
Traffic Impact, Access, and Parking Study

The Dascomb Road Project

Andover, Massachusetts



THE DASCOMB ROAD PROJECT

Prepared for: **Town of Andover, Massachusetts**

36 Bartlett Street
Andover, Massachusetts 01810



On Behalf of: **Lupoli Companies**

280 Merrimack Street
Lawrence, Massachusetts 01843



Prepared by: **TEC, Inc.**

146 Dascomb Road
Andover, Massachusetts 01810



This document has been prepared under my direct supervision and responsible charge. I have reviewed this document as it relates to the traffic impact analysis and have determined that the conceptual transportation mitigation to be safe for public health and welfare in conformity with accepted engineering standards.




Samuel W. Gregorio, P.E., PTOE
Senior Traffic Engineer

October 16, 2018
SUMMARY VERSION

I. INTRODUCTION

TEC, Inc. (TEC) has been retained by the Lupoli Companies (the "Applicant") to prepare a Traffic Impact, Access, and Parking Study (TIAPS) for the proposed Dascomb Road Project (the "Project"), located at #146 Dascomb Road in Andover, Massachusetts. The 16.2-acre site is located within the Industrial D2 (ID2) zoning district which was adopted by the Town of Andover in 2013 with unanimous support from the Planning Board and Board of Selectmen. The stated goal of the ID2 zoning district is to create targeted development opportunities. The ID2 zone was created to make Andover more attractive for businesses by allowing additional amenity uses/services to support office and industrial uses.

This TIAPS has been prepared to assess the traffic impacts of the proposed mixed-use redevelopment project and the extensive transportation improvements to be located adjacent to the site along Dascomb Road and Frontage Road in both Tewksbury and Andover, Massachusetts.

PROJECT OVERVIEW

Building Program and Access

The existing site currently consists of ±188,960 square feet (SF) of mixed office and industrial uses with associated on-site surface parking. The existing office and industrial space on-site are presently underutilized. A 27,300 SF office tenant is currently the properties primary occupant. A ±90,000 SF (not included in the above square footage) Restaurant Depot facility, who partially shared driveways connections with the site, operates on the property located adjacent to and south of the site at #148 Dascomb Road. The #146 Dascomb Road site is currently accessed via five (5) site driveways along the easterly side of Smith Way, south of Dascomb Road.

The Project consists of razing the existing ±188,960 SF of underutilized office and industrial space and constructing a 524,000 SF mixed-use redevelopment; comprised of a 100-room business-centric hotel; 293,000 SF of office space; 80,000 SF of general retail space; a 30,000 SF fitness center; a 35,000 SF neighborhood grocery store; and 20,000 SF of restaurant space. The Project proposes to modify the access/egress to the property, providing two (2) full-access/egress driveways, a shared full-access/egress driveway with Restaurant Depot, and a loading dock driveway along the easterly side of Smith Way. All full-access/egress driveways for the Restaurant Depot facility along Smith Way will be retained. Additionally, a full-access/full-egress driveway for the proposed redevelopment will be provided immediately

opposite Frontage Road, becoming the fourth leg at the signalized intersection on Dascomb Road.

Parking

The existing site currently includes 247 on-site surface parking spaces to service the underutilized ±188,960 SF of mixed office and industrial uses. The Project looks to significantly reconfigure the parking at the site and will provide 1,760 parking spaces to service the 524,000 SF mixed-use redevelopment. A large quantity of the on-site parking, 1,256 spaces, will be structured in order to maximize the amount of green space within the project while still maintaining opportunities for patrons, employees, and visitors to park efficiently without overflow. Access/egress to/from the structured parking will be provided at multiple locations within the redevelopment so to disperse traffic volumes throughout the site and the site's main access/egress points.

