Lower Sand Hill Road Truck Traffic Study
Project Summary Meeting – 11/13/2025

Agenda

1. Project Area and Context
2. Public Input Received
3. Recommendations to Address Public Concerns
4. Network Conditions & Analysis
5. Recommendations to Improve Network
6. Questions/Answers/Feedback
7. Next Steps

Project Area & Context

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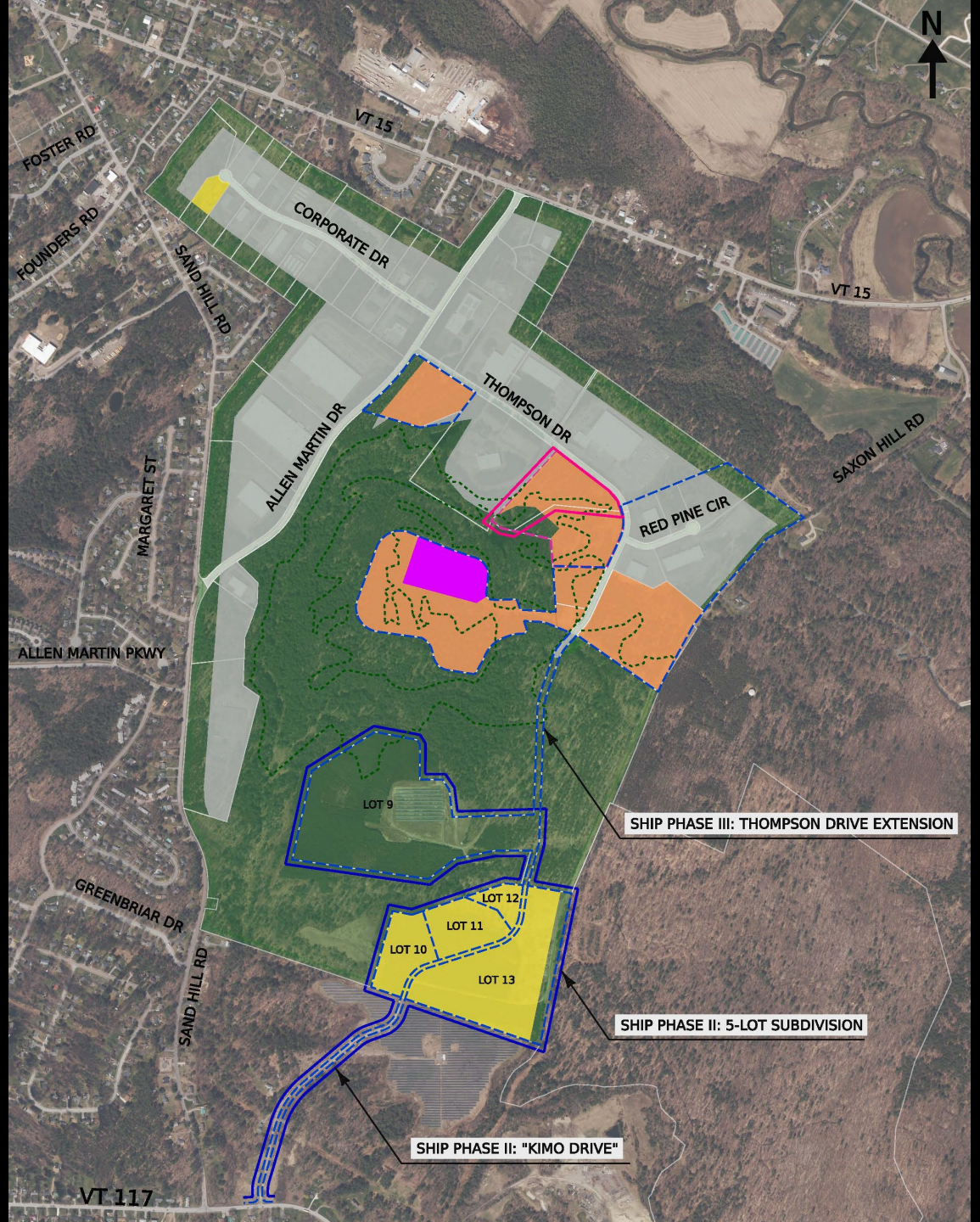
Saxon Hill Industrial Park (SHIP)

Known Development



LEGEND

- Industrial, Permitted for Development
- Industrial, Not Yet Permitted
- Industrial, Developed
- Sand Extraction Area
- Conservation Recreation
- Boundary of Allen Brook Development
- Allen Brook Proposed 5-Lot Subdivision Parcel
- Boundary of Black Bay Ventures V LLC Parcels
- Black Bay Ventures V LLC Proposed Building Parcel

Study Goals

- Integrate Public Input
- Analyze Truck Traffic
  - Commercial/Industrial
  - Existing/Future (Full Buildout 2035)
- Identify Safety Issues & Roadway Deficiencies
- Develop Recommendations

Public Input Received

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Public Input Received

Too loud - noise has gotten worse in recent years

Engine noise uphill / engine brakes downhill

Air pollution - dust and diesel exhaust

Ground shakes when trucks drive by

Sidewalk without buffer too close to trucks

Create new truck route: VT 117 to Thompson Drive

Route trucks from VT 289 to VT 15 to Allen Martin Drive

Too many trucks

Incorporate separated bike lanes

Recommendations to Address Public Concerns

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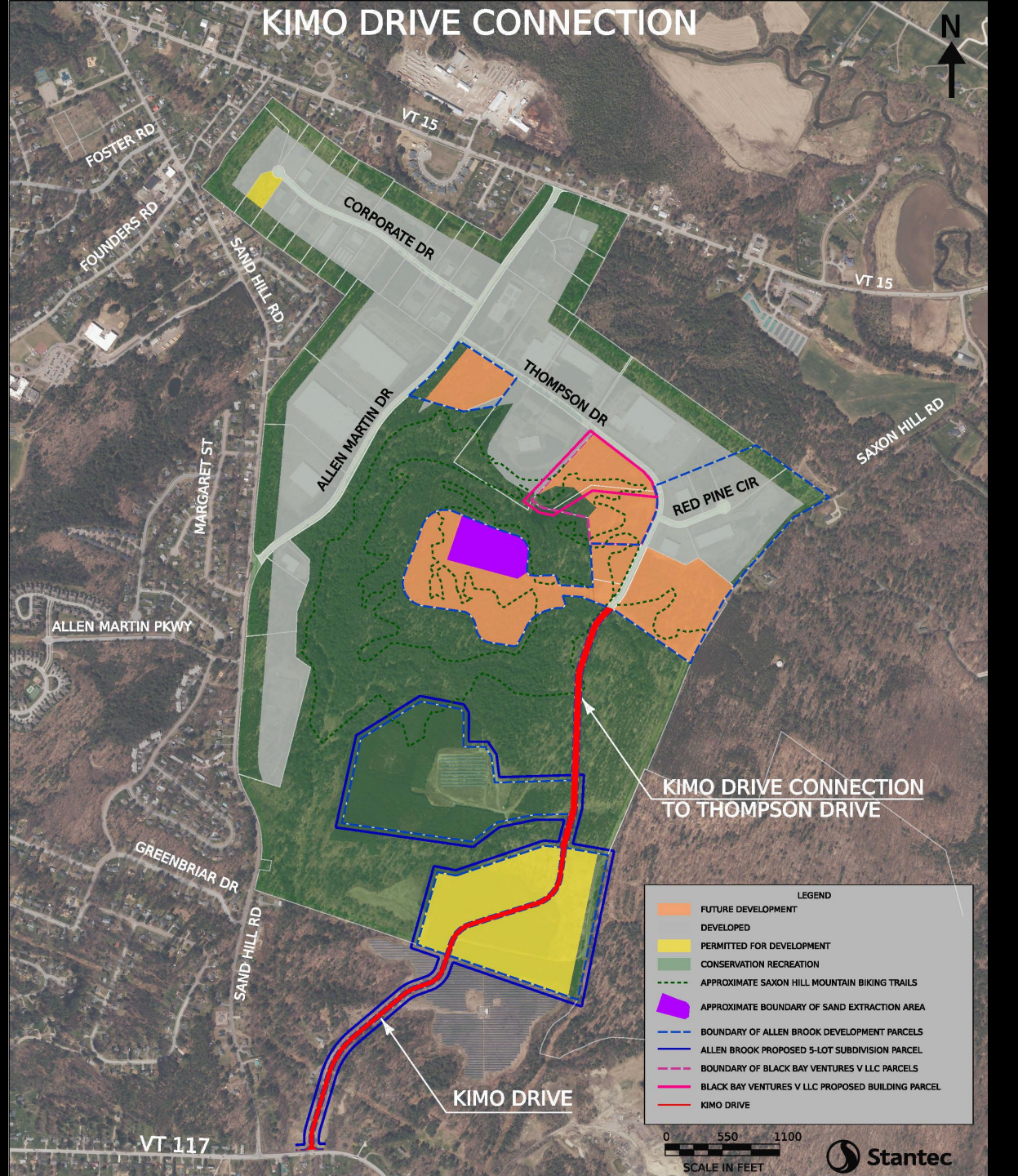
Recommendation

