

To: Ms. Nora Loughnane,
Town Planner, Town of Westwood

From: Nancy B. Doherty, P.E., Tetra Tech
Jeffrey S. Dirk, P.E., PTOE, Vanasse & Associates, Inc.

Re: University Station – Response to University Station Peer Review

Date: November 14, 2012

In response to the memorandum prepared by Beta, dated October 26, 2012 regarding the Preliminary Traffic Impact Assessment submitted on October 2, 2012, we offer the following information in a comment/response format:

***Comment.** We concur with the separation of land uses between supermarket and retail/ restaurant.*

Response. It is a reasonable and conservative approach; however, it does not account for internal trips between the proposed grocery store and other retail establishments within the site.

***Comment.** Please explain why the trips generated by 610,000 sf of retail/restaurant were proportioned from the 750,000 sf of retail/restaurant/supermarket space rather than using a direct calculation of trips generated by 610,000 sf determined using LUC 820, Shopping Center. Using a direct calculation of trips generated by 610,000 sf would be more conservative, as seen in the table below.*

	750,000 sf Proportion	610,000 sf		Change
		EQ	Rate	
Wkdy	20463	21999	26193	1,536
Wkdy AM Street	610	448	610	0
Wkdy PM Street	1996	2137	2275	141
Saturday	26742	28868	30482	2,126
Saturday Site Peak	2582	2776	2983	194

Note: Wkday AM Street used the Average Rate because R2 was less than 0.75.

Response. As noted, the reviewer concurs that separate trip generation calculations for the grocery store and other retail uses on the site is appropriate. However, as stated in our response above, this approach does not account for a trip in which a motorist visits both the grocery store and another retail component along University Avenue. Three approaches are commonly applied in order to account for retail-to-retail interactions when a supermarket is included as a part of a retail development: 1) include the supermarket in the overall trip-generation calculations using ITE Land Use Code 820, *Shopping Center*; 2) generate trips for the retail and supermarket components independently and apply an internal capture rate to the supermarket trips; or 3) include the supermarket in the overall trip-generation calculations for the retail component of the project per approach 1 and then proportionately reduce the trips associated with the retail component (lower traffic generator). Given the unique nature of the proposed supermarket user,

it was decided that including the supermarket in the overall retail component of the project for trip-generation purposes would likely understate the traffic characteristics of this component of the project, particularly during the morning peak-hour, therefore approach 1 was not pursued. The retail-to-retail internal capture rates documented by ITE range from approximately 20 to 30 percent and appear to overstate the potential interaction between the retail uses within the project, therefore approach 2 did not appear appropriate. Approach 3, proportioning trips for the retail uses and generating trips for the supermarket user independently, provided a balance between the unique nature of the supermarket user and the known interaction that will occur between the supermarket and the other retail uses and restaurants that are to be located within the project site.

In the afternoon, a peak hour credit of approximately 140 trips, or four (4) percent of the total 3,607 trips (2,137 retail + 1,470 supermarket) was taken to account for internal trips between retail uses. Similarly, for the Saturday mid-day peak hour a credit of 194 trips, or five (5) percent of the total 4,295 trips (2,776 retail + 1,519 supermarket) was taken to account for internal trips between retail uses. No credit was assumed for the morning peak hour. Again, the ITE retail-to-retail interaction suggests that such credits could range as high as 30 percent during peak traffic volume hours.

It is noted that these credits (none in the morning peak hour, four (4) percent in the afternoon peak hour and five (5) percent on Saturday are somewhat consistent with the internal trip credits calculated between the retail, office and residential components of the project (four (4) percent in the morning peak hour, eight (8) percent in the afternoon peak hour and three (3) percent for the Saturday mid-day peak hour).

***Comment.** Transit Mode Share, Residential – We concur with using survey data related to the Norwood site; however, the percentages related to the increased frequency of trains should be proportioned directly according to the peak period. This results in a 15% increase for the PM peak period – 11% for the Norwood site, factored by 1.4 (7 trains at Westwood vs. 5 at Norwood in the PM peak period).*

Response. The assumed transit share of 36 percent for the morning peak hour and 22 percent for the afternoon peak are significantly less than suggested by CTPS for the project (46 percent for the morning peak hour and 40 percent for the afternoon peak hour). The afternoon transit share was reduced from the CTPS suggested share of 40 percent to 22 percent; a further reduction to 15 percent is not consistent with the transit-oriented nature of the development or the transit utilization documented by the CTPS. For your use, Table 1 provides a summary the MBTA commuter rail service at Westwood Station which will service the residential components of the project generally located within 1,500 feet of the station.

