

Date: 27 October 2025
To: David Shenk, Shenk Enterprises, LLC
From: Corey Mack, PE, PTOE, Consultant Transportation Engineer
Subject: 55 Thompson Drive Essex – Transportation Impact Study

METHODS Consulting has reviewed the proposed development of the industrial warehouse site by Shenk Enterprises at 55 Thompson Drive in Essex, Vermont. METHODS has prepared the following assessment of the likely transportation impacts in accordance with the Town of Essex Official Zoning Regulations (OZR) effective 9 October 2023, Town of Essex Standard Specifications for Construction Section 220 Traffic Studies dated January 2017, Transportation Impact Study Guidelines from the Vermont Agency of Transportation (VTrans), and standard engineering practices outlined by the Institute of Transportation Engineers (ITE) and other sources.

This TIS includes the following analysis:

1. [Summary of Findings and Recommendations](#), compiling the project details and analytical conclusions of the study.
2. [Proposed Project Parameters](#), including the project description and trip generation estimates.
3. [Existing Roadway Context](#), describing the existing road network, crash history, and sight distances.
4. [Traffic Projections](#), including traffic adjustments, trip distribution, other development volumes, and documentation of estimated operating conditions.
5. [Capacity Analyses](#), including definition of the capacity and performance measures and a summary of the capacity analysis results.
6. [Bicycle, Pedestrian, and Transit Access](#) to the site.
7. [Potential Mitigation Considerations](#), including the estimated local and state transportation impact fees.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

- The 55 Thompson Drive development project proposes to construct a 41,250 square foot industrial warehouse building.
- The proposed industrial warehouse building is along Thompson Drive. The existing land use along Thompson Drive consists of similar industrial park lots, a sand / aggregate extraction site, and a recreational trail network and trailhead parking lot.

- The proposed project is expected to generate 14 new external vehicle trip ends in the AM and PM peak hours of adjacent street traffic and 92 new external vehicle trips over the course of an average weekday.
- VTrans guidelines specify that a traffic study should be considered if the proposed development will generate 75 or more new peak hour trips. This project does not meet that threshold.
- The observed weekday peak hour traffic volume along Allen Martin Drive has a day to day variation of 69 vehicles per hour. This daily variation in peak hour volume is more than four times the estimated project trip generation, indicating the proposed project traffic will not be noticeable on Allen Martin Drive.
- We identified no crash pattern or safety hazard within the study area.
- METHODS developed a traffic capacity and congestion model. Capacity analyses indicate:
 - The average control delay for any movement or lane group is not expected to increase by more than one second between the no build and build scenarios.
 - All movements and lane groups are expected to operate at LOS B or better in all scenarios. The maximum volume to capacity ratio for any movement was 0.18.
 - The existing and proposed intersections are expected to continue to operate acceptably in the 2032 peak hour build scenarios.
- Neither a left turn lane nor a right turn lane is recommended into Thompson Drive from Allen Martin Drive.
- The project will likely be assessed transportation impact fees from the Town of Essex and Act 145:
 - The Town of Essex does not have an impact fee ordinance. Rather, individual projects along Allen Martin Drive have been contributing fair-share impact fees to support future infrastructure improvements at VT-15 & Allen Martin Drive. The estimated fair-share contribution of the proposed 55 Thompson Drive project to the VT-15 & Allen Martin Drive fund is \$1,741.
 - The project will likely be assessed an Act 145 transportation impact fee to contribute to the VT-15 & Sand Hill Road and VT-117 & North Williston Road intersection signalization projects. We estimate the fee at \$4,913.
 - The project should contribute to applicable Act 145 transportation impact fees that may be established following completion of the CCRPC Saxon Hill Transportation Study, subject to adjustment according to the Town impact fee payment.
- No additional off-site roadway mitigation is recommended.

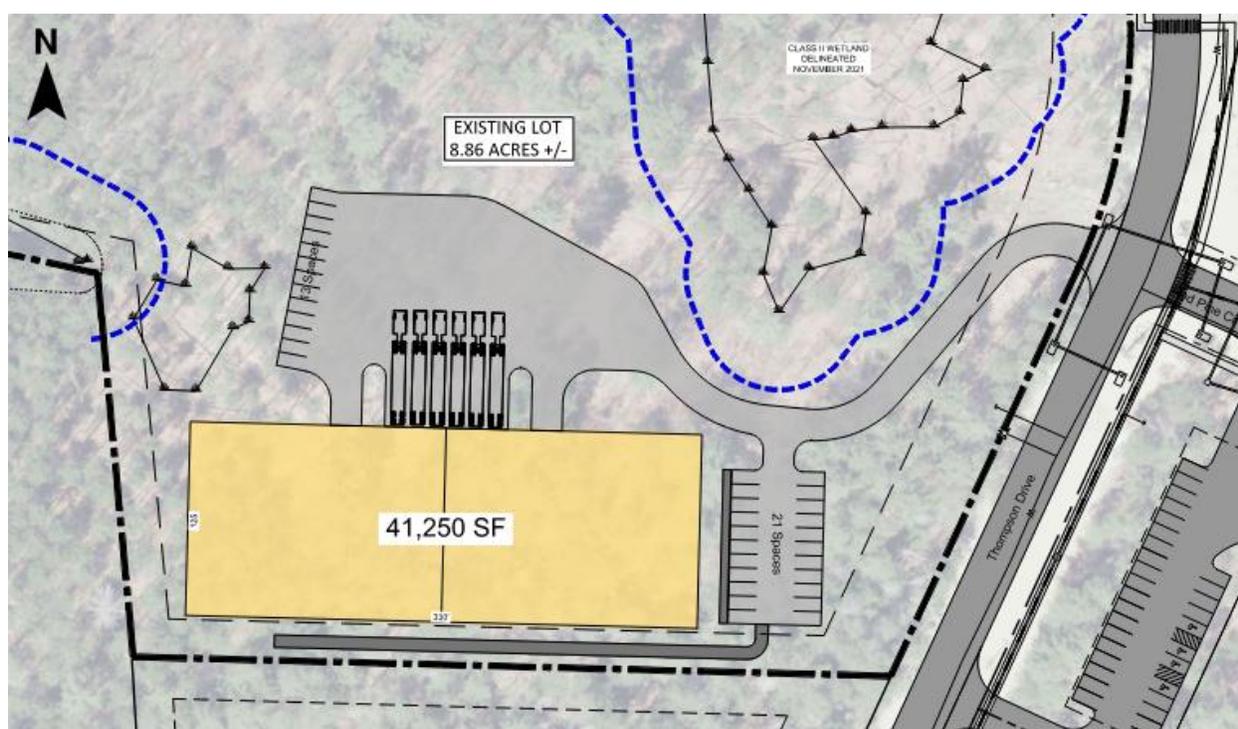
- As the site plans develop, the site design team should avoid low growing shrubs, plantings, signs, or other features that may impact sight lines at the stop-controlled intersections within the site and at the driveway intersection with Thompson Drive.

Based on the analysis conducted for this report, the proposed project is not expected to impact the condition or capacity of the affected roads and associated infrastructure. The proposed project will not cause or exacerbate any unreasonable congestion or unsafe conditions on the local roadway network and will not unnecessarily or unreasonably endanger the public's investment in any local roads, highways, or related infrastructure.

PROJECT PARAMETERS

Shenk Enterprises is proposing the construction of a 41,250 square foot industrial warehouse on an undeveloped 8.86 acre lot along Thompson Drive in Essex, VT. The site includes roughly 34 passenger vehicle parking spaces and six truck parking spaces / loading docks. Access to the site is proposed through a single driveway opposite Red Pine Circle roughly ½ mile east of Allen Martin Drive.

FIGURE 1: PROPOSED SITE (OBCA DATED 6/9/25)



Estimated Trip Generation

Trip generation refers to the number of vehicle trips originating at or destined for a particular land use development. Data from the Institute of Transportation Engineers (ITE) can be applied to estimate base vehicle trip generation associated with the proposed land uses. Base vehicle trips are the total estimated vehicle trips prior to any adjustments associated with internal

capture, pass-by, or transportation demand management (TDM) practices. For this proposed land use, adjustments to the base vehicle trip generation are not recommended.

The ITE Trip Generation Manual, 11th Edition, includes trip generation data for land use code (LUC) 130: Industrial Park, defined as:

An industrial park contains several individual industrial or related facilities. It is characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities. Some parks in the database have a large number of small businesses and others have one or two dominant industries.

The proposed warehouse at 55 Thompson Drive is consistent with the existing industrial park land uses along Thompson Drive. The existing Thompson Drive industrial park consists of roughly 493,000 square feet of manufacturing, service and warehouse facilities. The proposed warehouse expands on this existing industrial park.

Table 1 details the estimated base vehicle trip generation of the existing industrial park, overall proposed industrial park, and incremental net new trip generation of the proposed warehouse site. The information in Table 1 is based on observed trip generation data from surveyed sites from the ITE Trip Generation Manual, 11th edition.

TABLE 1: ESTIMATED BASE VEHICLE TRIP GENERATION OF THE PROPOSED SITE

55 Thompson Drive				AM Peak Hour			PM Peak Hour			Weekday
Existing Thompspon Drive Industrial Park				Base			Base			Base
ITE LUC	Description	Size	Unit	Enter	Exit	Total	Enter	Exit	Total	Total
130	Ex. Industrial Park	493.1	KSF	136	32	168	37	131	168	2152
Proposed Industrial Park (w/ 55 Thompson Dr)				Base			Base			Base
ITE LUC	Description	Size	Unit	Enter	Exit	Total	Enter	Exit	Total	Total
130	Prop. Industrial Park	534.4	KSF	147	35	182	40	142	182	2244
Net Trip Generation: 55 Thompson Dr Only				Base			Base			Base
ITE LUC	Description	Size	Unit	Enter	Exit	Total	Enter	Exit	Total	Total
130	55 Thompson Dr	41.25	KSF	11	3	14	3	11	14	92

METHODS observed the AM and PM peak hours of traffic at Allen Martin Drive & Thompson Drive intersection. After removing traffic associated with the mountain bike trailhead, we observed 136 AM and 131 PM peak hour trips, or roughly 20% fewer than the ITE estimated trip generation rate for LUC 130: Industrial Park. The estimated trip generation detailed in Table 1 is conservatively higher than the observed trip generation rate.

VTrans guidelines specify that a traffic study should be considered if the proposed development will generate 75 or more new peak hour trips.¹ The proposed project is estimated to generate 14 peak hour trips, significantly less than the VTrans threshold meriting further analysis.