Kimo Drive Connection

- Removes SHIP truck traffic from Lower Sand Hill Rd
- Community/Resident Support
- Fire Department Support
- Maximum length of dead-end roads, per Town of Essex ordinance, is 900 feet (Exceptions can be made)

- Town / Developer Project
- Long Term



Existing Condition

Allen Martin Drive and Lower Sand Hill Road

Discomfort of pedestrians on sidewalk

Recommendation

Allen Martin Drive and Lower Sand Hill Road

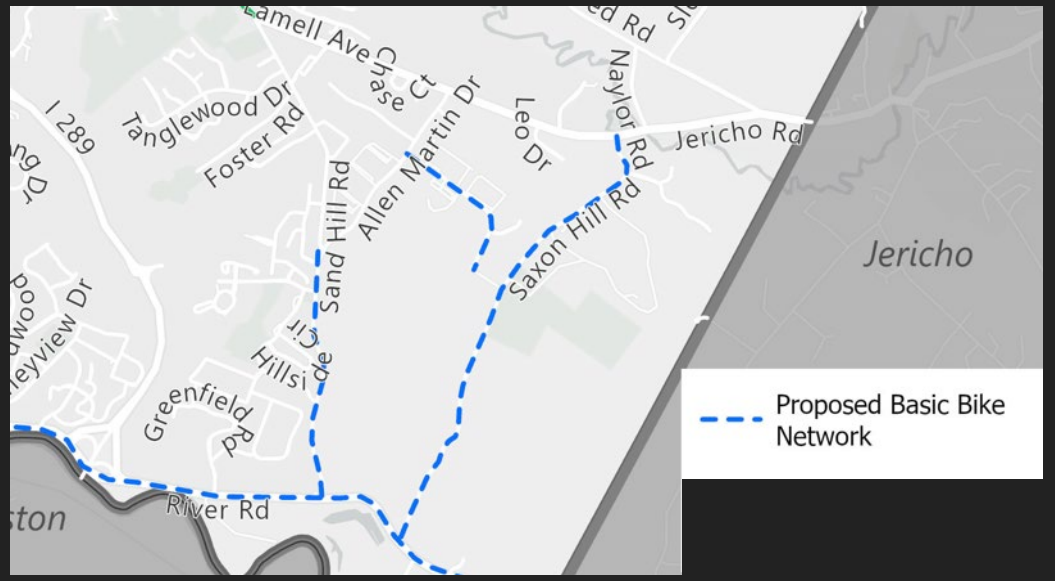
Add 5-Foot grass buffer, reduce roadway width to 11-Foot lanes with 1-Foot shoulders

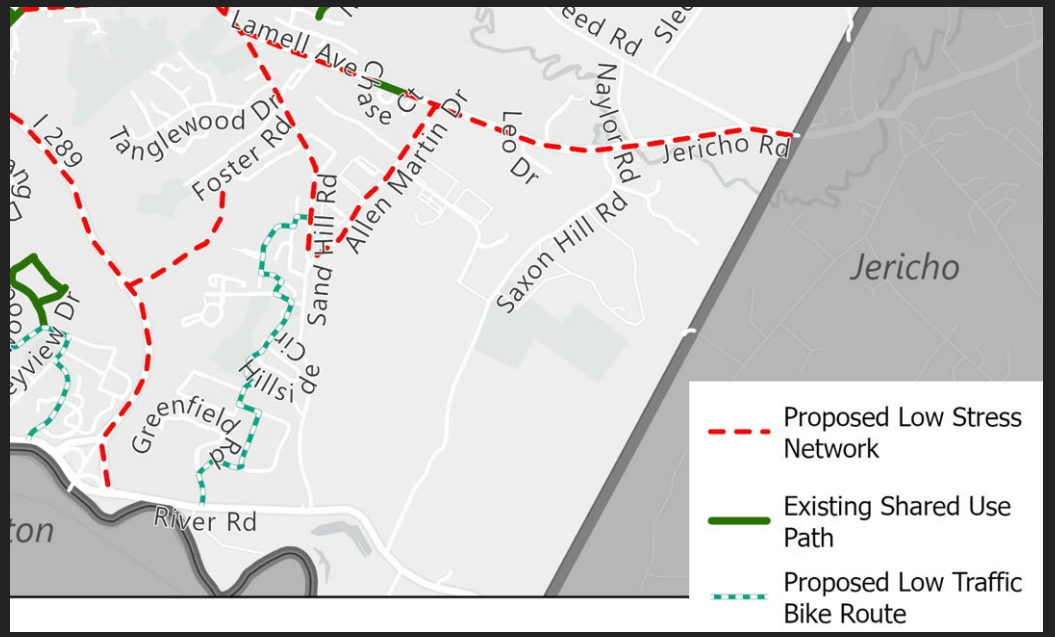
Town Project
Medium Term

Bike Improvements from Active Transportation Plan

Proposed bike lanes on Sand Hill Road south of the intersection with Allen Martin Drive

Proposed bike network for the "low stress" network:





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Network Conditions & Analysis

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Steps Taken in Study

- Document Public Input
- Review Existing Plans & Studies
- Analyze Existing and Future Conditions
  - Trucks + Passenger Vehicle Volumes
  - Trip Generation
  - Trip Distribution / Routing
  - Intersection Capacity Analysis
  - Signal Warrants
- Identify Safety Issues & Roadway Deficiencies
- Develop Recommendations
- Evaluate Recommendations