Table 1 MBTA Commuter Rail Service at Westwood Station

Inbound			Outbound		
Train	Depart Westwood Station	Arrive South Station	Train	Depart South Station	Arrive Westwood Station
800	5:56 AM	6:20 AM	903	5:35 AM	5:51 AM
802	6:16 AM	6:40 AM	801	6:20 AM	6:40 AM
902	6:44 AM	7:04 AM	803	7:20 AM	7:40 AM
804	6:58 AM	7:19 AM	907	7:40 AM	7:57 AM
904	7:14 AM	7:33 AM	843	7:50 AM	8:10 AM
806	7:24 AM	7:45 AM	909	8:50 AM	9:07 AM
842	7:47 AM	8:07 AM	805	9:55 AM	10:16 AM
906	8:07 AM	8:32 AM	807	11:20 AM	11:43 AM
810	8:30 AM	8:51 AM	913	1:20 PM	1:47 PM
908	8:45 AM	9:03 AM	809	1:45 PM	2:08 PM
812	9:08 AM	9:32 AM	915	2:25 PM	2:49 PM
844	9:26 AM	9:49 AM	811	3:30 PM	3:52 PM
910	9:57 AM	10:17 AM	917	4:05 PM	4:27 PM
814	10:33 AM	10:57 AM	815	4:35 PM	4:54 PM
912	10:57 AM	11:20 AM	919	4:50 PM	5:10 PM
816	12:03 PM	12:25 PM	921	5:15 PM	5:40 PM
818	2:30 PM	2:50 PM	923	5:45 PM	6:08 PM
916	3:38 PM	3:58 PM	821	6:10 PM	6:29 PM
820	4:58 PM	5:20 PM	823	6:50 PM	7:13 PM
918	5:16 PM	5:32 PM	927	7:45 PM	8:08 PM
822	6:00 PM	6:22 PM	825	8:15 PM	8:38 PM
824	6:47 PM	7:03 PM	929	8:55 PM	9:18 PM
922	6:57 PM	7:17 PM	827	9:05 PM	9:28 PM
826	8:18 PM	8:34 PM	829	10:25 PM	10:48 PM
928	8:57 PM	9:15 PM	931	11:00 PM	11:22 PM
828	9:10 PM	9:25 PM	831	11:59 PM	12:21 AM
830	11:31 PM	11:50 PM			
932	12:08 AM	12:25 AM			

Comment. Transit Mode Share, Residential – The transit mode share assumptions should not be applied to the senior housing portion of the residential component. While this has a negligible effect on total trips, we request that this assumption be verified.

Response. The proposed senior housing component of the project is designed and marketed toward independent seniors and not seniors requiring assistance or full time care. Most of the senior residents are expected to be mobile and in fact, some may still be working. It is also likely that senior residents would be inclined to use public transit during peak hours due to a reluctance to drive during periods of high traffic volumes.

Comment. Transit Mode Share- Office. We concur with the overall assumptions regarding office transit mode share. However, with regard to the CTPS memorandum, indicating that approximately half of all transit trips arriving at Route 128 Station in the morning are from Boston, we note this is true of TMA shuttle passengers only, not of all transit trips (bus, train) arriving at the station. Please clarify or amend this statement accordingly.

Response. We agree.

Comment. *The TIA states that the I-95 northbound off-ramp to Dedham Street is assumed to be complete within the 2022 horizon year. Please include figures illustrating the scope of the 2022 improvements to be implemented by MassDOT. Also, the Trip Distribution figures illustrating the impact of the 2022 improvements on trip distribution should be provided for review.*

Response. These figures will be included in the formal Traffic Impact Study that is currently being prepared for the project.