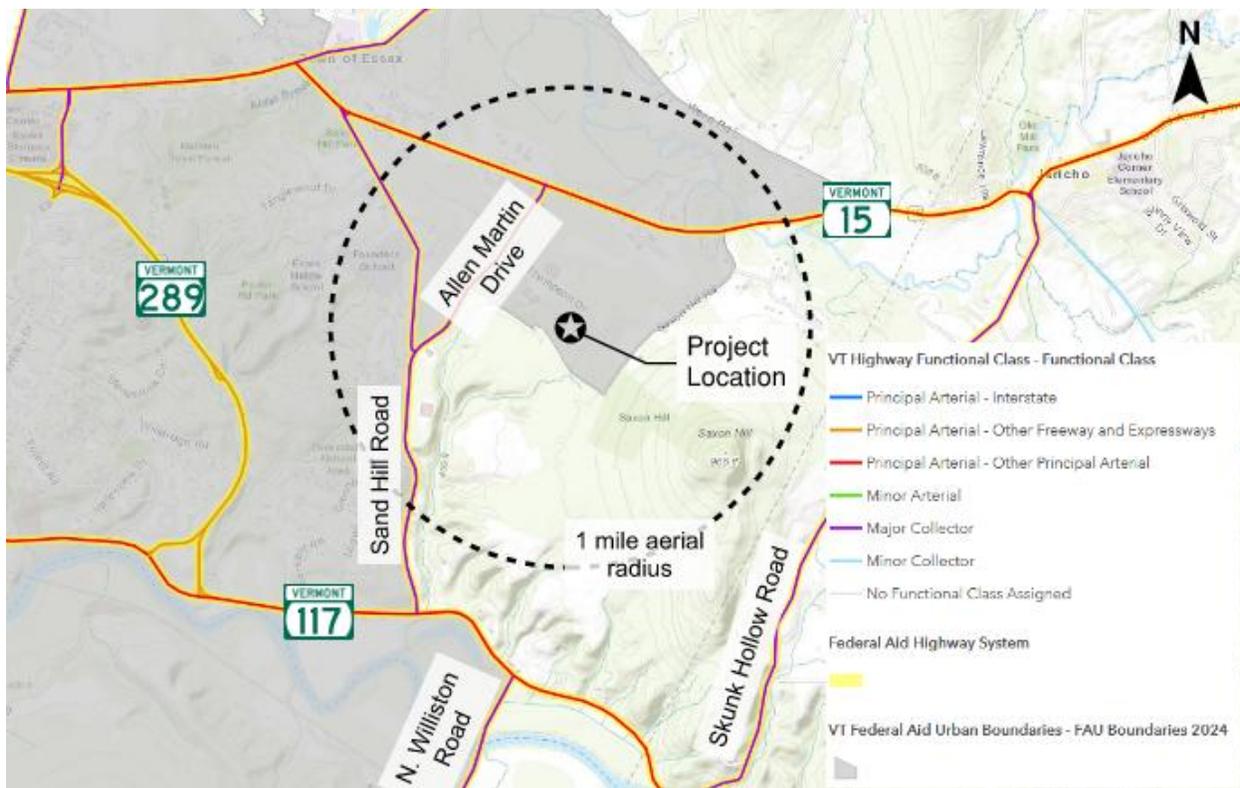
¹ Vermont Agency of Transportation, Policy and Planning Division, Development Review and Permitting Services, *Traffic Impact Study Guidelines* (April 2019).

EXISTING ROADWAY CONTEXT

Figure 2 illustrates the location of the proposed site relative to the local roadway network. Allen Martin Drive is on the federal aid highway system. The project site is within Burlington Federal Aid Urban Boundary.

The site is located within the Town of Essex resource preservation district – industrial (RPD-I) zoning district. The proposed warehouse development is an allowable use within the RPD-I district. The adjacent roadside development consists of similar industrial park land uses, sand and aggregate extraction, undeveloped conservation land, and a walk – bike trailhead and trail network. Existing businesses along Thompson Drive include Gordini USA, Autumn Harp, Performance Foodservice, and other tenants.

FIGURE 2: PUBLIC ROAD NETWORK RELATIVE TO THE PROPOSED PROJECT SITE



Existing Transportation Network

Vehicle access to the site is proposed via a new driveway access onto Thompson Drive serving the project site. The planned driveway is roughly 2,700 feet east of Allen Martin Drive opposite Red Pine Circle. The new driveway is 20 feet wide.

Thompson Drive is a Class 3 Town Highway (TH-777) classified as a local road with no outlet. Near the proposed driveway, Thompson Drive is uncurbed and roughly 30-feet wide with no centerline or fogline markings. There is a sidewalk along the east side of Thompson Drive, crossing to the west / south side of Thompson Drive as the road curves to the east

approximately 150 feet north of the proposed driveway location. The posted speed limit of Thompson Drive is 35 MPH.

Allen Martin Drive is a Class 2 Town Highway (TH-8) classified as a major collector (MJC 5404) connecting VT-15 in the north to VT-117 to the south via Sand Hill Road. Allen Martin Drive is uncurbed with a centerline marking and roughly 30-feet wide, consisting of one travel lane in each direction. There is a sidewalk on the east side of Allen Martin Drive. The posted speed limit of Allen Martin Drive is 35 MPH. Allen Martin Drive carried an estimated AADT volume of 2,715² vpd in 2024, based on a 6-day count from 2016.

Sand Hill Road is a Class 2 Town Highway (TH-4) classified as a major collector (MJC 5402) connecting VT-117 in the south to VT-15 to the north. South of Allen Martin Drive, Sand Hill Road is uncurbed with a centerline marking and roughly 30-feet wide, consisting of one travel lane in each direction. There are sidewalk segments along various points of the roadway. South of Allen Martin Drive the posted speed limit of Sand Hill Road is 35 MPH.

VT-15 (Jericho Road) is a state highway classified as a principal arterial (PA 030-1). At Allen Martin Drive, VT-15 consists of one eastbound right turn lane, one eastbound through lane, and one westbound shared left / through lane; Allen Martin Drive is stop controlled with separate left- and right-turn lanes. The posted speed limit of VT-15 is 40 MPH through Allen Martin Drive, increasing to 50 MPH roughly 2,000 feet east of Allen Martin Drive. East of Allen Martin Drive, VT-15 carried an estimated AADT volume of 8,840³ vpd in 2024, based on an 8-day count from 2023.

VT-117 (River Road) is a state highway classified as a principal arterial. The VT-117 & Sand Hill Road intersection is signalized, with one eastbound left turn lane, one eastbound through lane, and one westbound shared through / right turn lane; the southbound Sand Hill Road approach to VT-117 consists of one left turn lane and one right turn lane. The posted speed limit of VT-117 is 40 MPH, increasing to 45 MPH approximately 1,000-feet east of Sand Hill Road. VT-117 carried an estimated AADT of 9,755⁴ vpd in 2024.

I-89 Exit 11 is roughly 7 miles to the south via Sand Hill Road and VT-117, and I-89 Exit 17 is roughly 11 miles to the northwest, accessible via VT-15 to VT-289 to US-2.

Table 2 summarizes the available traffic data from the nearby road network. With a peak hour trip generation of 14 vehicles per hour, the additional traffic is less than the existing day-to-day variation in peak hour traffic volume experienced on the adjacent road network, indicating the traffic associated with the proposed project will not be noticeable.

² VTrans MS2 Transportation Data Management System ATR Site D548

³ VTrans MS2 Transportation Data Management System ATR Site D121

⁴ WCG count from June 2024, Act 250 4C0329-24 Exhibit 044

TABLE 2: SUMMARY OF AVAILABLE TRAFFIC DATA NEAR PROJECT AREA

	Allen Martin Drive	VT-15	VT-117
Count station ID	ATR D548	ATR D121	WCG Count
Location description	700 feet south of Thompson Drive	1.5 mile east of Allen Martin Drive	700 feet east of VT-117
Data Year	2016	2023	2024
Non-holiday weekday observation days	5	3	5
2024 AADT (vpd)	2,715	9,020	9,755
2024 DHV (vph)	521	961	1,100
%K (peak hour ratio)	19%	11%	11%
%D (directional ratio)	66%	60%	53%
Observed weekday peak hour volume range (vph)	350 – 419	844 – 908	971 – 1,107
Day to day variation in peak hour volume (vph)	69	64	136

vpd = vehicles per day; vph = vehicles per hour

Future Transportation Network

The Chittenden County Regional Planning Commission is currently studying the road network serving Thompson Drive including Allen Martin Drive, Sand Hill Road, and VT-15. The results of the forthcoming study may recommend potential roadway modifications near the TIS study area.

Transit Service

There is no fixed route transit service along Thompson Road or Allen Martin Drive near the project site. The nearest fixed route transit stop is at the Allen Martin Drive & Sand Hill Road intersection, roughly 1 mile from the site. The stop services Green Mountain Transit Route 10 Williston Essex Combo, offering a clockwise loop route along Sand Hill Road southbound to VT-117 westbound with 75-minute headways from 7 AM to 6 PM and reduced service on the weekend.

Crash Review

METHODS reviewed the most recent high crash location (HCL) report prepared by VTrans using 2012-2016 crash data. There are no state-designated high crash location segments or intersections within one mile of the project site.

METHODS reviewed reported crashes from 1 January 2020 through 31 December 2024 along Thompson Drive and Allen Martin Drive near the intersection with Thompson Drive.

- Along Thompson Drive, there was one reported property damage only (PDO) rear end crash roughly 1,000 feet northwest of the proposed project site driveway. There were no reported crashes within the stopping sight distance (250-feet) of the proposed driveway.
- Along Allen Martin Drive within the stopping sight distance (250-feet) of Thompson Drive there were no reported crashes. The nearest reported crashes were roughly 900 feet north of Thompson Drive (single vehicle PDO crash with a deer) and 1,000 feet south of Thompson Drive (single vehicle PDO crash related to snow).

With few crashes along and near Thompson Drive, there is no identified crash pattern or safety hazard. The proposed project will not cause or exacerbate an unsafe condition at this location.

TRAFFIC PROJECTIONS

This study relies upon design standards and analysis procedures documented in the Highway Capacity Manual 7th Edition,⁵ Trip Generation,⁶ A Policy on Geometric Design of Highways and Streets,⁷ Manual on Uniform Traffic Control Devices (MUTCD),⁸ and the Vermont Agency of Transportation Traffic Impact Study Guidelines,⁹ which are the generally accepted traffic analysis references relied upon by traffic engineering professionals and VTrans for projects of this type in Vermont.

With a peak hour trip generation of 14 new vehicle trips, the study area includes one intersection: Allen Martin Drive & Thompson Drive.

Traffic Volumes

In addition to the automatic traffic recorder data presented in Table 2, a turning movement count was conducted on June 13, 2024, at the Allen Martin Drive & Thompson Drive intersection.

Adjustments to Observed Volumes

METHODS applied the following adjustments to the observed traffic volumes:

⁵ National Academies of Sciences, Engineering, and Medicine. 2022. *Highway Capacity Manual 7th Edition: A Guide for Multimodal Mobility Analysis*. (Washington, DC: The National Academies Press, 2022).

⁶ Institute of Transportation Engineers, *Trip Generation 11th Edition* (Washington, D.C.: Institute of Transportation Engineers, 2021).

⁷ American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 7th Edition (Washington DC: AASHTO, 2018).

⁸ U.S. Department of Transportation Federal Highway Administration, *Manual on Uniform Traffic Control Devices for Streets and Highways*, 11th Edition, December 2023 (Washington, D.C.: FHWA, 2023).

