
Hamal Associates, Inc.

Traffic and Transportation Consulting

HAROLD K. MALTZ, P.E., P.P.

19 Porter Road

West Orange, New Jersey 07052

973/669-3736 • Fax 973/325-0304

N.J. CERT. OF AUTH. NO. 24GA27922200

June 8, 2021

Ms. Frances Boardman
Land Use Administrator
Borough of Madison Planning Board
Municipal Building
50 Kings Road
Madison, NJ 07940

Dear Ms. Boardman:

Re: Traffic Review #2
Waseem Chaudhary – Applicant
Proposed House of Worship
120 Madison Avenue (NJ Rt. 124)
Block 3101, Lot 21
Borough of Madison, Morris Co., NJ
Application No. P21-002

At the request of the Madison Planning Board, the firm of Hamal Associates, Inc. (HMA) has conducted a traffic review of the revised Traffic Impact Study report (dated Revised May 4, 2021) prepared by Dynamic Traffic (DT) and the April 23, 2021 Resubmission/Response Letter prepared by Dynamic Engineering (DE), for the above referenced project.

We have hereinafter reprinted all the review comments noted in our April 9, 2021 Traffic Review #1 letter. Our current review comments, to the submitted DT revised Traffic Impact Study report and the DE Response Letter, are noted in **Bold** type.

Based on our review, we have the following comments:

A. Dynamic Engineering (DE) Site Plan Review

1. The two (2) existing site drives on Vinal Place and one (1) on Madison Avenue will be removed and replaced by two (2), two-way full movement drives, one each to Madison Avenue and Vinal Place.

No response required.

2. The two proposed site access drives are interconnected on-site through one circulation aisle that extends along the west and south sides of the house of worship. The circulation aisle is 24 feet wide and conforms with municipal Ordinance 195-25.15.G.

No response required.

3. Perpendicular parking is proposed with hairpin striping. All parking spaces are 9' x 18'. The preceding conforms with municipal Ord. 195-25.15.F. The parking spaces are located along each side of the single circulation aisle proposed.

No response required.

4. There are 37 parking spaces proposed, including 2 HC spaces. For places of worship, the municipal ordinance 195-35.A.3. requires one (1) parking space for each three (3) seats. Where the specific amount of seating is undetermined, then one (1) parking space shall be required for each 75 sf of assembly area. As there is no seating proposed, the 2,651 sf of assemblage area applies. Based on one space per 75 sf of assembly area, the site will require 35 parking spaces. The site plan conforms with this minimum requirement, as 37 spaces are proposed.

The DT response addressed the parking issues raised at the TCC regarding parking demand. Also see HMA Comment B.9.

5. A 'Stop' sign (R1-1) and stop line preceded by a STOP pavement marking is proposed at each site drive egress. Are the pavement arrows shown along the circulation aisle on the Site Plan (Sheet 4) proposed to be provided?

Comment responded to, as the pavement arrow markings in the circulation aisle are to be provided and a detail is shown on the Construction Details sheet. No further response required.

6. DE should identify the sight distances at each access drive intersection with Madison Avenue and Vinal Place. The sight distances identified should be compared against accepted sight distance standards.

Comment responded to; however, HMA never received a copy of the site plan with the sight triangles/distances noted for our review.

7. Vehicle circulation plans were provided (Sheets 16 & 17) for an SU-30 truck and a fire truck. HMA's review of the noted turning templates indicated that adequate circulation for these larger vehicles is provided through the site and at each access point. Has DE contacted Borough fire officials for their comments to the site plan circulation in relation to fire truck operations?

Comment responded to. DE should indicate at the next Planning Board hearing the status of any review response by the Fire Official.

B. Dynamic Traffic Impact Study Report Review

1. The DT traffic study was prepared according to accepted traffic engineering procedures and methodologies.

No response required.

2. The Applicant or his professionals should testify as to the proposed hours and days of use, activities proposed on-site, attendance at worship services, etc. Is a child day care proposed?