Proposed Transportation Mitigation

The Applicant is committed to implement and construct transportation mitigation measures to improve traffic operations and safety based for both existing and future deficiencies for all users. This includes off-site roadway improvements along the both the Dascomb Road and Frontage Road corridors between East Street to the west and Clark Road to the east. The proposed improvements will include, but is not limited to, reconstructing / widening Dascomb Road into a multimodal roadway that will accommodate healthy transportation alternatives such as walking, bicycling, and public/shared transit. In addition, the Applicant has committed to several Transportation Demand Management (TDM) measures aimed to reduce single-occupancy vehicle (SOV) trips and overall vehicular traffic to/from the redevelopment site and better manage traffic generated by the proposed project. Finally, the Applicant has committed to implementing a Traffic Monitoring Plan (TMP), which is intended to monitor traffic operations and parking occupancy throughout the construction and for a period following completion of the Project. A detailed review of these mitigation measures is further defined in this TIAPS.

CONTEXT

Transportation design, traffic operations, and traffic safety are primary components to the Dascomb Road Project. Off-site mitigation is proposed within State Highway Layout (SHLO) and along direct access/egress points of the Interstate Highway System, requiring review by the Massachusetts Department of Transportation (MassDOT) and the Federal Highway Administration (FHWA) in the form of a Permit to Access State Highway and a Project Framework Document (PFD), respectively.

As this project is anticipated to generate more than 3,000 new vehicle trips per day (vpd) along the adjacent roadway network, will include the construction of more than 1,000 new parking spaces, directly abuts state-owned property, and provides direct access/egress to a state-owned roadway, the Project will require review by the Massachusetts Environmental Policy Act (MEPA) office in the form of an Environmental Notification Form (ENF) and mandatory Environmental Impact Report (EIR) under the following MEPA Review Thresholds:

- 301 CMR 11.03(6)(a)(6) – Generation of 3,000 or more new ADT on roadways providing access to a single location; and
- 301 CMR 11.03(6)(a)(7) – Construction of 1,000 or more new parking spaces at a single location.

METHODOLOGY

TEC has evaluated the traffic operations for the study area under existing and future conditions consistent with the *Transportation Impact Assessment (TIA) Guidelines* issued by MassDOT¹ and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports. The future planning horizon examines traffic operations under existing conditions (2018), as well as an 8-year planning horizon (2026) for traffic-volume projections; which includes an evaluation of the No-Build conditions (without the proposed project), Build conditions (with the proposed project), and Build with Mitigation conditions (with the proposed project and any proposed mitigation). TEC has utilized an 8-year horizon, as opposed to a 7-year horizon typically utilized under MassDOT's *TIA Guidelines*, as the MEPA review process is not intended to be finalized until 2019.

¹ *Transportation Impact Assessment (TIA) Guidelines*; Massachusetts Department of Transportation; March 13, 2014.

VII. MITIGATION MEASURES

After evaluating the operations and safety of the study area roadways and intersections, the next step is to identify measures to improve the roadways and intersections based on existing and future deficiencies. The Project has impacts in the area immediately adjacent to the site and requires mitigation. The following section provides a summary of measures that are recommended to improve the existing and future operations and safety of the study area intersections. These recommended measures were noted in the previous capacity and queue analysis.

The Applicant has proposed a robust and comprehensive transportation mitigation program along Dascomb Road, Frontage Road, and Smith Way to improve vehicular, bicycle, and pedestrian operations and safety. The primary improvements include the installation of three new traffic signals within the study area to provide a coordinate network of signals; improving driver progression in the vicinity of the I-93 Interchange 42. In addition, the Applicant seeks to significantly improve multi-modal accommodations for bicycles and pedestrians along Dascomb Road to service not only the Dascomb Road Project; but other existing developments and residences along the corridor. Finally, the Applicant has proposed improvements along the Dascomb Road corridor have been designed to carry additional reserve capacity for potential future expansion of projects along the immediate Dascomb Road and Frontage Road area.

