



File #: 22-1188, **Version:** 1

Meeting Date: 10/6/2022

TRANSPORTATION ADVISORY BOARD AGENDA ITEM

ACTION REQUESTED:

Receive Staff's Evaluation of Traffic Concerns on Gartner Road between Washington Street and Charles Avenue

DEPARTMENT: Transportation, Engineering and Development

SUBMITTED BY: Michael Prousa, TED Project Manager

BACKGROUND:

In August of 2022, residents reached out to the Transportation, Engineering and Development (TED) Department with concerns regarding speeding on Gartner Road between Washington Street and Charles Avenue. Along with speeding, residents also wanted an all-way stop sign at Gartner Road and Julian Street. Residents from the area attended the September Transportation Advisory Board (TAB) Meeting to express their concerns about this stretch of Gartner Road and TAB requested that staff's findings and recommendations be presented at the October TAB meeting.

Currently, Gartner Road currently has multiple locations where staff rotates use of our Driver Feedback Signs (displays approaching vehicle's speed) throughout the year.

DISCUSSION:

TED Staff conducted a speed and volume study at four locations on Gartner Road between Washington Street and Charles Avenue:

- Gartner Road between Edgewater Drive and Driftwood Court
- Gartner Road between Driftwood Court and Julian Street
- Gartner Road between Julian Street and Watercress Drive
- Gartner Road between Whirlaway Avenue and Charles Avenue

When reviewing speed data on a street, the 85th percentile speed is the primary consideration. Per the Institute of Transportation Engineers, the 85th percentile speed the speed at which 85 percent of free-flowing vehicles are traveling at or below. Use of the 85th percentile speed is based on the theory that the large majority of drivers are reasonable and prudent, do not want to have a crash, and desire to reach their destination in the shortest time possible.

The City's Master Thoroughfare Plan classifies streets based upon their function, access, and connectivity. Gartner Road is classified as a Collector (connect local and Neighborhood Connector through or adjacent to multiple neighborhoods and have continuity between arterial streets). The City

has been collecting annual speed and volume data on about 30-40 segments of road for the past 20 years. With this data, staff has established typical speeds and volumes for most road classifications. Our table of the city-wide typical speeds and volumes are listed below.

Roadway Classification	City-wide Typical 85th-Percentile Speed Range	City-wide Typical Weekday Volume (Two-way)
Collector	29 - 34 mph	5,000 - 12,000 vpd
Neighborhood Connector	29 - 34 mph	500 - 5,000 vpd
Local	27 - 32 mph	0 - 1,500 vpd

The table below details the speed and volume data collected at each location on Gartner Road. See attachment 1 for a map showing the speed data locations.

Gartner Road between Edgewater Drive and Driftwood Court	
Eastbound 85 th Percentile Speed	<u>34 mph</u>
Westbound 85 th Percentile Speed	<u>35 mph</u>
Vehicles per day	6,000

Gartner Road between Driftwood Court and Julian Street	
Eastbound 85 th Percentile Speed	32 mph
Westbound 85 th Percentile Speed	31 mph
Vehicles per day	6,000

Gartner Road between Julian Street and Watercress Drive	
Eastbound 85 th Percentile Speed	33 mph
Westbound 85 th Percentile Speed	30 mph
Vehicles per day	3,750

Gartner Road between Whirlaway Avenue and Charles Avenue	
Eastbound 85 th Percentile Speed	29 mph
Westbound 85 th Percentile Speed	<u>35 mph</u>
Vehicles per day	3,650

The tables show that Gartner Road between Edgewater Drive and Driftwood Court and Gartner Road between Whirlaway Avenue and Charles Avenue have speeds above our typical thresholds for a Collector Street.

When looking at tools that can be used to slow vehicles down, the City uses the Traffic Calming Toolkit. Based on the data collected and the applicable toolkit options, City staff recommends several changes to Gartner Road that will be applied this year and next year, these changes are listed below.

- Yellow Banding the 25 mph speed limit signs on Gartner Road leaving Washington Street, Charles Avenue, Olesen Drive, and Naper Boulevard. (See attachment 2).
- Installing the “25 MPH” pavement marking on Gartner Road leaving Washington Street for eastbound traffic and leaving Naper Boulevard for westbound traffic. (See attachment 3).
- Installing marked parking boxes on Gartner Road between Julian Street and Charles Avenue. (See attachment 4).
- Installing a marked choker on Gartner Road between Edgewater Drive and Driftwood Court. (See attachment 5).

