# MEMORANDUM

TO: Prep Hanover Real Estate, LLC

c/o Mr. Llovd W. Sova

Vice President – Development

PREP Property Group

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FROM: Mr. Jeffrey S. Dirk, P.E., PTOE, FITE

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**DATE:** June 28, 2022 REF:

**SUBJECT:** Hanover Crossing – 2022 Traffic Monitoring Program

Hanover, Massachusetts

Vanasse & Associates, Inc. (VAI) are pleased to submit the results of the 2022 Traffic Monitoring Program for Hanover Crossing located at 1775 Washington Street (Route 53) in Hanover, Massachusetts. This document has been prepared in fulfillment of the Traffic Monitoring Program requirements specified in the December 16, 2019 Decision of the Town of Hanover Planning Board and in the April 14, 2020 Massachusetts Department of Transportation (MassDOT) Section 61 Finding that have been issued for Hanover Crossing. As required therein, the results of the 2022 Traffic Monitoring Program are being submitted to MassDOT, the Towns of Hanover and Norwell, the Boston Region Metropolitan Planning Organization, and the Greater Attleboro-Taunton Regional Transit Authority (GATRA). Initiation of the Traffic Monitoring Program was triggered by the issuance of a Certificate of Occupancy in May 2021 for the Chipotle Mexican Grill, the first new tenant to open within Hanover Crossing.

The purpose of the Traffic Monitoring Program is to document the traffic characteristics of Hanover Crossing as it is developed and to identify traffic volumes and traffic patterns at the driveways that serve the property. In addition, the Traffic Monitoring Program also serves to identify changes in traffic volumes along Woodland Drive, a local access roadway that intersects Route 53 and serves the residential community situated between Route 53 and Webster Street (Route 123). As Hanover Crossing is further developed beyond the Chipotle Mexican Grill, the Traffic Monitoring Project will document the elements of the Transportation Demand Management (TDM) Program that have been implemented and the effectiveness of TDM Program at reducing single-occupancy vehicle (SOV) travel.

The results of the 2022 Traffic Monitoring Program have indicated the following:

1. As configured and occupied as of February 2022, Hanover Crossing was shown to generate approximately 10,824 vehicle trips on an average weekday and approximately 12,106 vehicle trips on a Saturday (both two-way, 24-hour volumes) as measured on the driveways serving Hanover Crossing, with approximately 384 vehicle trips during the weekday morning peak-hour, 1,004 vehicle trips during the weekday evening peak-hour and 1,402 vehicle trips during the Saturday midday peak-hour;



- 2. The actual measured (February 2022) traffic volumes associated with Hanover Crossing were found to be approximately 4 percent lower on an average weekday and 15 percent lower on a Saturday. Peak-hour traffic volumes were found to be approximately 50 percent higher during the weekday morning peak-hour, 5 percent lower during the weekday evening peak-hour and 21 percent lower during the Saturday midday peak-hour;
- 3. The noted traffic volume increase during the weekday morning peak-hour is attributable to the contractors that were on-site associated with the demolition of the former mall structures and the construction of the new uses that are associated with Hanover Crossing that have not yet opened. This is particularly apparent given that the new use (Chipotle Mexican Grill) is not open during the weekday morning peak-hour;
- 4. Traffic volumes measured in February 2022 on the roadways that provide access to Hanover Crossing and on Woodland Drive west of Route 53 were found to be up to 80 percent lower on a daily and peak-hour basis when compared to the traffic volumes that were measured in 2019. For context, the former Hanover Mall as configured in 2019 included 689,597 sf of occupied space vs. 207,091 sf of occupied space within Hanover Crossing in February 2022; and
- 5. With the exception of the Mill Street/Mill Pond Drive/Hanover Mall Drive intersection, the study area intersections were found to have motor vehicle crash rates that were below the MassDOT average crash rates for similar intersections.

The following summarizes the results of the 2022 Traffic Monitoring Program.

# PROJECT STATUS AND BUILD-OUT

Hanover Crossing entails the phased reconstruction of the former Hanover Mall and associated outparcel buildings to provide 598,535± square feet (sf) of retail, restaurant, grocery and entertainment space centered around an open-air courtyard, with a 297-unit multifamily residential community to be constructed in the eastern portion of the site. Prior to the demolition of portions of the enclosed mall, the Hanover Mall encompassed 833,481± sf of retail, restaurant and entertainment space and associated appurtenances that are supported by 3,509 parking spaces. Hanover Crossing represents an overall reduction in the amount of retail/restaurant/entertainment space that will be situated within the site.

The Hanover Crossing property encompasses approximately 106.4± acres of land that is bounded by the Southeast Expressway (Route 3) and commercial properties to the north; Mill Street, commercial properties, areas of open and wooded space, and low-lying wetland areas to the south; Route 3, South Street, and a residential property to the east; and Route 53 and commercial properties to the west. Access to Hanover Crossing is provided by way of four (4) existing driveways that intersect the east side of Route 53 and two (2) full access driveways that intersect the north side of Mill Street, with the eastern Mill Street driveway aligned opposite Mill Pond Drive. The northernmost unsignalized driveway adjacent to the Buffalo Wild Wings restaurant will be reconstructed to provide full access and will include the installation of a traffic control signal.

