



MEMO

TO: Steven Kleppin, Director of Planning and Zoning, City of Norwalk, CT
FROM: Stewart Gordon, PE, PTOE and William Melendez, PE, PTOE, PTP
SUBJECT: Traffic Engineering Peer Review of 10 Norden Place (Norden Park)
DATE: December 7, 2020

GENERAL OVERVIEW

WSP has performed an independent engineering evaluation and review of the traffic impact and access study submitted to the City of Norwalk by Tighe & Bond on behalf of Benefore Properties for the proposed conversion of a 330,000 square foot portion of the existing building located at 10 Norden Place in Norwalk, Connecticut. The project consists of a new warehouse and wholesale distribution use, upgrade existing loading docks and adjacent parking and driveways to accommodate the new use. WSP's focus of the technical review was to assess the accuracy and content of the technical traffic engineering analysis presented to the City.

WSP reviewed the technical information presented in the reports and site plans and has compared them with general industry standards for accuracy, approach, and application. WSP prepared and submitted the peer review on November 23, 2020.

SUBMISSION MATERIALS

In conducting a traffic engineering peer review of the proposed project, WSP reviewed the following materials:

- Traffic Impact Study, prepared by Tighe & Bond, dated June 1, 2020
- Tighe & Bond response to Traffic comments (from City of Norwalk, Connecticut Department of Transportation (CTDOT) Mobility & Parking, and East Norwalk Neighborhood Association), dated September 22, 2020
- Applicant response to Norwalk Zoning Commission Comments, dated October 1, 2020
- Applicant's response to WSP's Preliminary Review, dated October 16, 2020.
- Applicant's Second Supplemental Materials, dated October 28, 2020

The applicant reviewed WSP comments and concerns presented on the peer review and provided their responses in the following material:

- Applicant's Supplemental Materials, dated on December 2, 2020

PEER REVIEW COMMENTS & RESPONSES

1. *Site Access/Circulation - The applicant should provide the necessary pavement markings and signage to access the site and for the site circulation.*

The applicant stated that the site access will remain unchanged from the existing conditions and that trucks will enter the southern entry and navigate the southern portion as they currently do. The applicant also stated that the signage will be performed during the preparation of the Construction Documents.

WSP finds the applicant's responses acceptable.

2. *Site/Parking - The applicant should evaluate the necessary parking spaces. There is an excess of 644 spaces between the parking spaces needed and the parking spaces provided. There should be an evaluation of removing the excess parking spaces to promote sustainability by creating a green space. Also, the applicant should provide the necessary handicapped parking spaces, per ADA parking standards.*

The applicant stated that the area is environmentally sensitive and removing impervious surfaces would create a risk of contaminating the subsurface. It was also stated that the site is used as overflow parking for the data center in the case of an emergency.

WSP finds the applicant's responses acceptable. However, the applicant did not provide the number of handicapped parking spaces and if the quantity meets the ADA parking standards. In addition, the access travel path for disabled visitors and employees shall be considered in the final site plan.

3. *Loading Docks - The supplemental materials indicated that the number of loading docks have been modified and that there will be a total of 19 loading docks. However, the plan sheet A2 shows eight loading docks in the north side and eight loading docks in the south side. The applicant should identify the location of the remaining three loading docks.*

The applicant confirmed that there will be 19 loading docks, eight in the north side and eleven in the south side.

WSP finds the applicant's responses acceptable, however, the applicant did not provide an updated A2 plan sheet showing the location of the remaining three loading docks. The applicant should confirm if the additional three loading docks are located as shown in the following figure.

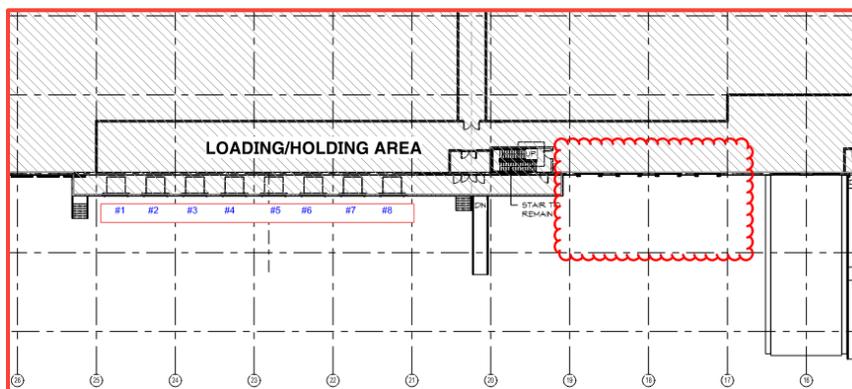


Figure 1 - Loading Docks- South side

4. *Articulated Trucks - The applicant provided the estimated number of trucks for each truck route, however, a breakdown between single unit trucks and articulated trucks was not provided. Based on the existing conditions, there are around three articulated*



trucks on Strawberry Hill Avenue. If the estimated number of trucks traveling on Strawberry Hill Avenue is 99, the applicant should evaluate how many of those would be articulated trucks.

