

MEMO



TO: City of Bel Aire

DATE: August 3, 2026

PROJECT NO.: 267363-004

PROJECT: 53rd St. N. -- Oliver St. & Webb Rd.

ATTENTION: Anne Stephens, PE

Traffic Analysis

FROM: Scott Canfield, PE, PTOE

REFERENCE: _____

COPIES TO: _____

Please notify immediately of any misconceptions or omissions you believe to be contained herein.

The Manual on Uniform Traffic Control Devices (MUTCD) set the standards, called warrants, to establish the criteria justifying the installation of all-way stop control at an intersection. The satisfaction of a warrant shall not require the installation of all-way stop control. For all-way stop control, there are five warrants - A> Crash Experience, B> Sight Distance, C> Transition to Signal Control or Circular Intersection, D> 8-Hour Traffic Volumes, and E> Other Factors. Traffic data for these intersections was collected on Wednesday, February 11, 2026 for the analysis.

OLIVER STREET & 53RD STREET

Based on the traffic warrants covered below, we would recommend converting the traffic control at the intersection of 53rd St. N. and Oliver Street from two-way to all-way stop control. Warrant A> Crash Experience is met and Warrant D> 8-Hour Traffic Volumes is very close to being met. Any additional development in the area would likely generate enough traffic to exceed the requirements.

Warrant A> For this warrant, five or more crashes in a 12-month period or six or more crashes in a 36-month period that were of a type susceptible to correction by installation of all-way stop control. Information provided by the City shows that in two of the last four years, this warrant is met -- 6 crashes occurred at the intersection in 2022 and 9 crashes in 2025 were right-angle crashes, which is a crash type that could be reduced by all-way stop control.

Warrant B> For this warrant, the sight distance on the minor-road approach is not adequate for a vehicle to cross or turn onto the major (uncontrolled) roadway. This warrant is not met as currently there are no sight restrictions for traffic on any of the approaches.

Warrant C> For this warrant, all-way stop control is an short-term interim measure to control traffic while arrangements are being made for the installation of a traffic signal at the intersection or a circular intersection. This warrant is not met as existing traffic volumes do not warrant the installation of a traffic signal or circular intersection for operational deficiencies.

Warrant D> For this warrant, traffic volumes (vehicle, bicycle and pedestrian) on the major approach are at least 210 units per hour for eight hours of a typical day while the minor approach is at least 140 units for each of those same eight hours. This warrant is not met for the required eight hours. However, the existing traffic volumes meet the requirement for seven hours and falls just short for the last hour (about 50 vehicles short on the major roadway).

Warrant E> For this warrant, the engineering study should determine if other factors, like the need to control left-turn conflicts, or pedestrian and bicycle movements support all-way control. Currently, the area around

this intersection is mostly undeveloped. Without development and pedestrian-level improvements along the arterial routes, pedestrian and bicycle movements will not be significant at/near the intersection. This warrant is not met, as all-way stop control would provide little to no safety improvement at the intersection due to the limited pedestrian and bicycle movements.

WEBB RD. & 53RD STREET

Based on the traffic warrants covered below, we would recommend converting the traffic control at the intersection of 53rd St. N. and Webb Road from two-way to all-way stop control. Similar to the Oliver Street intersection, Warrant A> Crash Experience is met and Warrant D> 8-Hour Traffic Volumes is very close to being met. Any additional development in the area would likely generate enough traffic to exceed the requirements.

Warrant A> For this warrant, five or more crashes in a 12-month period or six or more crashes in a 36-month period that were of a type susceptible to correction by installation of all-way stop control. Information provided by the City shows that 7 right-angle crashes occurred at the intersection in 2025. This warrant is met as these crashes could be reduced by all-way stop control.

Warrant B> For this warrant, the sight distance on the minor-road approach is not adequate for a vehicle to cross or turn onto the major (uncontrolled) roadway. This warrant is not met as currently there are no sight restrictions for traffic on any of the approaches.

Warrant C> For this warrant, all-way stop control is a short-term interim measure to control traffic while arrangements are being made for the installation of a traffic signal at the intersection or a circular intersection. This warrant is not met as existing traffic volumes do not warrant the installation of a traffic signal or circular intersection for operational deficiencies.

Warrant D> For this warrant, traffic volumes (vehicle, bicycle and pedestrian) on the major approach are at least 210 units per hour for eight hours of a typical day while the minor approach is at least 140 units for each of those same eight hours. This warrant is not met for the required eight hours. However, the existing traffic volumes meet the requirement for seven hours and falls just short for the last hour (about 10-15 vehicles short on the major roadway).

Warrant E> For this warrant, the engineering study should determine if other factors, like the need to control left-turn conflicts, or pedestrian and bicycle movements support all-way control. Although the area around the intersection is beginning to develop, there are limited pedestrian and bicycle facilities in the area. This warrant is not met, as all-way stop control would provide little to no safety improvement at the intersection due to the limited pedestrian and bicycle movements.