Existing Truck Travel Data

12 Hours – 6am to 6pm

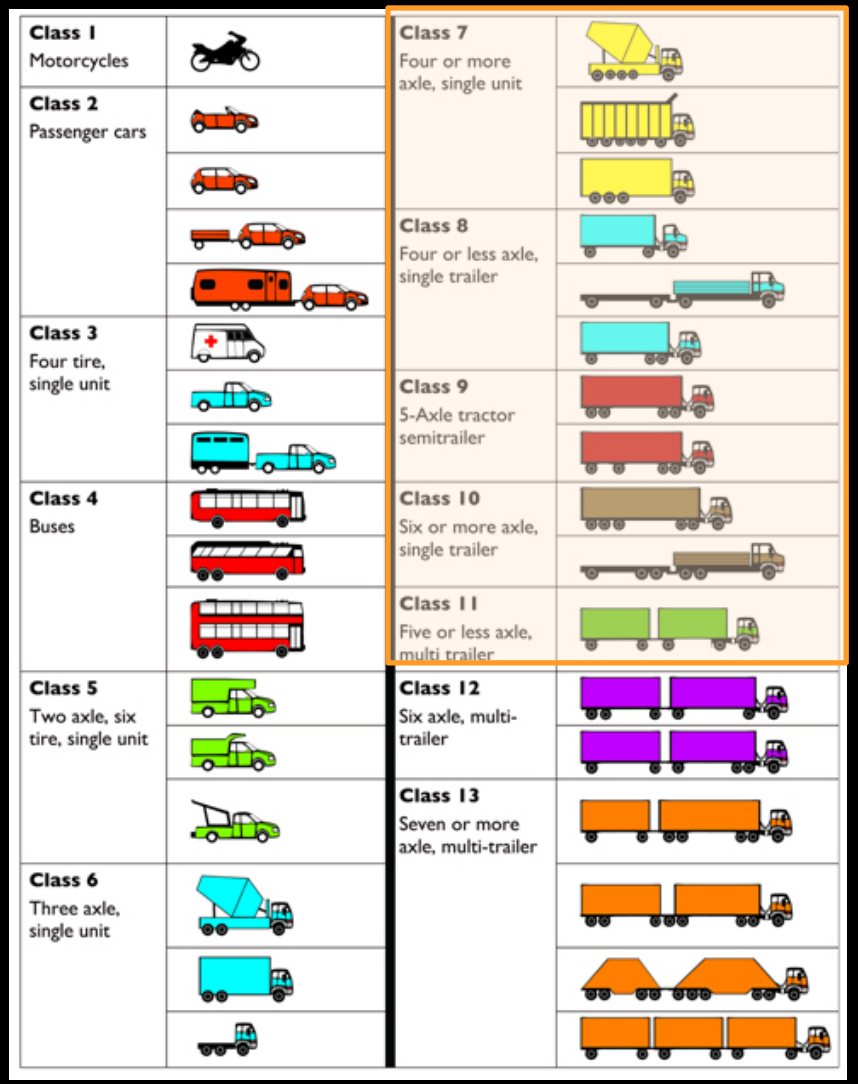
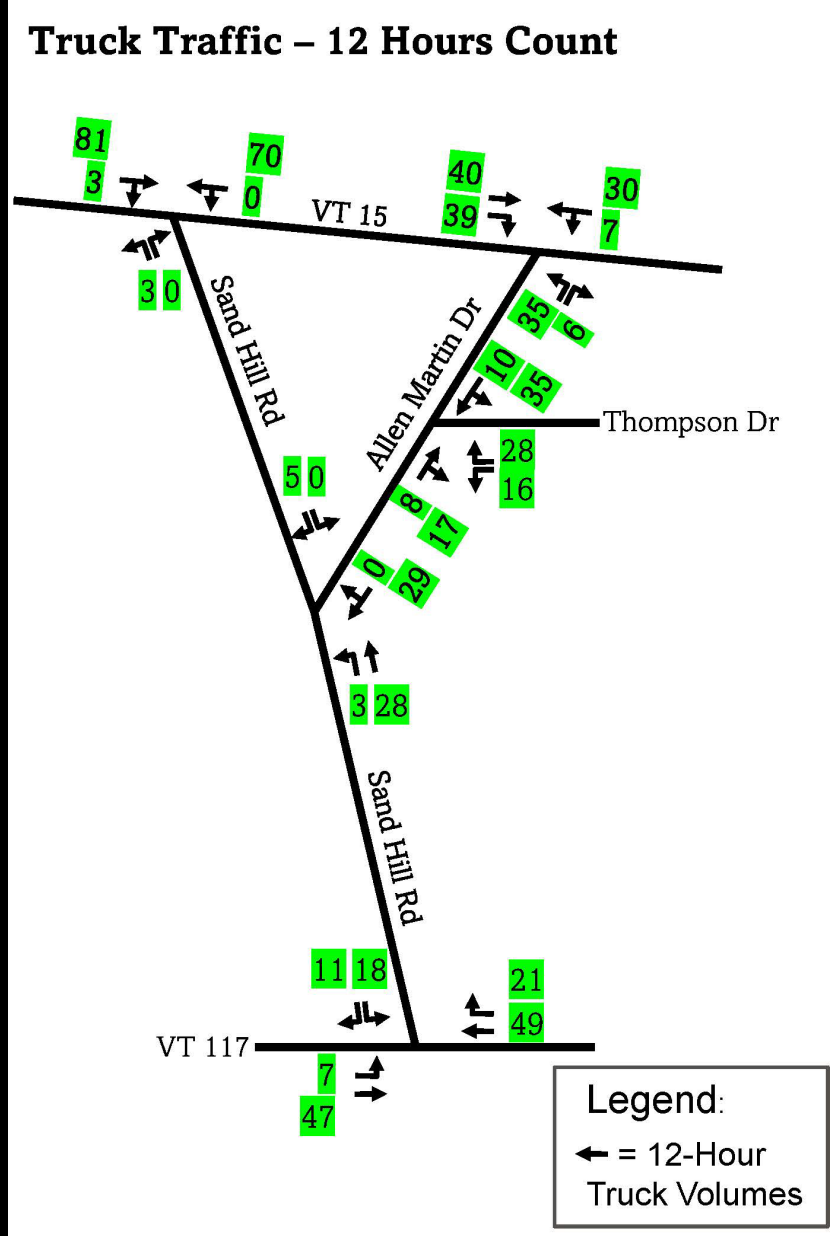