⁹ Vermont Agency of Transportation *Traffic Impact Study Guidelines, Policy and Planning Division, Development Review and Permitting Services* (Revised April 2019)

- 1. Design Hour Volume (DHV) Adjustment.** Consistent with VTrans Guidelines, traffic analysis will be conducted with traffic volumes representing the 30th highest hour. From the VTrans TIS Guidelines:

Since it is impractical to design a highway for the highest volume encountered during the year, highway engineers have sought a compromise between capacity and cost. Thus, a highway is designed for the 30th highest hourly volume of the year, commonly known as the "Design Hour Volume" (DHV).

At Allen Martin Drive & Thompson Drive, the observed peak hour volume from the turning movement count exceeded the predicted DHV by poll group. For this reason, the observed peak hour volume was used as the 2024 design hour volume for analysis.

- 2. Annual Adjustment.** Consistent with VTrans Guidelines, traffic analyses should consider the base year (year in which the project is completed) and the planning year (base year plus five years). For this project, the base year is assumed to be 2027 and the planning year is 2032. VTrans recommends a growth rate of 7% over 20 years at sites across the state, or roughly 0.34% per year.

The total adjustments (documented in the attachments) to the observed volumes ranged from a low of 1.010 in the 2027 scenarios and 1.027 in the 2032 scenarios.

Other Development Volumes

The traffic volumes presented in the Transportation Impact Study for the proposed Saxon Hill Industrial Park Phase 2 project were included as Other Development Volumes in the 2027 and 2032 No Build scenarios.

No Build Scenario Volumes

The 2027 and 2032 adjusted design hour volumes are presented in the attachments. These figures represent the No Build scenario volumes.

Project Trip Generation, Classification, and Distribution

The estimated trip generation documented in Table 1 was distributed proportionally to the no build peak hour design volumes. Trip distribution figures are presented in the attachments.

Build Scenario Volumes

The distributed trip generation volumes were added to the 2027 and 2032 No Build Scenario volumes to represent the build condition traffic volumes, illustrated in the attachments.

CAPACITY ANALYSIS

Intersection capacity analyses were performed at the study area intersection using the adjusted peak hour traffic volumes. Analyses evaluated average control delay, level of service (LOS), and volume to capacity (v/c) ratios consistent with methodologies documented in the Highway Capacity Manual 7th Edition: A Guide for Multimodal Mobility Analysis (HCM7).

Level of Service Definition

Level of service (LOS) is a qualitative measure describing the operating conditions as perceived by motorists driving in a traffic stream. LOS is calculated using the procedures outlined in the HCM7. In addition to traffic volumes, key inputs include the number of lanes at each intersection, traffic control type (signalized or unsignalized), and the traffic signal timing plans, if applicable.

The HCM7 defines six qualitative grades to describe the level of service at an intersection. Level-of-service is based on the average control delay per vehicle; average control delay is a function of a gap acceptance model. Table 3 shows the various LOS grades and descriptions for unsignalized intersections. According to HCM procedures, an overall LOS cannot be calculated for two-way stop-controlled intersections because not all movements experience delay.

TABLE 3: LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LOS	CHARACTERISTICS	UNSIGNALIZED AVG. CONTROL DELAY (SEC)
A	Little or no delay	≤ 10.0
B	Short delays	10.1-15.0
C	Average delays	15.1-25.0
D	Long delays	25.1-35.0
E	Very long delays	35.1-50.0
F	Extreme delays	> 50.0

The VTrans policy on level of service is:

- Overall LOS C should be maintained for state-maintained highways and other streets accessing the state's facilities.
- Reduced LOS may be acceptable on a case-by-case basis when considering, at a minimum, current and future traffic volumes, delays, volume to capacity ratios, crash rates, and negative impacts resulting from improvements necessary to achieve LOS C.
- LOS D should be maintained for side roads with volumes exceeding 100 vehicles/hour for a single lane approach (150 vehicles/hour for a two-lane approach) at two-way stop-controlled intersections.

The estimated design hour volume of Thompson Drive is expected to exceed 100 vehicles per hour in the build condition; the VTrans LOS policy would be applicable at this location.

Volume to Capacity Ratio Definition

The volume-to-capacity ratio (v/c) represents the sufficiency of an approach leg to accommodate the vehicular demand. According to engineering practice:

“Volume-to-capacity (v/c) ratio reflects how closely a roadway is operating to its capacity. By definition, the volume of traffic using a roadway cannot exceed the roadway’s capacity... A v/c ratio that exceeds 1.0 indicates that more vehicles demand to use a roadway than can be accommodated... LOS F is assigned to a movement if its volume-to-capacity ratio exceeds 1.0, regardless of the control delay”¹⁰

As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a v/c ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing is expected.”¹¹

VTrans does not have a v/c policy. Typically, v/c is used as an alternative indicator of performance, with preferred values below 0.95.

Capacity and Performance Analysis

METHODS built a traffic model using Synchro version 12 for the 2027 and 2032 adjusted intersection volumes for the AM and PM peak hours in the No Build and Build scenarios. The resulting performance measures in 2032 are presented in Table 4. The results for 2027 are similar and included in the attachments.

The results of the traffic capacity analysis indicate:

- The average control delay for any movement or lane group is not expected to increase by more than one second between the no build and build scenarios.
- The existing intersections are operating well under capacity, with the largest estimated volume to capacity ratio in all scenarios estimated to be 0.20.
- All movements and lane groups are expected to operate at LOS B or better in all scenarios.
- The existing and proposed intersections are expected to continue to operate acceptably in the 2032 peak hour build scenarios.

TABLE 4: RESULTS OF INTERSECTION CAPACITY SENSITIVITY ANALYSIS USING THE 2032 NO BUILD AND BUILD SCENARIO VOLUMES

2032 Scenarios												
Intersections	Weekday AM Peak Hour						Weekday PM Peak Hour					
	No Build			Build			No Build			Build		
	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c
 Allen Martin Drive & Thompson Drive												
WB, along Thompson Drive	B	11	0.08	B	11	0.09	B	12	0.16	B	12	0.18
SB Left, along Allen Martin Drive	A	8	0.04	A	8	0.05	A	8	0.02	A	8	0.03

"LOS" is the level of service; "Delay" is the average control delay in seconds per vehicle;

"v/c" is the highest volume to capacity ratio in the lane group for the approach

¹⁰ Transportation Research Board, *Highway Capacity Manual, 7th Edition, 2022*

¹¹ Federal Highway Administration (FHWA), *Signalized Intersections: Informational Guide, 2004*

Turn Lane Analysis

METHODS conducted left- and right-turn lane warrant evaluations for the 2032 Build scenarios in the AM and PM peak hours for the Allen Martin Drive & Thompson Drive intersection. The warrant evaluations were conducted following standard practice outlined in the VTrans Transportation Impact Study Guidelines. The results of the 2032 turn lane warrant evaluation are summarized in Table 5. Neither left turn nor right turn lane volume warrants were met in either scenario.

TABLE 5: 2032 TURN LANE WARRANT EVALUATION AT THOMSPONS DRIVE ALONG ALLEN MARTIN DRIVE

	2032 AM Build	2032 PM Build
Allen Martin Drive & Thompson Drive		
Southbound Left Turn Lane Warrant Met?	No	No
Northbound Right Turn Lane Warrant Met?	No	No

The warranting volume is one consideration when evaluating installation of a left or right turn lane at a particular site. Other considerations should include the potential impacts a turn lane may have on bicycle and pedestrian travel, transit operations, crash history, and roadway context. A turn lane results in a wider roadway which increases pedestrian crossing distances and may increase vehicle traveling speeds.

Given the warranting volume and the existing corridor context with a single travel lane and few turn lanes in the area, neither a left turn lane nor a right turn lane is recommended into Thompson Drive from Allen Martin Drive.

BICYCLE, PEDESTRIAN, AND TRANSIT ACCESS

As an industrial warehouse land use, bicycle and pedestrian access to the site is not expected to be frequent. Similar to the adjacent industrial park land uses, the project does not include a sidewalk connection to existing sidewalk along Thomspson Drive. There is no dedicated bicycle infrastructure to, from, or within the site. The nearby Saxon Hill Trail system is a recreational trail network for mountain biking, walking, and other activities.

The nearest fixed route transit stop is roughly 1 mile west of the site at the Allen Martin Drive & Sand Hill Road intersection.

POTENTIAL MITIGATION CONSIDERATIONS

Town of Essex Impact Fee

The Town of Essex does not have a transportation impact fee. Recognizing the known and identified deficiencies at the nearby VT-15 & Allen Martin Drive intersection, the Town has been collecting impact fees from nearby projects to collect proportionate share contributions to fund capital infrastructure improvements. This fee has been recently applied along Thompson Drive,

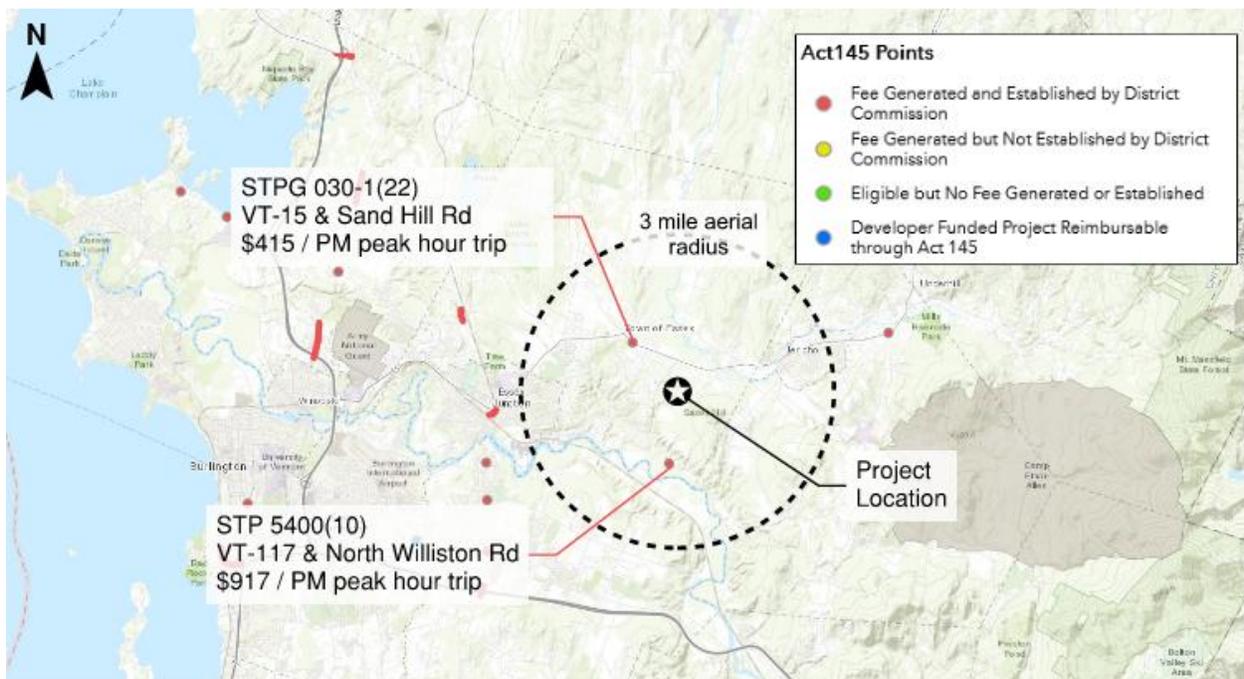
with previous fee estimates in 2016 equating to roughly \$200 per PM peak hour trip¹² through the VT-15 & Allen Martin Drive intersection. With 7 PM peak hour trips and an estimated inflation rate of 2% per year, the estimated proportionate share impact fee for improvements at VT-15 & Allen Martin Drive is:

$$= (7 \text{ PM peak hour trips}) \times (\$200 / \text{peak hour trip}) \times (1.02 \wedge [2027 - 2016]) = \$1,741$$

Statewide Act 145 Transportation Impact Fee

The statewide Act 145 Transportation Impact Fee is assessed through Act 250 land use permitting. There are two Act 145 impact fee generating projects within three road miles of the project site.

