

MEMORANDUM

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Ref: 1117
Subject: Traffic Supplement
Village at Bailey's Pond Modified Project
Amesbury, Massachusetts
From: Kim Eric Hazarvartian, Ph.D., P.E., PTOE
Principal
Date: July 11, 2016

**INTRODUCTION**

This memorandum (hereinafter July 11, 2016 Memorandum) is a traffic supplement for the Village at Bailey's Pond modified project. The January 11, 2016 Memorandum discusses use of the proposed Beacon Street site driveway.

TEPP LLC prepared the following previous documents regarding the Village at Bailey's Pond:

- April 15, 2010, *Traffic Impact and Access Study, Proposed Village at Bailey's Pond, Amesbury, Massachusetts* (hereinafter TIAS)
- November 9, 2012, Memorandum, Response to Traffic Comments, Proposed Village at Bailey's Pond, Amesbury, Massachusetts (hereinafter November 9, 2012 Memorandum)
- January 18, 2016, Memorandum, Traffic Supplement, Village at Bailey's Pond Modified Project, Amesbury, Massachusetts (hereinafter January 18, 2016 Memorandum)

BACKGROUND

The TIAS analyzed the Village at Bailey's Pond as 148 residential condominium units. As the January 18, 2016 Memorandum stated, the modified project has 100 units.

The TIAS found that the proposed development will have no significant impact on overall area traffic safety or operations, with adequate or better traffic operations under build conditions. The January 18, 2016 Memorandum stated that the TIAS findings are still valid.

TRIP GENERATION

The Institute of Transportation Engineers (ITE) publishes trip-generation information in the authoritative reference *Trip Generation Manual*.¹ This information is based on empirical data for a variety of land uses, including residential condominium/townhouse, land use 230.²

Calculated vehicle-trips due to 100 residential condominium/townhouse units are:

- weekday daily, 643 (total of in and out)
- weekday AM-street-peak hour, 52 (9 in and 43 out)
- weekday PM-street-peak hour, 60 (40 in and 20 out)

The TIAS analyzed a greater number of vehicle-trips.

TRIP DISTRIBUTION AND NETWORK ASSIGNMENT

The TIAS used the following site-trip distribution and network assignment:

- Route 150 Extension to/from north, 90 percent
- Beacon Street to/from east, 10 percent

DRIVEWAY UTILIZATION

Table 1 shows driveway utilization. Table 1 is based on:

- site-trip distribution and network assignment of 90 percent to/from Route 150 extension to/from the north and 10 percent to/from Beacon Street to/from the east
- the proposed Summit Avenue site driveway serving 24 units
- the proposed Route 150 Extension driveway and Beacon Street driveway together serving 76 units
- 76 dwelling units assigned to the proposed Route 150 Extension driveway and proposed Beacon Street driveway together
- 60 of the 76 dwelling units having 10 percent of their site-trips assigned to the proposed Beacon Street driveway

¹ ITE, *Trip Generation Manual*, 9th Edition (Washington DC, 2012).

² ITE, *Trip Generation Manual*, pages 393 to 420.

Table 1. Driveway utilization.

Time Period and Direction	Total Vehicle-Trips ^a	Vehicle-Trips Assigned to Proposed Driveways		
		Summit Avenue ^b	Route 150 Extension ^c	Beacon Avenue ^c
Weekday AM-Street-Peak Hour				
In	9	2	5	2
<u>Out</u>	<u>43</u>	<u>10</u>	<u>26</u>	<u>7</u>
Total	52	12	31	9
Weekday PM-Street-Peak Hour				
In	40	9	23	8
<u>Out</u>	<u>20</u>	<u>5</u>	<u>12</u>	<u>3</u>
Total	60	14	35	11

^a Based on ITE, *Trip Generation Manual*, 9th Edition, residential condominium/townhouse, land use 230, 100 dwelling units. Site-trip distribution and network assignment is 90 percent to/from Route 150 Extension to/from the north and 10 percent to/from Beacon Street to/from the east.

^b 24 dwelling units are assigned to the proposed Summit Avenue driveway.

^c 76 dwelling units are assigned to the proposed Route 150 Extension driveway and the proposed Beacon Street driveway together. 60 dwelling units have 10 percent of their site-trips assigned to the proposed Beacon Street driveway. 12 dwelling units have 100 percent of their site-trips assigned to the proposed Beacon Street driveway.

- 12 of the 76 dwelling units having 100 percent of their site-trips assigned to the proposed Beacon Street driveway

Table 1 shows the following estimated driveway utilization for the weekday AM-street-peak hour:

- proposed Summit Avenue site driveway, 12 vehicle trips (2 in and 10 out)
- proposed Route 150 Extension driveway, 31 vehicle-trips (5 in and 26 out)
- proposed Beacon Street driveway, 9 vehicle-trips (2 in and 7 out)

Table 1 shows the following estimated driveway utilization for the weekday PM-street-peak hour:

- proposed Summit Avenue site driveway, 14 vehicle trips (9 in and 5 out)
- proposed Route 150 Extension driveway, 35 vehicle-trips (23 in and 12 out)
- proposed Beacon Street driveway, 11 vehicle-trips (8 in and 3)

CONCLUSION

In conclusion:

- the TIAS findings are still valid
- the proposed development will have no significant impact on overall area traffic safety or operations
- the proposed site driveways will be appropriate for traffic safety and operations
- the proposed Beacon Street driveway would be appropriate for traffic safety and operations even if its utilization were double the estimates
- as stated in the November 9, 2012 Memorandum, available sight distances at Beacon Street/proposed driveway are adequate for Beacon Street speeds in excess of the speed limit