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Subject: Traffic Counts for 139th Street connection to Elm Street. (Intersection of 139th Street and 91st Avenue)

The Village of Orland Park Engineering Department recently completed traffic volume counts and observation at the intersection of 139th Street and 91st Avenue to determine how traffic patterns could change if 139th Street is connected to Elm Street. This report is to serve as a summary of the study results.

<u>Background</u>

Existing Conditions

Elm Street, south of 138th Street is a 19' wide roadway with no curb and no sidewalks. 91st Avenue is a 27' wide roadway with curb & gutter and a sidewalk on the west side. 139th Street is a 27.5' roadway that connects 91st Avenue to Timber Trails Road. It has curb & gutter and a sidewalk on the north side. The surrounding area near the intersection of 91st Avenue and 139th Street intersection is mostly single-family residential with apartment and townhome buildings along 140th Street. The posted speed limit on all the roads is 20 mph.

Proposed Conditions

Based on engineering plans prepared by the Village's Public Worlds Department, the proposed section of 139th Street would be a 26' wide curbed roadway that connects 91st Avenue to Elm Street. Elm Street between 139th Street and 135th Street would be reconstructed by Public Works into a 22' wide roadway with drainage improvements via the addition of storm sewer.

<u>Data</u>

The Engineering Department conducted a vehicle count survey from 5/9/2025 to 5/13/2025. Figure 1 shows the area of data collection. Table 1 shows the observed traffic data.

Figure 1



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Day	Total Vehicle Volume per day	North/South Split	Peak Hour Volume	Peak 15 Minute Volume
Friday 5/9/25 (partial day, started 1:00pm)	506	43%/57%	82 (5:00pm - 6:00pm)	30 (5:01pm – 5:15pm)
Saturday 5/10/25	717	44%/56%	60 (4:00pm- 5:00pm)	23 (4:46pm – 5:00pm)
Sunday 5/11/25	623	40%/60%	63 (3:00pm – 4:00pm)	23 (2:58pm – 3:12pm)
Monday 5/12/25	674	44%/56%	70 (5:00pm – 6:00pm)	26 (4:06pm – 4:20pm)
Tuesday 5/13/25	663	45%/55%	63 (6:00pm – 7:00pm)	22 (6:20pm – 6:34pm)

The Engineering Department also observed destinations of vehicles passing through 91st Avenue on Wednesday 5/14/25 between 3:00pm and 4:00pm. Of the northbound traffic, 11 out of 14 vehicles observed went to homes in the subdivision, while 3 vehicles continued to 135th Street. Of the southbound traffic, 4 out of the 14 vehicles observed went to homes in the subdivision, while 10 vehicles continued to 143rd Street.

Data Analysis/Conclusion

The analysis is limited given that data collection was only along 91st Avenue and that origins/destinations of all vehicles could not be obtained to determine how much of the observed traffic was cut-through traffic.

The peak hour volume was 82 vehicles and the peak 15-minute interval volume was 30 vehicles. Therefore, during the peak hour, one vehicle passes through 91st Avenue every 44 seconds. And during the peak 15-minute interval, one vehicle passes through every 30 seconds.

Given available resources and data, a complete prediction of how much traffic each roadway would experience and how much of the traffic is cut-through traffic is not possible. Still, even if 100% of the observed traffic on 91st Avenue was now going to pass through Elm Street, the additional traffic generated by the connection would be approximately 82 vehicles in the peak hour, or one vehicle every 44 seconds. Staff expects that the additional traffic on Elm Street would be less than that though, given that some of the traffic will still be traveling on Timber Trails Road.