



February 26, 2021

Ref: 14849.00

Ms. Michele McEachern
43D Permitting Coordinator
Town of Lakeville
346 Bedford Street
Lakeville, MA 02347

Re: Traffic Impact and Access Study Peer Review – 2/18/21
Lakeville Hospital Redevelopment, Lakeville, Massachusetts

Dear Ms. McEachern,

On behalf of Rhino Capital Advisors LLC, (the "Applicant"), VHB is pleased to provide the following responses to the comments/questions raised in the Traffic Impact and Access Study Peer Review prepared by Environmental Partners dated February 18, 2021 regarding the proposed Lakeville Hospital Redevelopment (the "Project").

Existing Conditions

EP Response 02/18/2021:

EP requests clarification on whether or not the project limits have been coordinated and confirmed with MassDOT as per Section 3.I.C.2.a in the TIA Guidelines.

VHB Response:

As part of the original TIAS Appendix, VHB included MassDOT's Transportation Scoping Letter (TSL) response. In their letter, MassDOT stated, *"The study area is considered to be acceptable and adequate in capturing the impact of the project on area roadways."*

Comment 1

EP Response 02/18/2021:

Comment 1 closed.



Existing Traffic Data

Comment 2

EP Response 02/18/2021:

EP further clarifies that this comment was related to the approaches to the intersections other than the northbound approaches, as outlined in the peer review. More specifically, the one or two exceptions we noted were at the intersection of Main Street (Route 105) at I-495 Northbound Ramps, where the southbound and westbound volumes vary from the counted volumes. Most notable, the southbound left-turn volume is shown as 450 vehicles in the TIAS and 472 in the counted volumes in the Appendix. While the discrepancy may be relatively minor, without the additional 22 vehicles in the operational analysis, we cannot verify operations at the location.

VHB Response:

It is important to note that the traffic volume networks in the TIAS are based on a network peak hour for all of the study area intersections. As such, comparing individual count sheets from the Appendix with the volume networks in the TIAS could show discrepancies if that particular intersection peaked at a different time than the overall network peak. The network peaks were 7:00 AM – 8:00 AM and 5:00 PM – 6:00 PM. The network peak hour for each peak period was determined by summing the total network volume at each 15-minute increment. The network peak hour is the maximum volume the network experiences in a one-hour period within the data collection time frames (7:00 AM – 9:00 AM & 4:00 PM – 6:00 PM). The peak hours for an individual study area intersection may vary from the network peak hour, which is the case for the morning peak hour at the intersection of Main Street (Route 105) at I-495 Northbound Ramps. The weekday morning network peak hour is 7:00 AM – 8:00 AM while the weekday morning intersection peak hour at Main Street (Route 105) at I-495 Northbound Ramps is 7:15 AM – 8:15 AM. Adhering to a singular peak hour for the network helps to minimize imbalances and maintain consistency throughout the study area. The network peak hour spreadsheet is included in the Attachments.

Comment 3

EP Response 02/18/2021:

Based on the provided backup data, EP follows and agrees with VHB's methodology to obtain an adjustment factor, and the volumes in the table and the calculations appear to be accurate, with the exception of the following comments:

- Following VHB's methodology, there is a slight discrepancy in the overall average percentage due to a rounding error, which should be a 5.61% adjustment factor rather than 5.33%. Given that the discrepancy is only 0.28%, EP does not request any further adjustment.
- While we recognize that June and September both represent higher than average month conditions, there is a percent difference between the two months, and further between those months during different years. The traffic data included in the overall determination of the average percent difference also includes data from October 2017 and May 2019 in addition to the June 2017 and September 2020 data. As indicated in the original peer review, using a seasonally adjusted base volume to compare different years and months of data provides a more accurate approach. In using MassDOT's 2017 Weekday Seasonal and Axle Correction Factors to adjust the



volumes from 2017 and using the 2019 version of the same report to adjust the volumes from 2020, the percent differences actually equate to a 2.42% decrease for the morning peak data and an 8.44% increase for the weekday evening peak data from 2017 to 2020. However, while we disagree with VHB's methodology, since this results in a conservative volume increase (5.33% increase for the morning peak data and no reduction for the evening peak data), EP does not request any further adjustment.

