

VILLAGE OF DOWNERS GROVE
REPORT FOR THE VILLAGE COUNCIL MEETING
MARCH 4, 2014 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
Turn Restrictions – Webster Street at 55 th Street	Resolution Ordinance ✓ Motion Discussion Only	Nan Newlon, P.E. Director of Public Works

SYNOPSIS

An ordinance has been prepared to amend sections of the Municipal Code to permit right turns only on southbound Webster Street at 55th Street.

STRATEGIC PLAN ALIGNMENT

The goals for 2011-2018 include *Top Quality Infrastructure*.

FISCAL IMPACT

N/A

UPDATE & RECOMMENDATION

This item was discussed at the December 13, 2011 Village Council meeting. At the January 3, 2012 Council meeting, at the request of the residents of Webster Street that petitioned for the road closure, this item was tabled to a date uncertain.

Staff recommends opening discussion of this item to provide a recommendation to DuPage County regarding intersection design for 55th and Webster. DuPage County is planning road improvements along 55th Street from Fairview to Main Street, including improved turn lanes at Main Street and Fairview. The widening of the intersection at 55th and Main will impact Webster. County staff is preparing preliminary engineering plans for the project and has presented two options for consideration by the Village: a right-out only southbound from Webster onto westbound Maple Avenue or a dead-end closure of Webster at 55th Street. The Village's preferred intersection design will be included on preliminary plan submission to the Illinois Department of Transportation (IDOT) and for review and comment at future public meetings.

Staff recommends right-turn only. This will address several issues related to this intersection, including sight-distance concerns and cut-through traffic due to the street's proximity to downtown. Staff does not recommend the dead-end closure because it would limit the ability of emergency and service vehicles (fire apparatus, snow plows and delivery vehicles) to navigate the street and would result in large vehicles attempting to turn around at the end of the street or backing up Webster to exit the area. The concept design for the Right-Turn Only is attached.

Based on the Village's direction, DuPage County staff will prepare plans for submission to IDOT. The County will hold a public workshop to discuss plans for the 55th Street improvements project and take comments from residents.

BACKGROUND

During the 2010 Neighborhood Traffic Study in January, 2011, the Village received comments as well as petitions from residents of the Webster Street neighborhood regarding safety concerns due to sight distance limitations at this intersection and cut-through traffic. The residents requested a complete road closure of Webster Street at 55th Street.

Staff reviewed this intersection and found the following:

- The sight distance for southbound Webster Street traffic for left, through and right turn movements is less than the minimum recommended.
- Traffic volumes on this street are significantly lower than average for residential streets with 230 vehicles/day.
- Vehicle crashes in the vicinity of the intersection have not been higher than average during the past three years.

To address the sight distance concerns, staff reviewed several alternatives. The alternatives are summarized in the attached report to the Transportation and Parking Commission. Based on the review of the operation of this street, staff recommends permitting right turns only on southbound Webster Street at 55th Street. In addition, DuPage County has installed warning signs on 55th Street to alert motorists of the approaching intersection at Webster Street.

In 2012, DuPage County and the Village will begin a larger Phase I Engineering study for the future improvement of the 55th Street/Main Street intersection. Staff will recommend that the intersection of Webster Street and 55th Street is included in the analysis and engineering designs.

This item was presented to the Transportation and Parking Commission on November 16, 2011. The Commission voted 4-0-1 to permit right turns only on southbound Webster Street at 55th Street. Staff concurs with this recommendation.

ATTACHMENTS

Staff Report and Meeting Minutes – November 16, 2011 Transportation and Parking Commission

Memorandum



Date: November 19, 2013

To: Morgan Cotten, DuPage County

From: Jimmy Robinson, Burns & McDonnell

Project: 55th Street Phase I Project

Re: Webster Street Geometric Alternatives

Cc: Paul Kruegar (DuDOT)
Mike Mack (BMcD)
File 68671

The purpose of this tech memo is to summarize a new geometric alternative for the north leg of Webster Street at 55th Street.

Background Information

At the onset of the project the Village of Downers Grove expressed concern with the existing geometry of the 55th Street / Webster Street intersection. The concerns include the number of vehicles which use Webster Street as a bypass route to the downtown and sight distance of vehicles exiting onto 55th Street from the north leg of Webster Street.