On-site parking will be provided for 3,486 parking spaces (3,040 parking spaces to support the commercial uses and 446 parking spaces to support the multifamily residential community). In addition, 214 parking spaces will be "landbanked" in order to meet the parking requirements of the Hanover Zoning Bylaw.



Table 1 summarizes the uses that were operating within Hanover Crossing at the time of completion of the traffic counts that form the basis of the 2022 Traffic Monitoring Program (February 2022).

Table 1 HANOVER CROSSING TENANCY FEBRUARY 2022

Tenant	Gross Leasable Area of Demised Space
Buffalo Wild Wings	6,184 sf
Dick's Sporting Goods	50,047 sf
Macy's	101,664 sf
Macy's Furniture	12,945 sf
Mattress Firm	4,000 sf
Panera	4,700 sf
Petco	16,951 sf
Trader Joe's	8,200 sf
Chipotle Mexican Grill	2,400 sf
TOTAL:	207,091 sf

As can be seen in Table 1, at the time of completion of the traffic counts that form the basis of the 2022 Traffic Monitoring Program, approximately 207,091 sf of space was occupied within Hanover Crossing. In addition, construction workers are on-site on a daily basis. The traffic volumes associated with Hanover Crossing as measured in February 2022 and documented herein include: i) the occupied portion of Hanover Crossing as defined in Table 1; ii) construction workers/contractors; and iii) non-Hanover Crossing related traffic that uses the looped roadway network to travel between Route 53 and Mill Street.



#### TRAFFIC MONITORING PROGRAM STUDY AREA

The traffic monitoring program study area contains the driveways that serve Hanover Crossing along Route 53 (4 locations) and Mill Street (2 locations), as well as Woodland Drive at and approaching Route 53. The specific traffic monitoring locations are listed below and are depicted on Figure 1:

- 1. Route 53 at the Route 3 Southbound Ramps and Hanover Crossing Drive
- 2. Route 53 at the Hanover Crossing North Driveway (adjacent to Buffalo Wild Wings)
- 3. Route 53 at Woodland Drive and the Mobil Station Driveway
- 4. Route 53 at the Hanover Crossing Center Driveway
- 5. Route 53 at the Hanover Crossing South Driveway and the 1376 Washington Street Driveway
- 6. Mill Street at the Hanover Crossing West Driveway
- 7. Mill Street at Mill Pond Drive and the Hanover Crossing East Driveway

## **DATA COLLECTION**

Traffic volumes for the 2022 Traffic Monitoring Program were obtained from automatic traffic recorder (ATR) counts and turning movement counts (TMCs) conducted in February 2022. The ATR counts were conducted on each of the driveways serving Hanover Crossing and on Woodland Drive, west of Route 53, over a continuous 24-hour, seven (7) day, week-long period in order to record the traffic characteristics of Hanover Crossing and traffic volumes along Woodland Drive over an extended period. Weekday morning (7:00 to 9:00 AM), weekday evening (4:00 to 6:00 PM) and Saturday midday (11:00 AM to 2:00 PM) peakperiod TMCs were also performed at the study area intersections.

