



## memorandum

**Date:** January 13, 2022

**To:** George Tsakoff, PE; Nicholas Bayley, PE

**CC:** John Katers, PE

**From:** Stephen Dearing, PE, PTOE  
Richard Boateng

**Re:** The Downs Site Development, City of Northville  
Traffic Impact Study Review

We have completed our review of the traffic impact study for the proposed development study in City of Northville, Michigan. The Downs project site is located adjacent to the south side of Cady Street, between Center Street and Griswold Street on the property that was previously occupied by Northville Downs. The proposed development includes the construction of a mixed-use retail and multi-family residential units.

The traffic impact study was prepared by Fleis & VandenBrink Engineering, Inc., and is dated December 14, 2021. Synchro traffic modeling files were also provided for review.

Fleis & VandenBrink Engineering, Inc. has addressed some of the concerns raised in our previous memo of August 31, 2021. There are a variety of minor issues that remain, while some significant issues still exist in the current TIS. **Given these outstanding concerns, we recommend that the study be updated and resubmitted for further review.** Below is a partial list of the errors and omissions, minor and major, that need to be corrected prior to resubmittal.

OHM's comments are as follows:

1. Page 4 & Figure 2: There are several issues that need to be addressed.
  - a. At intersection (#7) of Center and Main, under Scenario 2 with the closure of a block of each street, technically this is no longer an intersection for the purposes of right-of-way controls. So, this location cannot be an all-way STOP. As just a bend in the road, there would be no regulatory signs assigning right-of-way.
  - b. At intersection (#16) of Beal and Griswold, the existing right-of-way control is a two-way STOP. However, this is not a rational configuration for the tee intersection. Once Beal is extended into the development, it should be reconfigured as a standard one-way Griswold stopping for Beal unless criteria for an all-way STOP are met.
2. Page 5: The description for Northville Rd fails to mention that Northville Rd south of the south intersection of 7 Mile Rd is only 2-lanes, not the 4-lanes implied.
3. Page 5: The description of Main St states that south of 7 Mile Rd the regional name is Sheldon Rd. This is incorrect; it is Northville Rd.
4. Page 6: The description of the road cross section for 7 Mile Rd is not accurate. We recommend saying it is a 2-lane road with intermittent auxiliary lanes, sometimes for left turns, otherwise for right turns.



5. Pages 1 to 15: Existing conditions for the scenarios. **This is a point of major concern.** The three scenarios are based on different volume counting and adjustment regimes, and as such do not facilitate direct comparisons. For Scenario 1, 2019 counts (pre-covid pandemic) were used and expanded to a 2021 horizon year. These volumes result in intersections and road segments have significantly more traffic loadings than Scenario 2 or 3, which are based on the 2021 turning movement counts where no COVID adjustment factors were applied. This is even accounting for the travel pattern changes associated with closing portions of Center St, Main St, or both. The following points attempt to illustrate why we have profound misgivings about the volumes that underpin the scenario assessments.
  - a. Consider intersection numbers 1, 2, 3, 5, 6, 9, 11, 19, 23, 24 and 28 forming a cordon line around the study area. While we would not expect that there would be exactly equal volumes entering and departing the cordon line for the different scenarios, we would expect these volumes to be roughly the same between the various scenarios. But there are very large differences between the entering and exiting volumes for the cordon line for both a.m. and p.m. periods, especially between Scenarios 1 and 2. In all cases, Scenario 1 has larger volumes in and out. The differences range from 'only' 9.6% for exiting in the a.m. period to 17.1% entering in the p.m. period. This is far larger than expected and leads us to believe that the 2021 counts still have a lingering impact from the COVID pandemic that needs to be accounted for.
  - b. Another way to consider this issue is to sum the approach volumes of all the movements for all intersections 1 through 28. Then by comparing the a.m. and p.m. sums, we see that Scenario 2 has about 5.5% less activity than Scenario 1 in the a.m. and 11.4% less in the p.m.
  - c. Yet another way to look at the issue is just focusing on traffic volumes along Center St. Even accounting for the likely need for traffic to detour due to the closure of a block of Center St, it appears that hundreds of vehicles per hour go missing in Scenario 2 compared to 1 and are not accounted for on alternative routes like Wing St or Hutton St/ Main St/ Northville Rd.
  - d. These imbalances, however they are considered, leads one to question if the Scenarios are fair comparisons of travel patterns. If not, then all of the capacity calculation are called into question. Due to this issue, we can offer no constructive criticism for the background discussion and calculation of Section 4 of the TIS.
6. Pages 16 to 21: The developer and their traffic engineers were told that unless improvements are already planned and funded by Wayne County or the City of Northville, the only changes that should be proposed for existing or background conditions would be minor operational ones, such as signal timing optimization.
  - a. If new signals are being suggested, then a full signal warrant study of ALL warranting criteria will need to be presented. Reliance on just one criterion, such as Warrant 2 or 3, is not sufficient.
  - b. Even though the TIS documents indicate on Page 18 that the signal warrant analysis has been presented (for only one location) in Appendix E of the report, there was no Appendix E in the TIS document provided to us for review.
  - c. 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. For any recommendations to add left turn signal phasing, provide left turn warrant analysis (based on MDOT procedure) including crash and volume analysis.



7. Pages 19: Regarding the discussion of 7 Mile Rd at Center St & Sheldon Rd intersection

- a. Option 1 is only upgrading the signal to fully actuated and striping for N-S left turn lanes. There is only sufficient pavement on the NB approach for an approximately 25' long left turn lane. See the adjacent sketch. Without adequate lane storage, actuating this phase is pointless. The study does not adequately discuss the ramifications of not providing the needed left turn lane storage for NB Sheldon. Further, what are the implications for the bike lanes on Center in providing the SB left turn lane? How much of these bike lanes will have to be removed?
- b. Option 2 is recommending the widening of the bridge carrying Sheldon Rd over Johnson Creek. Please note that it may not be practical to widen this structure, which will then require a complete replacement with a wider structure.
- c. Option 3 alludes to sight distance issues for the roundabout alternative. What are these issues? Otherwise, why is this option being discarded?



8. The study makes recommendations for a variety of expensive improvements that are not currently funded.
9. The TIS presumes to take it upon itself to make recommendations regarding the closures of blocks of Main and Center Streets. This is in spite of there being little in the way of objective traffic operational characteristics that point to one scenario being more favorable than the others. This is a high-level policy decision divorced from the issues related to the development of The Downs site. As such, it is our opinion that their recommendation should be removed from the updated TIS report.