

EXECUTIVE SUMMARY

The Village of Holmen contracted with Knight E/A, Inc. to conduct a traffic study and provide contract documents to improve Holmen Drive (CTH HD/BUS 35) between McHugh Road to the north and Cole Court to the south. Some of the improvements planned include: pavement replacement, sidewalk reconstruction, intersection improvements at Hale Drive, Gaarder Road and McHugh Road, roadway lighting, raised median installation and concrete patching. The study also reviews select locations with operational and safety issues to develop potential solutions.

The study limits extend along Holmen Drive between Cole Court to the south and about ¼ mile north of McHugh Road to the north within the Village of Holmen for a total distance of approximately 1.75 miles.

Holmen Drive over a five year period (2010-2014) had an above average crash rate with angle and rear end crashes being the most common. Safety along Holmen Drive within the study area appears to be a concern. The Sunset Drive intersection recently underwent improvements to signalize that intersection. The improved traffic control will likely reduce angle crash potential at that location. Other improvements planned include the signalization of Hale Drive and western connection of Hale Drive to Judith Court as discussed in detail in the Intersection Control Evaluation (ICE) formal report under separate cover. Furthermore, it is recommended that the new traffic signal at Hale Drive be interconnected with the Gaarder Road traffic signal. It is recommended that the Gaarder Road traffic signal be modernized as part of this project and that the new traffic signal also accommodate pedestrian needs.

A raised barrier median is recommended between McHugh Road and the US 53 interchange to the south of the project limits. The barrier median will help:

- Control access
- Minimize conflict points
- Improve safety along this stretch of highway.

Per the Highway Safety Manual, providing a barrier median on a multilane highway has been shown to significantly reduce all crash potential by 18 percent and injury type crashes by 12 percent.

The functional area of an intersection extends both upstream and downstream from the physical intersection area and includes any auxiliary lanes and their associated channelization. The intersection's functional area on each approach consists of decision distance, maneuver distance and queue-storage distance. Specifically, the Hale Drive / Holmen Drive intersection and Cole Court / Holmen Drive appear to have oversized driveways and lack of channelization on the side street approaches within the functional intersection area. Cole Court has the second highest intersection crash rate in the study area, and the installation of a barrier median would reduce conflict points at driveways within the intersection's functional area. The barrier median would help reduce full access driveway related turning crashes by 74 percent. It is recommended that the oversized driveways be relocated as far from the intersection as feasible and their width reduced. Combination concrete curb and gutter and improved pavement markings should be installed to better channelize vehicles and control access within the intersections' functional area.

Holmen Drive currently has intersection and transition lighting at the Gaarder Road intersection and the McHugh Road intersection. Roadway lighting also exists on the north end of the project between Empire Street and McHugh Road. Of the 103 reported crashes in a five year period, 26 (25%) of them occurred at dusk or nighttime conditions. Of those 26 nighttime crashes, eight (31%) of them involved minor to severe injuries. Two of the critical injuries were bicyclists struck by a motorist during dark conditions at locations that were poorly or not lit at all. Over half (54%) of the nighttime crashes occurred during inclement weather (snow/rain). Roadway lighting would benefit motorists by improving their ability to see roadway geometry, other vehicles, bikes, pedestrians and potential obstacles at extended distances ahead. This results in greater driver confidence and improved safety, particularly during inclement weather. Lighting would also provide for better pedestrian/bike visibility and improved public safety and security. In addition to the traffic safety benefits, roadway lighting may serve as a crime deterrent, may aid law enforcement agencies, may add to user comfort and often contributes to community pride. As part of this project, it is recommended that the entire roadway within the study limits be lit and that the existing lighted sections be updated to current design illumination standards with the majority of the light poles relocated to the center median.

Holmen Drive is an important arterial roadway that serves critical transportation needs to the Village of Holmen's residents and businesses. It provides connectivity to adjacent highways and communities and as such it is essential that this roadway perform well operationally and safely. The recommended improvements as described throughout this report are encouraged to maintain acceptable level of service for all transportation modes and to improve safety along the corridor.