FIGURE 3: ACT 145 IMPACT FEE GENERATING PROJECTS WITHIN 3 MILES OF THE PROJECT SITE



Trip distribution of the fee-generating trips is illustrated in the attachments.

¹² Act 250 Land Use Permit 4C0329-21D Exhibit 017, *TRAFFIC IMPACT STUDY Thompson Drive Sand Extraction & Industrial Park*, page 10

TABLE 6: ESTIMATED ACT 145 FEE

Project	Fee Rate (\$ / PM Peak Hour Trip Ends)	PM Peak Hour Trip Ends through Fee Generating Project	Project Impact Fee
STPG 030-1(22) VT-15 & Sand Hill Road	\$415	3	\$1,245
STP 5400(10) VT-117 & North Williston Road	\$917	4	\$3,668
Total Act 145 Impact Fee			\$4,913

The estimated Act 145 Transportation Impact Fee is estimated to be \$4,913.

Roadway Infrastructure Mitigation

As demonstrated in the safety and capacity analysis, the proposed project is not expected to cause or worsen a safety issue or capacity constraint. Turn lanes along Allen Martin Drive are not warranted by volume or other criteria. The CCRPC is preparing a network transportation study near Thompson Drive, including the Allen Martin Drive intersections with VT-15 and Sand Hill Road. The project should contribute to applicable Act 145 transportation impact fees that may be established following completion of the CCRPC Saxon Hill Transportation Study, subject to adjustment according to the Town impact fee payment.

No further off-site roadway mitigation is recommended.

As the site plans develop, the site design team should avoid low growing shrubs, plantings, signs, or other features that may impact sight lines at the stop-controlled intersections within the site and at the access driveway intersection with Thompsom Drive.

ATTACHMENTS

Attachment A – Traffic Data Documentation

Attachment B – Crash Query Documentation

Attachment C – Scenario Traffic Volumes

Attachment D – Traffic Volume Worksheets

Attachment E – Synchro Capacity Analysis Worksheets

Attachment F – Turn Lane Warrant Worksheets

Attachment G – Act 145 Fee-Generating Trip Distribution

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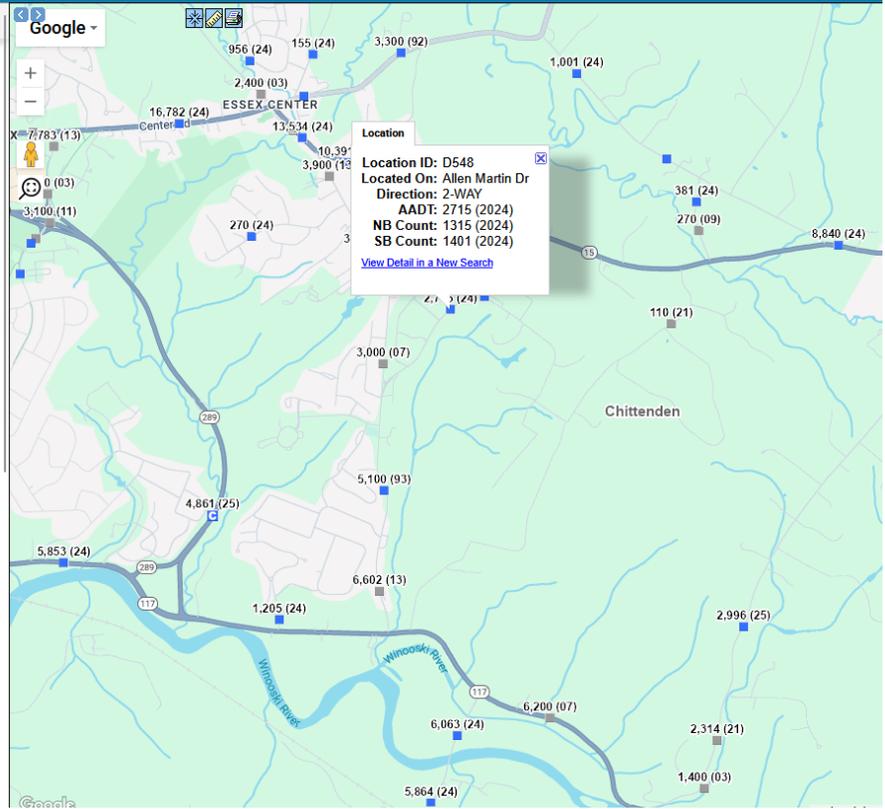
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Location ID	D548	MPO ID	
Type	SPOT	HPMS ID	
On NHS		On HPMS	
LRS ID	S5404	LRS Loc Pt	0.45
SF Group	3 (2025)	Route Type	
AF Group	U5 (2025)	Route	FAU5404
GF Group	2 (2025)	Active	Yes
Class Dist Grp	Non-Interstate (2016)	Category	CC 6
Seas Class Grp	U5 (2017)		
WIM Group			
QC Group	Default		
Functl Class	Major Collector - 5	Milepost	
Located On	Allen Martin Dr		
Loc On Alias	TH8		

More Detail

STATION DATA

Directions: 2-WAY NB SB



AADT

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2024	2,715 ³		15	66	2,483 (91%)	231 (9%)	Grown from 2023
2023	2,670 ³		15	66	2,442 (91%)	227 (9%)	Grown from 2022
2022	2,649 ³		15	66	2,423 (91%)	225 (8%)	Grown from 2021
2021	2,625 ³		15	66	2,401 (91%)	223 (8%)	Grown from 2020
2020	2,342 ³		15	66	2,142 (91%)	199 (8%)	Grown from 2019

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AADT

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2019	2,846 ³		15	66	2,603 (91%)	242 (9%)	Grown from 2018
2018	2,869 ³		15	66	2,624 (91%)	244 (9%)	Grown from 2017
2017	2,878 ³		15	66	2,632 (91%)	245 (9%)	Grown from 2016
2016	2,881	419	15	66	2,635 (91%)	245 (9%)	
2009	2,500						

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VOLUME COUNT

Date	Int	Total
Sun 7/17/2022	15	3,632
Sat 7/16/2022	15	1,501
Fri 7/15/2022	15	2,960
Thu 7/14/2022	15	3,475
Wed 7/13/2022	15	3,266
Tue 7/12/2022	15	2,640
Mon 7/11/2022	15	2,205
Mon 7/25/2016	15	3,433
Sun 7/24/2016	15	1,803
Sat 7/23/2016	15	1,936
Fri 7/22/2016	15	3,632
Thu 7/21/2016	15	3,721
Wed 7/20/2016	15	3,718
Sun 8/2/2009	60	1,624
Sat 8/1/2009	60	1,965
Fri 7/31/2009	60	3,157
Thu 7/30/2009	60	3,376
Wed 7/29/2009	60	3,357
Tue 6/12/2007	60	3,693
Mon 6/11/2007	60	3,622

2022 count dates have data inconsistencies: big drop on Saturday, largest number on Sunday, no directional data - DO NOT USE

Highest volume hour: 350 vph

Highest volume hour: 419 vph

Observed peak hour of turning movement counts:
 11/19/2024 AMD south of VT-15 = 521 vph
 11/12/2024 AMD north of Sand Hill = 450 vph
 6/13/2024 AMD north of Thompson = 440 vph
 6/13/2024 AMD south of Thompson = 432 vph

includes Corporate Dr north traffic

includes Blodgett traffic south

VTrans 2023 Redbook, Page 26

Predicted DHV by Seasonal Factor Group by AADT, 2023

AADT	Rural Interstate	Rural Non-Interstate	Urban	Summer Recreational	Summer/Winter Recreational	Summer/Winter Recreational TH
	SF1	SF2	SF3	SF4	SF5	SF6
2700	333	307	288	362	380	629
2800	345	319	299	375	394	652