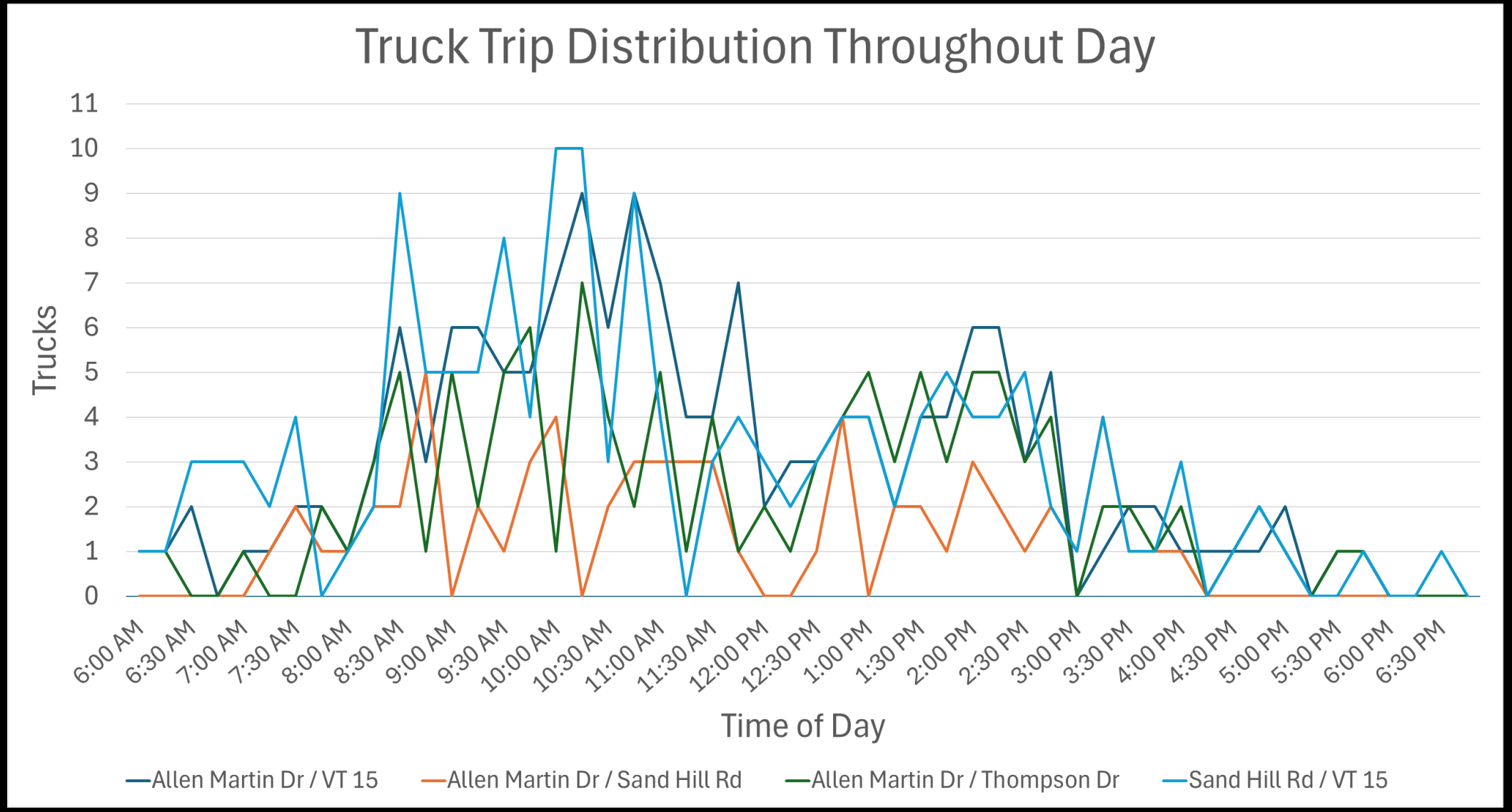
Image Source: Spack Solutions



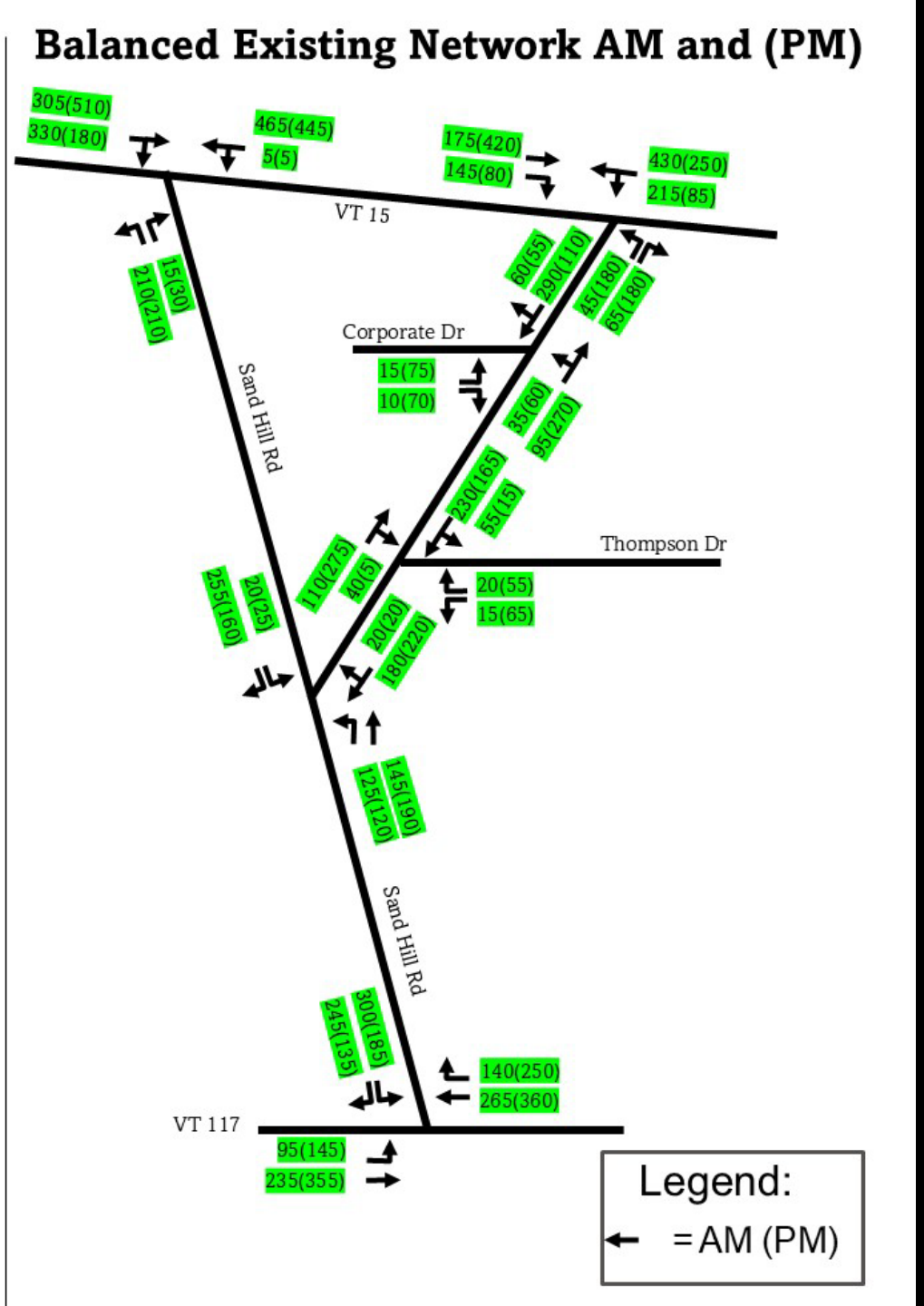
VT 117 counts from 9/27/2023
Allen Martin Dr/Thompson Dr and Allen Martin Dr/VT 15 counts from 11/12/2024
Sand Hill Rd/Allen Martin Dr counts from 11/19/2024
Sand Hill Rd/VT 15 counts from 11/20/2024