#### **Seasonal Adjustments**

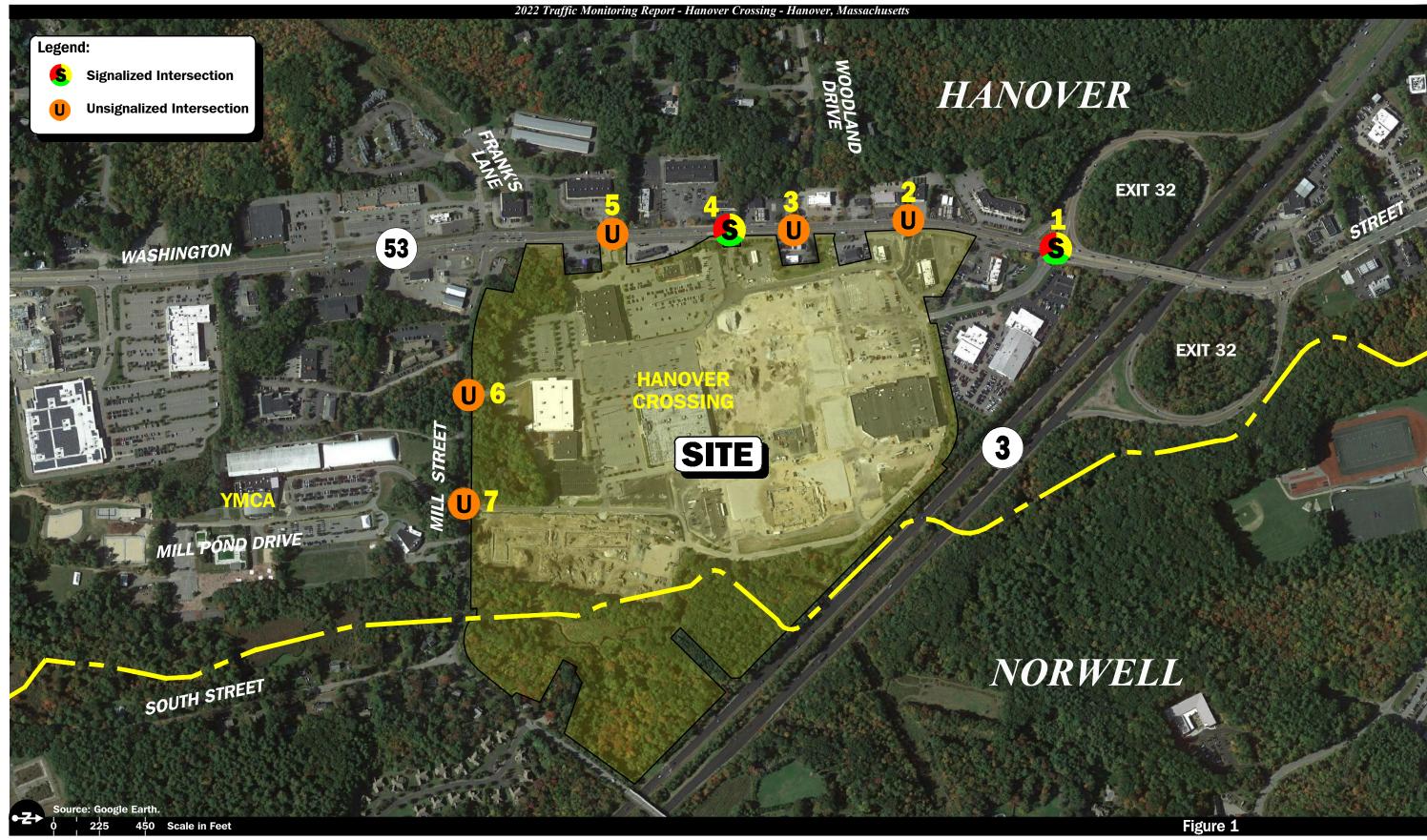
In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, 2019 pre-COVID-19 MassDOT seasonal adjustment factors for Urban Group 4 roadways (minor arterials, the functional classification of Route 53) were reviewed. Based on a review of this data, it was determined that traffic volumes for the month of February approximate average-month conditions and, as such, the raw traffic volume data did not require adjustment as it is representative of above-average conditions.

An adjustment to account for the impact on traffic volumes and trip patterns resulting from the COVID-19 pandemic was not performed or required as the uses located within Hanover Crossing at the time of the data collection effort were fully operational without restrictions that would impact traffic volumes or trip patterns. Further, no restrictions or other limitations were identified within the traffic monitoring study area that would alter the measured traffic volumes or trip patterns.

The adjusted average weekday daily and Saturday traffic volumes for the study area roadways are summarized in Table 2 and graphically depicted on Figure 2. The 2022 Existing average-month peak-hour traffic volumes are graphically depicted on Figures 3, 4 and 5 for the weekday morning, weekday evening, and Saturday midday peak hours, respectively.

