glen Cove Lane</td>
<td>October 1, 2015</td>
<td>2:00 pm</td>
<td>60, Overcast, Dry</td>
<td>35 mph</td>
<td>38.9 mph</td>
<td>41.4 mph</td>
<td>33 mph – 45 mph</td>
</tr>
<tr>
<td>W. Rockway Lane</td>
<td>October 7, 2015</td>
<td>2:00 pm</td>
<td>65, Partly Cloudy, Dry</td>
<td>35 mph</td>
<td>37.4 mph</td>
<td>40.0 mph</td>
<td>32 mph – 45 mph</td>
</tr>
<tr>
<td>Mt. Zion</td>
<td>September 30, 2015</td>
<td>2:00 pm</td>
<td>60, Partly Cloudy, Dry</td>
<td>35 mph</td>
<td>39.8 mph</td>
<td>42.4 mph</td>
<td>33 mph – 48 mph</td>
</tr>
<tr>
<td>Hollyhock Lane</td>
<td>September 29, 2015</td>
<td>2:00 pm</td>
<td>60, Overcast, Dry (Rain in the am)</td>
<td>35 mph</td>
<td>38.7 mph</td>
<td>42.0 mph</td>
<td>32 mph – 46 mph</td>
</tr>
</tbody>
</table>

Advisory Group members concerns with speeding on North Avenue are validated by the speed study
Gap Analysis

(% of time when right turn wait times exceed 6.5 seconds and left turn wait times exceed 7.5 seconds during the am or pm peak hour)

<table>
<thead>
<tr>
<th>Location</th>
<th>SB Right Turn (am)</th>
<th>SB Right Turn (pm)</th>
<th>NB Left Turn (am)</th>
<th>NB Left Turn (pm)</th>
<th>NB Right Turn (am)</th>
<th>NB Right Turn (pm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Hillsdale/N166th</td>
<td>28%</td>
<td>48%</td>
<td>69%</td>
<td>89%</td>
<td>41%</td>
<td>52%</td>
</tr>
<tr>
<td>Glen Cove/Wirth Park</td>
<td>20%</td>
<td>50%</td>
<td>64%</td>
<td>85%</td>
<td>47%</td>
<td>60%</td>
</tr>
<tr>
<td>Kevenauer/Rockway</td>
<td>26%</td>
<td>60%</td>
<td>71%</td>
<td>85%</td>
<td>50%</td>
<td>57%</td>
</tr>
<tr>
<td>Mt. Zion/Mt. Kisco</td>
<td>38%</td>
<td>74%</td>
<td>84%</td>
<td>97%</td>
<td>61%</td>
<td>74%</td>
</tr>
<tr>
<td>Hollyhock/Arrowhead</td>
<td>34%</td>
<td>64%</td>
<td>83%</td>
<td>95%</td>
<td>61%</td>
<td>84%</td>
</tr>
</tbody>
</table>

• Advisory Group members concerns about the difficulty to access North Avenue are validated by the Gap Analysis
Traffic Volumes
Calhoun Road to Highland Drive
Traffic Volumes
Lilly Road to N. 124th Street
INITIAL ALTERNATIVES
3-Lane Roadway with TWLTL

- North Avenue is a National Highway System (NHS) route
  - WisDOT FDM states NHS routes must operate at LOS D or better
  - All current two-lane sections that could be reconstructed as 3-lane roadway with TWLTL would operate at LOS E in 2039

- Therefore, the 3-Lane Roadway with TWLTL is eliminated from further consideration
Remaining Roadway Typical Sections

Total Right-of-Way Width

**TYPICAL FINISHED SECTION CTH M/NORTH AVENUE**

*FIVE-LANE WITH TWO-WAY LEFT TURN LANE ROADWAY*

**TYPICAL FINISHED SECTION CTH M/NORTH AVENUE**

*FOUR-LANE DIVIDED ROADWAY*

**SIDEWALK**

**TERRACE**

**DRIVING LANE**

**TERRACE**

**SIDEWALK**

**8' SIDEWALK**

*CALHOUN TO PILGRIM*

*MT ZION WOODS TO LILLY*
Next Steps

• CSS Advisory Group meeting #5
  – Narrowed range of alternatives (February 2016)

• Public Meeting #2
  – Narrowed range of alternatives (February 2016)