Observed June TMC counts are higher than predicted DHV - use as DHV

Predicted DHV by Poll Group: 2715 AADT: 290 vph



Allen Martin Dr & Thompson Dr
Essex VT
6/13/2024
2nd Thursday

note: Source: CountCloud

	Eastbound												Westbound												Northbound												Southbound												Pedestrians				15 Min Total	Hour Total
	n/a						Thompson Dr						Allen Martin Dr						Allen Martin Dr						n/a																													
	EBL		EBT		EBR		WBL		WBT		WBR		NBL		NBT		NBR		SBL		SBT		SBR		PNWR	PNEL	PSWR	PNWL																										
	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	PSWL	PSEB	PSEL	PNER																										
6:00 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	7	0	7	0	12	0	9	0	0	0	0	0	0	0	0	0	38																								
6:15 AM	0	0	0	0	0	2	1	0	0	2	2	0	0	7	0	9	2	16	0	22	0	0	0	0	2	0	0	0	63																									
6:30 AM	0	0	0	0	0	4	0	0	0	5	0	0	0	13	0	18	1	22	1	31	1	0	0	0	2	0	0	96																										
6:45 AM	0	0	0	0	0	4	0	0	0	5	0	0	0	15	0	19	0	20	1	35	1	0	0	0	0	0	0	100	297																									
7:00 AM	0	0	0	0	0	15	0	0	0	16	0	0	0	13	1	5	1	15	0	49	0	0	0	0	3	0	0	115	374																									
7:15 AM	0	0	0	0	0	1	0	0	0	9	0	0	0	38	1	7	2	9	0	57	0	0	0	0	0	0	0	124	435																									
7:30 AM	0	0	0	0	0	1	1	0	0	1	0	0	0	26	0	14	0	13	0	61	1	0	0	0	2	0	0	118	457																									
7:45 AM	0	0	0	0	0	1	1	0	0	5	0	0	0	25	2	12	0	19	1	42	3	0	0	0	1	0	0	111	488																									
8:00 AM	0	0	0	0	0	2	0	0	0	1	0	0	0	18	1	13	0	18	1	55	2	0	0	0	1	0	0	111	464																									
8:15 AM	0	0	0	0	0	1	1	0	0	1	0	0	0	21	1	8	2	9	0	43	2	0	0	0	1	0	0	89	429																									
8:30 AM	0	0	0	0	0	6	0	0	0	3	1	0	0	25	1	14	1	11	1	31	2	0	0	0	0	0	0	96	407																									
8:45 AM	0	0	0	0	0	3	2	0	0	5	1	0	0	23	1	10	1	12	1	32	0	0	0	0	2	0	0	91	387																									
9:00 AM	0	0	0	0	0	2	1	0	0	3	1	0	0	17	0	6	1	14	1	33	2	0	0	0	0	0	0	81	357																									
9:15 AM	0	0	0	0	0	3	1	0	0	2	1	0	0	16	0	4	0	10	2	17	2	0	0	0	0	0	0	58	326																									
9:30 AM	0	0	0	0	0	3	0	0	0	3	0	0	0	10	1	2	0	1	1	19	0	0	0	0	2	0	0	40	270																									
9:45 AM	0	0	0	0	0	3	1	0	0	4	2	0	0	18	0	5	1	5	2	20	0	0	0	0	0	0	0	61	240																									
10:00 AM	0	0	0	0	0	1	0	0	0	7	1	0	0	17	0	3	0	5	3	21	0	0	0	0	1	0	0	56	217																									
10:15 AM	0	0	0	0	0	2	0	0	0	6	2	0	0	9	0	3	0	5	3	18	2	0	0	0	1	0	0	56	209																									
10:30 AM	0	0	0	0	0	2	0	0	0	4	2	0	0	17	2	3	0	9	1	13	0	0	0	0	1	0	0	53	222																									
10:45 AM	0	0	0	0	0	1	0	0	0	5	1	0	0	8	0	2	1	6	0	17	1	0	0	0	0	0	0	42	203																									
11:00 AM	0	0	0	0	0	4	1	0	0	7	4	0	0	16	1	7	1	1	1	21	0	0	0	0	0	0	0	64	209																									
11:15 AM	0	0	0	0	0	7	0	0	0	6	0	0	0	11	0	3	0	5	1	14	0	0	0	0	0	0	0	47	206																									
11:30 AM	0	0	0	0	0	7	0	0	0	10	2	0	0	17	0	4	0	9	2	19	1	0	0	0	1	0	0	71	224																									
11:45 AM	0	0	0	0	0	6	0	0	0	7	2	0	0	34	0	5	1	8	0	19	0	0	0	0	0	0	0	82	264																									
12:00 PM	0	0	0	0	0	7	0	0	0	14	0	0	0	28	0	3	0	6	2	35	2	0	0	0	1	0	0	97	297																									
12:15 PM	0	0	0	0	0	6	0	0	0	9	0	0	0	15	5	5	1	7	1	26	0	0	0	0	0	0	0	70	320																									
12:30 PM	0	0	0	0	0	5	0	0	0	10	2	0	0	16	0	6	0	11	3	27	1	0	0	0	0	0	0	81	330																									
12:45 PM	0	0	0	0	0	3	0	0	0	9	1	0	0	12	0	5	5	6	1	21	1	0	0	0	0	0	0	64	312																									
1:00 PM	0	0	0	0	0	3	0	0	0	9	1	0	0	14	1	2	1	11	1	10	1	0	0	0	0	0	0	54	269																									
1:15 PM	0	0	0	0	0	6	1	0	0	5	0	0	0	23	1	3	1	6	0	11	2	0	0	0	0	0	0	59	258																									
1:30 PM	0	0	0	0	0	4	2	0	0	3	1	0	0	23	0	7	2	9	2	14	0	0	0	0	0	0	0	67	244																									
1:45 PM	0	0	0	0	0	3	0	0	0	12	2	0	0	16	1	2	0	7	1	15	1	0	0	0	0	0	0	60	240																									
2:00 PM	0	0	0	0	0	8	0	0	0	9	1	0	0	32	0	5	4	4	5	20	1	0	0	0	1	0	0	90	276																									
2:15 PM	0	0	0	0	0	3	0	0	0	10	3	0	0	30	0	2	1	2	1	19	2	0	0	0	0	0	0	73	290																									
2:30 PM	0	0	0	0	0	6	1	0	0	7	2	0	0	42	1	1	1	3	2	14	0	0	0	0	0	0	0	80	303																									
2:45 PM	0	0	0	0	0	8	1	0	0	6	1	0	0	36	1	1	0	2	0	26	1	0	0	0	0	0	0	83	326																									
3:00 PM	0	0	0	0	0	10	0	0	0	9	0	0	0	34	3	4	0	2	0	17	1	0	0	0	1	0	0	80	316																									
3:15 PM	0	0	0	0	0	10	2	0	0	12	1	0	0	38	0	3	1	6	0	38	0	0	0	0	0	0	0	111	354																									
3:30 PM	0	0	0	0	0	11	0	0	0	13	0	0	0	79	1	2	0	10	1	28	1	0	0	0	0	0	0	146	420																									
3:45 PM	0	0	0	0	0	15	0	0	0	1	0	0	0	60	2	5	0	6	0	41	1	0	0	0	3	0	0	128	465																									
4:00 PM	0	0	0	0	0	11	0	0	0	12	0	0	0	49	4	6	0	4	1	33	0	0	0	0	0	0	0	120	505																									
4:15 PM	0	0	0	0	0	14	1	0	0	14	0	0	0	47	0	3	0	4	3	26	0	0	0	0	4	0	0	112	506																									
4:30 PM	0	0	0	0	0	15	0	0	0	11	0	0	0	46	1	6	0	4	0	39	0	0	0	0	0	0	0	122	482																									
4:45 PM	0	0	0	0	0	13	0	0	0	17	0	0	0	41	0	4	0	6	0	42	2	0	0	0	0	0	0	125	479																									
5:00 PM	0	0	0	0	0	15	0	0	0	25	0	0	0	45	0	11	1	6	1	34	0	0	0	0	0	0	0	138	497																									
5:15 PM	0	0	0	0	0	12	0	0	0	5	0	0	0	41	1	3	0	5	0	29	0	0	0	0	0	0	0	96	481																									
5:30 PM	0	0	0	0	0	11	1	0	0	14	0	0	0	33	0	2	1	6	0	29	0	0	0	0	0	0	0	97	456																									
5:45 PM	0	0	0	0	0	5	0	0	0	10	1	0	0	30	0	11	0	4	0	22	0	0	0	0	0	0	0	83	414																									
6:00 PM	0	0	0	0	0	2	0	0	0	5	0	0	0	46	0	6	0	6	1	23	0	0	0	0	1	0	0	89	365																									
6:15 PM	0	0	0	0	0	6	0	0	0	8	1	0	0	20	0	8	0	9	0	23	0	0	0	0	0	0	0	75	344																									
6:30 PM	0	0	0	0	0	8	0	0	0	6	0	0	0	32	0	12	1	12	0	18	0	0	0	0	1	0	0	89	336																									
6:45 PM	0	0	0	0	0	5	0	0	0	10	0	0	0	18	0	1	1	4	1	10	0	0	0	0	0	0	0	50	303																									

AM (6AM-12PM) Peak

PM (12PM-6PM) Peak

468

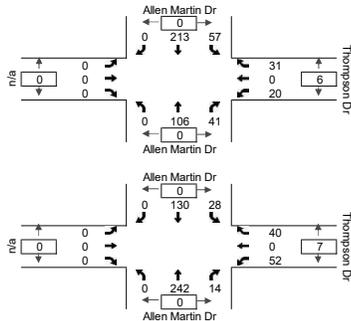
506

AM Peak Hour

Allen Martin Dr & Thompson
Essex VT
6/13/2024
2nd Thursday

Volumes

	EB	WB	NB	SB
L	0	20	0	57
T	0	0	106	213
R	0	31	41	0
Enter	0	51	147	270
Exit	98	0	137	233
Heavy	3.9%	4.8%	1.9%	3.0%
Peds	0	6	0	0
PHF	0.94			
Peak Hour	7:00 AM - 8:00 AM			



PHF

	EB	WB	NB	SB
L	1.00	1.00	1.00	1.00
T	1.00	1.00	0.68	0.93
R	1.00	0.86	1.00	1.00
Aprpr	1.00	1.00	0.77	1.00
Int		0.94		

Heavy

	EB	WB	NB	SB
L	10.0%	0.0%	1.8%	1.8%
T		3.8%	1.9%	
R	0.0%	7.3%		
Aprpr	3.9%	4.8%	1.9%	3.0%
Int		3.0%		

PM Peak Hour

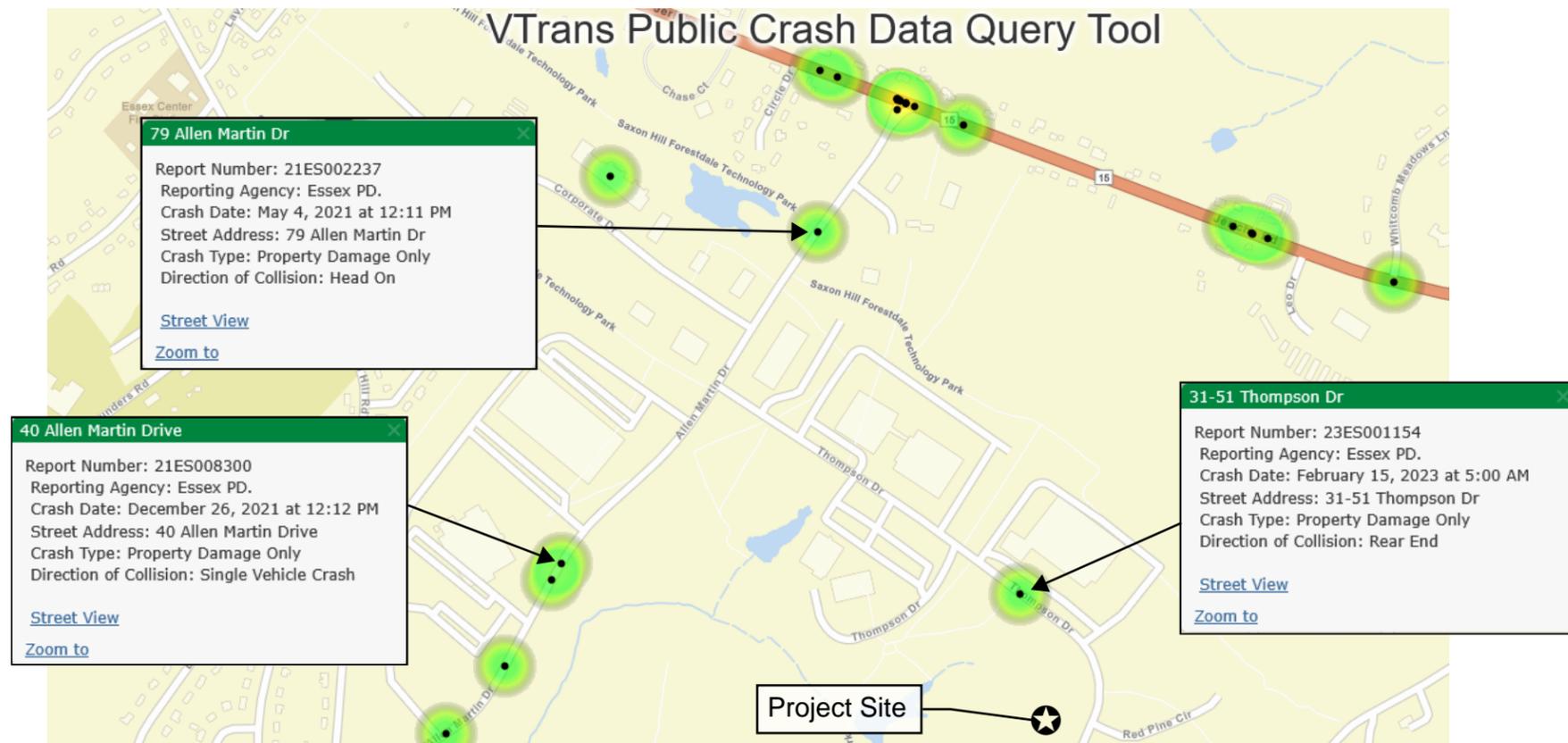
Allen Martin Dr & Thompson
Essex VT
6/13/2024
2nd Thursday