Comment. *Please clarify how the 0.5% growth rate was determined.*

Response. To determine the 0.5 percent growth rate, an analysis of count data obtained from MassDOT was performed. The comparison indicates that traffic volumes have been decreasing within the study area over the past 10 years. It is not expected that this trend will change significantly in either the short-term (5 year) or long-term (10-year). However, an overall background traffic growth rate of 0.5 percent per year was applied to the existing peak hour traffic volumes to provide a conservative analysis, particularly given that traffic associated with potential future development projects by others and those associated with the reoccupancy of vacant buildings were also included in addition to the background traffic growth rate.

Comment. *The TIA includes re-occupancy of office space and industrial use in the project area. In addition, the Proponent should include a review of projects within the regional study area that may impact the study area in the 2017 and 2022 horizon years.*

Response. The Planning Departments in the Towns of Westwood, Dedham, Norwood and Canton were contacted regarding projects that may impact traffic volumes within the study area. Table 2 lists the projects identified for inclusion in the study, and also indicates projects which will be included in the future condition analyses of the Traffic Impact Study currently being prepared for the project.

Comment. *Additional background growth projects at 315 University Avenue and on Allied Drive in Dedham have been identified by the Town of Westwood and should be included in the No Build network.*

Response. Based on our discussion with the Westwood Planning Department on September 17, 2012, it is our understanding that two projects have received approvals and should be included in the future conditions analyses. These projects include the new medical building on Allied Drive and the Progressive Insurance building on Everett Street. These projects will be reflected in the Traffic Impact Study currently being prepared for the project.

Comment. *No Existing or 2017/2022 No Build analysis results have been included for review. We anticipate that these will be included in the formal TIAS.*

Response. That is correct.

Comment. *It appears that queuing will exceed available storage for the University Avenue NB LT at Blue Hill Drive and the Dedham Street WB LT at University Avenue. The effect of this queue spillover should be analyzed and discussed, specifically the effect of the University Avenue NB queue on the intersection at Rosemont Road and other site drive intersections.*

Response. The new traffic signal at the University Avenue/Blue Hill Drive intersection and those along the University Avenue corridor will be interconnected and coordinated in such a manner as to provide for efficient traffic flow while balancing the introduction of traffic between intersections to manage vehicle queuing in order to minimize or eliminate the occurrence of vehicle queue spill-overs, particularly between Blue Hill Drive and Rosemont Road. Vehicle queues at the Dedham Street/University Avenue intersection will be managed in a similar fashion in the interim prior to the completion of the Dedham Street corridor improvements. When completed, the Dedham Street corridor improvements will afford the ability to extend the westbound approach lanes to University Avenue as may be necessary to accommodate projected vehicle queues.

Comment. *Figure 1 shows modifications to access of the CBRE Building bounded by Blue Hill Drive, University Avenue and I-95/Route 128. Specifically, the introduction of a median and the construction of a new driveway onto University Avenue opposite the Route 128 station garage access will reallocate existing trips both entering the parking lot from I-95 SB and exiting the parking lot bound for I-95 NB. This trip reallocation should be detailed and included in the analysis of the University Avenue/Blue Hill Drive intersection. Additionally, analysis should be included for the unsignalized intersection created by this new driveway, University Avenue and the Route 128 Station garage access, including traffic signal warrant analysis.*

Response. The reallocation of the CBRE traffic as well as traffic affected by the cul-de-sacing of Blue Hill Drive related to the new I-95 southbound ramps alignment will be accounted for in future condition analyses presented in the formal Traffic Impact Study that is currently being prepared for the project.

Comment. *The existing I-95 overpass is immediately north of the new driveway proposed on University Avenue. Will the overpass create a sight obstruction for exiting vehicles?*

Response. Sight lines will be considered in the design of the new driveway located opposite the existing MBTA Driveway.

Comment. *It is understood that the narrow connector between Whitewood Road and the Blue Hill Drive West cul-de-sac is proposed for emergency access only. How will access be restricted for other vehicles?*

Response. The one-way connector road to Whitewood Road will be open to all vehicles. Emergency vehicle access to Whitewood Road will be provided from the Blue Hill Drive ramp with mountable curb on both sides of the ramp's median island and along its south side in the vicinity of Whitewood Road.

Comment. Rates for LUC 252 Wkdy AM and PM Street Peak rates are incorrect. This does not impact overall trips, as equations were used rather than rates for these scenarios. Please verify.

