



January 5, 2022

Mr. Gregory Rondeau, Chairman
Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Proposed Warehouse Building
585 King Street
Traffic Peer Review Update

Dear Mr. Rondeau:

BETA Group, Inc. (BETA) conducted a review of traffic related items provided by the applicant for the proposed project entitled 585 King Street – Proposed Warehouse located in Franklin, Massachusetts. This letter is provided to update findings, comments, and recommendations.

BASIS OF REVIEW

BETA received the following items:

- Traffic Impact Assessment (TIA), dated December 2021, prepared by Vanasse & Associates, Inc., Andover, MA
- Plans (26 sheets) entitled: Preliminary Major Site Plan; dated October 8, 2021; prepared by Bohler Engineering of Southborough, MA.
- Response to Traffic Peer Review, dated December 2, 2021, prepared by Vanasse & Associates, Inc., Andover, MA
- Traffic Impact Assessment Update, dated December 23, 2021, prepared by Vanasse & Associates, Inc., Andover, MA
- Survey Based Concept Plan B, dated December 21, 2021, prepared by Bohler Engineering of Southborough, MA.
- Figure 13 Conceptual Improvement Plan King Street at Constitution Boulevard and the Project Site Driveway, dated December 22, 2021, prepared by Vanasse & Associates, Inc., Andover, MA
- Figure 14 WB-67 Semi-Trailer Turning Movement Plan King Street at Constitution Boulevard and the Project Site Driveway, dated December 22, 2021, prepared by Vanasse & Associates, Inc., Andover, MA
- Figure 15 Conceptual Study Area Improvement Plan King Street, dated December 22, 2021, prepared by Vanasse & Associates, Inc., Andover, MA

COMPILED REVIEW LETTER KEY

BETA reviewed this project previously and provided review comments in letters to the Board dated November 18, 2021 (original comments in standard text), Vanasse & Associates, Inc. (VAI) provided responses dated December 2, 2021 (responses in italic text), and BETA has provided comments on the status of each (status in standard bold text). Comments on additional recently submitted material are also provided within this letter.

PROJECT DESCRIPTION

The Applicant proposes to develop tracts of land located at 585 King Street in Franklin, Massachusetts (the Site) which comprises a total area of approximately 33.5 acres. The Site is located within the Business zoning district, while the surrounding area is located within the Single-Family III zoning district. The Site is bounded to the north by Interstate I-495, to the west by undeveloped woodlands, to the south by single-family residences, and to the east by King Street.

The project originally proposed to construct a 293,600 square foot warehouse building. Subsequently the project has been changed to construct a 255,400 square foot building. Access to the site will be provided via a new driveway that will intersect King Street and Constitution Boulevard via a fourth leg from the north.

The original project included 298 parking spaces, 42 loading bays, and 51 trailer storage spaces for a total of 391 parking spaces. The revised project will include 293 parking spaces, 64 loading bays, and 18 trailer spaces for a total of 375 parking spaces.

FINDINGS, COMMENTS AND RECOMMENDATIONS

The study area includes the following four signalized intersections in the vicinity of the site:

- King Street at Constitution Boulevard (Site access/egress location) and the fire station signal
- King Street at I-495 Southbound Ramps
- King Street at I-495 Northbound Ramps
- King Street at Union Street

The study area was found to be adequate, and the study methodology follows MassDOT Transportation Impact Assessment (TIA) guidelines.

Manual turning movement counts (TMCs) were collected on Wednesday, May 26th, 2021 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. These time periods were chosen because they are representative of the peak generator times of the proposed development and roadways.

Traffic volume data were collected via automatic traffic recorder (ATR) on King Street over a 48-hour period on Wednesday, May 26th and Thursday, May 27th, 2021.

Permanent count station data from I-495 were reviewed to determine the need for seasonal adjustment. Traffic volumes in May were found to be above average-month conditions, therefore, the volumes were not adjusted.

In order to account for the difference in traffic patterns due to the pandemic, permanent count station data from 2018 was compared to the 2021 data. The existing 2021 volumes were increased by 6.1% to account for the volume reduction due to the pandemic.

