



Legislation Text

File #: 19-563, Version: 1

TRANSPORTATION ADVISORY BOARD AGENDA ITEM

ACTION REQUESTED:

Recommend approval to restrict parking on the north side of Jefferson Avenue from the centerline of Ellsworth Street to a point 105' west of the centerline of Ellsworth Street and to restrict parking on the north side of Jefferson Avenue from the centerline of Ellsworth Street to a point 100' east of the centerline of Ellsworth Street.

DEPARTMENT: Transportation, Engineering and Development

SUBMITTED BY: Phil Tartaglia, Project Engineer

BACKGROUND:

The City received a request to evaluate all-way stop control at the intersection of Jefferson Avenue and Ellsworth Street. Jefferson Avenue and Ellsworth Street are both 34-foot wide local streets posted 25 mph with one travel lane in each direction and sections of marked parking boxes at various locations along their length. The intersection of Ellsworth Street and Jefferson Avenue is under two-way stop control, with Ellsworth Street stopping for Jefferson Avenue. The stop signs on Ellsworth Street are posted with "cross traffic does not stop" signs.

The request for an all-way stop comes from a resident concern that vehicles traveling on Ellsworth Street think that the cross traffic on Jefferson Avenue has stop signs, which leads to confusion and potentially unsafe conditions.

DISCUSSION:

City staff investigated the concern and collected vehicular data to evaluate the intersection against the City of Naperville's *Residential All-Way Stop Warrant Worksheet*. The intersection did not meet the criteria to warrant the installation of an all-way stop, scoring a total of 158 points out of the required 500 points. However, field observations noted that the parking boxes on Jefferson Avenue are generally occupied and could obstruct vehicles on Ellsworth Street from seeing approaching vehicles on Jefferson Avenue.

In the three-year crash history, there are four instances of a southbound vehicle colliding with a vehicle on Jefferson Avenue. Two of these drivers stated that they came to a complete stop, did not see an approaching vehicle, and proceeded into the intersection.

Stopping sight distance is the distance required for a moving vehicle to come to a complete stop, including perception-reaction time and time for the vehicle to decelerate. On Jefferson Avenue, the 25 mph speed limit equates to a stopping sight distance of 155 feet, as determined by the standards of the American Association of State Highway and Transportation Officials (AASHTO). Per AASHTO, the driver of a vehicle stopped on the minor approach (Ellsworth Street) will typically be located 14.5

feet from the edge of the cross street's (Jefferson Avenue) traveled way.

In the attached exhibit, the green lines represent the sight lines for a stopped driver who is 14.5 feet from the edge of the traveled way (the south edge of the parking boxes). For a stopping sight distance of 155 feet, a portion of the parking box obstructs the line of sight between southbound vehicles on Ellsworth Street and westbound vehicles on Jefferson Avenue.

The blue line depicts the sight line for a stopped driver who is 14.5 feet from the edge of the pavement (the north edge of Jefferson Avenue, extended across Ellsworth Street), which represents a driver who has not pulled up to a point where their vehicle is in the intersection. Since the intersection's crash history shows a predominant trend in crashes between southbound vehicles and eastbound vehicles, staff finds that it would be appropriate to apply a more conservative scenario when evaluating sight distance for the west leg of the intersection. For a stopping sight distance of 155 feet, a portion of the parking box obstructs the line of sight between southbound vehicles on Ellsworth Street and eastbound vehicles on Jefferson Avenue.

In order to provide a clear line of sight and prevent a potential conflict between southbound and eastbound or westbound vehicles, staff is recommending removal of the first parking spaces east and west of Ellsworth Street. North Central College has been notified of the potential reduction in parking.