DT provided some operational details for the proposed house of worship, in testimony at the June 1, 2021 Planning Board meeting, but noted that the Applicant will testify in more detail on operations/site usage.

3. DT studied the Madison Avenue intersections with Vinal Place and the site drive, and the Vinal Place & site drive location. We concur with the study locations selected.

No response required.

4. Existing traffic movement counts were taken on Friday, January 22, 2021, from 6-9 am and 11 am -2 pm, at Madison Avenue & Vinal Place. The day and times selected are suitable for the proposed use. The peak hours identified were 7:45-8:45 am and 1-2 pm midday.

No response required.

5. Traffic volumes were affected by the COVID-19 pandemic and are atypically low at this time. To correct for this situation, DT obtained historical traffic data from NJDOT automatic traffic recorder (ATR) counts along Madison Avenue just south of Treadwell Avenue, in April 2018. DT grew the NJDOT ATR counts by NJDOT annual growth rates (1.5% per year) for 3 years to 2021 to establish traffic volumes along Madison Avenue representative of 'existing non-COVID-19 conditions.'

DT performed January 2021 ATR counts on Madison Avenue at the same location as the NJDOT ATR counts. Based on a comparison of the 2021 adjusted NJDOT non-COVID affected ATR peak hours to the DT COVID affected ATR peak hours (am & midday), adjustment factors of 1.95 and 1.27 were calculated for the respective am and midday peak hours to be applied to the DT ATR counts.

A comparison of report Fig. 2 (2021 DT Existing Volumes as counted) and Fig. 3 (2021 Adjusted DT Existing Volumes) indicated that the am peak hour was adjusted by a factor of 1.95, but the midday peak hour had an adjustment of 1.57, which is higher than the 1.27

factor noted in the report. We contacted DT on this difference and they responded that it was a typo in their spread sheet, which used 1.57 instead of 1.27. The 1.57 factor applied presents a more conservative (higher) volume adjustment. It is not requested that DT revise their figures.

HMA agrees with the methodology applied by DT, in comparing ATR counts performed at the same location on Madison Avenue in 2018 (adjusted to 2021) to 2021 existing ATR counts.

DT explained the error (1.57 vs. 1.27 factor) in testimony, at the June 1, 2021 Planning Board meeting and in a telephone discussion with HMA. The response was acceptable and no further response is required.

6. DT applied trip generation rates from the ITE publication, Trip Generation – 10th Edition, in developing peak hour traffic projections for the 14,323 sf house of worship project. This is the accepted source for performing this analysis. As presented in Table III, the weekday am and midday Friday peak hour trip generation is, respectively, 9 and 143 trips. These volumes are distributed between two access points on Madison Avenue and Vinal Place.

HMA agrees with the peak hour trip generation calculations noted in Table III, except in the midday peak hour. Based on the ITE source, during this time period the inbound trips should be 69 inbound and 74 outbound trips. HMA contacted DT on the foregoing. DT provided us with a revised trip generation table and revised midday peak hour Build capacity analyses at the three study locations. The revised materials are acceptable.

As the ITE Land Use Code #562 – Mosque has only limited data based on only one reported study and the NJDOT does not provide any published trip rates for a mosque, DT utilized a similar use for calculation of peak hour trips. They applied Land Use Code #560 – Church for the weekday am peak hour of trip generation and the highest weekend midday peak hour, the latter applied to the mosque's Friday midday peak hour. HMA finds this procedure acceptable.

The revised traffic report and corresponding Figures 6 & 7 have been revised for the corrected midday trip generation in/outbound. No further response required.

- 7.a. The site generated peak hour trip distributions shown on Fig. 5 are reasonable and acceptable. Fig. 6 distributes the site generated peak hour trips. This figure was recalculated for the corrected midday trips in/out.
- b. The adjusted existing 2021 peak hour traffic volumes, shown on Fig. 3, were expanded by the NJDOT annual background traffic growth rate of 1.5% per year for Madison Avenue. Fig. 4 identifies the 2023 No Build peak hour traffic volumes.