T1. The developer's traffic consultant prepared a traffic study for a proposed hotel on Union Street dated November 2018 which included traffic volume data collected in 2018. The study area intersections for that project were the same as this project's study area. MassDOT's current Engineering Directive for "Guidance on Traffic Count Data" allows the use of 2018 volume data with the application of factors. Explain the reason behind collecting new volume data during the continued pandemic rather than using volumes collected prior to the change in traffic patterns and decrease in volumes which are acceptable to MassDOT.

VAI: The November 2018 TIA did not include the intersection of King Street at Constitution Boulevard, the intersection that will serve as the access to the Project site and the location where the Applicant is proposing to advance significant improvements to the transportation infrastructure. As such, updated traffic count data was obtained for the entirety of the study area and adjusted following the guidance and procedures outlined in MassDOT's April 2020 "Guidance on Traffic Counting Data".

Subsequent review and comparison between the adjusted 2021 peak-hour traffic volume data and the 2018 traffic volume data for the King Street intersections with Union Street and the I-495 ramps indicated traffic volume variations for specific movements ranging from an increase of 60 vehicles to decreases of 220 vehicles. A detailed comparison of the traffic volume data by intersection and movement is attached.

Given that the identified variations would be considered material and would result in a change in the reported operating conditions at the intersections that were assessed in the October 2021 TIA, the 2018 peak-hour traffic volumes were used to reestablish baseline (2021) traffic volumes from which to reassess traffic volumes and operating conditions at the study intersections, which were adjusted to 2021 Existing traffic volume conditions following the adjustment procedure that is outlined in aforementioned MassDOT April 2020 guidance. The 2021 traffic volume data that was collected at the King Street/Constitution Boulevard intersection (the 2018 traffic count data did not include this intersection) was then added to the reestablished baseline traffic volumes and the traffic volumes at the intersection were adjusted to balance with the traffic volumes at the adjacent King Street/I-495 southbound ramp intersection. The 2018 traffic count data and the adjustment calculations are attached.

Figures 3R and 4R depict the revised 2021 Existing weekday morning and evening peak-hour traffic volumes, respectively, with Figures 5R and 6R depicting the revised 2028 No-Build condition peak-hour traffic volumes and Figures 10R and 11R depicting the corresponding 2028 Build condition traffic volumes.

BETA2: During the review process for the proposed hotel on Union Street, 2018 traffic volume data was collected for the intersection of King Street at Constitution Boulevard which VAI had provided at the time. Based on a quick review of the volumes, the overall volumes are similar, but the distribution varied at the intersection between the original data collection in 2018 and the baseline volumes provided in the TIA. BETA recommends the volumes be reviewed and the intersection analysis redone as needed to determine if the redistribution would provide a negative impact to the intersection operational analysis if the intersection movement volumes into and out of Constitution Boulevard are once again realized.

T2. Please clarify if a volume comparison between the 2018 and 2021 volume data was performed for reference prior to determining which traffic volumes to use for the study.

VAI: A comparison between the 2018 and 2021 traffic volumes was not conducted in conjunction with the preparation of the October 2021 TIA. Subsequent review and comparison between the adjusted 2021 peak-hour traffic volume data and the 2018 traffic volume data for the King Street intersections with Union Street and the I-495 ramps indicated traffic volume variations for specific movements ranging from an increase of 60 vehicles to decreases of 220 vehicles. A detailed comparison of the traffic volume data by intersection and movement is attached.

BETA2: Information provided. Further adjustments are pending. Refer to T1 responses.

Vehicle speeds were also collected via ATR along King Street in the vicinity of the development roadways. The posted speed limit along King Street is 40 miles per hour (mph). The mean and 85th percentile speeds were less than the posted speed limit. For example, the measured 85th percentile speeds were 4-8 miles per hour less than the posted speed.

Crash data were collected, compiled, and analyzed for the study area intersections for a five-year period, 2014 through 2018, based on the most recent data available from MassDOT. This is an industry standard practice. Crash rates quantified in number of crashes per million entering vehicles were found to be 0.57 or less. All are below the Statewide and District 3 average crash rates of 0.78 and 0.89, respectively.