SITE ACCESS

As part of the Project, a fourth leg will be added to the intersection of Dascomb Road / Frontage Road. Primary access/egress to the site is proposed via a series of internal driveways along Smith Way; however, the addition of a driveway at the intersection of Dascomb Road / Frontage Road would improve access and egress along Dascomb Road for users of the site. The distribution of site-generated traffic to these driveways is identified in the prior chapters. The proposed site driveway will be designed to accommodate safe travel speeds and in accordance with *MUTCD* standards for pavement markings and signage and AASHTO standards for sight lines and geometry.

Although operations at the intersection are expected to improve as a result of the proposed fourth leg, the safety characteristics of the intersection will be improved significantly. Without the proposed fourth intersection leg, all site-generated traffic entering the site via the Frontage Road southbound approach will be required to traverse two lanes of traffic along Dascomb Road westbound immediately after exiting the channelized right-turn from Frontage Road. Where the channelized right-turn operates under yield-control, vehicles entering the site from that

movement will need to accurately judge the gaps in Dascomb Road westbound traffic before cutting across two lanes of traffic to access the two exclusive left-turn lanes into the Project site. After construction of the proposed fourth leg, site-generated trips entering the site via the Frontage Road southbound approach can access the site directly under signalized protection without the need to use Dascomb Road or the channelized right-turn, significantly improving vehicular safety.

OFF-SITE IMPROVEMENTS

Intersection Improvements

Dascomb Road / East Street / Shawsheen Street

To improve traffic operations at the intersection of Dascomb Road / East Street / Shawsheen Street, the Applicant will extend the exclusive left-turn lane along the Dascomb Road westbound approach to provide adequate storage capacity for the increased westbound traffic volumes. In addition, the existing traffic signal timings will be modified to run in coordination with the new traffic signals proposed along the Dascomb Road corridor. The master controller unit currently housed at the intersection of Dascomb Road / East Street / Shawsheen Street will be transferred to the reconstructed intersection of Dascomb Road / Frontage Road / Site Driveway.

Dascomb Road / Smith Way

To mitigate the impacts of the Project and to provide additional reserve capacity along the corridor, the Applicant has committed to the following improvements at the intersection of Dascomb Road / Smith Way:

- Install a fully-actuated traffic signal with coordination to/from other traffic signals located along the Dascomb Road corridor. Provide demand-based vehicular and bicycle detection as part of the new traffic signal, as well as providing accommodations for emergency-vehicle pre-emption;
- Slightly widen Smith Way to accommodate a consistent cross-section which includes an exclusive left-turn lane and an exclusive right-turn lane;
- Widen Dascomb Road to include a through lane and a shared through / right-turn lane on the eastbound approach; and an exclusive left-turn lane and two through lanes on the westbound approach; and
- Add Americans with Disabilities Act (ADA) / Architectural Access Board (AAB) compliant pedestrian accommodations; including crosswalks across Dascomb Road and Smith Way, accessible ramps, and audio/vibratory pedestrian signal equipment.

Dascomb Road / Frontage Road

To improve traffic operations at the intersection of Dascomb Road / Frontage Road, the Applicant has committed to the following intersection improvements:

- Implement various short-term to long-term safety improvements as noted in the December 2016 RSA as coordinated with the Town of Andover and MassDOT;
- Reconstruct the fully-actuated traffic signal with coordination to/from other traffic signals located along the Dascomb Road corridor. Provide new demand-based vehicular and bicycle detection as part of the new traffic signal, as well as providing accommodations for emergency-vehicle pre-emption;
- Construct a fourth intersection leg with an exclusive left-turn lane, a through lane, and an exclusive right-turn lane;
- Widen Frontage Road to accommodate an exclusive left-turn lane, a through lane and a channelized right-turn lane;
- Widen Dascomb Road to include two exclusive left-turn lanes and a shared through / right-turn lane on the eastbound approach; and a left-turn lane, two through lanes and a channelized right-turn lane on the westbound approach; and
- Add ADA/AAB-compliant pedestrian accommodations; including crosswalks across fourth intersection leg, accessible ramps, and audio/vibratory pedestrian signal equipment.