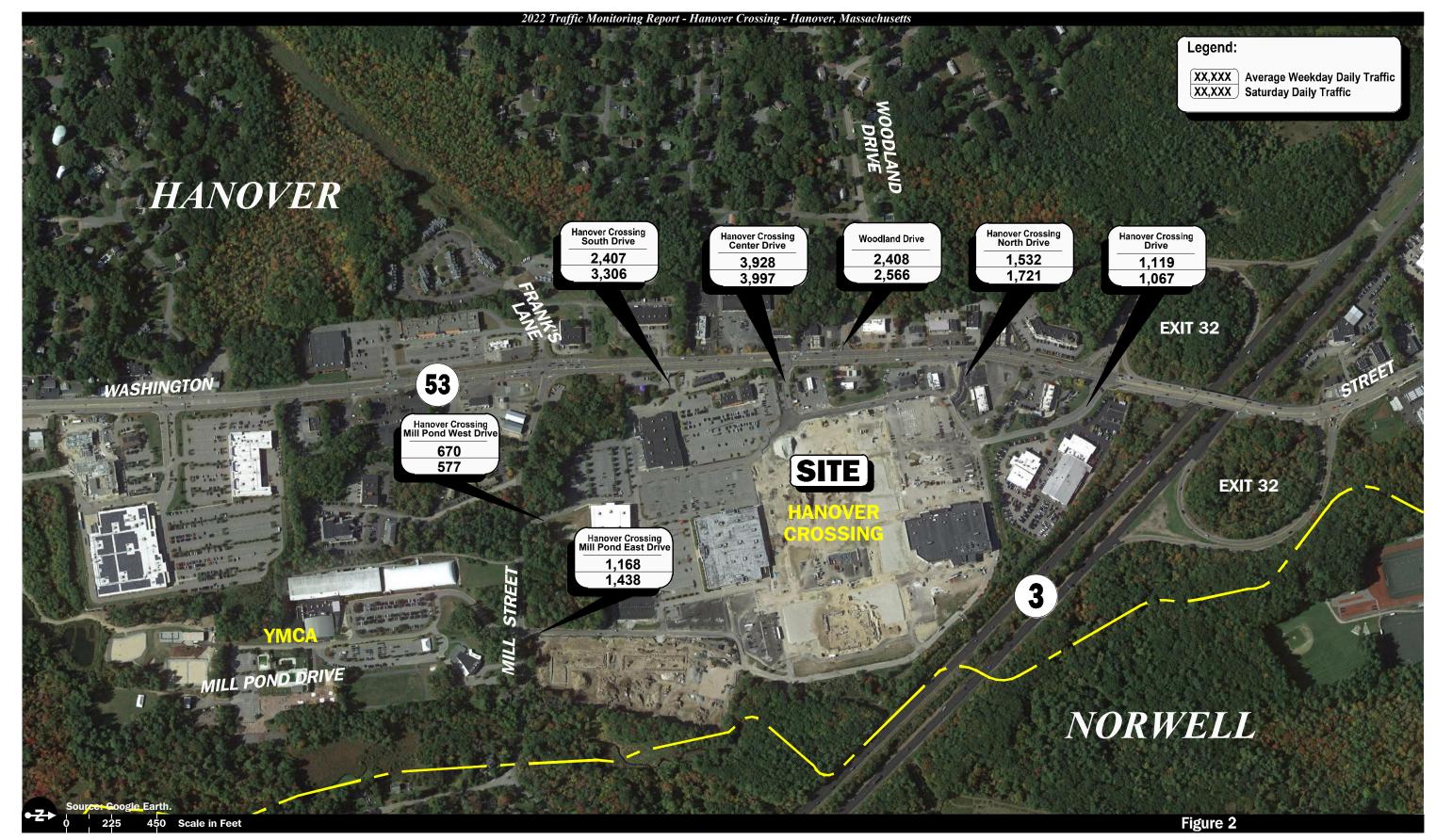


<sup>&</sup>lt;sup>1</sup>Massachusetts Highway Department Staewide Traffic Data Collection 2019 Weekday Seasonal Factors.