Existing Truck Travel Data

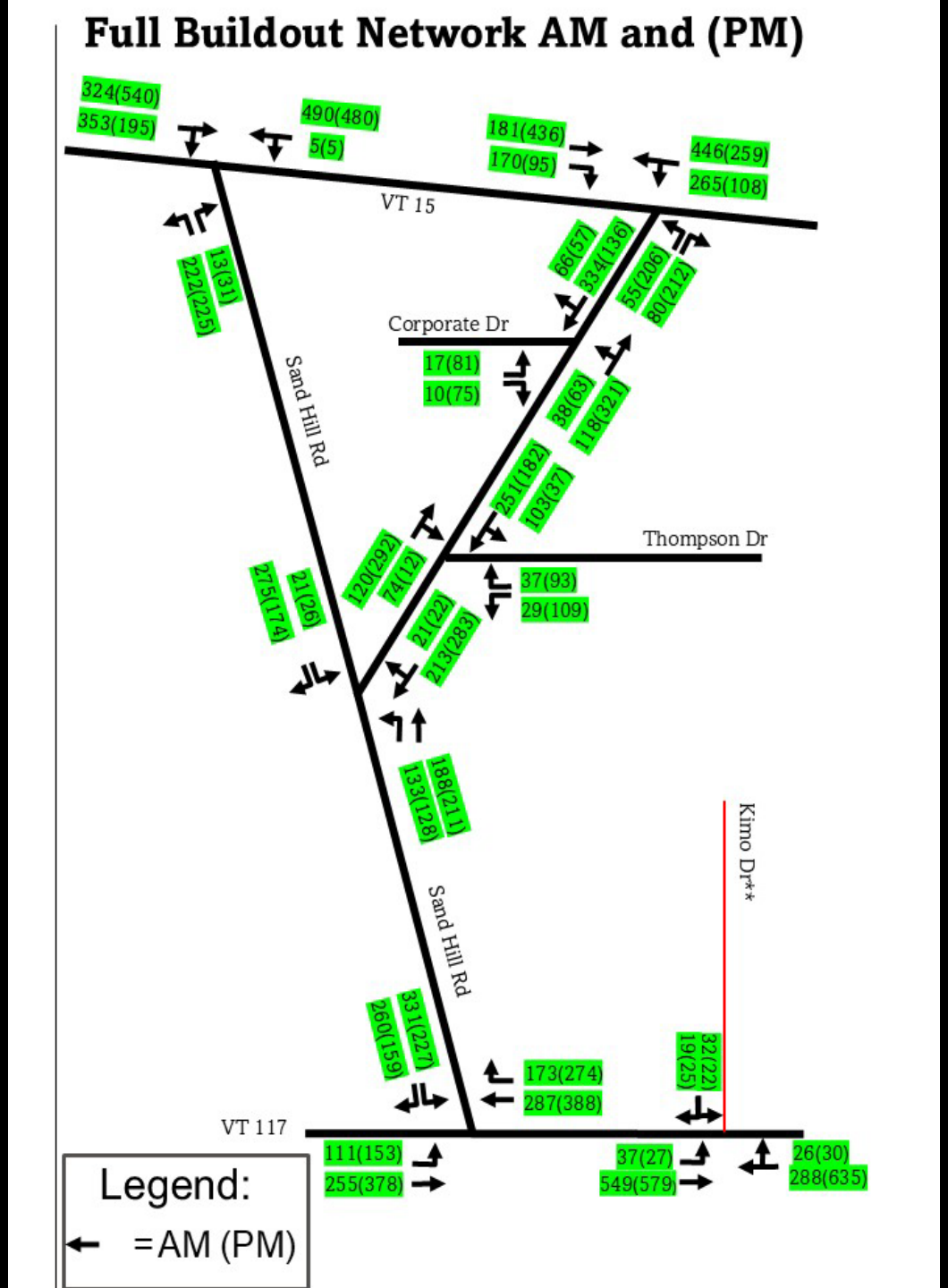
12 Hours – 6am to 6pm



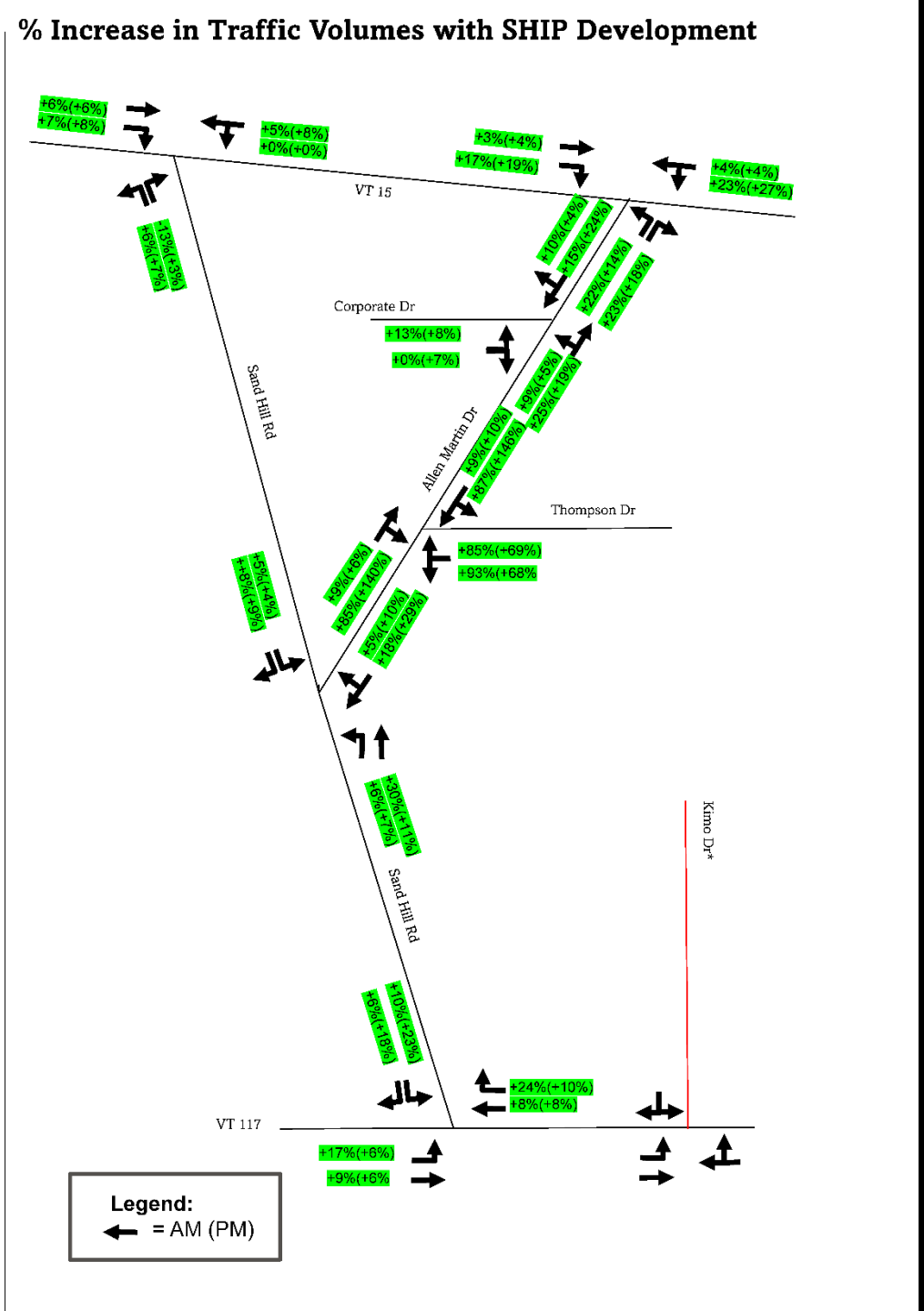
Total Traffic within the SHIP in the AM and PM Peak Hours: Existing Conditions (2024)



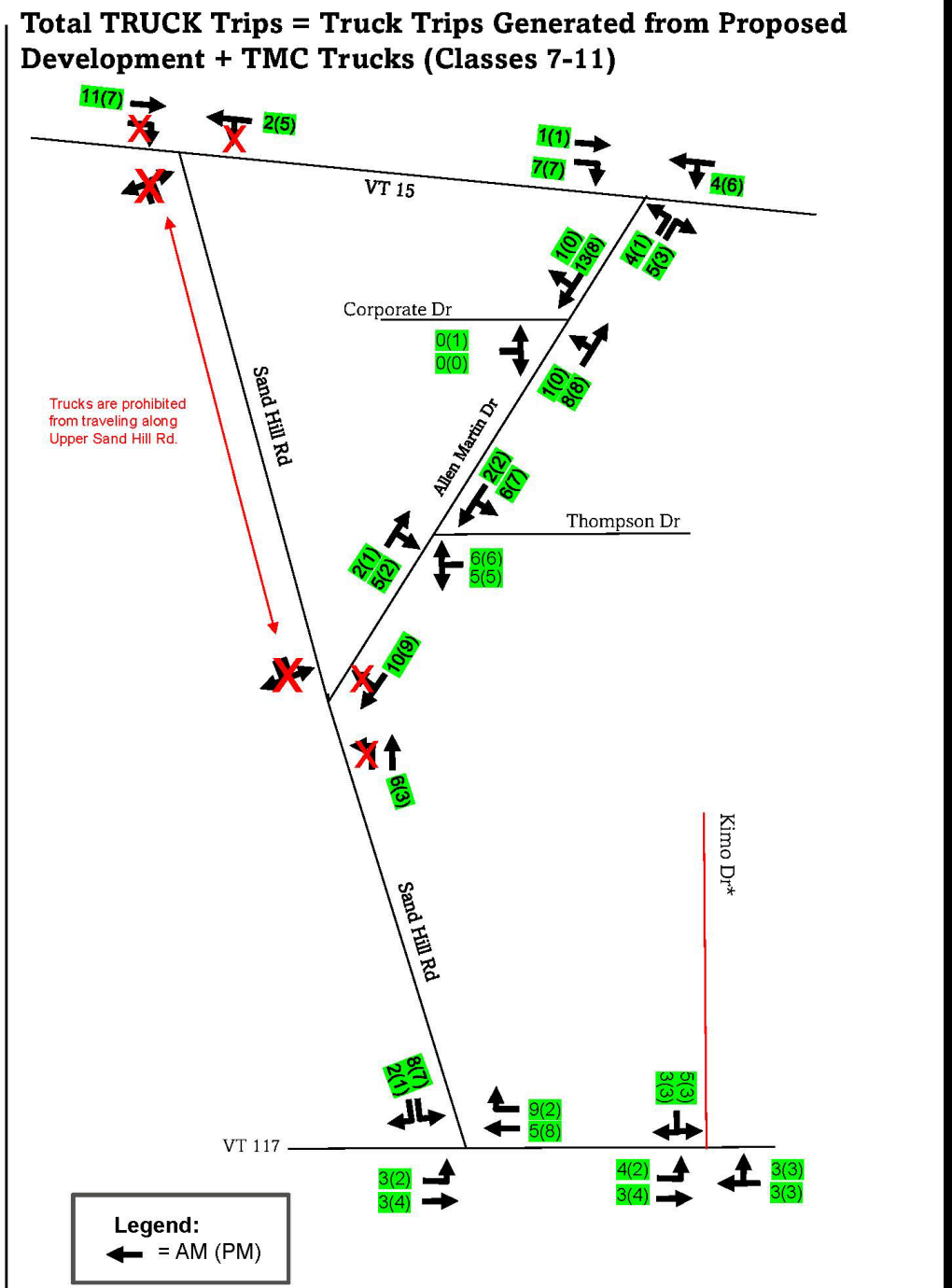
Total Traffic within the SHIP in the AM and PM Peak Hours: Full Buildout Condition (2035)