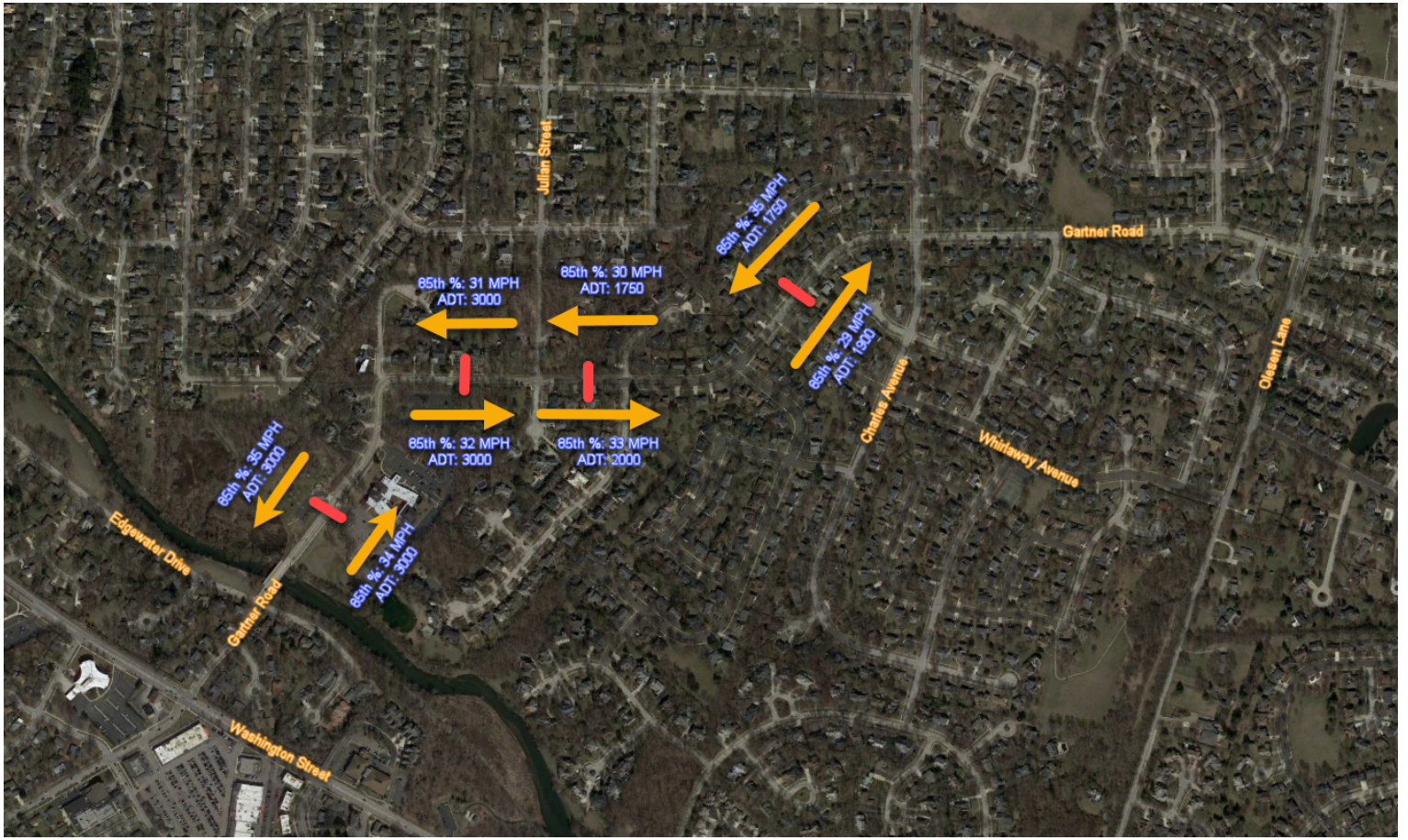
Along with these new changes, staff will continue installing the Driver Feedback Signs (displays approaching vehicle’s speed) on a rotating basis throughout the year and the Naperville Police Department will continue enforcing the area for speeding violations.