- Regarding the weekday evening peak data, the three southernmost study intersections (at Bridge Street, Site Driveway/Lori Lane, and Clear Pond Road/Vaughan Street), for which there is no 2017 data, all indicate a significantly lower volume for the Route 105 southbound approaches in the TIAS than the traffic counts in the Appendix. As requested, we note the following volumes:
 - Route 105 Southbound at Bridge Street intersection:
 - Figure 4 of the TIAS: 440 throughs and 95 lefts
 - 2020 Traffic Counts: 550 throughs and 114 lefts
 - (Note the Bridge Street westbound volumes also show a discrepancy with a total approaching volume of 145 in Figure 4 of the TIAS and 221 in the 2020 Traffic Counts)
 - Route 105 Southbound at Site Driveway/Lori Lane intersection:
 - Figure 4 of the TIAS: 545 throughs
 - 2020 Traffic Counts: 631 throughs
 - Route 105 Southbound at Clear Pond Road/Vaughan Street intersection:
 - Figure 4 of the TIAS: 450 throughs
 - 2020 Traffic Counts: 518 throughs

Presumably, these volumes were reduced due to balancing; however, as previously mentioned, further adjustment by balancing the volumes may increase the inaccuracy. Based on the relatively large discrepancy in these volumes, EP recommends using the higher volumes.

VHB Response:

As noted in Response 2, the traffic volume networks in the TIAS are based on a network peak hour for all of the study area intersections. As such, comparing individual count sheets from the Appendix with the volume networks in the TIAS could show discrepancies if that particular intersection peaked at a different time than the overall network peak. The network peaks were 7:00 AM – 8:00 AM and 5:00 PM – 6:00 PM. The peak hours for an individual study area intersection may vary from the network peak hour, which is the case, in the evening, for the following intersections:

- › Main Street (Route 105) at Bridge Street (4:30 PM – 5:30 PM)
- › Main Street (Route 105) at Site Driveway/ Lori Lane (4:15 PM – 5:15 PM)
- › Main Street (Route 105) at Clear Pond Road/ Vaughan Street (4:45 PM – 5:45 PM)

The network peak hour spreadsheet is included in the Attachments.



Comment 4

EP Response 02/18/2021:
Comment 4 Closed.

Comment 5

EP Response 02/18/2021:
Comment 5 Closed.

Comment 6

EP Response 02/18/2021:
EP will review the additional volume data once it is available.

VHB Response:

The 2021 ATR data is included in the Attachments.

Comment 7

EP Response 02/18/2021:

Given the high midday trip generation for warehouse uses and evidence of peak traffic volumes in the midday period (per the 2020 ATR data in the Appendix), EP recommends evaluating the weekday midday peak period conditions. Based on the provided assessment of the various warehouse-related LUC's for the Saturday midday peak and presuming that the proposed development will not be a mini-warehouse/self-storage (LUC 151), assessment of Saturday operations do not appear to be necessary.

VHB Response:

VHB reviewed the midday data collection period of 11:00 AM – 2:00 PM from the recent ATR data collected on January 14, 2021 in front of the site. Based on this data, the weekday midday peak period occurs from 12:15 PM – 1:15 PM with a volume of 765 vehicles. Using the same 2021 ATR data and looking at the 5:00 – 6:00 PM time period (concurrent with the TMC network weekday evening peak hour established in the TIAS), the volume is 823 vehicles. The midday peak period has approximately 7% less volume than the weekday evening peak period. Based on this analysis, VHB feels that the TIAS has analyzed the peak condition with the weekday evening peak hour volumes. As such, analysis of the lower volumes during the weekday midday condition would not change the conclusions of the TIAS. Furthermore, 24-hour driveway counts will be conducted to document site-generated traffic volumes as part of the Traffic Monitoring Program for MassDOT. If the traffic monitoring counts reveal peak conditions that are notably different from what is projected in the TIAS, the Proponent will work with MassDOT to determine if additional analysis is necessary. The 2021 ATR data is included in the Attachments.

