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May 3, 2017

City of Ann Arbor  
301 E. Huron St, PO Box 8647  
Ann Arbor, MI 48107

Attn: Cynthia Redinger, PE, PTOE, Traffic Engineer

Re: 1140 Broadway  
Traffic Impact Study Review

HRC Job No. 20170332

Dear Ms. Redinger:

Hubbell, Roth & Clark, Inc. (HRC) has reviewed the Morningside Lower Town Traffic Study conducted by Fleis & Vandenbrink dated March 28, 2017 and revisions to the recommendations page dated April 24, 2017. This review does not focus on the comments that were already provided by the City at the meeting held on April 21, 2017 including the elimination of right turn lanes at site driveways, configuration of the site driveway on Broadway Street and inclusion of cut-through traffic.

Overall the report was nicely organized, provided good descriptions of existing conditions, detailed traffic count data and traffic volumes figures that were very helpful in the review.

HRC has the following comments:

≡ Existing Synchro Models

- ≡ Confirm existing operation of Broadway/Maiden Lane intersection and westbound Maiden Lane right turn overlap in the existing Synchro models.
- ≡ Revise the EB Moore Street lane configuration at Pontiac Trail to one lane in the Synchro models to match with existing field conditions.
- ≡ Remove dedicated right turn lanes at dummy nodes.

≡ Trip Generation

- ≡ Revise the total new trips in the trip generation Table 6 as they do not add up.
- ≡ Describe why the truck mode split was not incorporated into the person-trip generation calculations.
- ≡ Revise the calculated person-trips in Table 8 as rounding is off.
- ≡ Describe why different occupancy rates were used in the modal split trip generation calculations. The ITE vehicle occupancy rates were used in Section 3.6.2 and the SEMCOG occupancy rates were used in Section 3.6.3.
- ≡ Revise the new transit trips in the modal split trip generation Table 10 as they are incorrect.

≡ Trip Distribution and Assignment

- ≡ Provide a more detailed description of how the site trip distribution percentages were developed.
- ≡ Provide a description of how the trips were assigned to the driveways.

- ≡ Revise the site-generated traffic volumes in Figure 5 for the PM outbound trips at the driveway as they do not add up to those shown in Table 10.
- ≡ Revise the site-generated traffic volumes in Figure 5 for the PM entering trips from the outside nodes as they do not match with the trip distribution percentages shown in Table 11.
- ≡ Revise the locations for the pass-by trips in Figure 5 as they should be entering and exiting the site.
- ≡ Pedestrian and Cyclists
  - ≡ Describe how the pedestrian and cyclist generated trips were incorporated into analysis. Show how these trips were distributed, assigned and included in the Synchro analysis.
  - ≡ Provide LOS analysis for pedestrians and cyclists.
  - ≡ Show the proposed crosswalks near the site driveways on the Multi-Modal Circulation Plan, especially those at the new Broadway Avenue/site driveway intersection.
- ≡ Future Synchro Models
  - ≡ HRC recommends optimizing cycle lengths, splits and offsets in the future Synchro models and not setting movements to maximum recall.
- ≡ Recommended Improvements
  - ≡ Revise recommendations to accommodate changes in LOS based on comments provided above.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Lia Michaels, P.E., PTOE  
Project Engineer

LFM/lfm

pc: City of Ann Arbor; Luke Liu  
HRC; C. Hill-Stramsak, File