Dascomb Road / Interstate 93 NB Ramps

The additional traffic generated by the proposed Dascomb Road Project is anticipated to degrade the overall intersection level of service at the Dascomb Road / I-93 NB Ramps unsignalized intersection. To mitigate this issue, the Applicant has committed to the following intersection improvements:

- Various short-term to long-term improvements as noted in the December 2016 RSA as coordinated with the Town of Andover and MassDOT;
- Install a fully-actuated traffic signal with coordination to/from other traffic signals located along the Dascomb Road corridor. Provide demand-based vehicular and bicycle detection as part of the new traffic signal, as well as providing accommodations for emergency-vehicle pre-emption. The proposed traffic signal is projected to significantly reduce queuing along the I-93 NB Off-Ramp;
- Widen Dascomb Road to include a consistent cross-section with a through lane and a channelized right-turn lane on the eastbound approach; and an exclusive left-turn lane and a through lane on the westbound approach;
- Re-stripe (with minor geometric modifications) the I-93 Northbound Ramps northbound approach to include two exclusive left-turn lanes and a channelized right-turn lane; and
- Add ADA/AAB-compliant pedestrian accommodations; including crosswalks across the I-93 Northbound Ramps, accessible ramps, countdown signal housings, and audio/vibratory pedestrian push buttons.

Dascomb Road / Lovejoy Road / Acorn Drive

The additional traffic generated by the proposed Dascomb Road Project is not anticipated to impact the overall intersection level of service or approach-by-approach level of service at the Dascomb Road / Lovejoy Road / Acorn Drive intersection. Although no specific mitigation is warranted, the Applicant has committed to the following intersection improvements:

- Fine-tune traffic signal timings at the intersection post-occupancy, if warranted. The capacity and queue analysis described in the previous chapter does not reflect any change in traffic signal timings beyond general maintenance that may be performed by the Town of Andover Department of Public Works (DPW) in the interim;
- Reconstruct ADA/AAB-compliant accessible ramps on the intersection corners; and
- Retrofit the existing traffic signal updated ADA/AAB-compliant pedestrian signal equipment; including countdown signal housings and audio/vibratory push buttons.

Dascomb Road / Clark Road / Bannister Road

The additional traffic generated by the proposed Dascomb Road Project is anticipated to slightly degrade the overall intersection level of service at the Dascomb Road / Clark Road / Bannister Road unsignalized intersection. The Applicant has committed to the following intersection improvements:

- Reconstruct ADA/AAB-compliant accessible ramps on the intersection corners; and
- Install a Rectangular Rapid Flashing Beacon (RRFB) on the westerly leg of the intersection to improve pedestrian crossing opportunities for pedestrians at the intersection.

Frontage Road / Interstate 93 SB Ramps

The additional traffic generated by the proposed Dascomb Road Project is anticipated to degrade the overall intersection level of service at the Frontage Road / I-93 SB Ramps unsignalized intersection. To mitigate this issue, the Applicant has committed to the following intersection improvements:

- Install a fully-actuated traffic signal with coordination to/from the traffic signal located at the Dascomb Road / Frontage Road intersection. Provide demand-based vehicular and bicycle detection as part of the new traffic signal, as well as providing accommodations for emergency-vehicle pre-emption. The proposed traffic signal is projected to significantly reduce queuing along the I-93 SB Off-Ramp;
- Re-stripe the I-93 Southbound Ramps westbound approach to include two exclusive left-turn lanes and a channelized right-turn lane.

Corridor Improvements

To improve pedestrian and bicycle access along Dascomb Road, as well as provide measures to calm traffic along the corridors, new amenities and multi-modal accommodations are proposed to be implemented by the Applicant.