A 2011 petition, which was unanimously signed by residents on the north leg of Webster Street, stated traffic along Webster Street is primarily cut through traffic and requested Webster Street be dead ended at 55th Street. At that time, it was determined by the VODG that dead ending the street was not a viable option due to limited space to provide a turnaround. It should be noted that Webster Street does not serve as direct route to the downtown as seen on the map to the right. Webster Street does not extend to Maple Avenue.

Sight Distance Evaluation

The Village of Downers Grove has stated that the house on the northeast corner of Webster Street/55th Street intersection is a leading cause of the sight distance issue at the intersection.



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Burns & McDonnell performed site inspections and confirmed limited intersection sight distances for vehicles exiting Webster Street onto 55th Street due to profile issues on the east leg. Additionally, there are shrubs along the property line of the house in the northeast corner which creates an issue for vehicles stopping at the stop bar, but vehicles can move up and eliminate this issue. The house structure does not create a sight distance issue. Due to roadway widening, the shrubs may provide limited sight distance in the proposed condition. The shrubs will need to be trimmed or removed or the stop sign on the north leg of Webster Street may need to be moved to shift the decision point closer to the road. By shifting the decision point the shrubs will no longer be an obstruction to the sight distance.

According to AASHTO, the required sight distance for a vehicle turning left onto 55th Street is 390 feet. The intersection sight distance for a vehicle turning right onto 55th Street is 335 feet. The existing intersection sight distance is substandard for both turning movements as field observations show a sight distance of approximately 225 feet. When vehicles stopped at Webster Street look to the west they can see approaching vehicles but as these vehicles pass Washington Street they disappear at the bottom of a sag curve. The vehicles then reappear as they reach a crest curve west of Webster Street.

The proposed improvements include roadway widening along 55th Street to add a channelized left turn lane at the Main Street intersection. At Webster Street, the widening along 55th Street is approximately 3 feet which has the potential of reducing the intersection sight distance. The widening at Webster Street does not allow vehicles to pull up as far as the existing condition and results in the decision point being pushed further from the road. Assuming the same 225 feet intersection sight distance, which is due to the existing profile, and a 14.5 foot setback distance from the edge of pavement, the shrubs are in conflict and will need to be removed or trimmed to maintain the existing sight distance. If the vehicle moves forward to a 10 foot setback the shrubs are no longer in conflict. According to AASHTO, the setback distance is based on the distance from the front of the vehicle to the driver and the distance the vehicle stops from the edge of pavement. AASHTO assumes 8 feet from the driver's eye to the front of the vehicle and 6.5 feet or less from the edge of pavement to the front of the vehicle.

If a profile adjustment is made east of Webster Street and assuming a 14.5 foot setback and a 335 foot sight distance, the residence is not in conflict but the shrubs are an obstruction. The shrub obstruction can be eliminated if the vehicle moves forward to a 9.5 foot setback. An intersection sight distance for left turning movements has not been evaluated for the proposed condition as this movement is prohibited in the revised geometry shown below.

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55th Street and Webster Street Geometry

The following option summarizes the suggested geometry revision at the 55th Street/Webster Street intersection to help mitigate the sight distance issue.

The suggested design is to convert the north leg of Webster Street to a right out only as shown below. This design prohibits access to Webster Street from 55th Street and also prohibits Webster Street traffic from turning left and crossing 55th Street. The pros and cons for this design are listed below.

Pros

- Promotes the use of Webster Street by local traffic only.
- Prohibits the bypass route as discussed above.
- Reduces R.O.W. impacts to the parcels on the northwest and northeast corner when compared to a right in/right out entrance.
- Does not require a displacement on the northeast corner which is required if a cul-de-sac is used.
- Eliminates left turns onto 55th Street which is a movement with substandard intersection sight distance.

Cons

- Does not eliminate substandard intersection sight distance for right turn movements however does not reduce sight distance.



Recommendation

This is the suggested design to be incorporated into the project. This design will address the Village's concern of safety and vehicular use of Webster Street. This design also does not impact the property on the northeast corner of 55th Street and Webster Street which has been



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requested by the County. The property on the northwest corner requires R.O.W. acquisition however this is because of the 55th Street widening, not the proposed right out only.

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