Response. The rates will be updated in the Traffic Impact Study prepared for the project.

Comment. A preliminary review of the study area intersections to be included in the TIAS reveals that several key ramp movements are not included. Analysis of ramps and weaving movements for the I-95/I-93 interchange and weaving movements on I-95 between the University Avenue ramps and the I-95 SB off-ramp at the I-95/I-93 interchange should be included in the study area. The northern half intersections of the East Street rotary at East Street and Allied Drive should also be included.

Response. These analyses will be included in the Traffic Impact Study currently being prepared for the project.

Comment. No parking generation or Traffic Demand Management (TDM) program was included in the preliminary TIA. The Proponent should detail the parking requirements of the project, the number of proposed spaces by land use, and any TDM programs or assumptions that are included in the Project.

Response. A parking analysis will be provided to the Town for the project under separate cover. A detailed TDM program is being developed for the project the elements of which will be included in the Traffic Impact Study currently being prepared for the project.

Comment. Relative to project build out, at what stage are the intersections at Canton Street and Blue Hill Drive improved. For example, prior to or as part of Phase 1 or later.

Response. It is expected that the proposed improvements at the intersections of University Avenue with Blue Hill Drive and Canton Street will be substantially complete prior to or commensurate with the initial phase of the project. That said, it is understood that these improvements or a portion thereof may be in active construction during initial occupancy; however, the completed elements of the improvements will be structured to support the traffic volumes associated with the initial occupancy.

Table 2 Summary of Off-Site Development

	Name	Location	Type	Size	Status	Include	Project Traffic Source
Canton							
1	NECI	530 Turnpike Street	Office	29,000 s.f.	In permitting	No ^{1,2}	
2	Acorn Estates/The Highlands	Randolph Street at town line	Residential	28 single family/196 units	Construction	Yes	Traffic Study
3	Stillwater Subdivision	125 Turnpike Street	Residential	35 single family	In permitting	Yes	Estimated ³
Westwood							
4	Medical Office Building	40 Allied Drive	Medical Office	66,000 s.f.	Approved	Yes	Traffic Study
5	Progressive Insurance	Everett Street	Office and claims center	21,197 s.f.	Approved	Yes	Traffic Study
Norwood							
6	Myrint	825 University Avenue	Office/Lab	70,000 s.f.	Application expected	Yes	Estimated ³
7	Carmax Auto Superstore	205 Carnegie Row	Car dealership	47,138 s.f.	Approved	No ¹	
8	FM Global Campus	1151 Boston Providence Hwy	Office/Medical Office	105,000 s.f. office 55,000 s.f. medical office	Construction	Yes	Traffic Study
9	Volvo Dealership	River Ridge Drive	Commercial	30,435 s.f.	Approved	No ⁴	
10	Upland Woods Redevelopment Phase 2	Route 1A at Everett Street	Light Industrial/ Manufacturing	100,000 s.f. industrial 120,000 s.f. manufacturing	Approved	No ⁴	
11	Home Market Foods	140 Morgan Drive	Manufacturing	23,050 s.f.	Approved	No ¹	
12	MS International	1080 University Avenue	Warehouse	14,000 s.f.	In permitting	Yes	Estimated ³
Dedham							
13	Medical Office	910 Washington Street	Medical Office	25,000 s.f.	Construction	Yes	Traffic Study
14	Mixed Use	1000 Washington Street	Residential/Retail	29 units/4,000 s.f. retail	Scoping meeting only	Yes	Estimated ³
15	Mixed Use	125 Washington Street	Residential/Retail	42 units/2,800 s.f. retail	Construction	No ¹	
16	Mixed Use	321 Washington Street	Residential/Retail	27 units/2,900 s.f. retail	In permitting	No ¹	
16	Mixed Use	408 Whiting Avenue	Residential/Retail	14 units/3,800 s.f. retail	Construction	No ¹	

¹More than 1.5 miles from nearest study intersection, ²Project hearings have been continued at the request of the applicant.

³Peak hour trips based on trip rates from the Institute of Transportation Engineers (ITE) publication *Trip Generation*, 8th Edition, 2008. Distribution through study area based on existing traffic patterns.

⁴Town staff suggested that project will likely not be constructed.