

# **Transportation Impact Assessment Executive Summary**

Proposed Warehouse Building  
585 King Street  
Franklin, Massachusetts

*Prepared for:*

 **MARCUS PARTNERS**  
Boston, Massachusetts

October 2021

*Prepared by:*

 **Vanasse &  
Associates inc**  
Transportation Engineers & Planners

35 New England Business Center Drive  
Suite 140  
Andover, MA 01810

Dear Reviewer:

This letter shall certify that this *Transportation Impact Assessment* has been prepared under my direct supervision and responsible charge. I am a Registered Professional Engineer (P.E.) in the Commonwealth of Massachusetts (Massachusetts P.E. No. 38871, Civil) and hold Certification as a Professional Traffic Operations Engineer (PTOE) from the Transportation Professional Certification Board, Inc. (TPCB), an independent affiliate of the Institute of Transportation Engineers (ITE) (PTOE Certificate No. 993). I am also a Fellow of the Institute of Transportation Engineers (FITE).

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE  
Managing Partner

## EXECUTIVE SUMMARY

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Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a warehouse building to be located at 585 King Street in Franklin, Massachusetts (hereafter referred to as the “Project”). This assessment was prepared in consultation with the Town of Franklin and the Massachusetts Department of Transportation (MassDOT), and was performed in accordance with MassDOT’s *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports.

Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE),<sup>1</sup> the Project is expected to generate 510 vehicle trips on an average weekday (two-way volume over the operational day of the Project), consisting of 334 passenger car trips and 176 truck trips. During the weekday morning peak-hour, the Project is expected to generate 61 vehicle trips, consisting of 55 passenger car trips and 6 truck trips. During the weekday evening peak-hour, the Project is expected to generate 63 vehicle trips, consisting of 54 passenger car trips and 9 truck trips;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No-Build condition), with all of the movements at the study area intersections shown to continue to operate at level-of-service (LOS) D or better with the addition of Project-related traffic, where an LOS of “D” or better is defined as “acceptable” traffic operations;
3. All movements at the Project site driveway intersection with King Street were shown to operate at a LOS D or better during the peak hours with minimal vehicle queueing predicted (up to 2 vehicles);
4. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study area intersections; and

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<sup>1</sup>*Trip Generation*, 10<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, DC; 2017.

5. Lines of sight at the Project site driveway intersection with King Street were found to exceed or could be made to exceed the recommended minimum distance for safe operation based on the appropriate approach speed.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

## **RECOMMENDATIONS**

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

### **Project Access**

Access to the Project site will be provided by way of a new driveway that will intersect the north side of King Street opposite Constitution Boulevard and will form the fourth leg of the intersection, which is presently under traffic signal control. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The Project site driveway should be incorporated into the traffic signal system at the King Street/Constitution Boulevard intersection and designed to accommodate two (2) travel lanes approaching King Street, consisting of a left-turn lane and a through/right-turn lane, and a single travel lane entering the Project site separated by a raised island or double-yellow centerline. Thereafter the driveway and internal circulating drives should be a minimum of 24 feet in width where two-way traffic is to be conveyed and a minimum of 20 feet in width for one-way travel.
- The Project site driveway and internal circulating drives should be designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle and a large tractor semi-trailer combination (WB-67 design vehicle).
- 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.
- Where perpendicular parking is proposed within the employee parking areas, the drive aisle behind the parking should be a minimum of 23 feet in order to facilitate parking maneuvers.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).<sup>2</sup>

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<sup>2</sup>*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

- A sidewalk should be provided along at least one side of the Project site driveway and extend to the existing sidewalk along King Street.
- Americans with Disabilities Act (ADA)-compliant wheelchair ramps should be provided at all pedestrian crossings internal to the Project site.
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveway should be designed and maintained so as not to restrict lines of sight.
- Snow windrows within sight triangle areas of the Project site driveway should be promptly removed where such accumulations would impede sight lines.