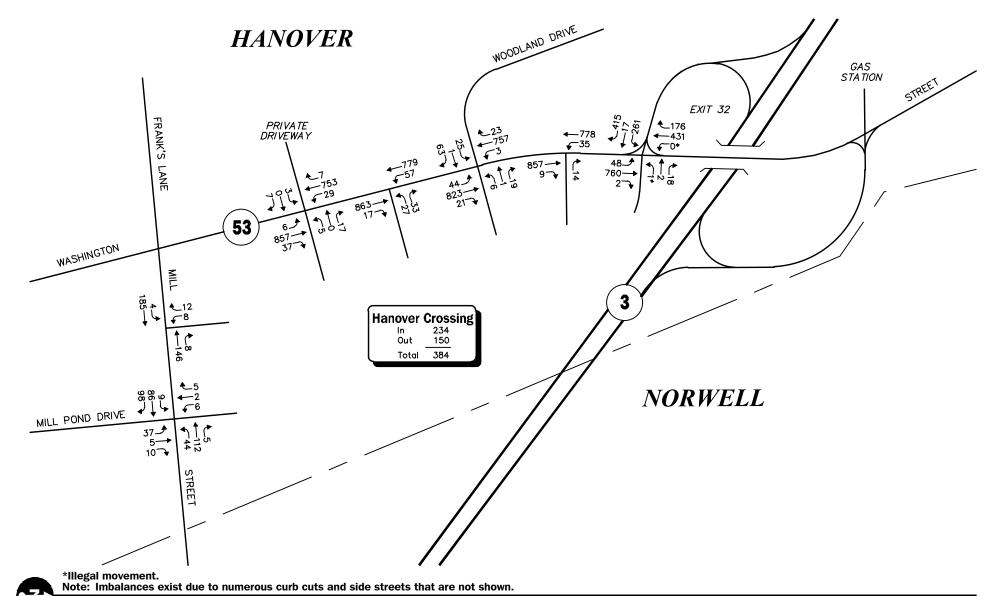


**Site Location and Study Area Map** 





2022 Average-Month
Average Weekday and Saturday
Traffic Volumes

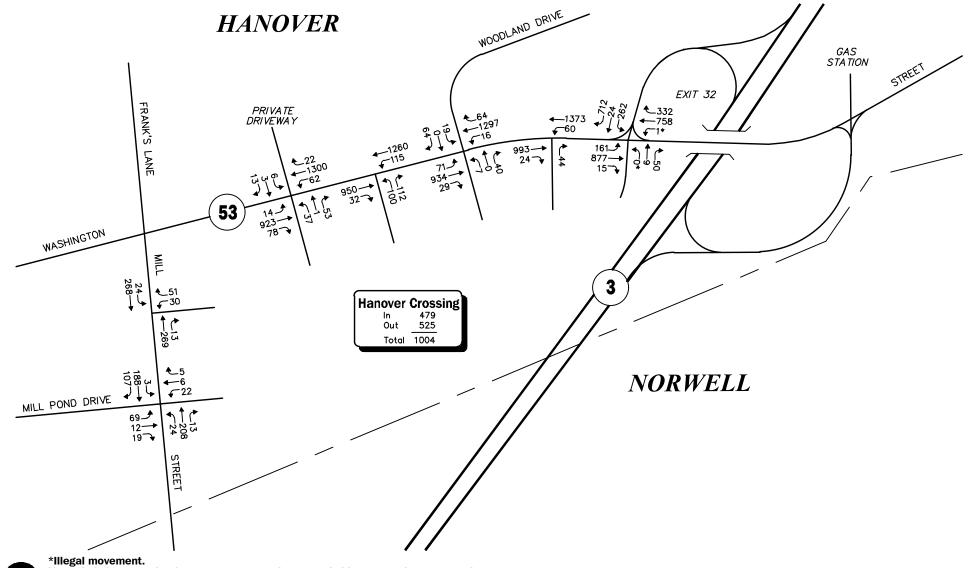


Not to Scale

Vanasse & Associates inc

Figure 3

2022 Existing
Weekday Morning
Peak-Hour Traffic Volumes



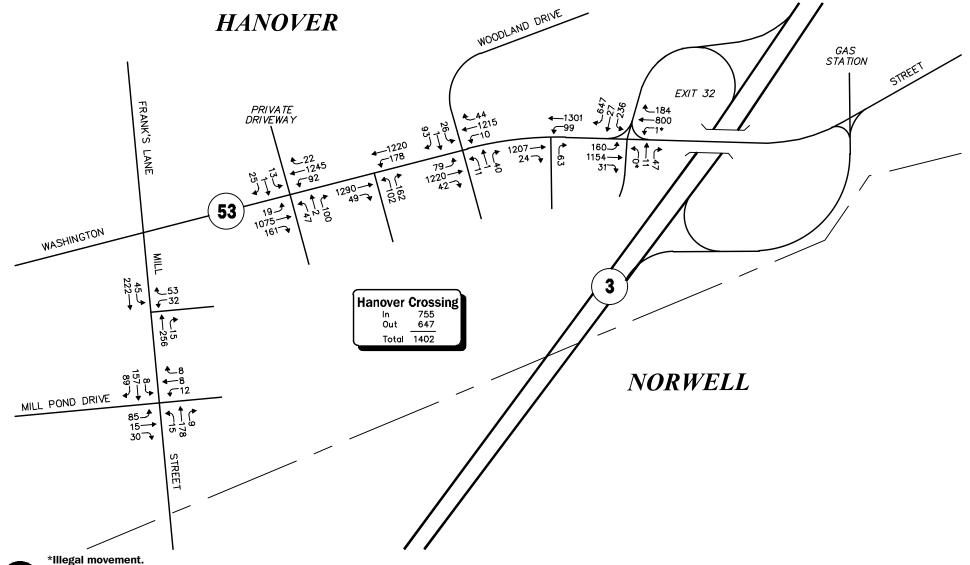
Not to Scale

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.



Figure 4

2022 Existing **Weekday Evening Peak-Hour Traffic Volumes** 



Not to Scale

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.



Figure 5

2022 Existing **Saturday Midday Peak-Hour Traffic Volumes** 

Table 2 2022 EXISTING TRAFFIC-VOLUME SUMMARY – AVERAGE-MONTH CONDITIONS

		Weekday Morning Peak Hour		Weekday Evening Peak Hour			Saturday Midday Peak Hour	
Location	Average Weekday Daily <sup>a</sup>	Volume <sup>b</sup>	Directional Distribution	Volume <sup>b</sup>	Directional Distribution	Saturday Daily <sup>c</sup>	Volume <sup>b</sup>	Directional Distribution
Hanover Crossing Drive, east of Route 53	1,119	40	52.5% WB	99	59.6% WB	1,067	117	50.4% EB
Hanover Crossing Rte. 53 North Driveway	1,532	58	75.9% EB	133	63.2% EB	1,721	186	66.1% EB
Hanover Crossing Rte. 53 Center Driveway	3,928	134	55.2% EB	359	59.1% WB	3,997	491	53.8% WB
Hanover Crossing Rte. 53 South Driveway	2,407	88	75.0% EB	234	61.1% EB	3,306	403	63.0% EB
Hanover Crossing Mill Street West Driveway	670	32	62.5% SB	118	68.6% SB	577	145	58.6% SB
Hanover Crossing Mill Street East Driveway	1,168	32	59.4% NB	61	54.1% SB	1,438	60	53.3% NB
Woodland Drive, west of Rte. 53	2,408	157	56.7% EB	218	61.9% WB	2,566	244	50.8% WB

<sup>&</sup>lt;sup>a</sup>Vehicles per day.

EB = eastbound; WB = westbound; NB = northbound; SB = southbound.

# **Traffic Volume Comparison**

Table 3 shows a comparison of peak-hour traffic volumes as collected on the study roadways in 2019 as a part of the October 2019 Single Environmental Impact Report (the "October 2019 SEIR")<sup>2</sup> that was prepared for Hanover Crossing to the data collected in 2022. All traffic volumes have been normalized to average-month conditions in order to allow for a meaningful comparison of the data.

<sup>&</sup>lt;sup>2</sup>Single Environmental Impact Report, Transportation Impact Assessment, Hanover Crossing, 1775 Washington Street, Hanover, Massachusetts, EEA No. 16032; VAI; October 2019.