Total Traffic Volume % Increase in AM and PM Peak Hours: Existing Conditions (2024) to Full Buildout Condition (2035)



Total Truck Traffic within the SHIP in the AM and PM Peak Hours: Full Buildout Condition (2035)



Stop Controlled Intersections - Worst Approach Capacity Analysis Results

Intersection	VT 15 / Sand Hill Rd				VT 15 / Allen Martin Dr				Allen Martin Dr / Thompson Dr			
Condition	Northbound Left Turn				Northbound Left Turn				Westbound Left Turn			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
Existing (2024)	166.8	**F**	165.5	**F**	23.7	C	68.6	**F**	11.8	B	15.0	C
Future (2035) No SHIP Development	22.0	C	26.8	C	66.3	**F**	149.7	**F**	12.4	B	26.0	D
Future (2035) Full SHIP Buildout	21.5	C	13.3	B	132.1	**F**	241.5	**F**	18.8	C	150.1	**F**
Future (2035) Full SHIP Buildout (With Improvements)	21.5	C	13.3	B	14.5	B	16.0	B	23.6	C	37.0	**E**
Future (2035) Full SHIP Buildout (Kimo Dr connection)	21.5	C	13.3	B	14.4	B	16.0	B	22.0	C	34.6	D

Intersection	Proposed Improvements
VT 15 / Sand Hill Rd	Stop Control to Signalized
VT 15 / Allen Martin Dr	Stop Control to Signalized
Allen Martin Dr / Thompson Dr	Provide separate LT and RT turn lanes on Thompson Dr

[1] Delay = Average delay expressed in seconds per vehicle
[2] LOS = Level of Service

Reports: HCM 7th TWSC and Signalized Intersection Result Reports
Software: Synchro 12

Recommendations to Improve Network

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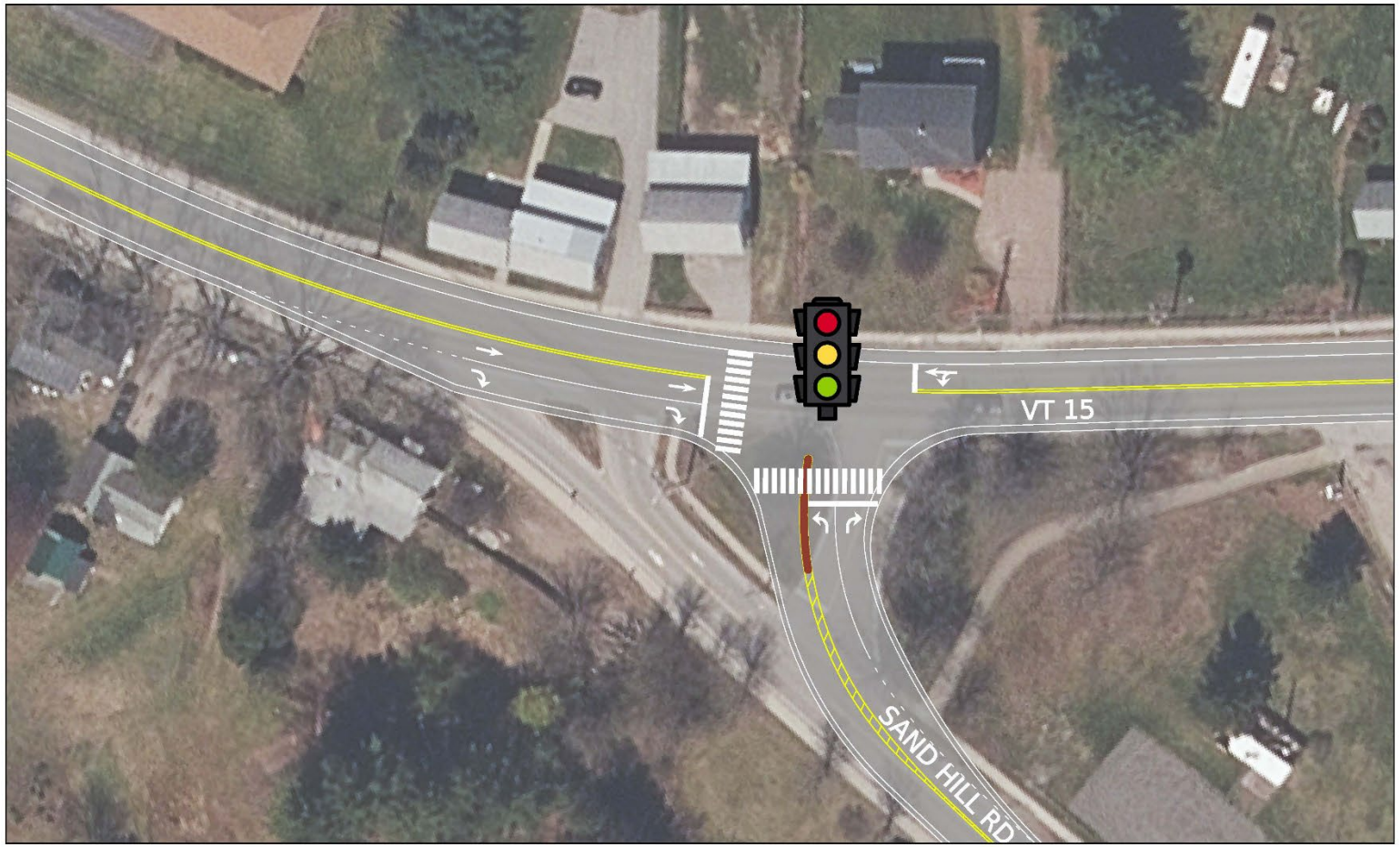
Signalization