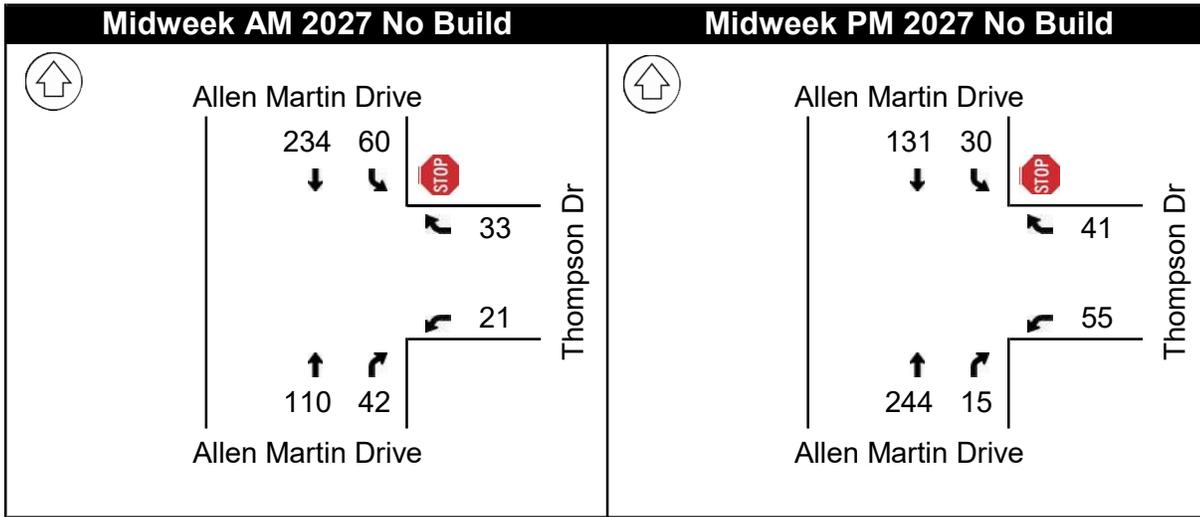
Volumes

	EB
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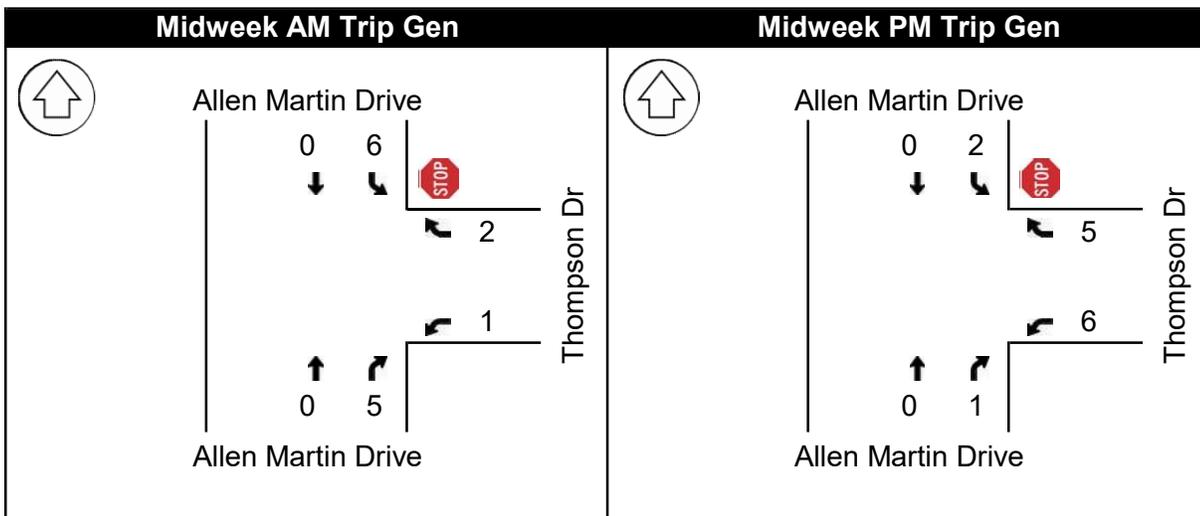
ObjectID	Mapped	Crash Date	City/Town	Address	AOT Route	Crash Type	Collision Direction	Weather	Road Group	Report Number	Reporting Agency	Road Group ID	AOT Actual Milepoint	Animal
7166194		February 15, 2023 at 5:00 AM	Essex	31-51 Thompson Dr	THOMPSON DR	Property Damage Only	Rear End	Clear	City, Village or Urban Compact Street not in FA Urban Area (Class 2 and 3 Non-Federal Aid)	23ES001154	Essex PD.	6	999.99	None/Other
6207164		December 26, 2021 at 12:12 PM	Essex	40 Allen Martin Drive	ALLEN MARTIN RD.	Property Damage Only	Single Vehicle Crash	Cloudy	Federal Aid Urban System (Class 2 TH's and 3 TH's only)	21ES008300	Essex PD.	2	0.34	None/Other
5925278		May 4, 2021 at 12:11 PM	Essex	79 Allen Martin Dr	ALLEN MARTIN RD.	Property Damage Only	Head On	Cloudy	Federal Aid Urban System (Class 2 TH's and 3 TH's only)	21ES002237	Essex PD.	2	0.77	Deer

ObjectID	Time of Day	Intersection With	Impairment	Involving	Non Reportable Address	Reporting Agency ID	Road Characteristics	Road Condition	Street Address	Surface Condition	AOT Route ID	Coordinates
7166194	Night	Allen Martin Road	None	Heavy Truck		VT0040200	Not at a Junction	None	31-51 Thompson Dr	Dry	0000	44.49763426269476,-73.03615145237292
6207164	Day	Sand Hill Road	None	None		VT0040200	Not at a Junction	Road Surface Condition(wet, icy, snow, slush, etc)	40 Allen Martin Drive	Slush	U5404	44.49806943910396,-73.04519838743177
5925278	Day	Oliver Wight Dr	None	None		VT0040200	Not at a Junction	Unknown	79 Allen Martin Dr	Dry	U5404	44.50271598059905,-73.04014693111428

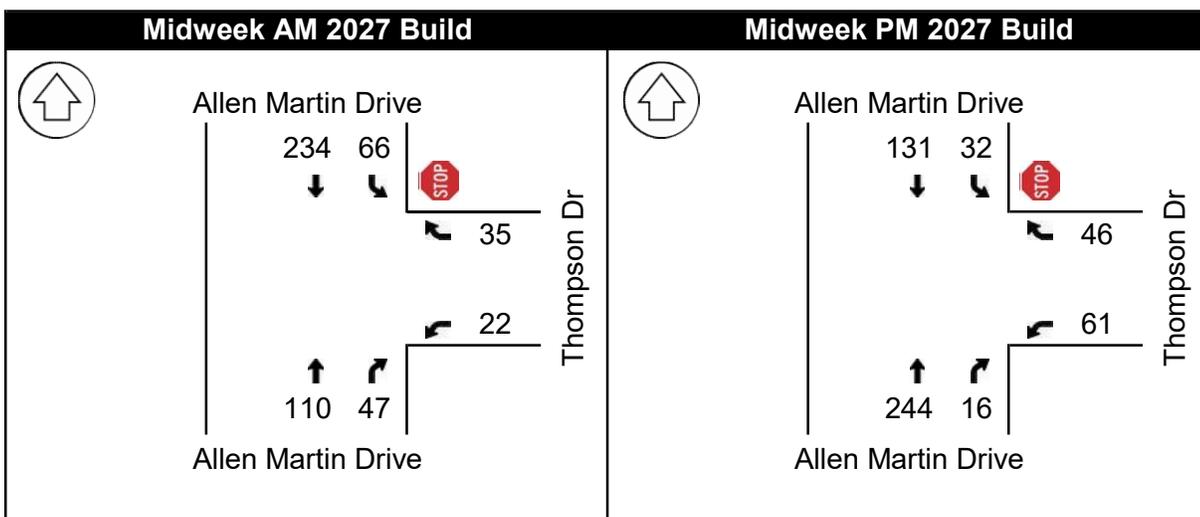




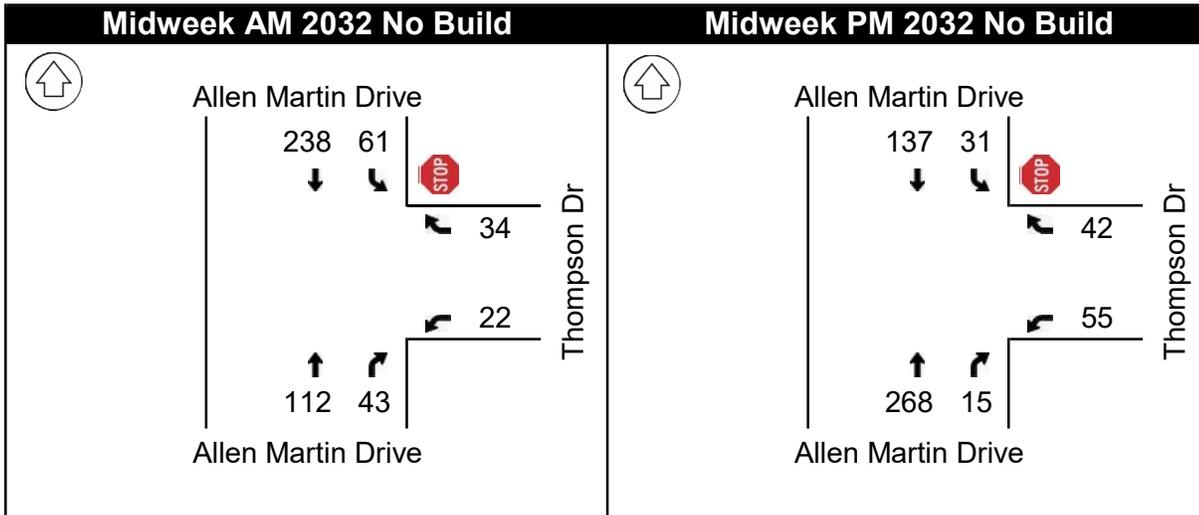
Schematic drawing; not to scale; values rounded to nearest whole number