Comment 8

EP Response 02/18/2021:
Comment 8 closed.



Comment 9

EP Response 02/18/2021:
Comment 9 closed.

Comment 10

EP Response 02/18/2021:
Comment 10 closed.

Comment 11

EP Response 02/18/2021:
Comment 11 closed.

Comment 12

EP Response 02/18/2021:
Comment 12 closed.

Comment 13

EP Response 02/18/2021:

The trip generation and associated parking continue to be part of an on-going discussion. For more details, please see the EP memo dated February 5, 2021 that further discusses the currently proposed trip generation based on ITE Land Use Code (LUC) 150 – “Warehousing”, the various other warehouse-type land use codes and the potential difference in trip generation for a building of this size, the recently revised proposed site design and number of parking spaces, and the estimated number of parking spaces needed for a building of this size based on ITE’s Parking Generation Manual (5th Edition).

MassDOT also indicated a need for further justification in the use of LUC 150 in the EENF Certificate, which states that for the EIR, the Proponent “...should include more detailed information about the appropriateness of the selected LUC, including an explanation of why the empirical data does not support the use of a different LUC.”

With the current revision, the parking still does not align with the trip generation. Should all parking spaces be used only once per day, there would be a minimum of 596 passenger vehicle trips (298 entering, 298 exiting) per day. We understand that the facility intends to operate 24 hours a day with multiple shifts, which would imply turnover in the parking and additional trips per day beyond the minimum 596 trips. However, even if one were to assume only 596 passenger vehicle trips, based on the proposed trip generation, there would only be 86 trips available for truck trips of the 682 proposed daily trips. Assuming each truck must enter and exit, that equates to only 43 trucks per day, as compared to the proposed 128 loading docks.

Further, as discussed in the EP memo dated February 5, 2021, the ITE Parking Generation Manual estimates a need for 159 parking spaces for a building of this size using LUC 150, which is nearly half the amount of proposed parking spaces under the current site design without including the land banked spaces. Based on the current site design, the information outlined here, and the comments from MassDOT



in the EENF Certificate, EP is of the opinion that the trip generation and associated parking requires further discussion and revision.

VHB Response:

VHB acknowledges that ITE Parking Generation shows a parking demand of 159 vehicles for the proposed site. Using EP's example of each space being used once per day, this would result in a minimum of 318 daily vehicle trips. This is clearly much lower than the 682 daily trips in the TIAS, which highlights the potential issues with trying to correlate parking supply with average daily trip generation. It is important to make the distinction that the ITE Parking Generation projections represent the number of observed parked vehicles based on field counts and does not necessarily translate directly to overall "need". There are several conditions that require additional parking that are not directly related to average daily trips such as:

- Seasonal peaks
- Company branded vehicles
- Periodic On-Site Meetings and/or Trainings
- On-Site Snow Plow and/or Landscaping Vehicles
- Maintenance Vehicles
- Visitors

Aside from the technical aspects of this discussion, it should also be noted that the parking supply for any development project plays a key role in the marketability of the site. Based on discussions with the Proponent, current market conditions are showing a desire for 1 parking space per 800 square feet for industrial projects. It is typical across most cities/towns in Massachusetts that 1 space per 800 sf or 1 space per 1,000 sf is the expectation for warehouse users. The proposed project is currently providing 1 space per 1,350 square feet on day one. The Proponent has reduced the day one parking count from the original proposal in an effort to be more aligned with ITE data, employee count, and to address concerns that have been raised during the review process. These changes represent a collective effort to minimize environmental impacts, while also preserving the marketability and viability of the project.