VT 15 and Sand Hill Road

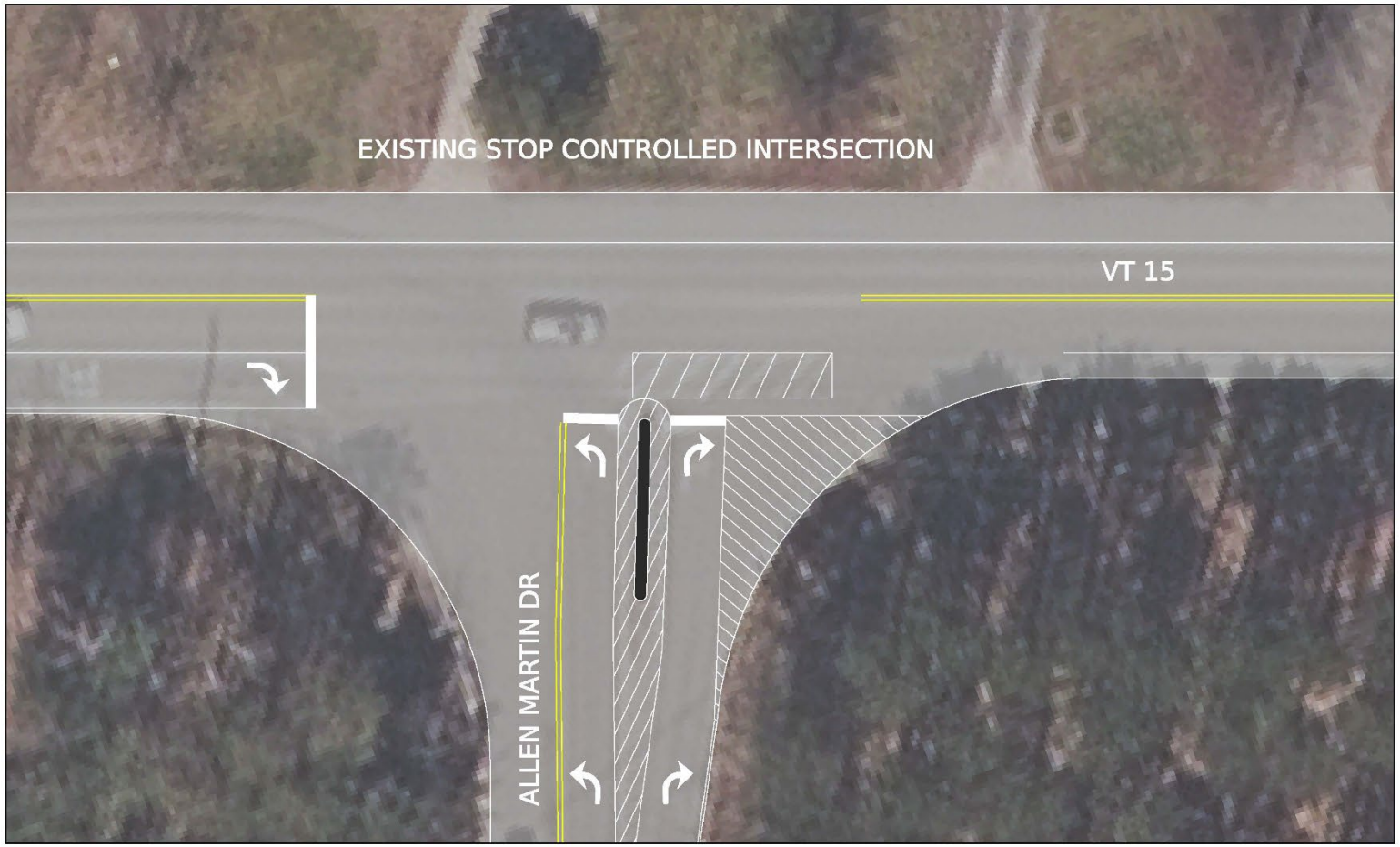


Signalize Intersection

State Project 2028

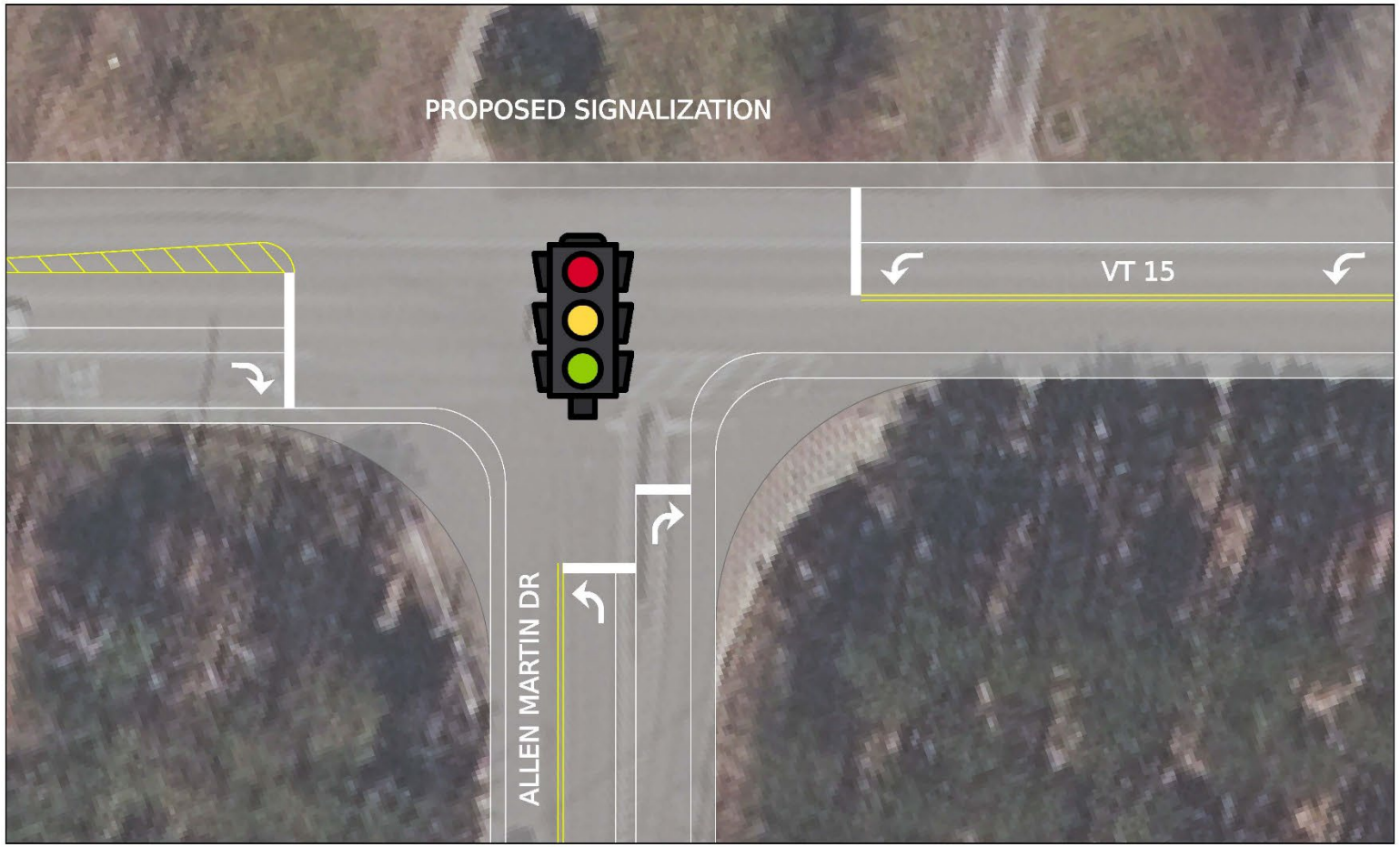
Existing Condition

VT 15 and Allen Martin Drive



Recommendation

VT 15 and Allen Martin Drive

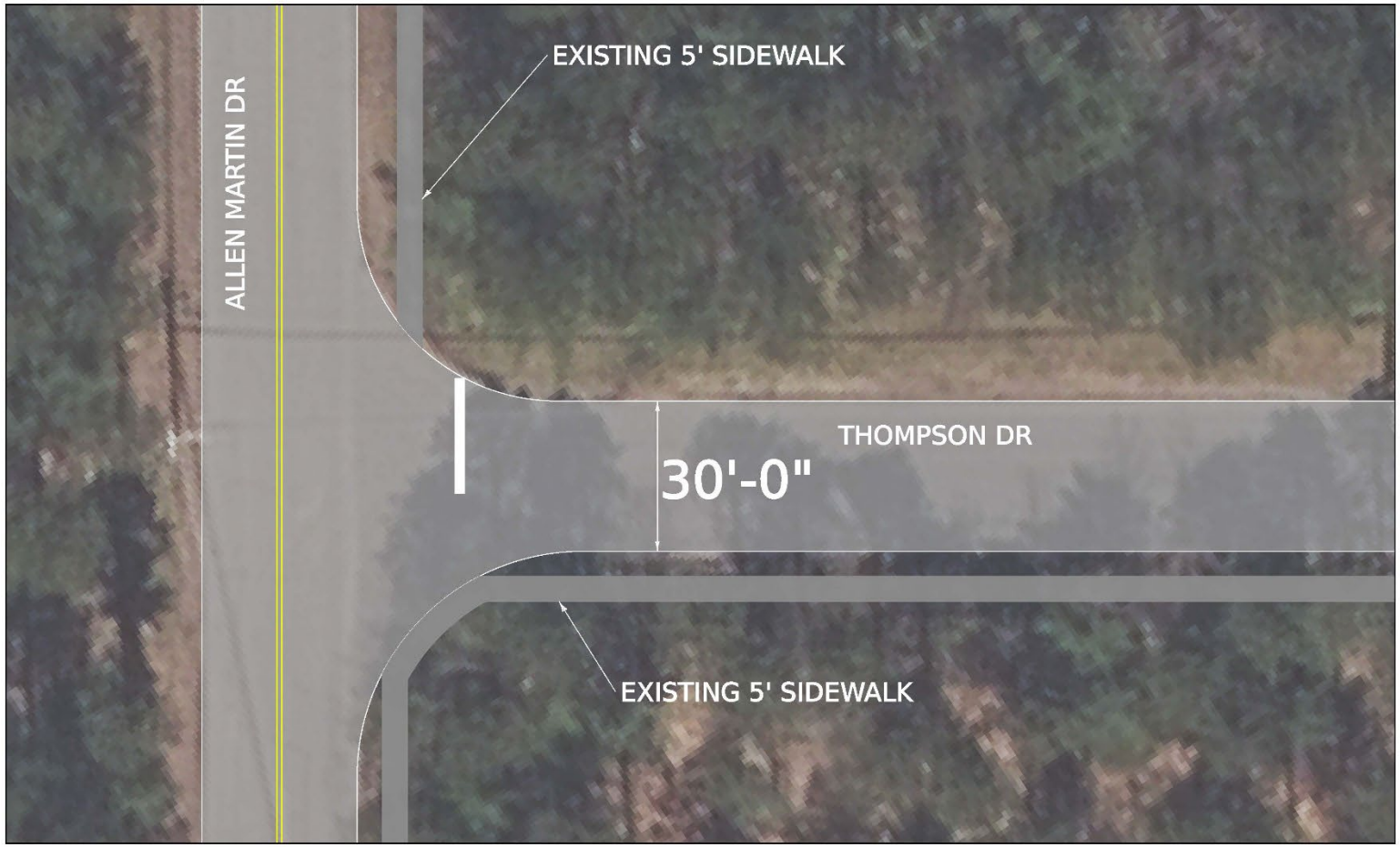


Signalize Intersection

State Project Long Term

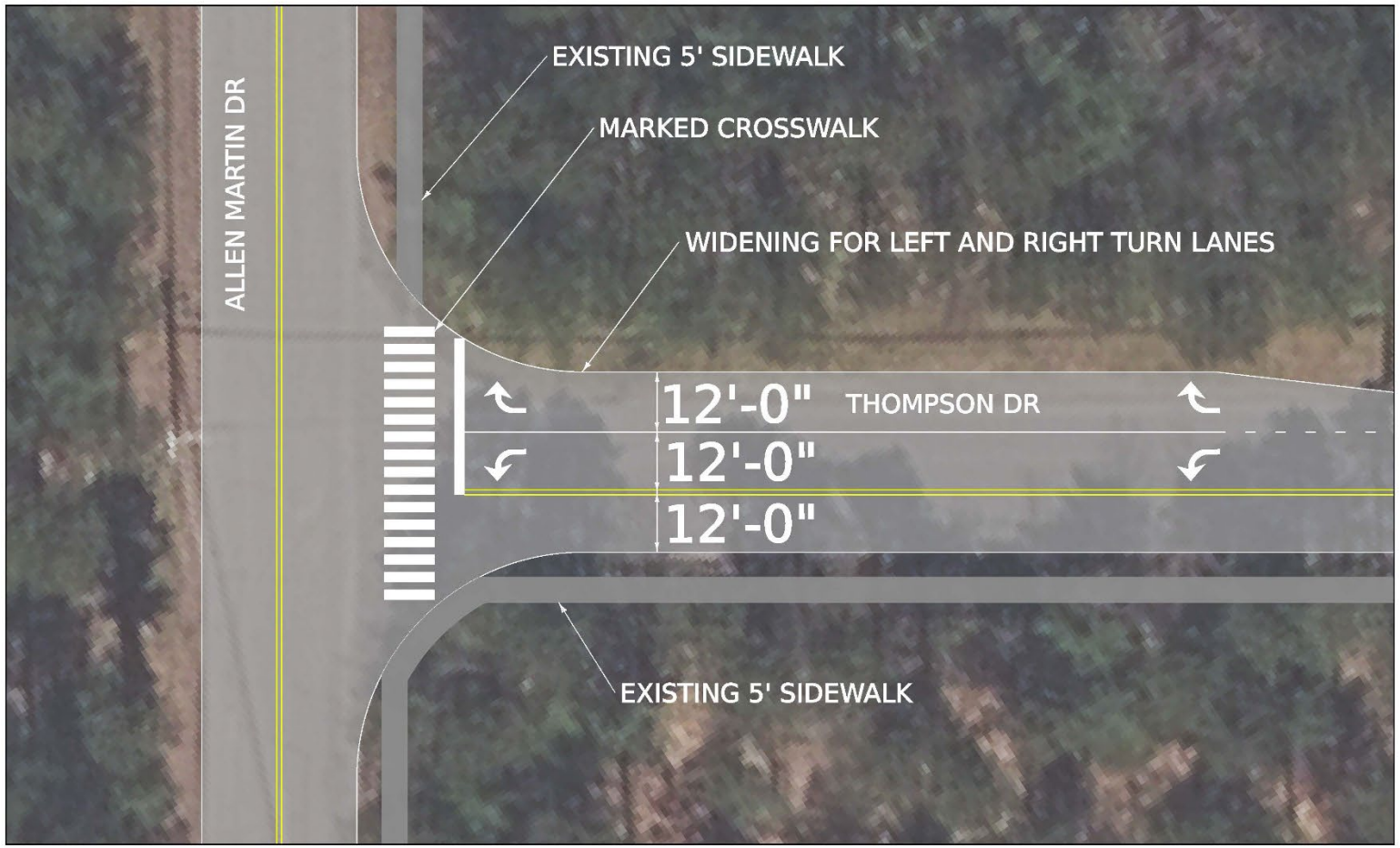
Existing Condition

Allen Martin Drive and Thompson Drive



Recommendation

Allen Martin Drive and Thompson Drive



Add minor road turn lanes

Marked crosswalk to accommodate pedestrians

Town Project
Medium Term

Recommendation

Monitor Conditions – Conduct Traffic Study in 2035

- Compare 2035 volumes to forecasts
- If actual trip numbers significantly higher than forecasted, additional mitigation measures should be considered

- Town / CCRPC Project
- Long Term

Results Table

Slide #	Location	Deficiencies	Potential Improvements
9	Entire Network	Residential Impacts of Truck Routes	Connect Kimo Dr to Thompson Dr as Future Truck Access Route
10	Lower Sand Hill Rd	Safety – Pedestrian Facilities	Grass Buffer
12	Lower Sand Hill Rd	Safety – Bicycle Facilities	Bike Lanes
22	VT 15 / Allen Martin Dr	Intersection Operations	Signalization
23	Allen Martin Dr / Thompson Dr	Safety & Intersection Operations	Crosswalk Markings & Minor Road Turn Lanes
25	Entire Network	N/A	Monitor Conditions: Conduct Traffic Study in 2035

Questions/Answers/Feedback

Questions, Answers, Feedback

Next Steps

1. Refine Recommendations
2. Final Presentation to Selectboard
3. Final Report

Thank You!

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LOS Explained