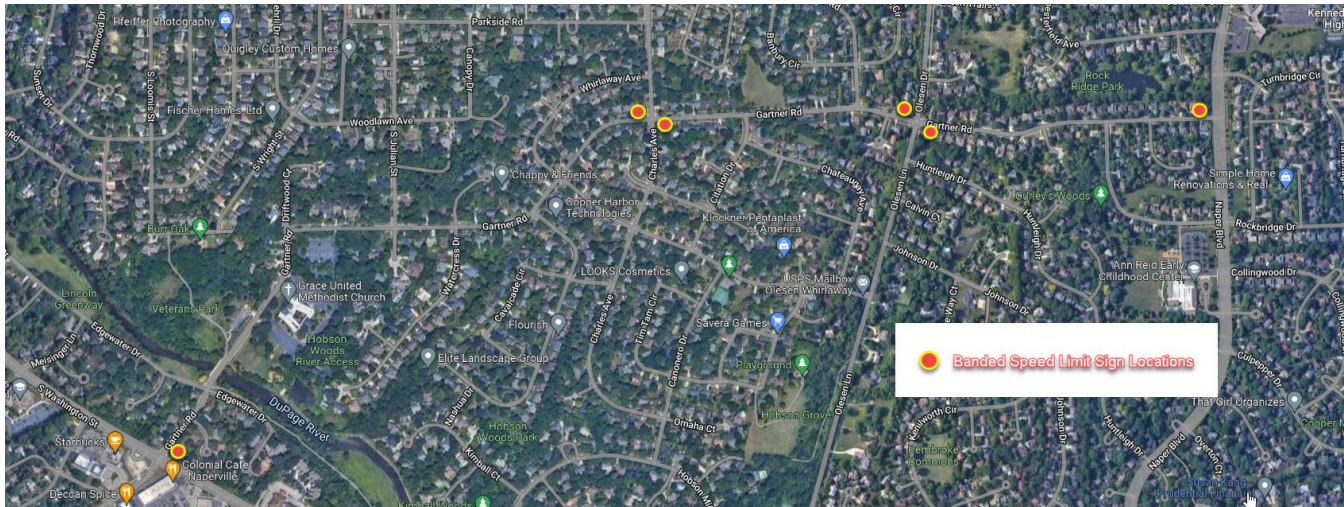
City staff also reviewed Gartner Road and Julian Street for all-way stop control. Gartner Road is a Collector Street which according to Section 11-1-4 of the City’s Municipal Code, “The placement and erection of all-way stop signs at intersections involving collector and arterial streets, as identified in the City’s master thoroughfare plan, shall conform with the regular MUTCD warrant.”

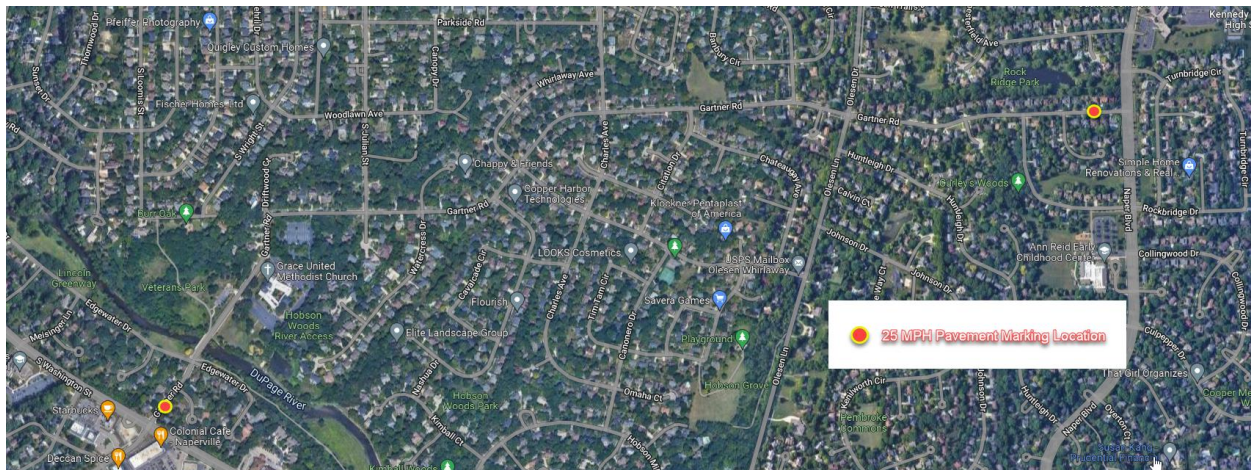
The Multi-Way Stop Application in Section 2B.07 of the MUTCD looks at crash history, vehicle volumes, bicycle and pedestrian volumes, and travel speeds to determine if an all-way stop sign is warranted. The Multi-Way Stop Application with Gartner Road and Julian Street data can be found in attachment 6. Based upon the data and analysis, Gartner Road and Julian Street did not meet the thresholds in the MUTCD for consideration of an all-way stop.

Stop signs are used to assign right of way control and not to prevent speeding. Drivers typically go faster in between stop signs to make up for lost time. Unwarranted stop signs also create stop compliance issues because of the lack of conflict with vehicles.