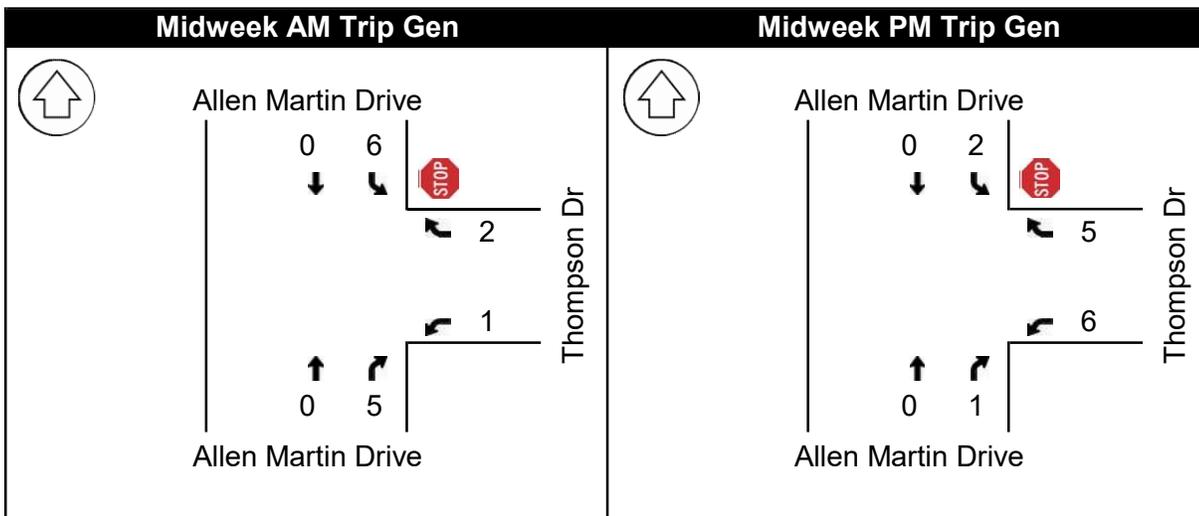
Schematic drawing; not to scale; values rounded to nearest whole number



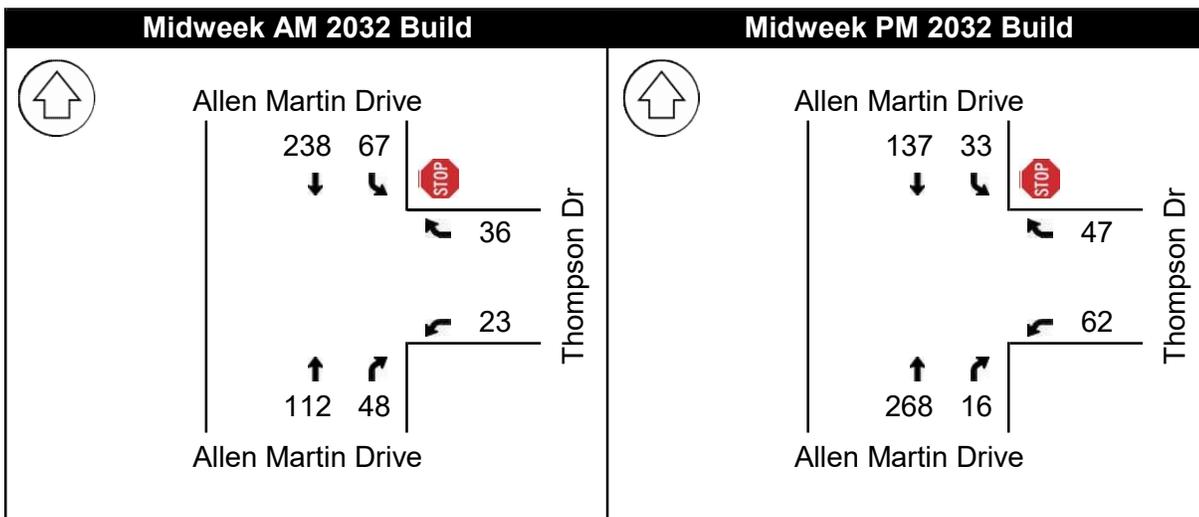
Schematic drawing; not to scale; values rounded to nearest whole number



Schematic drawing; not to scale; values rounded to nearest whole number



Schematic drawing; not to scale; values rounded to nearest whole number



Schematic drawing; not to scale; values rounded to nearest whole number

AM

10/27/25 03:46 PM

Raw Count Data

DHV & Annual Adjustments (3) to 2027

Apply Adjustments

Adjusted Raw Counts 2027

ODVs SHIP P2

ODVs Permitted Sand Pit

Synchro Node

5 Allen Martin Dr & Thompson Dr
Essex VT
6/13/2024
2nd Thursday

	EB	WB	NB	SB	
L	0	20	0	57	
T	0	0	106	213	
R	0	31	41	0	468
Enter	0	51	147	270	468
Exit	98	0	137	233	468
Heavy		4%	5%	2%	0
Peds	0	6	0	0	PHF
Peak Hour	7:00 AM - 8:00 AM				0.94

1.01 (From PM Peak)

- 1 = Apply Adjustment 1
- 2 = Apply Adjustment 2
- 3 = Apply Adjustment 3

	EB	WB	NB	SB
L	3	3	3	3
T	3	3	3	3
R	3	3	3	3

	EB	WB	NB	SB	
L	0	20	0	58	
T	0	0	107	215	
R	0	31	41	0	473
Enter	0	52	148	273	473
Exit	99	0	138	235	473

	EB	WB	NB	SB	
L	0	0	0	0	
T	0	0	2	19	
R	0	0	0	0	21
Enter	0	0	2	19	21
Exit	0	0	2	19	21

3 AM Peak Hour Trips
See 7/8/25 WCG Email from B. Currier

	Enter	Exit
Total	3	3

	EB	WB	NB	SB	
L		1		2	
T					
R		2	1		6
Enter	0	3	1	2	6
Exit	3	0	2	1	6

PM

10/27/25 03:46 PM

Raw Count Data

DHV & Annual Adjustments (3) to 2027

Apply Adjustments

Adjusted Raw Counts 2027

ODVs SHIP P2

ODVs Permitted Sand Pit

Synchro Node

3 Allen Martin Dr & Thompson Dr
Essex VT
6/13/2024
2nd Thursday

	EB	WB	NB	SB	
L	0	52	0	28	
T	0	0	242	130	
R	0	40	14	0	506
Enter	0	92	256	158	506
Exit	42	0	282	182	506
Heavy		1.1%	3.1%	5.1%	3.4%
Peds	0	7	0	0	PHF
Peak Hour	3:30 PM - 4:30 PM				0.87

DHV Calculations		Growth Rate	1.0034
ATR Station		DHV Year	2024
Method		Analysis Year	2027
DHV		2024-2027 Growth	1.01
Corr. Count		Growth rate from	2023 Redbook
DHV Adjustment	1.00		
Total Adjustment	1.010		

- 1 = Apply Adjustment 1
- 2 = Apply Adjustment 2
- 3 = Apply Adjustment 3

	EB	WB	NB	SB
L	3	3	3	3
T	3	3	3	3
R	3	3	3	3

	EB	WB	NB	SB	
L	0	53	0	28	
T	0	0	244	131	
R	0	40	14	0	511
Enter	0	93	259	160	511
Exit	42	0	285	184	511

	EB	WB	NB	SB	
L	0	0	0	0	
T	0	0	19	4	
R	0	0	0	0	23
Enter	0	0	19	4	23
Exit	0	0	19	4	23

3 PM peak hour trips
See 7/8/25 WCG Email from B. Currier

	Enter	Exit
Total	3	3

	EB	WB	NB	SB	
L		2		2	
T					
R		1	1		6
Enter	0	3	1	2	6
Exit	3	0	1	2	6

AM

No Build 2027

	EB	WB	NB	SB	
L	0	21	0	60	
T	0	0	110	234	
R	0	33	42	0	500
Enter	0	55	152	294	500
Exit	102	0	143	255	500

Trip Generation (Passenger Cars)

	Enter	Exit	
Total	11	3	14

	EB	WB	NB	SB	
L		1		6	
T					
R		2	5		14
Enter	0	3	5	6	14
Exit	11	0	2	1	14

Build 2027

	EB	WB	NB	SB	
L	0	22	0	66	
T	0	0	110	234	
R	0	35	47	0	514
Enter	0	58	157	300	514
Exit	113	0	145	256	514

Annual Adjustment 2032

1	1.00
2	1.00
3	1.02

No Build 2032

	EB	WB	NB	SB	
L	0	22	0	61	
T	0	0	112	238	
R	0	34	43	0	510
Enter	0	56	155	299	510
Exit	104	0	146	260	510

Build 2032

	EB	WB	NB	SB	
L	0	23	0	67	
T	0	0	112	238	
R	0	36	48	0	524
Enter	0	59	160	306	524
Exit	115	0	148	261	524

PM

No Build 2027

	EB	WB	NB	SB	
L	0	55	0	30	
T	0	0	244	131	
R	0	41	15	0	517
Enter	0	96	260	162	517
Exit	45	0	286	186	517

Trip Generation (Passenger Cars)

	Enter	Exit	
Total	3	11	14

	EB	WB	NB	SB	
L		6		2	
T					
R		5	1		14
Enter	0	11	1	2	14
Exit	3	0	5	6	14

Build 2027

	EB	WB	NB	SB	
L	0	61	0	32	
T	0	0	244	131	
R	0	46	16	0	531
Enter	0	107	261	164	531
Exit	48	0	291	192	531

Annual Adjustment 2032

1	1.017
2	1.017
3	1.017

No Build 2032

	EB	WB	NB	SB	
L	0	55	0	31	
T	0	0	268	137	
R	0	42	15	0	549
Enter	0	98	283	168	549
Exit	46	0	310	193	549

Build 2032

	EB	WB	NB	SB	
L	0	62	0	33	
T	0	0	268	137	
R	0	47	16	0	563
Enter	0	109	284	170	563
Exit	49	0	315	199	563

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	21	33	110	42	60	234
Future Vol, veh/h	21	33	110	42	60	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	33	110	42	60	234

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	485	131	0	0	152	0
Stage 1	131	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	541	919	-	-	1429	-
Stage 1	895	-	-	-	-	-
Stage 2	710	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	515	919	-	-	1429	-
Mov Cap-2 Maneuver	515	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.54	0	1.56
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	704	367
HCM Lane V/C Ratio	-	-	0.077	0.042
HCM Ctrl Dly (s/v)	-	-	10.5	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	22	35	110	47	66	234
Future Vol, veh/h	22	35	110	47	66	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	35	110	47	66	234