Pedestrian Accommodations

Five-foot sidewalk will be constructed along the southerly side of Dascomb Road between the existing sidewalk at the intersection of East Street / Dascomb Road / Shawsheen Street to Frontage Road. A crossing will be provided at the intersection to join a newly constructed sidewalk along the northerly side of Dascomb Road between Frontage Road and Osgood Street. Additional 5-foot sidewalk will be constructed along the southerly side of Dascomb Road between Cardinal lane and Partridge Hill Road. The Applicant is also committed to reconstruct segments of the existing sidewalk along the southerly side of Dascomb Road between Acorn Drive and Clark Road, as needed. With the improvement of sidewalk facilities, the proposed sidewalk network will provide full connectivity from the Project site to the Ballardvale MBTA Commuter Rail Station. Sidewalk will be constructed with 6-inch granite curbing to provide vertical separation between pedestrian and vehicular traffic. ADA/AAB-compliant accessible ramps and crosswalks will be constructed / reconstructed at all cross-street and other crossing locations, as well as provisions for audible/vibratory pedestrian push buttons, pedestrian signal phasing, and pedestrian countdown signal housings at the various traffic signal locations, where applicable.

To promote traffic calming along Dascomb Road, the Applicant is committed to install a series of solar-powered RRFB assemblies at defined crosswalk locations. The RRFB assemblies will be installed across Dascomb road west of Partridge Hill Road, across Dascomb Road west of Osgood Street, and across Dascomb Road west of Clark Road. The RRFB's will be activated by audible/vibratory pedestrian push buttons and be programmed to limit the light and noise pollution to the adjacent residences. RRFBs are a lower-cost improvement alternative to traffic signals and hybrid beacons (High-Intensity Activated Crosswalks or HAWKs) that are shown to increase driver/vehicle yielding behavior at crosswalks significantly when supplementing standard pedestrian warning signs and pavement markings.

Sidewalk will also be constructed along Smith Way, the Site Driveway opposite Frontage Road, and internally within the site. Finally, new sidewalk will be constructed along the easterly side of Frontage Road, between Dascomb Road and the MassDOT Park-n-Ride facility, to facilitate walking trips to/from the site and those users of the Park-n-Ride facility.

Bicycle Accommodations

The Applicant is committed to construct new 5-foot bicycle lanes between the intersection of East Street / Dascomb Road / Shawsheen Street to Frontage Road. The Applicant will continue the bicycle accommodations as shared-use lane markings (sharrows) along the Dascomb Road corridor between Frontage Road and Osgood Street as a result of the narrow cross-section below the I-93 overpass. All bicycle-related pavement markings will be supplemented with MUTCD-compliant bicycle signage. The final provisions for sharrows and/or bicycle lanes will be determined based on the availability of Right-of-Way along the corridor, the cross-sectional

elements below the I-93 overpass, and further discussions with MassDOT and the Town of Andover.

To provide connectivity from the Dascomb Road corridor and the project site, the Applicant is seeking to construct a shared-use path which parallels the proposed site driveway opposite Frontage Road. This shared-use path will take place of traditional bicycle lanes along the site's driveway in order to reduce potential conflict approaching the traffic signal. The shared-use path will connect into the sites bicycle and pedestrian amenities. Bicycle accommodations will also be programmed into the each of the signalized intersection within the limits of improvements in the form of bicycle detection. Additional bike accommodations along Dascomb Road and/or within the project site will be noted in the following TDM section.

TRANSPORTATION DEMAND MANAGEMENT MEASURES

The Applicant has commitment to research and provide a dynamic Transportation Demand Management (TDM) program in order to reduce single-occupancy vehicle (SOV) trips to/from the site. A full compilation of TDM measures have not been identified to-date; but will be further evaluated by the Applicant during the state's MEPA review. At this time, the Applicant is committed to provide the following TDM measures:

Individual Measures

Transit Measures

- Locate development close to transit services, including the MassDOT Park-n-Ride facility, MBTA Commuter Rail, MVRTA bus services, and LRTA bus services;
- Promote the use of public transportation and coordinate with MBTA, MVRTA, and LRTA to provide information on the availability of service to employees and patrons;
- Coordinate with both MVRTA and LRTA to actively seek a bus route extension to provide both MVRTA and LRTA bus service for the Dascomb Road Project site. Providing both the nearby regional transit authorities service will designate the Dascomb Road site as a potential major transit hub for the region;
- Provide an on-site bus / shuttle stop with passenger amenities such as weather protection, seating, and other customer information;
- Provide transit schedules and information about program services at various locations throughout the redevelopment;
- Coordinate with tenants to provide preferential shift selection to employees using transit services, and align shifts to the extent possible with MBTA, MVRTA, and LRTA transit service;
- Provide on-site transit pass sales and offer reduced-cost transit pass sales for employees; and
- Provide a forum for employees to give customer feedback on transit service for Transportation Coordinator to share with MBTA, MVRTA, and LRTA to target improvements in service.