The applicant stated that given that the tenant is still unknown, the distribution between single unit trucks and articulated trucks would be difficult to estimate. The applicant noted that warehouse and distribution facilities have a mix of trucks ranging from small vans and delivery vans, to box trucks and articulated trucks. The applicant also stated: “Based on the knowledge and prior industry experience of the applicant, it is reasonable to assume that articulated trucks would not account for a large percentage of the total truck trips to the site”.

Based on the applicant’s response and prior experience, the applicant should expand on their response and provide an estimate of the number of articulated trucks. If it is not a large percentage, what is the approximate percentage? The applicant should provide backup documentation to support their assumption.

5. *Truck Trip Generation – The supplemental material states that the 90-95 percent of the proposed truck traffic that will occur between 6AM and 8PM translates to approximately 90-95 trucks. However, based on the ITE Trip Generation Supplement, Appendix D, there would be 174 truck trips between 6AM and 8PM. The applicant should re-evaluate the expected truck trips given that the provided truck trips do not match the estimates from the ITE Trip Generation Supplement. The applicant should evaluate the impacts of restricting the trucks leaving the site during the morning and afternoon school arrival and departure peak hours.*

The applicant provided a more conservative estimate of 180-190 truck trips between 6AM and 8PM. Regarding the restriction of trucks during school hours, the applicant stated that the vehicles/trucks traveling to/from the site would avoid peak hours, to the extent feasible, but it was also noted that it is not commercially feasible to restrict truck traffic to certain times of day.

WSP considers the response acceptable, however, given that the percentage of articulated trucks are still unknown, WSP is concerned that the amount of articulated trucks traveling on Strawberry Hill Avenue during school arrival and departure peak hours could result in safety concerns.

6. *Traffic Analysis – The southbound Strawberry Hill Avenue approach at Beacon Street would operate at a LOS E in the 2022 Background and Combined conditions during the AM Peak hour, which is not acceptable per the City’s Transportation Management Plan, TIAS Guidelines. Additionally, the applicant shall provide supporting documentation of the existing traffic signal timings and re-evaluate the traffic operation analysis with the correct lane widths, with the appropriate truck percentages and applying the number of pedestrian calls at each intersection.*

The applicant re-evaluated the traffic operation analysis with the correct signal timings, lanes widths and truck percentages, however, the pedestrian calls input was not shown in the Synchro outputs. The applicant updated Table 1 with the traffic operation results showing a LOS F for the southbound approach at the Beacon Street intersection. The applicant also provided Table 1-A showing the results with the signal timing optimization, showing a LOS C for the southbound approach at Beacon Street intersection. However, the applicant did not optimize the 2022 Background conditions showing a LOS F for the southbound approach at Beacon Street intersection. It is likely that the City would optimize these intersections once the conditions fail, even without the proposed improvements. The applicant should have also evaluated the 2022 Background conditions with the optimization so that a better comparison could have been done between the Background and the Combined conditions.

The applicant stated that it would be coordinating with City staff to adjust the signal timings once Unit A2 opens. The applicant also is willing to install adaptive signal control at the Strawberry Hill Avenue intersections with Beacon Street and Norden Place which would allow for real time adjustments to the signal timing based on the



observed traffic demand on the intersection approaches. Additionally, the applicant would install radar detection on Strawberry Hill Avenue to monitor the speed of traffic.

WSP concurs that installation of adaptive signal control to mitigate the potential delays and queues that should be implemented under the Build condition that will also be beneficial when Unit A1 and Unit A2 operational. The applicant should confirm and provide Synchro outputs that the correct pedestrian actuation calls are being incorporated in the traffic analysis.

7. *I-95 Potential Access – The applicant, in coordination with the City, should provide the necessary evaluation and steps required for the FHWA application of a potential access to the site from I-95 that would lessen the traffic impacts on the surrounding City roadway network.*

The applicant indicates that the approval of a direct access to I-95 is unlikely and not part of the application. The applicant would cooperate with the City if this alternative is desired but suggests the City coordinate with the Southwestern Metropolitan Planning Organization to determine if area would benefit from this access.

WSP finds the applicant’s response acceptable. If this option is desired, the applicant, the City and the Southwestern Metropolitan Planning Commission should coordinate to evaluate its feasibility.

