



memorandum

Date: September 10, 2018

To: Loyd Cureton

From: Jessica Katers, PE

Re: Summary of Northville Downs Traffic Impact Study and Site Circulation Review

The Northville Downs Traffic Impact Study (TIS) analyzed 11 existing intersections and all the proposed site intersections. The analysis included projected growth and recommended improvements for the roadway network. Our review outlines both major and minor requested revisions, including providing for review: 1) additional signal timing information, 2) electronic synchro files, and 3) warrant analysis.

Our review highlights two major areas of concern. The first is the exclusion of the intersections of 7 Mile Road & Northville Road and 7 Mile Road & S Main Street from the TIS. The proposed development will impact the level of service (LOS) of these intersections; therefore, these intersections should be analyzed and recommendations should be offered to mitigate any negative impact the development will cause. Without this portion of the study completed, we will not have a full picture of the impact the development will have on the community roadway network.

The second area of concern is the intersection of Hines Drive (7 Mile Road) and Sheldon Road/Center Street. It is noted in the TIS that northbound left turn storage on Sheldon Road, something that does not exist at all today, is required to help improve the LOS for this leg of the intersection. The recommended storage length is ~250'. Unfortunately, this length takes us well beyond the bridge that carries Sheldon Road over the Johnson Creek. A widening or replacement of the bridge span would be required to obtain the necessary width to accommodate this length of left turn storage. However, an initial analysis of the traffic volumes suggests that alternative treatments are viable at the intersection, such as a roundabout with separated right turn lanes. Since this intersection is on the Wayne County road network, any intersection treatment would need preliminary approval from their agency prior to proceeding any further with design.

The majority of the items within our review will not require many changes to the conceptual layout presented to the City. However, the three intersections mentioned above may require significant modifications to the proposed layout in order to operate at a LOS that is acceptable to the City of Northville and Wayne County.

If you have any additional questions or concerns, please feel free to contact me.



September 10, 2018

Loyd Cureton
Director of Public Works
City of Northville
215 West Main Street
Northville, MI 48167

RE: Northville Downs Traffic Impact Study and Site Circulation Review
OHM Job Number 0152-18-0050

Dear Mr. Cureton:

As requested, we have reviewed the traffic impact study (TIS) and site plan for this development. The study was prepared by Fleis & Vandenbrink, dated June 20, 2018. The site plan is by Seiber, Keast Engineering and is dated July 16, 2018.

Traffic Impact Study (TIS)

After review of the TIS submitted we have the following comments regarding the study.

The study analyzed the proposed site driveways and the following intersections:

- Main Street & Center Street
- Main Street & Hutton Street
- Main Street & Griswold Street
- Cady Street & Center Street
- Cady Street & Hutton Street
- Cady Street & Griswold Street
- Beal Street & Griswold Street
- Center Street & Fairbrook Street
- Hines Drive/7 Mile Road & Center Street/Sheldon Avenue
- 7 Mile Road & Hines Drive
- 7 Mile Road & River Street

The intersections of 7 Mile Road & Northville Road and 7 Mile Road & S Main Street were not included in this analysis. This proposed development will influence the operation and level of service of these intersections and the TIS should include an analysis and recommendations for improvements for both intersections.



Section 2.1: Existing Road Network

1. The Wayne County road network identifies E.N. Hines Dr. starting at Rogers St and running to the east then south. 7 Mile does not intersect with Center/Sheldon. The street name signs in area are incorrect per their network.
2. In describing the existing roadway conditions, the study should note that a portion of Center St has on-street bike lanes, while a different segment has on-street parallel parking.
3. It would be beneficial if the lane configurations are described for the intersections of Hines Drive at Center St and at 7 Mile Rd.
4. Griswold St south of Main St belongs to the City, not Wayne County. Regarding the functional classifications for Griswold, the WCDPS portion is a minor arterial and the City portion is a local.

Section 3.1: Existing Conditions

5. The timing permits for the signalized intersections should be included in an Appendix A unless the existing condition models is not based on current timings.
6. In order to verify queuing behaviors, we are requesting the submittal of the electronic synchro files so we can view the microsimulations.

Section 3.2: Existing Improvements

7. The analysis of the existing traffic conditions should not rely on improvements that are not currently funded or cannot be made under normal maintenance budgets. The study is currently structured to assume these improvements will not be the responsibility of the development.
8. For all claims regarding signal optimization, there should be a table or other exhibit that summarizes the recommended changes, e.g. cycle lengths, green splits, offsets, added phases, etc.
9. For any recommendations to add left turn signal phasing, provide left turn warrant analysis (based on MDOT procedure) including crash and volume analysis.
10. The recommendation to restripe the intersection of Hines Dr. at Center/Sheldon to achieve a north and south bound left turn lane needs to be further analyzed. Specifically, the impact on the bike lanes on Center and the limitations of storage in the NB left turn lane, given the proximity of the bridge to the intersection, should be quantified.