<sup>&</sup>lt;sup>b</sup>Vehicles per hour.

cVehicles.

Table 3 PEAK-HOUR TRAFFIC VOLUME COMPARISON

	Average Weekday Daily <sup>a</sup>		Weekday Morning Peak-Hour <sup>b</sup>		Weekday Evening Peak-Hour <sup>b</sup>		Saturday Daily <sup>c</sup>		Saturday Midday Peak-Hour <sup>b</sup>	
Location	2019 <sup>d</sup>	2022	2019	2022	2019	2022	2019 <sup>d</sup>	2022	2019	2022
Hanover Crossing Drive, east of Route 53	3,011	1,119	134	40	271	99	2,888	1,067	260	117
Hanover Crossing Rte. 53 North Driveway	3,367	1,532	126	58	303	133	4,644	1,721	418	186
Hanover Crossing Rte. 53 Center Driveway	5,344	3,928	158	134	481	359	6,566	3,997	591	491
Hanover Crossing Rte. 53 South Driveway	3,211	2,407	95	88	289	234	4,888	3,306	440	403
Hanover Crossing Mill Street West Driveway	1,778	670	33	32	160	118	2,433	577	219	145
Hanover Crossing Mill Street East Driveway	3,244	1,168	138	32	292	61	3,855	1,438	347	60
Woodland Drive, west of Rte. 53	3,156	2,408	207	157	284	218	3,100	2,566	279	244

<sup>&</sup>lt;sup>a</sup>Vehicles per day.

As can be seen in Table 3, the traffic volumes measured in 2022 on the roadways that provide access to Hanover Crossing and on Woodland Drive west of Route 53 were found to be up to 80 percent lower on a daily and peak-hour basis when compared to the traffic volumes that were measured in 2019. For context, the former Hanover Mall as configured in 2019 included 689,597 sf of occupied space vs. 207,091 sf of occupied space within Hanover Crossing at the time that the traffic counts that form the basis of the 2022 Traffic Monitoring Program were performed (February 2022). In addition and as noted previously, the 2022 traffic volumes include construction-related traffic associated with the construction of Hanover Crossing.



<sup>&</sup>lt;sup>b</sup>Vehicles per hour.

<sup>&</sup>lt;sup>c</sup>Vehicles.

dEstimated using a K factor of 0.09 applied to the weekday evening peak-hour traffic volume for the average weekday daily and to the Saturday midday peak-hour for the Saturday traffic volume. The K factor was obtained from Table 2 of the October 2019 SEIR.

# HANOVER CROSSING TRAFFIC CHARACTERISTICS

As discussed in previous section, ATR counts were conducted on the driveway serving Hanover Crossing in February 2022 over a continuous 24-hour, seven day period. These counts were adjusted to averagemonth conditions using the procedures described herein (no adjustment required). Table 4 presents a comparison of the 2022 measured traffic volumes on the on the driveway serving Hanover Crossing to the traffic volume projections as constructed and occupied as of February 2022 and defined in Table 1 (207,091 sf). The traffic volume projections were obtained using trip-generation data provided by the Institute of Transportation Engineers (ITE)<sup>3</sup> for the appropriate Land Use Code (LUC).

Table 6 HANOVER CROSSING TRAFFIC-VOLUME SUMMARY AND COMPARISON

Time Period/Direction	(A) 2022 Measured Traffic Volumes <sup>a</sup>	(B) Projected Traffic Volumes <sup>b</sup>	(C=A-B) Difference
Average Weekday Daily <sup>c</sup>	10,824	11,272	-448
Weekday Morning Peak Hour: Entering Exiting Total	234 150 384	159 <u>97</u> 256	+128
Weekday Evening Peak Hour: Entering Exiting Total	479 <u>525</u> 1,004	457 <u>496</u> 953	-51
Saturday Daily	12,106	14,302	-2,196
Saturday Midday Peak Hour: Entering Exiting Total	755 <u>647</u> 1,402	601 <u>556</u> 1,157	-245
Entering <u>Exiting</u>	647		-245

<sup>&</sup>lt;sup>a</sup>Summation of traffic count data as measured in February 2022 on the driveways that serve Hanover Crossing and includes contractors and cut-through traffic.

As can be seen in Table 6, Hanover Crossing as configured and occupied as of February 2022, was shown to generate approximately 10,824 vehicle trips on an average weekday and approximately 12,106 vehicle trips on a Saturday (both two-way, 24-hour volumes) as measured on the driveways serving Hanover Crossing,<sup>4</sup> with approximately 384 vehicle trips (234 vehicles entering and 150 exiting) during

<sup>&</sup>lt;sup>4</sup>Inclusive of construction workers and cut-through traffic (i.e., non-Hanover Crossing related) using Hanover Crossing Drive to travel between Route 53 and Mill Street.



<sup>&</sup>lt;sup>b</sup>Based on the use of ITE LUC 820, Shopping Center (>150k); 207,091 sf.

<sup>&</sup>lt;sup>c</sup>Average of the traffic-volume data collected Tuesday through Thursday (average weekdays).