8. *Through Truck Prohibitions – Page 7 – Final Paragraph – Although not part of any truck route, through traffic should be prohibited on the local streets of Beacon Street and Tierney Street as a short-cut between Strawberry Hill Avenue and East Avenue to reach I-95. The intersection sight distance is obscured at the Beacon Street and Sunset Hill Avenue intersection.*

The applicant supports the through truck prohibition on local roads and stated that the City Local Traffic Authority should pursue these prohibitions per OSTA regulations.

WSP finds the applicant’s response acceptable.

9. *Truck Route Restrictions – Pages 8 & 9 – Truck turning radii restrictions were identified for each of the primary, secondary and tertiary truck routes.*

The applicant stated that the primary and secondary truck routes have radii restrictions while the tertiary truck route have radii and/or clearance height restrictions. The applicant is willing to direct the tenants to utilize the preferred truck routes. The applicant will be willing to improve the radii on the northeast corner of the East Avenue and Fitch Street intersection to accommodate WB-67 trucks. With this improvement this secondary route will become the primary truck route providing a more direct access between the site and I-95 and reducing the impacts on Strawberry Hill Avenue. The applicant provided a concept plan showing the WB-67 turning movement, the proposed curb line and the right-of-way line. The proposed improvement fits within the City’s right-of-way and it would require the relocation of the traffic signal equipment. The applicant would be willing to fund this improvement.

WSP finds the proposed improvements acceptable and concurs that this improvement would improve traffic operations along Strawberry Hill Avenue between Norden Place and US 1.

10. *Other Approved Development – Page 12 – WSP reviewed the traffic forecasting volumes shown on the supplemental TIAS Figures 12 through 23 and considers the volumes to be reasonable and acceptable. However, the applicant should confirm with the City regarding any other approved development in the area.*

The applicant evaluated the major projects occurring within Norwalk and confirmed with the City that there are no approved developments that would add significant traffic to the study area.



WSP finds the applicant’s response acceptable and after evaluating the projects occurring in Norwalk, WSP concurs that there are no approved developments that would impact the traffic in the study area.

11. *Traffic Generation – Page 13 – WSP agrees with the use of the land use codes and confirmed the values entered in Table 5. However, the applicant should calculate the trip generation rates based on the fitted curve equation, when provided.*

The applicant indicates that the calculation of the trip generation was performed using the most conservative estimates, meaning higher volumes. In most cases the average rates resulted in higher volumes when compared to the results obtained with the fitted curve. For the proposed warehouse, the applicant used the fitted curve to calculate trip generation for the morning and afternoon peak hour, which resulted in higher volumes when compared to the trip generation using the average rates. However, the applicant used the average rates to calculate the daily trips, which resulted in seven additional trips when compared to the fitted curve equation.

WSP finds the applicant’s response acceptable.

CONCLUSIONS AND RECOMMENDATIONS

In summary, WSP has found that the TIAS and subsequent responses to comment letters follow the standard guidelines for preparation of a Traffic Impact Study. WPS considers that TIA and subsequent documentation were prepared in a professional manner consistent with transportation industry standard and applications regarding crash evaluation, trip generation, trip distribution, and traffic analysis.

In general, WSP’s remaining concerns include the following:

- Handicapped Parking Spaces – The applicant should confirm if the handicapped parking spaces available meets the ADA regulations. In addition, the access travel path for disabled visitors and employees shall be considered in the final site plan.
- Loading Docks – The applicant should confirm that the additional three loading docks located in the south side are shown on Figure 1 of this document.
- Articulated Trucks – The applicant has stated that based on prior experience the articulated trucks “*would not account for a large percentage of the total truck trips to the site*”. If the applicant has prior experience, then the applicant should have an approximate percentage of the articulated trucks to/from this type of facility. The applicant should provide any supporting documentation from previous developments that would support their assumption.
- Traffic Analysis – The applicant should confirm and provide Synchro outputs that the correct pedestrian actuation calls are being incorporated in the traffic analysis.

WSP concurs with applicant’s proposed mitigation measures such as improving the northeast corner of East Avenue and Fitch Street intersection, installing adaptive signal control at both the Beacon Street and Norden Place intersections. In addition to these improvements, WSP notes the following:

- The applicant will install radar detection on Strawberry Hill Avenue for speed monitoring. The radar speed detection should be installed within the three school zones and include the speed limit and the vehicle speeds.
- It is recommended that the applicant perform a traffic study six months after opening of the facility to confirm engineering analysis assumptions and assess the traffic impacts on the roadway system. Any additional operational impacts beyond what is discussed in the TIA should be mitigated and further coordinated with the City Transportation, Mobility and Parking.