Parking Measures

- Provide preferential parking for rideshare, carpool, and hybrid vehicles;
- Provide charging stations for electric vehicles;
- Implement an intelligent parking system to direct drivers to open parking spaces and parking levels in the structured parking areas on-site; and
- Employee parking “buy out” program, which will provide a financial incentive for employees to use public transportation or other modes rather than using a single-occupancy vehicle and parking at, or near, the Project.

Bicycle and Pedestrian Measures

- Update and retrofit pedestrian signal equipment at study area intersections surrounding the site along Dascomb Road and Frontage Road;
- Provide connectivity to existing sidewalk infrastructure and along the site frontage from the intersection of East Street / Dascomb Road / Shawsheen Street intersection to Clark Road;
- Install three (3) RRFB crossing locations across Dascomb Road at Partridge Hill Road, Osgood Street, and Clark Road;
- Provide connectivity from the public corridors to the site via sidewalks along the site driveway and Smith Way; as well as a shared-use path to promote bicycle travel from Dascomb Road into the site;
- Provide striping improvements for sharrows and/or bicycle lanes along Dascomb Road and Frontage Road with complementary bike signs;
- Provide ADA/AAB improvements at curb ramps near the site;
- Provide secure, weather protected, long-term bicycle parking for employees at designated locations within the site;
- Provide bicycle racks for short-term users at several locations on-site; and
- Coordinate with tenants to provide showers for employees who commute by walking or biking.

Other Measures

- Appoint a Transportation Coordinator (TC) on-site to oversee, implement, monitor, and evaluate TDM measures, employed or funded by the Applicant;
- Partner with the Merrimack Valley Transportation Management Association (TMA) to implement and monitor TDM measures;
- Register employees with NuRide to encourage ride-sharing and “green” trips;
- Encourage vanpool and carpooling participation through marketing, events and vanpool formation meetings;

- Offer employees a guaranteed ride home program through participation with NuRide;
- Electronic sign-up for TDM programs provides Transportation Coordinator with information for a database of participants to track program effectiveness and costs;
- Facilitate events through coordination with Merrimack Valley TMA, MBTA, MVRTA, and LRTA; and
- Provide a transportation monitoring program to evaluate TDM goals.

Transportation Monitoring Program

The Proponent is committed to implementing a Transportation Monitoring Program (TMP), which is intended to monitor traffic operations, parking occupancy, public transportation utilization, and pedestrian / bicycle use for a period following completion of the Project. The TMP will include providing traffic count information to the MassDOT District 4 office, the Town of Andover, and the Merrimack Valley TMA for use of tracking site-generated trips. The intent of the monitoring program is to ensure that the Project impacts are consistent with those predicted in the Project's permitting process, evaluate the effectiveness of the TDM measures in meeting the mode share targets, and assess the need for additional off-site improvements or TDM measures.

The MassDOT / Merrimack Valley TMA monitoring program will include evaluation of the following:

- Traffic operations at key study area intersections and roadways surrounding the development;
- Adequacy of the constructed parking supply; and
- Effectiveness of TDM measures.
- As part of the MassDOT monitoring program, the Proponent will complete the following tasks beginning six months after issuance of an occupancy permit, continuing annually for a period of five years following occupancy of the Project

Additional details related to the TMP will be documented with MassDOT and the Town of Andover as part of the upcoming MEPA state review process.