<sup>&</sup>lt;sup>3</sup>Trip Generation, 11<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, D.C.; 2021.

the weekday morning peak-hour, 1,004 vehicle trips (479 vehicles entering and 525 exiting) during the weekday evening peak-hour and 1,402 vehicle trips (755 vehicles entering and 647 exiting) during the Saturday midday peak-hour.

In comparison to the traffic-volume projections for Hanover Crossing as configured and occupied as of February 2022, the actual measured traffic volumes were found to be approximately 448 vehicle trips lower on an average weekday (4 percent) and 2,196 vehicle trips lower (15 percent) on a Saturday. Peak-hour traffic volumes were found to be approximately 128 vehicle trips higher (50 percent) during the weekday morning peak-hour, 51 vehicle trips lower (5 percent) during the weekday evening peak-hour and 245 vehicle trips lower (21 percent) during the Saturday midday peak-hour. The noted traffic volume increase during the weekday morning peak-hour is attributable to the contractors that were on-site associated with the demolition of the former mall structures and the construction of the new uses that are associated with Hanover Crossing that have not yet opened. This is particularly apparent given that the new use (Chipotle Mexican Grill) is not open during the weekday morning peak-hour.

### MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area intersections was provided by the MassDOT Highway Division Safety Management/Traffic Operations Unit for the most recent five-year period available (2015 through 2019, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, roadway and weather conditions, and day of occurrence, and presented in Table 4.

As can be seen in Table 4, the study intersections experienced an average of 4.8 or fewer reported motor vehicle crashes per year over the five-year review period and, with the exception of the Mill Street/ Mill Pond Drive/Hanover Mall Drive intersection, were found to have motor vehicle crash rates below the MassDOT statewide and District average rates for similar intersections for the MassDOT Highway Division District in which the intersections are located (District 5). The majority of the crashes occurring at these intersections were reported to have occurred on a weekday; under clear weather conditions; during daylight; and involved angle-type collisions that resulted in property damage only.

The Mill Street/Mill Pond Drive/Hanover Mall Drive intersection was found to have experienced a total of 24 reported motor vehicle crashes over the five-year review period, with 19 crashes occurring on a weekday, four (4) occurring on a Saturday and one (1) on a Sunday. The majority of the crashes occurred under clear weather conditions, during daylight, and all of the crashes were reported as angle type collisions, the majority of which resulted in property damage only. The intersection was found to have a motor vehicle crash rate that was above both the statewide and MassDOT District 5 average crash rates for an unsignalized intersection. The Town has advanced safety-related improvements at the intersection that include the implementation of all-way STOP-sign control; however, it is apparent that additional, enhanced safety measures should be considered for the intersection. At a baseline level, a Road Safety Audit (RSA) should be undertaken for the intersection.

A review of the MassDOT high crash location database indicates that there are no (0) locations along Route 53 or Mill Street within the study area that are included on MassDOT's Highway Safety Improvement Program (HSIP) listing as a high crash location. In addition, no (0) crashes were reported within the study area over the five-year review period that resulted in a fatality.

The detailed MassDOT Crash Rate Worksheets are attached.



Table 4 MOTOR VEHICLE CRASH DATA SUMMARY<sup>a</sup>

	Rte. 53/ Rte. 3 SB Ramps/ Hanover Mall Dr.	Rte.53/ North Mall Dwy.	Rte. 53/ Center Mall Dwy.	Rte. 53/ South Mall Dwy.	Mill St./ West Mall Dwy.	Mill St./ Mill Pond Dr./ Hanover Mall Dr.	Rte. 53/ Woodland Dr.
Traffic Control Type:b	TS	U	TS	U	U	U	U
Year:							
2015	3	8	0	2	1	8	1
2016	4	3	0	0	0	6	5
2017	2	4	0	2	0	3	1
2018	4	2	0	1	0	7	1
<u>2019</u>	_3	_1	_0	_0	_0	_0	_1
Total	16	18	0	5	1	24	9
7902							
Average	3.20	3.60	0.00	1.00	0.20	4.80	1.80
Rate <sup>c</sup>	0.25	0.36	0.00	0.10	0.08	1.75	0.17
MassDOT Crash Rate:d	0.78/0.75	0.57/0.57	0.78/0.75	0.57/0.57	0.57/0.57	0.57/0.57	0.57/0.57
Significant?e	No	No	No	No	No	Yes	No
Туре:							
Angle	7	8	0	2	1	24	9
Rear-End	6	2 2	0	1	0	0	0
Head-On	0	2	0	0	0	0	0
Sideswipe	2	4	0	1	0	0	0
Fixed Object	1	0	0	1	0	0	0
Pedestrian/Bicycle	0	1	0	0	0	0	0
Unknown/Other	<u>0</u>	<u>_1</u>	_0	<u>0</u> 5	_0	_0	_0
Total	16	18	0	5	1	24	9
Day of Week:							
Monday through Friday	11	14	0	4	1	19	7
Saturday	1	3	0	1	0	4	0
Sunday	$\frac{4}{16}$	$\frac{1}{18}$	_0	<u>0</u> 5	_0	<u>_1</u>	<u>2</u> 9
Total	16	18	0	5	1	24	9
Conditions:							
Clear	11	13	0	3	1	15	9
Cloudy	2	2	0	1	0	4	0
Rain	0	1	0	1	0	3	0
Snow/Ice	2	2	0	0	0	2	0
Not Reported	<u>1</u>	$\frac{0}{18}$	_0	_0	_0	_0	_0
Total	16	18	0	5	1	24	9
Lighting:							
Daylight	13	14	0	5	0	19	8
Dawn/Dusk	0	0	0	0	0	0	1
Dark (Road Lit)	3	4	0	0	1	5	0
Dark (Road Unlit)	0	0	0	0	0		0
Total	$\frac{0}{16}$	$\frac{0}{18}$	0	<u>0</u> 5	<u>0</u> 1	$\frac{0}{24}$	<u>0</u> 9
Severity:							
Property Damage Only	8	11	0	3	1	15	7
Personal Injury	7	7	0	2	0	8	
Fatality	Ó	Ó	Ö	0	Ö	0	2 0
Not Reported	_1		0		0	<u> 1</u>	0
Total	16	$\frac{0}{18}$	0	<u>0</u> 5	1	$\frac{1}{24}$	<u>0</u> 9
	-			-			

