



Memorandum

To: Eliza Cox
Nutter McClennen & Fish
14771 Iyannough Road
Hyannis, Massachusetts 02601

Date: March 22, 2017

Project #: 13444.00

From: Randall C. Hart,
Principal

Re: Preliminary Traffic Memorandum
Greenside Office Park - Proposed Office Development
Hyannis, Massachusetts

Introduction

VHB, Inc. has prepared this supplemental traffic memorandum for the proposed office redevelopment (Greenside Office Park) located at 10 Attucks Lane in Hyannis, Massachusetts. The proposed project involves the demolition of the existing building currently occupied by Sun Transportation Company and Cape Cod Trailer Storage and the construction of two office buildings totaling approximately 24,918 sf of space. Access to the existing site is currently provided by a full access driveway on Attucks Lane and a right-in/right-out driveway on Route 132 (Iyannough Road). Under the proposed project, the driveway configuration will remain the same, although the Route 132 curb-cut is proposed to be relocated further from the Attucks Lane intersection. The purpose of this memorandum is to identify traffic generation associated with a minor modification in the building program. The site will still consist of a total of 24,918 sf of office development. However, 10,000 sf of the 24,918 will be converted to Medical Office. No changes are proposed to the site layout or building design approved by the Cape Cod Commission in the February 7, 2017 Development of Regional Impact Scoping Decision (the "CCC Decision"). This memorandum summarizes the minor change in traffic generation for the build condition with this minor change in building program.

Project Trip Generation

The proposed project involves the demolition of the existing building currently occupied by Sun Transportation and Cape Cod Trailer Storage and the construction of two office buildings totaling approximately 24,918 sf of space. To estimate the existing site-generated traffic, VHB conducted 24-hour automated traffic recorder (ATR) counts at each of the site driveways for a five-day period in May 2016. The count data is included in the Attachments to this memorandum. The existing Sun Transportation facility generates a high number of heavy vehicle trips (tractor trailers), between approximately 30 and 50 percent. To account for the high heavy vehicle trips associated with the existing facility, VHB converted the existing heavy vehicle trips into passenger vehicle trips using a conversion factor of 1.9, which is based on the *2010 Highway Capacity Manual (HCM)*¹. The existing site-generated traffic is presented in Table 1.

¹ Highway Capacity Manual, Transportation Research Board, Washington DC, 2010.

101 Walnut Street
PO Box 9151
Watertown, MA 02472-4026
P 617.924.1770

▪ **Table 1 Existing Trip Generation**

Time Period	Direction	Existing Trips	
		Unadjusted ^a	Adjusted for Heavy Vehicles ^b
Weekday Daily	Enter	89	122
	<u>Exit</u>	<u>93</u>	<u>125</u>
	Total	182	247
Weekday Morning	Enter	9	13
	<u>Exit</u>	<u>8</u>	<u>13</u>
	Total	17	26
Weekday Evening	Enter	7	10
	<u>Exit</u>	<u>9</u>	<u>11</u>
	Total	16	21

a Based on automated traffic recorder data collected at the site driveways between Monday, May 16, 2016 and Friday, May 20, 2016.

b Existing site trips adjusted to account for heavy vehicles.

As shown in Table 1, with the conversion of heavy vehicles into passenger vehicles applied, the existing site generates approximately 247 vehicle trips (122 entering/125 exiting) on a typical weekday, approximately 26 vehicle trips (13 entering/13 exiting) during the weekday morning peak hour, and approximately 21 vehicle trips (10 entering/11 exiting) during the weekday evening peak hour. The conversion of heavy vehicle trips (tractor trailers) to passenger car equivalents is an appropriate way to assess existing traffic as the movements of the heavy vehicles (tractor trailers) into, around, and out of the existing site onto the local roadway system can be very slow and cause delays similar to multiple car trips.

To estimate the impact of the proposed program-change as compared to the program approved in the CCC Decision, (i.e., conversion of 10,000 sf of proposed space from professional office to medical office), the Institute of Transportation Engineers' (ITE) publication *Trip Generation, 9th Edition*² was utilized. The number of vehicle trips generated by the proposed project's program change were estimated based on ITE land use code (LUC) 720 (Medical-Dental Office Building). A summary of the estimated change in vehicle trips is presented in Table 2.

² Trip Generation, 9th Edition, Institute of Transportation Engineers, Washington D.C., 2012.

Table 2 Proposed Program

Time Period	Direction	CCC Decision – Anticipated Project Trips ^a	Proposed Trips with Program Change ^b	Net New Trips Associated with Proposed Program Change As Compared to CCC Decision
Weekday Daily	Enter	106	129	23
	<u>Exit</u>	<u>103</u>	<u>126</u>	<u>23</u>
	Total	209	255	46
Weekday Morning	Enter	42	42	0
	<u>Exit</u>	<u>-5</u>	<u>-3</u>	<u>2</u>
	Total	37	39	2
Weekday Evening	Enter	8	16	8
	<u>Exit</u>	<u>77</u>	<u>94</u>	<u>17</u>
	Total	85	110	25

a See Finding TRF3 of CCC Decision.

b Based on ITE LUC 710 (General Office Building) for 14,918 sf of space and ITE LUC 720 (Medical-Dental Office Building) for 10,000sf of space

As shown in Table 2, the proposed change in the project’s program is expected to result in a total of only 46 new vehicle trips (23 entering/23 exiting) on a typical weekday as compared to the program approved in the CCC Decision, with only 2 new vehicle trips (0 entering/2 exiting) during the weekday morning peak hour, and just 25 new vehicle trips (8 entering/17 exiting) during the weekday evening peak hour. Based on this information, the proposed change in use will have a de-minimus impact on the road network as compared to the Project approved in the CCC Decision.