VHB acknowledges EP's opinion that trip generation and parking require further discussion and that MassDOT has requested additional information. With the project being located on state highway, further discussion will be held with MassDOT as part of the MEPA process and revisions will be made if necessary. In addition, as part of the Traffic Monitoring Program for MassDOT, parking issues can be addressed if they arise.

Comment 14

EP Response 02/18/2021:

Please see response to Comment 7.

VHB Response: Please see response to Comment 7.



Comment 15

EP Response 02/18/2021:

See EP Response to Comment 13.

We further note that although the ITE Trip Generation manual is the standard practice for estimating vehicle trips to/from a proposed site, the manual should only be used as a guideline in situations where engineering judgment dictates otherwise. Other warehousing-type developments have used data specific to the site and/or type of use to estimate the trip generation, such as the number of employees, the number of employees per shift, and the number of expected delivery trucks for that specific usage. Further, within the ITE Trip Generation Manual, there are six different types of warehouse land use codes, all with varying weekday daily trip estimates, as outlined in the EP Memo dated February 5, 2021.

VHB Response: At this stage in the project, VHB feels that ITE LUC 150 still represents the best available information to estimate trip generation. As noted by EP, MassDOT requested additional information as part of their comment letter on the EENF. The Proponent will work with MassDOT as part of the MEPA process to determine if additional analysis will be necessary.

Comment 16

EP Response 02/18/2021:

Comment 16 closed.

Comment 17

EP Response 02/18/2021:

Trip generation and distribution will be determined by the type of tenant. We recommend revisiting the truck distribution once a tenant has been determined.

VHB Response: If a tenant is identified during the permitting process and that tenant has sufficient empirical data related to truck activity, the Proponent will revisit the truck distribution.

Comment 18

EP Response 02/18/2021:

Comment 18 closed.

Comment 19

EP Response 02/18/2021:

Comment 19 closed.

Comment 20

EP Response 02/18/2021:

Comment 20 closed.



Comment 21

EP Response 02/18/2021:
Comment 21 closed.

Comment 22

EP Response 02/18/2021:
Comment 22 closed.

If you have any questions or need additional information in the interim please feel free to contact me at (617) 607-2946 or mkealey@vhb.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Kealey", with a long, sweeping horizontal line extending to the right.

Matthew J. Kealey, PE, PTOE
Senior Project Manager



Attachments

- Network Peak Hour Spreadsheet
- ATR Traffic Volumes Summary



Network Peak Hour Spreadsheet

NETWORK PEAK HOUR CALCULATIONS

Job Number: 14849.00

Name: Lakeville Warehouse

Location: Lakeville, MA

	1	2	3	4	5	6				
	Main Street at I-495 NB Ramps	Main Street at I-495 SB Ramps	Main Street at Rt 79/ Commercial Drive	Main Street at Bridge Street	Main Street at Lori Lane	Main Street at Clear Pond Road				
Weekday Morning										
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	TOTAL	HR TOTAL	PK HR TOTAL	PEAK HOUR
7:00 AM	359	293	296	215	150	164	1,477			
7:15 AM	375	286	278	214	169	183	1,504			
7:30 AM	389	283	267	222	185	198	1,544			
7:45 AM	396	292	280	220	196	206	1,590	6,116		7:00-8:00 AM PEAK
8:00 AM	381	281	266	181	158	177	1,444	6,083		7:15-8:15 AM
8:15 AM	364	264	248	171	144	184	1,375	5,954		7:30-8:30 AM
8:30 AM				198	173	174	545	4,954		7:45-8:45 AM
8:45 AM				198	163	181	542	3,906	6,116	8:00-9:00 AM
Total	2,265	1,698	1,634	1,619	1,338	1,468	7,560			7:00-8:00 AM
Individual Peak	7:15-8:15 AM	7:00-8:00 AM	7:00-8:00 AM	7:00-8:00 AM	7:15-8:15 AM	7:30-8:30 AM				
Group Peak	7:00-8:00 AM									
7:00-8:00 AM	1520	1153	1120	871	699	752				
7:15-8:15 AM	1542	1141	1090	837	708	765				
7:30-8:30 AM	1531	1119	1060	794	684	766				
7:45-8:45 AM	1141	837	793	770	671	742				
8:00-9:00 AM	745	545	514	748	638	716				