Level of service (LOS) is a term used to describe the quality of traffic flow at a roadway facility at a particular point in time. It is an aggregate measure of travel delay, travel speed, congestion, driver discomfort, convenience, and safety based on a comparison of intersection capacity to intersection demand. Operating LOS is reported on a scale of A to F, with A representing operating conditions with little or no delay to motorists, and F representing the operating conditions with long delays and traffic demands sometimes exceeding roadway capacity.

Intersection LOS is calculated in accordance with procedures defined in the Highway Capacity Manual (7th Edition), published by the Transportation Research Board. For unsignalized and signalized intersections, the operating LOS is based on travel delays. Delays can be measured in the field but generally are calculated as a function of the following: traffic volume; percentage of heavy vehicles in the traffic stream; type of traffic control; number of travel lanes and lane use; intersection approach grades; and pedestrian activity. Through this analysis, volume-to-capacity ratios can be calculated for individual movements or for an intersection as a whole. A volume-to-capacity ratio of 1.0 indicates that a movement or intersection is operating at its theoretical capacity. The specific delay criteria applied per the Highway Capacity Manual (7th Edition) to determine operating LOS are summarized in Table 3.

Level of Service	Average Delay per Vehicle (seconds)	
	Signalized Intersections	Unsignalized Intersections
A	≤10.0	≤10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 50.0
E	55.1 to 80.0	35.1 to 50.0