### **Off-Site**

#### **King Street Traffic Signal System**

In conjunction with the addition of the Project site driveway as the fourth leg of the King Street/Constitution Boulevard intersection and the reconstruction of the traffic signal system at the intersection, the Project proponent will design and implement an optimal traffic signal timing, phasing and coordination plan for the King Street coordinated traffic signal system inclusive of the following intersections:

- King Street/Constitution Boulevard
- King Street/I-495 Southbound Ramps
- King Street/I-495 Northbound Ramps
- King Street/Union Street

These improvements will be completed prior to the issuance of a Certificate of Occupancy for the Project subject to receipt of all necessary rights, permits and approvals.

#### **King Street at Franklin Fire Station No. 2**

In conjunction with the reconstruction of the King Street/Constitution Boulevard intersection and the associated traffic signal system to accommodate the Project, the following improvements will be completed in order to reduce the potential for vehicle queues on the King Street northeastbound approach to Constitution Boulevard to block the driveway to Franklin Fire Station No. 2:

1. “Do Not Block” pavement markings and accompanying signs will be installed on King Street across the fire station driveway; and
2. The existing flashing emergency signal that is located to the west of the fire station driveway will be replaced with traffic signal indications that will be incorporated into the traffic signal system at the King Street/Constitution Boulevard intersection and will be timed to initiate a “red” traffic signal indication at the fire station driveway for King Street traffic prior to the initiation of a “red” signal on the same approach at Constitution Boulevard. A “Stop Here On Red” sign will be installed at the stop-line on King Street to the west of the driveway.

The existing traffic signal indications on the King Street northeastbound approach to Constitution Boulevard will be replaced with optically programmed signal indications in order to

reduce the visibility of the signal indications approaching the stop-line to the west of fire station driveway.

The proposed improvements and the sequential termination of the “green” signal phase on the King Street northeastbound approach will limit the introduction of vehicles between the stop-line to the west of the fire station driveway and the stop-line at Constitution Boulevard so that the vehicle queue between the stop-lines will not block the fire station driveway. Upon pre-emption of the traffic signal system by an emergency vehicle leaving the fire station, the new traffic signal indications that are to be installed to the west of the driveway will display a “red” indication to hold traffic to the west of the driveway, with the signal indication on the King Street northeastbound approach displaying a “green” indication to clear traffic in front of the responding emergency vehicle (all other traffic signals will display a “red” indication at the intersection).

The recommended improvements at the King Street Fire Station No. 2 driveway and at the King Street/Constitution Boulevard intersection will be designed and constructed prior to the issuance of a Certificate of Occupancy for the Project subject to receipt of all necessary rights, permits and approvals.

### **Transportation Demand Management**

Regularly scheduled, fixed-route, public transportation services are not currently provided within the study area or to the Project site. The Greater Attleboro-Taunton Regional Transit Authority (GATRA) operates an on-demand microtransit service which allows transit riders to request a vehicle to pick them up for same-day service within the Town of Franklin through the GATRA GO United program. In an effort to encourage the use of alternative modes of transportation to single-occupant vehicles, the following Transportation Demand Management (TDM) measures should be implemented as a part of the Project:

- A transportation coordinator should be assigned for the Project to coordinate the TDM program;
- Information regarding commuting options should be posted in a central location and/or otherwise made available to employees of the Project;
- The transportation coordinator should facilitate a rideshare matching program for employees to encourage carpooling;
- A “welcome packet” should be provided to employees detailing available commuter options and will include the contact information for the transportation coordinator and information to enroll in the employee rideshare program;
- Specific amenities should be provided to discourage off-site trips, including providing a break-room equipped with a microwave and refrigerator; offering direct deposit of paychecks; allowing telecommuting or flexible work schedules; and other such measures to reduce overall traffic volumes and travel during peak-traffic-volume periods;
- Pedestrian accommodations should be incorporated within the Project site to link the employee parking areas to the warehouse building and to the existing sidewalk along King Street; and
- Secure bicycle parking should be provided at an appropriate location within the Project site.

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site and the Project can be accommodated within the confines of the existing and improved transportation system.