Intersection Peak Volume	1,542	1,153	1,120	871	708	766
Network Peak Volume	1,520	1,153	1,120	871	699	752
Difference	22	0	0	0	8	14
% Difference	1%	0%	0%	0%	1%	2%

	1	2	3	4	5	6				
	Main Street at I-495 NB Ramps	Main Street at I-495 SB Ramps	Main Street at Rt 79/ Commercial Drive	Main Street at Bridge Street	Main Street at Lori Lane	Main Street at Clear Pond Road				
Weekday Evening										
START TIME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	TOTAL	HR TOTAL	PK HR TOTAL	PEAK HOUR
4:00 PM	363	361	286	296	276	204	1,786			
4:15 PM	383	374	299	324	270	225	1,875			
4:30 PM	400	384	311	339	285	249	1,968			
4:45 PM	419	403	323	308	256	294	2,003	7,632		4:00-5:00 PM
5:00 PM	446	430	350	344	282	304	2,157	8,003		4:15-5:15 PM
5:15 PM	468	451	370	333	266	303	2,192	8,320		4:30-5:30 PM
5:30 PM	463	447	362	329	237	300	2,139	8,490		4:45-5:45 PM
5:45 PM	447	431	406	303	218	230	2,036	8,523	8,523	5:00-6:00 PM PEAK
Total	3,391	3,283	2,707	2,576	2,090	2,107	16,154			5:00-6:00 PM
Individual Peak	5:00-6:00 PM	5:00-6:00 PM	5:00-6:00 PM	4:30-5:30 PM	4:15-5:15 PM	4:45-5:45 PM				
Group Peak	5:00-6:00 PM									

Intersection Peak Volume	1,825	1,760	1,488	1,324	1,093	1,201
Network Peak Volume	1,825	1,760	1,488	1,309	1,003	1,136
Difference	0	0	0	15	90	64
% Difference	0%	0%	0%	1%	8%	5%