Based on discussions with the Town of Franklin Planning Department, there are currently no development or roadway projects expected to increase traffic or capacity in the vicinity of the project site. Therefore, no additional development traffic volumes were added to the No-Build condition.

No-Build traffic volumes were determined by applying a one (1) percent per year growth rate over seven years. The review of permanent count station data between 2009 and 2019 shows an average traffic rate of 0.57 percent per year, however 1% was applied to account for any future unforeseen developments. The 1% growth rate is consistent with other recent studies for the Town of Franklin; therefore, BETA agrees with the annual growth rate over a seven-year horizon to 2028.

Project-generated traffic volumes were determined by utilizing trip-generation statistics published by the Institute of Transportation Engineers (ITE) for land use code 150 (Warehousing). The land use and methodology chosen is accurate and consistent with industry standards. The project site is projected to generate a total of 510 new trips on an average weekday. New peak hour trips are 61 (47 entering, 14 exiting) in the weekday morning peak hour, and 63 (17 entering, 46 exiting) in the weekday afternoon peak hour. Six of the weekday morning peak hour and nine of the weekday afternoon peak hour are expected to be truck trips. It should be noted that the truck trips are based on the peak hour of the main road and not the facility. During the morning and afternoon peak hours of the facility, the number of truck trips is expected to range from 16 to 19 trips.

New trips were distributed through the study area based on existing traffic patterns and the location of the highway system. Backup calculations were not provided for review.

T3. Please provide the trip distribution backup calculations for reference and review.

VAI: The trip distribution pattern for the project was developed based on a review of existing traffic patterns within the study area during the peak hours. Backup calculations have been provided as an attachment.

BETA2: Information provided. No further comment.

The level of service analysis for the intersections was performed using the Synchro 11 software and based on the HCM 2000 methodology. Analyses were performed for the Existing, No-Build, and Build conditions. The analysis results show that all movements would operate at LOS D or better during the morning and afternoon peak periods for the Existing, No-Build, and Build conditions and the intersections overall would operate at LOS C or better. Even with the addition of the site driveway approach to the intersection, the Project was not found to change overall Level of Service (LOS) when compared to the No-Build conditions.

T4. As stated previously, the developer's traffic consultant prepared a traffic study for a proposed hotel on Union Street dated November 2018 which included traffic volume data collected in 2018. The LOS results for the same study area intersections indicates that intersections overall would

operate at LOS D or better with several movements operating at LOS E or better during the Build conditions. Therefore, the analysis prepared for this study, with the same intersections, results in much better intersections operations. The variation in LOS results is indicative of lower traffic volumes used in this study. Although the comparison of impacts between the No-Build and Build volumes suggests similar degradations, it is important to have a good understanding of the real traffic volumes when providing updated coordination timing plans.

VAI: The traffic operations analysis for the study area intersections has been revised to reflect the reestablished baseline 2021 Existing traffic volumes and the associated revised 2028 No-Build and 2028 Build condition traffic volumes, the results of which are summarized in Table 8R, with the detailed analysis results attached.

A comparison of the analysis results shown in Table 8 of the October 2021 TIA to the results shown in Table 8R indicates that overall intersection operations will be maintained at a level-of-service (LOS) C or better during the peak hours, with no change in overall LOS shown to occur as a result of the addition of Project-related traffic, consistent with the findings of the October 2021 TIA, and all but two (2) movements shown to operate at LOS D or better, where an LOS "D" or better is defined as "acceptable" operating conditions. As noted by BETA, the King Street westbound approach to the I-495 southbound ramps and the Union Street southbound approach to King Street were identified to operate at LOS E during the weekday evening peak-hour under 2028 No-Build conditions, independent of the Project. Project-related impacts on these movements were identified as an increase in average motorist delay of up to 7.9 seconds and in vehicle queuing of up to one (1) vehicle.

BETA2: Information provided. Further adjustments are pending. Refer to T1 responses.

T5. Clarify if the Build conditions analysis incorporates the optimized coordination times intended to be implemented for this project.

VAI: The 2028 Build condition analysis presented in Table 8 of the October 2021 TIA do not reflect the proposal to optimize the traffic signal timing, phasing and coordination plan for the King Street corridor.