Section 3.3: Background Conditions

11. The values for expected changes in population and employment do not match the SEMCOG Community Profile for both portions of Northville (in Oakland Co and in Wayne Co). The correct values are total Northville population growth of 6.1% and employment growth of 2.1% for the 30 year horizon.
12. The background growth rate utilized is much more conservative than regional forecasts suggests (i.e. a significant portion the increase in forecasted traffic in this TIS is due growth not associated with this development.) The SEMCOG 30-year forecasts are showing total growth in both population and employment of less than an aggregate of 7%. However, using a 0.5% per year growth factor compounds



to ~16% in 30 years, significantly higher than the SEMCOG forecasts and in turn leads to a lower percentage of traffic being attributed to the development.

Section 3.5: Background Improvements

13. The study does not adequately discuss the ramifications of not providing the noted as needed left turn lane storage for NB Sheldon at Hines. Again, this recommended improvement to the storage will be difficult to achieve due to the narrow bridge for Johnson Creek. Alternatives to rectify this constraint should be discussed.

Section 3.6: Site Trip Generation

14. The TIS must show the full calculation of Internal Capture. Generally, this would be a single set of values reflecting the relationship between the proposed retail and residential portions of the site. Currently, the Internal Capture shows up twice, with different values, in the tables for retail and residential trip generation.
15. In southeast Michigan outside of the City of Detroit, it is very unusual to see a TIS that attempts to derive person-trips for a proposed development, let alone an estimate of modal splits. Additional justification for this type of analysis needs to be provided.

Section 4.3: Conclusions Future Conditions

16. This TIS places a great deal of emphasis on what they consider pre-existing roadway network deficiencies. However, it is evident that none of the identified mitigation measures are currently funded by the City or County and are not planned to be implemented by either agency at this time. It is clear that the new site traffic will exacerbate these problems. The analysis should not consider these background improvements being completed unless they will be developer funded and done in conjunction with this project.

Site Plan

- A. Alternative solutions to the traffic issues at the intersection of Hines Dr at Center/Sheldon (i.e. one that does not involve widening the bridge carrying Sheldon over Johnson Creek) have not been entertained by the proposed development. It appears that alternatives that don't impact the existing bridge are feasible, such as roundabout with separated right turn lanes.
 - a. The implementation of any measures to mitigate traffic impacts at this intersection will require the approval of Wayne County. Preliminary discussions with Wayne County should occur prior to moving forward with any conceptual design.
 - b. The possible alternatives for this intersection will require more road right-of-way in the northeast and northwest quadrants to accommodate construction and pedestrian facilities. This will result in changes to the building placements near this intersection.
- B. Improvements to the intersections of 7 Mile Road & Northville Road and 7 Mile Road & S Main Street may be deemed necessary once included in the analysis of the TIS. At present, no improvements have been proposed.
- C. The east most north/south street being proposed (just west of Griswold) has an alignment offset either side of Center St that is not acceptable. The offset must be eliminated.



- D. Internal traffic calming measures need to be identified and recommended by the developer. The general alignment of the development may lead to resident requests for unwarranted all-way STOP controls for the new intersections and steps should be taken to decrease the likelihood of these requests.
- E. A sidewalk should be provided along the entire frontage with River St.
- F. A sidewalk is being proposed to start at the intersection of Hines at Center. It will run eastwards along the north side of Hines and then become the walk fronting the south most row of houses. Then this walk abruptly terminates into an internal circulation aisle / street. The sidewalk needs to continue and eventually tie into the park walk that leads down to the Hines Trail Head.
- G. Many times the plan shows the proposed sidewalk being 'interrupted' by driveways servicing the parking areas of the row houses. This detracts greatly from the walkability of the development. Sidewalks should most always have priority through driveways.
- H. There are many locations where the sidewalk is immediately back of curb and there is parallel parking planned. These walks should be wider than a standard 5', so open car doors do not block the walking path. It is recommended to go to as wide as 8'. This also allows for lateral separation between the curb and the walking path and any traffic control sign posts to be installed through the sidewalk.

The submitted development plan and traffic impact study do not fully address all of the impacts that the development may have on the community. For the intersections previously analyzed, there do appear to be alternatives that can be proposed to mitigate traffic impacts that should be studied further. However, without analysis of the intersections at 7 Mile & Northville Road and 7 Mile & S. Main Street, it is unclear if any mitigation is necessary and/or feasible. Until this analysis is completed, the full impact of the development is not clear.

If you have any questions or are in need of any further information, please feel free to contact our office.

Sincerely, Sincerely,
OHM Advisors



Jessica Katers, PE



Stephen Dearing, PE

Cc: Sally Elmiger, Carlisle Wortman