<sup>&</sup>lt;sup>a</sup>Source: MassDOT Safety Management/Traffic Operations Unit records, 2015 through 2019. <sup>b</sup>Traffic Control Type: U = unsignalized; TS = traffic signal.

<sup>&</sup>quot;The intersection crash rate is significant if it is found to exceed the MassDOT statewide and/or District crash rate for the MassDOT Highway Division District in which the Project is located (District 5).



<sup>&</sup>lt;sup>c</sup>Crash rate per million vehicles entering the intersection.

<sup>&</sup>lt;sup>d</sup>Statewide/District crash rate.

#### **SUMMARY**

On behalf of Prep Hanover Real Estate, LLC, VAI has completed the 2022 Traffic Monitoring Program for Hanover Crossing located at 1775 Washington Street (Route 53) in Hanover, Massachusetts. This document has been prepared in fulfillment of the Traffic Monitoring Program requirement specified in the December 16, 2019 Decision of the Town of Hanover Planning Board and in the April 14, 2020 MassDOT Section 61 Finding issued for Hanover Crossing. The results of the 2022 Traffic Monitoring Program have indicated the following:

- 1. As configured and occupied as of February 2022, Hanover Crossing was shown to generate approximately 10,824 vehicle trips on an average weekday and approximately 12,106 vehicle trips on a Saturday (both two-way, 24-hour volumes) as measured on the driveways serving Hanover Crossing, with approximately 384 vehicle trips during the weekday morning peakhour, 1,004 vehicle trips during the weekday evening peak-hour and 1,402 vehicle trips during the Saturday midday peak-hour:
- 2. The actual measured (February 2022) traffic volumes associated with Hanover Crossing were found to be approximately 4 percent <u>lower</u> on an average weekday and 15 percent <u>lower</u> on a Saturday. Peak-hour traffic volumes were found to be approximately 50 percent higher during the weekday morning peak-hour, 5 percent lower during the weekday evening peak-hour and 21 percent lower during the Saturday midday peak-hour;
- 3. The noted traffic volume increase during the weekday morning peak-hour is attributable to the contractors that were on-site associated with the demolition of the former mall structures and the construction of the new uses that are associated with Hanover Crossing that have not yet opened. This is particularly apparent given that the new use (Chipotle Mexican Grill) is not open during the weekday morning peak-hour;
- 4. Traffic volumes measured in February 2022 on the roadways that provide access to Hanover Crossing and on Woodland Drive west of Route 53 were found to be up to 80 percent lower on a daily and peak-hour basis when compared to the traffic volumes that were measured in 2019. For context, the former Hanover Mall as configured in 2019 included 689,597 sf of occupied space vs. 207,091 sf of occupied space within Hanover Crossing in February 2022; and
- 5. With the exception of the Mill Street/Mill Pond Drive/Hanover Mall Drive intersection, the study area intersections were found to have motor vehicle crash rates that were below the MassDOT average crash rates for similar intersections.

The construction of Hanover Crossing is on-going and includes specific improvements to roadways and intersections as defined in the MassDOT Section 61 Finding and those required in the Planning Board Decision. As specified in these documents, Prep Hanover Real Estate, LLC will perform traffic monitoring on an annual basis upon issuance of the first Certificate of Occupancy and thereafter for a period not to exceed 5 years after full build-out. This 2022 Traffic Monitoring Program serves as the initiation of the traffic monitoring program for Hanover Crossing. Subsequent monitoring will document the elements of the TDM Program that have been implemented and the results of employee and patron travel mode surveys.



L. Lucien, P.E. – Manager, MassDOT Public/Private Development Unit cc:

M. Perry – District Highway Director, MassDOT Highway Division District 5

C. Stickney – Town Planner, Town of Hanover

I. Quirk - Interim Director of Planning, Town of Norwell

M. Draisen - Executive Director, Metropolitan Area Planning Council

P. Mission – Transportation Planning Manager, SRPEDD