VIII. CONCLUSION

TEC has examined the potential traffic impacts associated with the proposed Dascomb Road Project, located at #146 Dascomb Road in Andover, Massachusetts on the study area roadways and intersections. The following is a summary of the results and conclusions of this effort:

- The existing site currently consists of ±188,960 SF of mixed office and industrial uses with associated parking. The existing office and industrial space on-site is currently underutilized. A ±90,000 SF Restaurant Depot facility, who partially shared driveways connections with the site, operates on the property located adjacent to and south of the site at #148 Dascomb Road.
- The Project consists of razing the existing ±188,960 SF of underutilized office and industrial space and constructing a 524,000 SF mixed-use development; comprised of a 100-room business-centric hotel; 293,000 SF of office space; 80,000 SF of general retail space; a 30,000 SF fitness center; a 35,000 SF neighborhood grocery store; and 20,000 SF of restaurant space.
- The Project proposes to modify the access/egress to the property, providing two full-access/egress driveways, a shared full-access/egress driveway with Restaurant Depot, and a loading dock driveway along the easterly side of Smith Way. All full-access/egress driveways for the Restaurant Depot facility along Smith Way will be retained. Additionally, a full-access/full-egress driveway for the proposed site will be provided immediately opposite Frontage Road at the signalized intersection on Dascomb Road.
- As the Project is anticipated to generate more than 3,000 new vehicle trips per day, the project is subject to EIR review by the MEPA office. In addition, as the project provides direct frontage to SHLO and the interstate highway system, the project is subject to a Permit to Access State Highway, direct review by the MassDOT, and review by the FHWA;
- TEC conducted an RSA, in coordination with MassDOT, at two high-crash designated intersections within the study area; including the intersections of Dascomb Road / Frontage Road and Dascomb Road / I-93 NB Ramps. Various improvements as identified in the RSA will be incorporated into the off-site mitigation to be implemented by the Applicant;

- The Project is anticipated to generate approximately 8,384 new vehicle trips (4,192 entering and 4,192 exiting) during the average weekday, with 410 new vehicle trips (324 entering and 86 exiting) during the weekday morning peak hour and 744 new vehicle trips (303 entering and 441 exiting) during the weekday evening peak hour. Approximately 8,846 new vehicle trips (4,423 entering and 4,423 exiting) are anticipated during the average Saturday, with 738 new vehicle trips (396 entering and 342 exiting) during the Saturday midday peak hour.
- Operational improvements are recommended and proposed at this intersection of Dascomb Road / East Street / Shawsheen Street including re-timing the existing signal timings to accommodate the site-generated trips and coordinating the signal with the other proposed signals along the Dascomb Road corridor. With these improvements, all movements at the intersection are anticipated to operate at acceptable levels of service (LOS D or better) during all peak hour analysis scenarios;
- Specific traffic operational improvements are not proposed at the HP Driveway. Although the southbound left-turn movement is anticipated to operate primarily under LOS F during the commuter peak periods, the 95th percentile queue is not expected to exceed two (2) vehicles. Volume-to-capacity (V/C) ratios at the intersection are well below 1.00 which indicates that the intersection can accommodate the additional demand along the HP Site Driveway and Dascomb Road;
- Improvements are recommended and proposed at the intersection of Dascomb Road / Smith Way, which include cross-sectional widening and installation of a fully-actuated traffic signal coordinated with the other signals along the Dascomb Road corridor. With these improvements, all movements at the intersection are anticipated to operate at acceptable levels of service (LOS D or better) during all peak hour analysis scenarios.
- Improvements are recommended and proposed at the intersection of Dascomb Road / Frontage Road. With these improvements added, all movements at the intersection are anticipated to operate at acceptable levels of service (LOS D or better) during all peak hour analysis scenarios. Queues along the Dascomb Road mainline are anticipated to increase with the establishment of additional signal phase; however fine-tuning of the traffic signal post-occupancy should allow for additional green-time on the mainline in exchange for slightly decreased level of service along the Project's site driveway.
- Improvements are recommended and proposed at the intersection of Dascomb Road / I-93 NB Ramps; which includes the installation of a fully-actuated traffic signal coordinated with the other signals along the Dascomb Road corridor. With these improvements, all movements at the intersection are anticipated to operate at acceptable levels of service (LOS D or better) during all peak hour analysis scenarios. Vehicle delay and queues along the I-93 NB Ramp approach are expected to significantly decrease as the traffic signal provides scheduled gaps in the mainline green time. With the conflicted green-time along the I-93 NB Ramp approach, queues are anticipated to decrease by up to 85 percent.

