

# Memorandum

**To:** Noblesville City Council  
**From:** Amanda Johnson, PE, PTOE  
**Date:** 11/17/2024  
**RE:** Traffic Study for Hague Road

EMCS Inc. has been contracted by LOR Corporation to perform a Traffic Impact Analysis (Traffic Study) for the proposed Morse Village development, a master-planned community located at 206<sup>th</sup> & Hague Road in Noblesville, Indiana. This memo summarizes the findings of the Traffic Study and specifically addresses traffic along Hague Road.

## Hague Road & 206<sup>th</sup> Street

The westbound approach of the existing two-way stop-controlled intersection of Hague Road & 206<sup>th</sup> Street operates below acceptable levels of service in the evening peak hour with existing traffic volumes. The new roundabout improvement will address any existing traffic concerns and will cause the intersection to operate at or above acceptable levels of service in both peak hours for all scenarios and at all approaches as documented in the Traffic Study.

In addition to the Traffic Study and at the request of the City, a 20-year design life analysis with a background growth rate was conducted on the proposed Hague Road & 206<sup>th</sup> Street roundabout. This is the type of analysis that would be conducted for a standard intersection improvement project. For this analysis, the existing volume was increased by 2% annually over 20 years—this is an aggressive growth rate given growth trends in the area. The results of the capacity analysis for the 2044 design year are shown below (the Traffic Study results from Scenario 4: Horizon Year 2034 with proposed development traffic are included as well for comparison). Based on these results, a single lane roundabout will provide more than enough capacity for a 20-year design life even under an aggressive growth scenario.

Hague Road & 206 <sup>th</sup> Street	Westbound	Northbound	Southbound	Overall Intersection
20-Year Design Life Analysis (AM Peak)	A (5.9)	A (6.3)	A (8.9)	<b>A (8.2)</b>
20-Year Design Life Analysis (PM Peak)	A (8.6)	A (8.9)	A (8.7)	<b>A (8.7)</b>
Scenario 4: Horizon Year 2034 – Proposed Development (AM Peak)	A (6.8)	A (5.8)	A (8.7)	<b>A (7.8)</b>
Scenario 4: Horizon Year 2034 – Proposed Development (PM Peak)	A (6.8)	A (6.2)	A (8.3)	<b>A (7.2)</b>

### Other Intersections on Hague Road

All other intersections studied in the analysis operate at or above acceptable levels of service, except for the westbound approach to Hague Road from the main entrance of North Pointe (Proposed Access C in the Traffic Study) during the evening peak hour. However, it was determined that adequate gaps would be available for left-turning vehicles to exit the site, or those vehicles have the option to turn right and make a U-turn at an adjacent roundabout. Because of this, no improvements were recommended.

In urbanized areas and corridors with controlled intersections, vehicle delay is mostly influenced by intersections rather than the segment properties. The northbound and southbound approaches to each intersection along Hague Road will operate at or above acceptable levels of service and extensive queueing is not anticipated. Turn lanes will be provided at all proposed driveways to address safety and congestion concerns between intersections. Further, the proposed roundabout corridor provides additional access options for left-turn movements into and out of driveways if needed. Therefore, no other improvements are recommended as a result of the Traffic Study. See the appendix of the Traffic Study for comprehensive results.