BETA2: Elaborate on the effort and timeline the proponent is committing to in terms of the design and implementation of "an optimal traffic signal timing, phasing, and coordination plan" for the King Street corridor.

The 95th percentile queues are anticipated to be similar between the No-Build condition and the Build condition throughout the study area.

KING STREET AT CONSTITUTION BOULEVARD/SITE DRIVEWAY

The proponent proposes to provide a 4th leg from the north to form a 4-legged signalized intersection with King Street at Constitution Boulevard.

In addition, the proponent is prepared to replace the fire station intersection's emergency flashing signal with a traditional traffic signal. This would provide indications tied into the King Street and Constitution Boulevard/Site Driveway intersection traffic signal. Signal indications will be replaced with optically programmed signal indications and queuing will be prohibited from in front of the fire station. The proposed concept is expected to provide safety improvements to the intersection operations; however, a traffic signal plan was not provided as part of this submission, so a detailed review of the operations was not performed.

T6. The proposed lane use configuration used in the analysis for the King Street southbound approach to its intersection with Constitution Boulevard/Site Driveway is different than that layout shown in Figure 13. Figure 13 – Conceptual Improvement Plan shows a proposed lane configuration and associated R3-8a sign which depicts two left-turn only lanes and one shared through/right turn lane. However, the Synchro Build analysis shows two exclusive left-turn lanes, one through lane, and one right turn lane. Please clarify the intended proposed lane configuration.

VAI: The proposed lane configuration shown on Figure 13 (i.e., two (2) left-turn lanes and one (1) through/right-turn lane) reflects the proposed lane configuration. A revised traffic operations analysis has been performed that reflects the lane use shown on Figure 13, the results of which are summarized in Table 8R with the detailed analysis results attached.

As shown in Table 8R, no change in overall level-of-service is predicted to occur over No-Build conditions, with Project-related impacts defined as an increase in overall average motorist delay of up to 4.5 seconds and in vehicle queuing of up to six (6) vehicles (King Street westbound through/right-turn lane during the weekday morning peak-hour). All movements exiting the Project site are predicted to operate at LOS D during both the weekday morning and evening peak hours with vehicle queues of up to three (3) vehicles predicted. These results are generally similar to those reported in Table 8 of the October 2021 TIA.

BETA2: Page 2 of the TIA states some recommendations for the project access design and includes “King Street approaching the Project site driveway should be widened to provide a southbound right-turn lane in order to accommodate trucks slowing to enter the Project site.” Based on the proposed lane configuration, an exclusive right-turn lane is no longer proposed. Could you elaborate on how this design recommendation changed to a shared through/right-turn lane and your thoughts on any safety issues related to the lack of an exclusive right-turn lane for slow turning trucks as initially noted?

SITE PLAN

T7. The queueing currently experienced on I-495 off ramps to King Street and the King Street left turns onto I-495, specifically in the northbound direction, should be closely monitored when the signal timings and coordination are revised. Tractor trailer truck start up times are longer and additional time would be needed to accommodate the additional truck traffic in the study area.

T8. The revised site plan shows the loading docks now facing I-495. As a result, approximately 33 truck parking spaces were removed, and 22 loading docks were added to the site plan. Do you anticipate that the increase in loading docks would increase the number of truck trips to and from the site on a daily or weekly basis?

ADDITIONAL COMMENTS

An update to the original TIA was submitted for review. The update summarizes the decrease in the proposed warehouse square footage from 293,000 square feet to 255,400 square feet, which results in a lower trip generation. The decrease in square footage results in a negligible 7 and 6 vehicle decrease in trips during the AM and PM peak periods, respectively.

T9. The ITE Trip Generation data is an industry standard resource for determining proposed vehicle trips for planning purposes. Due to the existing congestion at the proposed site driveway intersection with Constitution Boulevard and King Street, BETA recommends that the proponent provide additional traffic volume data. The traffic data should include vehicle volumes, including trucks, from

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a similar sized and type of facility as well as a facility with a similar number of loading docks adjacent to a major highway. This data would provide a trip generation comparison to support the ITE trip generation data provided in the TIA.