- c. Fig. 7 represents the Build peak hour traffic volumes, which combine Fig. 4 – No Build Traffic Volumes and Fig. 5 – Total Site Generated Trips (w/revised midday).

No response required.

8. Capacity analysis for unsignalized intersections were followed by DT according to the 2010 Highway Capacity Manual (HCM) and associated software. This is the accepted source for performing this analysis. Based on the analyses performed, we note the following:

Comments 8.a., b. and c. have been responded to for the corrected midday peak hour site trip generation and the Full Build peak hour traffic volumes, as shown on Figures 6 & 7. The midday Full Build peak hour capacity analyses and average vehicle delay differences are negligible or unchanged from the original report analyses. No further response required.

- a. Madison Avenue (NJ Rt. 124) & Vinal Place

At this unsignalized intersection, under 2021 existing conditions (adjusted volumes), all critical intersection movements operate at a good Level of Service (LOS) 'C' or better, in each peak hour. For the 2023 No Build condition, no change in LOS is identified. Impacts are an increase in average vehicle delay of one (1) second or less. For the 2023 Build condition, no changes in LOS are experienced with similar average vehicle delays reported. HMA agrees with DT's conclusion that no discernable impact will be experienced at this intersection due to the proposed house of worship.

- b. Madison Avenue & Site Driveway

This unsignalized T-intersection, in the 2023 Build condition, will operate at a good LOS 'D' or better in each peak hour. It is noted that the LOS 'D', in the midday peak hour for the site drive approach, was a LOS 'D' on the threshold of LOS 'C'.

- c. Vinal Place & Site Driveway

This unsignalized T-intersection experiences extremely low traffic activity in either peak hour. In the 2023 Build condition, all critical traffic movements will function at a superior LOS 'A', in both peak hours.

9. Related to DT's comments on site access, circulation and parking, HMA had provided a detailed review of the preceding in the Site Plan Review section of this traffic review report. Consequently, we have not provided a separate site plan review related to the DT traffic report. We do note that, in the Parking section of the DT traffic report, they identify a proposed 2,851 sf assemblage area. The site and architectural plans both note it as 2,651

Hamal Associates, Inc.
Traffic and Transportation Consulting

Ms. Frances Boardman

-6-

June 8, 2021

sf. Also, DT noted 38 spaces are required by ordinance, with 38 spaces proposed. HMA notes that 35 spaces are required (based on 2,651 sf) with 37 spaces proposed.

The DT revised traffic report has been corrected to reflect 35 spaces required by ordinance with 37 spaces provided on the site plan.

In the April 23, 2021 DE Response Letter, DT provided a detailed breakdown of the house of worship usage and corresponding parking demand. HMA finds the analysis and summary presented acceptable. DT should present their summation in testimony.

10. As this project is proposing a new access drive with Madison Avenue (NJ Rt. 124), a new highway access permit will be required. DT should note the status of the NJDOT highway access permit application.

DT provided a status update on the NJDOT Highway Access Permit application, in testimony, at the June 1, 2021 Planning Board meeting. No further response required, unless something has changed since the June 1, 2021 hearing.

11. HMA agrees with the Findings and Conclusions presented by DT for this project (with midday peak hour revisions).

No response required.

C. General Comments

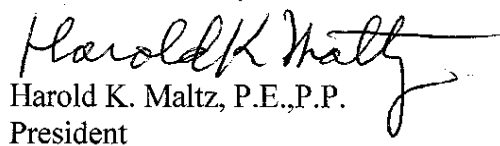
1. All traffic related review comments by other Board professionals shall be addressed by DE and DT.

Comment still applies.

The foregoing represents our traffic review of the subject application. If you have any questions, please do not hesitate to contact us.

Very truly yours,

Hamal Associates, Inc.


Harold K. Maltz, P.E., P.P.
President

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