ATR Traffic Volumes Summary

CALCULATION OF AVERAGE PEAK HOUR

Job Number: 14849.00

Job Name: Lakeville Warehouse

ATR Locations: Lakeville, MA

Morning Peak Hour: 7:45-8:45 AM

Evening Peak Hour: 4:00-5:00 PM

Morning Growth Rate: 0.0533

Evening Growth Rate: 0.00

Seasonal Adjustment: 0.01

Adjusted up by 5.33% from 12:00AM to 12:00

Counts higher in the evening so no adjustment

		THURS 1/14/21					
		Main Street (Rt 105)					
		north of Lori Lane					
Weekday Morning		NB	SB				
START TIME	VOLUME	VOLUME	TOTAL	HR TOTAL	PK HR TOTAL	PEAK HOUR	
12:00 AM	4	5	9				
12:15 AM	5	6	11				
12:30 AM	0	8	8				
12:45 AM	2	3	5	33			
1:00 AM	0	6	6	30			
1:15 AM	2	3	5	24			
1:30 AM	2	4	6	22			
1:45 AM	4	5	9	26			
2:00 AM	0	4	4	24			
2:15 AM	2	1	3	22			
2:30 AM	2	1	3	19			
2:45 AM	2	1	3	13			
3:00 AM	1	0	1	10			
3:15 AM	2	0	2	9			
3:30 AM	4	1	5	11			
3:45 AM	3	3	6	14			
4:00 AM	6	3	9	22			
4:15 AM	7	2	9	29			
4:30 AM	10	5	15	39			
4:45 AM	16	5	21	54			
5:00 AM	24	7	31	76			
5:15 AM	29	8	37	104			
5:30 AM	40	11	51	140			
5:45 AM	47	16	63	182			
6:00 AM	48	37	85	236			
6:15 AM	74	35	109	308			
6:30 AM	68	31	99	356			
6:45 AM	78	35	113	406			
7:00 AM	85	43	128	449			
7:15 AM	84	52	136	476			
7:30 AM	102	55	157	534			
7:45 AM	120	65	185	606	606		
8:00 AM	78	60	138	616			
8:15 AM	81	69	150	630			
8:30 AM	90	69	159	632			
8:45 AM	91	69	160	607			
9:00 AM	73	64	137	606			
9:15 AM	68	52	120	576			
9:30 AM	71	61	132	549			
9:45 AM	76	71	147	536			
10:00 AM	77	78	155	554			
10:15 AM	76	62	138	572			
10:30 AM	73	70	143	583			
10:45 AM	72	67	139	575			
11:00 AM	71	74	145	565			
11:15 AM	63	85	148	575			
11:30 AM	85	83	168	600			
11:45 AM	95	80	175	636			
12:00 PM	89	82	171	662			
12:15 PM	104	105	209	723			
12:30 PM	90	88	178	733			
12:45 PM	94	105	199	757			
1:00 PM	79	100	179	765			
1:15 PM	92	82	174	730			
1:30 PM	88	97	185	737			
1:45 PM	87	92	179	717			
2:00 PM	76	100	176	714			
2:15 PM	92	93	185	725			
2:30 PM	91	106	197	737			
2:45 PM	109	107	216	774			
3:00 PM	102	128	230	828			
3:15 PM	97	121	218	861			
3:30 PM	91	166	257	921			
3:45 PM	110	128	238	943			
4:00 PM	106	139	245	958			
4:15 PM	91	138	229	969			
4:30 PM	107	148	255	967			
4:45 PM	89	128	217	946			
5:00 PM	102	140	242	943			
5:15 PM	95	112	207	921			
5:30 PM	86	106	192	858			
5:45 PM	82	100	182	823			
6:00 PM	72	106	178	759			
6:15 PM	60	95	155	707			
6:30 PM	46	66	112	627			
6:45 PM	44	61	105	550			
7:00 PM	39	53	92	464			
7:15 PM	36	34	70	379			
7:30 PM	30	57	87	354			
7:45 PM	33	53	86	335			
8:00 PM	28	38	66	309			
8:15 PM	23	32	55	294			
8:30 PM	20	33	53	260			
8:45 PM	19	37	56	230			
9:00 PM	13	26	39	203			
9:15 PM	15	29	44	192			
9:30 PM	11	22	33	172			
9:45 PM	6	17	23	139			
10:00 PM	0	18	18	118			
10:15 PM	8	15	23	97			
10:30 PM	9	10	19	83			
10:45 PM	10	11	21	81			
11:00 PM	9	13	22	85			
11:15 PM	6	13	19	81			
11:30 PM	9	9	18	80			
11:45 PM	4	4	8	67			
Daily	4,912	5,138	10,050				

606	7:00-8:00 AM	TMC peak
	7:15-8:15 AM	
	7:30-8:30 AM	
632	PEAK 7:45-8:45 AM	ATR Peak
	8:00-9:00 AM	

	11:00-12:00 PM	
	11:15-12:15 PM	
	11:30-12:30 PM	
	11:45-12:45 PM	
	12:00-1:00 PM	
765	PEAK 12:15-1:15 PM	
	12:30-1:30 PM	
	12:45-1:45 PM	
	1:00-2:00 PM	

946	PEAK 4:00-5:00 PM	ATR Peak
	4:15-5:15 PM	
	4:30-5:30 PM	
	4:45-5:45 PM	
823	5:00-6:00 PM	TMC Peak