T10. The traffic signal at the site driveway is under the Town's jurisdiction but the traffic signal is coordinated with three other intersections, two of which are owned by the MassDOT. Could you elaborate on discussions with MassDOT in general involving the project as well as the traffic signal redesign and their comments about how adding the additional phase would impact the coordinated network.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,

BETA Group, Inc.



Jaklyn Centracchio, PE, PTOE
Project Manager

cc: Amy Love, Town Planner

Job No: 4830 – 80

Town of Franklin

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DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

MEMORANDUM

DATE: January 5, 2022
TO: Franklin Planning Board
FROM: Department of Planning and Community Development
RE: 585 King St
Special Permit & Site Plan

The DPCD has reviewed the above referenced Site Plan Modification application for the Monday, January 10, 2022 Planning Board meeting and offers the following commentary:

General:

1. The site is located at 585 King St in the Business Zoning District. The property consists of several lots, as listed below:
 - Map 313, Lots 007, 0055, 053, 054, 006, 007, 005
2. The applicant is proposing to construct a Warehouse/Storage facility. Storage facilities require a Special Permit in the Business Zoning District, under 185 Attachment 4, 3.10.
3. Applicant still needs to file a Notice of Intent with the Conservation Commission.
4. BETA submitted a response to the traffic report provided by the Applicant.

Submitted Material

1. Revised Concept plan flipping the loading docks on the 495 side and reduce the building size from 293, 600 to 255,400.
2. Revised Traffic study including the reduced size of the building
3. Truck turning plan
4. Letter from Deputy Fire Chief Joseph Barbieri
5. Letter from Jaklyn Centrocchio, BETA
6. Letter from abutter at 627 King Street

Comments from December 20:

1. The Planning Board requested hours of operation for the truck traffic and possible tenants.
2. What changes are being made to the intersection, such as pavement, turning lanes etc?
3. Provide a layout of the intersection with turning lanes. *Applicant has provided a truck turning plan.*
4. Are any changes being proposed to the 495 South ramp?
5. Show any changes or reconstruction plans being proposed to Constitution Blvd.
6. What if any communication has been made with MASSDOT.
7. A concept plan was submitted showing the loading docks have been moved to the 495 side of the building. The Planning Board should provide feedback if this is acceptable to move forward.



FRANKLIN FIRE DEPARTMENT

To : DPCD

FROM : J. S. BARBIERI, DEPUTY FIRE CHIEF

DATE : 4 JANUARY 2022

RE : 585 KING ST – MARCUS PARTNERS

Fire Chief James McLaughlin and myself met remotely with representatives from Marcus Partners and their traffic consultant, Vanasse & Associates, Inc. this morning to discuss the proposed traffic layout and impact near our Fire Station 2.

They have met our requirements and we approve of the proposed upgrades to the intersection.

Please contact me should you have any question or require any additional information.

cc: file

December 28,2021

Chairman Franklin Planning Board
Mr. Chairman Gregory Rondeal
355 East Central St
Franklin, Ma 02038

RE: 585 King St project and road way

Dear Mr. Chairman Gregory Rondeau.

First let me introduce my self my name is Richard Chestercove and my residents is 627 King St Franklin, Ma 02038.

On November 15,2021 I attended the meeting for the 585 King St development of Warehouse/storage facility and roadway.

I expressed a couple of concerns at that time about tractor trailers making a safe turn into the property.

Because some years ago I recall on two separate occasion when they made a turn onto Union St they flipped over. Another concern was since my property will abut near the roadway I was concern about the traffic noise level .

I understand the next meeting will be January 8,2022. I am not sure if I can attend this meeting. Over the holiday I discussed the King St project with my son and daughter and They brought up some good question to ask.

1. We believe since the roadway will be close to my property it will decrease the value of my property and much harder to sell. Due to the added traffic and noise level and vehicle lights and any other lighting.
2. It will increase the chances of young children playing on my property to run and see the tractor trailers and give the driver an indication to sound their horn.
3. A small brook runs across the property also what happens to the rain water from the roadway.
4. What steps will be taken to protect the wet lands in the area?

I hope I can make the next meeting

Sincerely



Richard Chestercove

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CC: Sent by mail



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FRANKLIN PLANNING BOARD

CHARLTON GREENE: NON DEAL

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