- Improvements are recommended and proposed at the intersection of Frontage Road / I-93 SB Ramps; which includes the installation of a fully-actuated traffic signal coordinated with the other signals along the Dascomb Road corridor. With these improvements, all movements at the intersection are anticipated to operate at acceptable levels of service (LOS D or better) during all peak hour analysis scenarios. Vehicle delay and queues along the I-93 SB Ramp approach are expected to significantly decrease as the traffic signal provides scheduled gaps in the mainline green time. With the conflicted green-time along the I-93 SB Ramp approach, queues are anticipated to decrease by up to 80 percent.
- Specific traffic operational improvements are not proposed at the intersection of Dascomb Road / Lovejoy Road / Acorn Drive; however the Applicant has committed to provide signal timing fine-tuning post-occupancy, if warranted. Under 2026 Build with Mitigation conditions, showing potential signal timing fine-tuning, the intersection of Dascomb Road / Lovejoy Road / Acorn Drive is expected to operate at acceptable levels of service (LOS D or better) during all peak hour analysis scenarios with individual movements operating at LOS E or better.
- Specific traffic operational improvements are not proposed at the intersection of Dascomb Road / Clark Road / Bannister Road. Under a worst-case cut-through traffic scenario, the additional traffic generated by the Dascomb Road Project is still minimal along the Clark Road approach; including up to approximately 25 vehicles per hour (1 new vehicle every 2 minutes). The approach is anticipated to continue operating over capacity under both No-Build and Build conditions. It is recommended that the Town of Andover further investigate transportation improvements at this intersection, isolated from the Dascomb Road Project.
- Specific traffic operational improvements are not proposed at the intersection of Dascomb Road / Andover Street. Under existing traffic conditions, the Dascomb Road eastbound approach operated over capacity at LOS F during the weekday evening peak hour under both No-Build and Build conditions. With or without the Dascomb Road Project, the Andover Street mainline approach will continue to operate at acceptable levels of service (LOS B or better). It is recommended that the Town of Andover further investigate transportation improvements at this intersection, isolated from the Dascomb Road Project.
- The Applicant has proposed a robust off-site transportation mitigation program along Dascomb Road, Frontage Road, and Smith Way to improve vehicular, transit, bicycle, and pedestrian operations and safety. The primary improvements include the installation of three new traffic signals within the study area to both reduce queuing along the I-93 Off-Ramps and provide a coordinate network of signals; improving driver progression along Dascomb Road and Frontage Road in the vicinity of the I-93 Interchange 42. In addition, the Applicant seeks to significantly improve accommodations for bicycles and pedestrians along Dascomb Road to service not only the Dascomb Road Project; but other existing developments along the corridor. Finally, the Applicant has proposed improvements along the Dascomb Road corridor have been designed to carry additional reserve capacity for potential future expansion of projects along the immediate Dascomb Road and Frontage Road area; and

- The Applicant has commitment to research and provide a dynamic and extensive TDM program in order to reduce SOV trips to/from the site and promote multi-modal travel. A full compilation of TDM measures have been identified and include provisions to reduce on-site parking, increase pedestrian and bicycle travel, promote transit use to/from the site, and decrease the impacts of vehicle emissions.

In conclusion, with implementation of the proposed improvements, the anticipated traffic generated by the Dascomb Road Project can be safely and efficiently accommodated within the study area corridors and intersections. The Applicant has committed to work hand-and-hand with the Town of Andover and MassDOT to implement the robust transportation mitigation program.