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	500	134	0	0	157
Stage 1	134	-	-	-	-
Stage 2	366	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	531	916	-	-	1423
Stage 1	893	-	-	-	-
Stage 2	702	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	502	916	-	-	1423
Mov Cap-2 Maneuver	502	-	-	-	-
Stage 1	893	-	-	-	-
Stage 2	664	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.64	0	1.68
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	695	396
HCM Lane V/C Ratio	-	-	0.082	0.046
HCM Ctrl Dly (s/v)	-	-	10.6	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	55	41	244	15	30	131
Future Vol, veh/h	55	41	244	15	30	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	41	244	15	30	131

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	443	252	0	0	259	0
Stage 1	252	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	573	787	-	-	1306	-
Stage 1	790	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	558	787	-	-	1306	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.65	0	1.46
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	638	335
HCM Lane V/C Ratio	-	-	0.151	0.023
HCM Ctrl Dly (s/v)	-	-	11.6	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	61	46	244	16	32	131
Future Vol, veh/h	61	46	244	16	32	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	46	244	16	32	131

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	447	252	0	0	260
Stage 1	252	-	-	-	-
Stage 2	195	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	569	787	-	-	1304
Stage 1	790	-	-	-	-
Stage 2	838	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	554	787	-	-	1304
Mov Cap-2 Maneuver	554	-	-	-	-
Stage 1	790	-	-	-	-
Stage 2	816	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.82	0	1.54
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	635	353
HCM Lane V/C Ratio	-	-	0.169	0.025
HCM Ctrl Dly (s/v)	-	-	11.8	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	22	34	112	43	61	238
Future Vol, veh/h	22	34	112	43	61	238
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	34	112	43	61	238

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	494	134	0	0	155
Stage 1	134	-	-	-	-
Stage 2	360	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	535	916	-	-	1425
Stage 1	893	-	-	-	-
Stage 2	706	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	509	916	-	-	1425
Mov Cap-2 Maneuver	509	-	-	-	-
Stage 1	893	-	-	-	-
Stage 2	671	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.62	0	1.56
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	697	367
HCM Lane V/C Ratio	-	-	0.08	0.043
HCM Ctrl Dly (s/v)	-	-	10.6	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	23	36	112	48	67	238
Future Vol, veh/h	23	36	112	48	67	238
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	36	112	48	67	238

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	508	136	0	0	160
Stage 1	136	-	-	-	-
Stage 2	372	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	525	913	-	-	1419
Stage 1	890	-	-	-	-
Stage 2	697	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	496	913	-	-	1419
Mov Cap-2 Maneuver	496	-	-	-	-
Stage 1	890	-	-	-	-
Stage 2	659	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.73	0	1.68
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	688	395
HCM Lane V/C Ratio	-	-	0.086	0.047
HCM Ctrl Dly (s/v)	-	-	10.7	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	55	42	268	15	31	137
Future Vol, veh/h	55	42	268	15	31	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	42	268	15	31	137

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	475	276	0	0	283
Stage 1	276	-	-	-	-
Stage 2	199	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	549	763	-	-	1279
Stage 1	771	-	-	-	-
Stage 2	835	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	534	763	-	-	1279
Mov Cap-2 Maneuver	534	-	-	-	-
Stage 1	771	-	-	-	-
Stage 2	813	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.96	0	1.45
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	614	332
HCM Lane V/C Ratio	-	-	0.158	0.024
HCM Ctrl Dly (s/v)	-	-	12	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	62	47	268	16	33	137
Future Vol, veh/h	62	47	268	16	33	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	47	268	16	33	137

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	479	276	0	0	284
Stage 1	276	-	-	-	-
Stage 2	203	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	545	763	-	-	1278
Stage 1	771	-	-	-	-
Stage 2	831	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	530	763	-	-	1278
Mov Cap-2 Maneuver	530	-	-	-	-
Stage 1	771	-	-	-	-
Stage 2	808	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.18	0	1.53
HCM LOS	B		

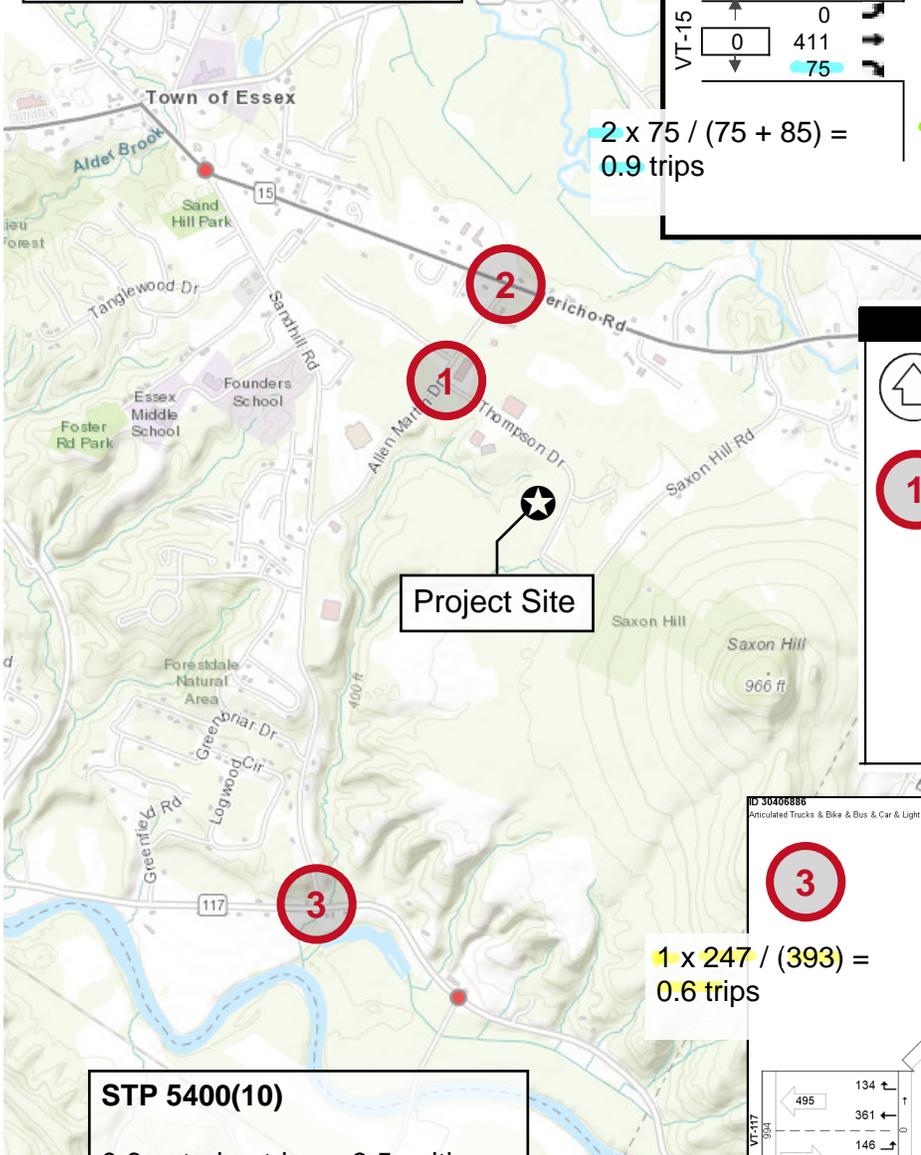
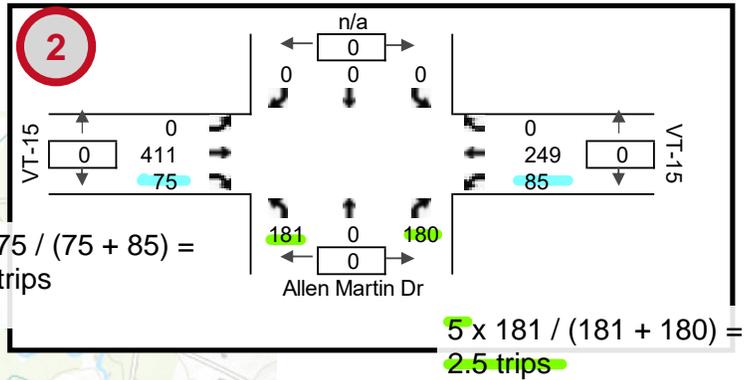
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	610	349
HCM Lane V/C Ratio	-	-	0.179	0.026
HCM Ctrl Dly (s/v)	-	-	12.2	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1

STPG 030-1(22)

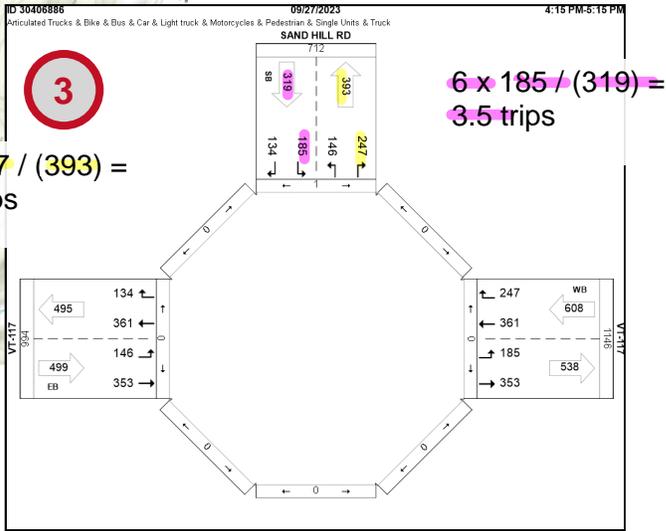
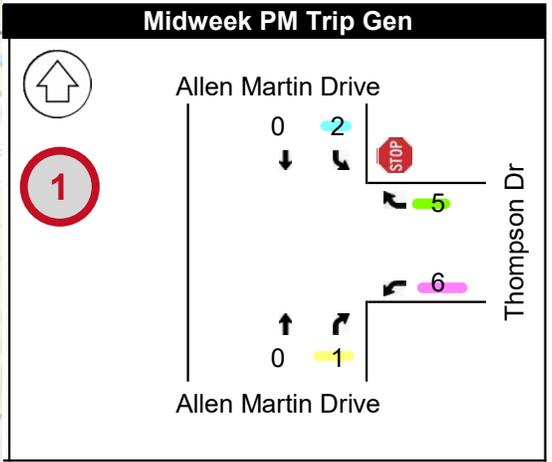
0.9 entering trips + 2.5 exiting trips = 3.4 trips round down to 3

3 trips x \$415 / PM trip = \$1,245

From 4C0329-24 Exhibit 148, page 45



Project Site



STP 5400(10)

0.6 entering trips + 3.5 exiting trips = 4.1 trips round down to 4

4 trips x \$917 / PM trip = \$3,668

decimal trips rounded down to nearest whole number at fee-generating project per policy



Act 145 Fee-Generating Trip Distribution

55 Thompson Drive TIS - Essex VT



DATE:	10/27/2025
PROJECT:	25-202
Figure G1	