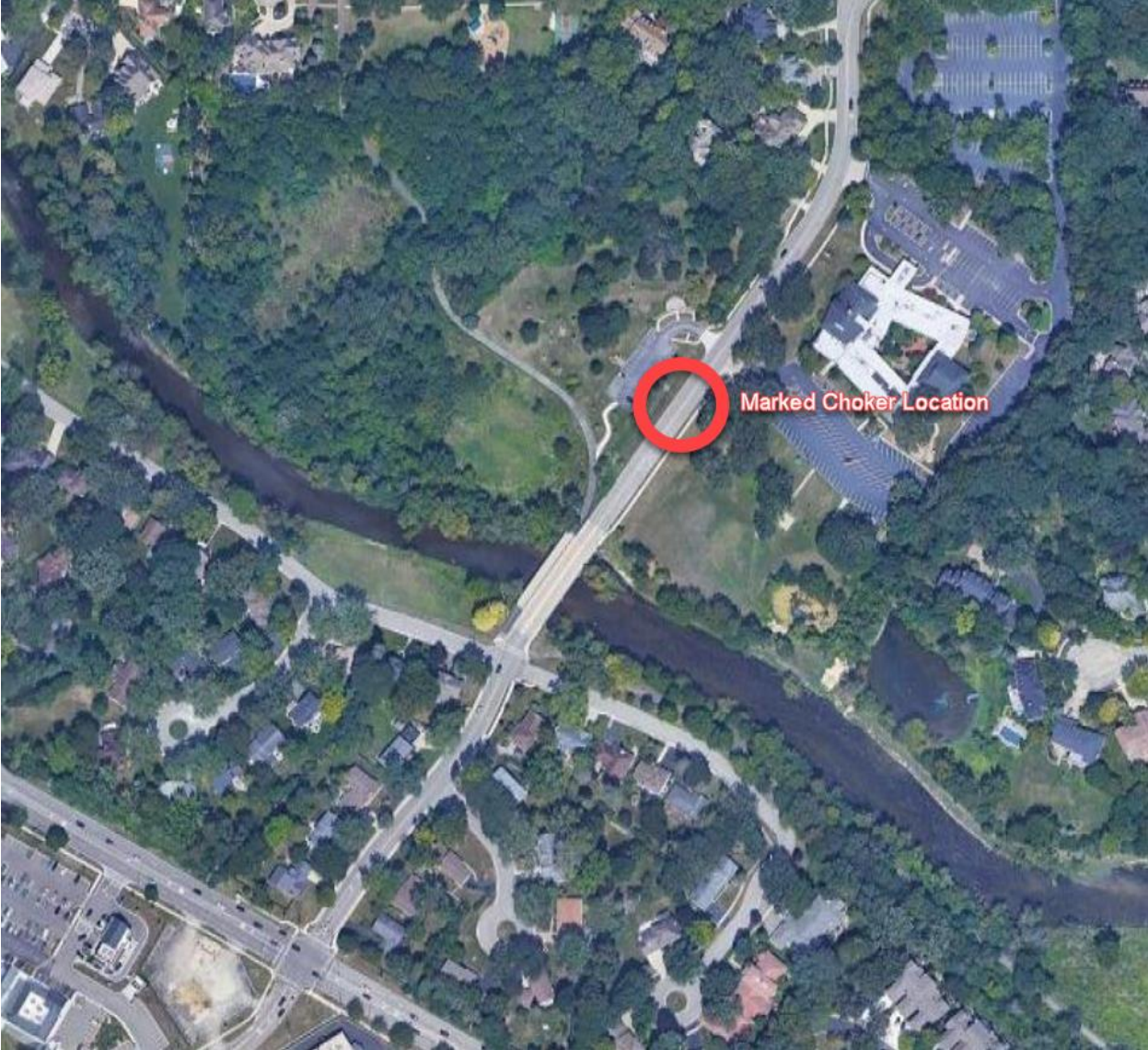
TAB also asked staff to look at the intersection of Gartner Road and Edgewater Drive along with DuPage River Trail Crossing. With Fall weather now upon us, staff will collect bicycle and pedestrian trail counts in the Spring when more trial use is expected. When that occurs, staff will bring a report with findings to TAB.











Marked Choker Location

Multi-Way Stop Application:

Section 2B.07 Multi-Way Stop Applications

Support:

1. Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.
2. The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

3. The decision to install multi-way stop control should be based on an engineering study.
4. The following criteria should be considered in the engineering study for a multi-way STOP sign installation:
 - A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

Not Justified
 - B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

No, 12-month period with 5 or more correctible crashes in the last 5 years. (1 crash in 2021 that was correctable)
 - C. Minimum volumes:
 1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
Yes (387 vehicles per hour)
 2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hours; but
No (130 vehicles/pedestrians/bicycles per hour)
 3. If the 85th percentile approach speed of a major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.
85th Percentile is below 40 MPH

- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Criteria B: No

Criteria C1: Yes

Criteria C2: No (130<160)

Does not qualify for exemption.

Option:

Other criteria that may be considered in an engineering study include:

- A. The need to control left-turn conflicts;
No (1 crash in last 15 years)
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
Pedestrian volumes are not high (10 from 8:00 – 9:00 am)
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and
No Sight distance concern
- D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.
No. During observations 8:00 – 9:00 AM, Julian Street queue was backed up about 6 vehicles during peak times.