

Lower Sand Hill Road Truck Traffic Study Selectboard Meeting – 02/23/2026

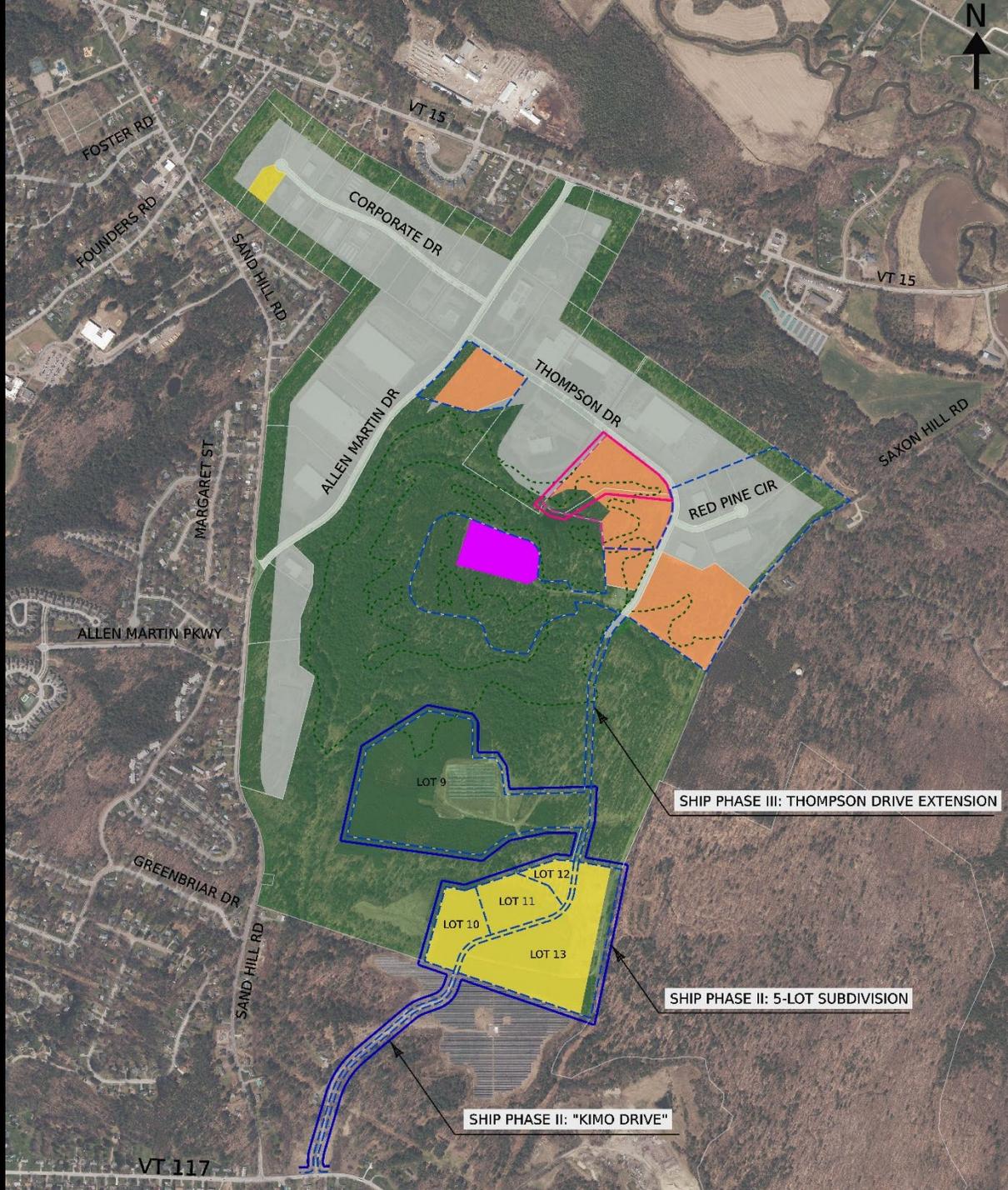


Agenda

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

Saxon Hill Industrial Park (SHIP)

Project Area



LEGEND

- Permitted for Development
- Future Development
- 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

SHIP PHASE III: THOMPSON DRIVE EXTENSION

SHIP PHASE II: 5-LOT SUBDIVISION

SHIP PHASE II: "KIMO DRIVE"

ALLEN MARTIN PKWY

LOT 9

LOT 12

LOT 10

LOT 11

LOT 13

VT 117

Study Goals

- Integrate Public Input
- Analyze Truck Traffic
 - Commercial/Industrial
 - Existing/Future (Full Buildout 2035)
- Identify Safety Issues & Roadway Deficiencies
- Develop Recommendations
 - Short Term: 1-5 Years
 - Medium Term: 5-10 Years
 - Long Term: 10+ Years

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

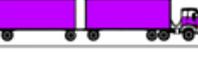
Too many trucks

Incorporate separated bike lanes

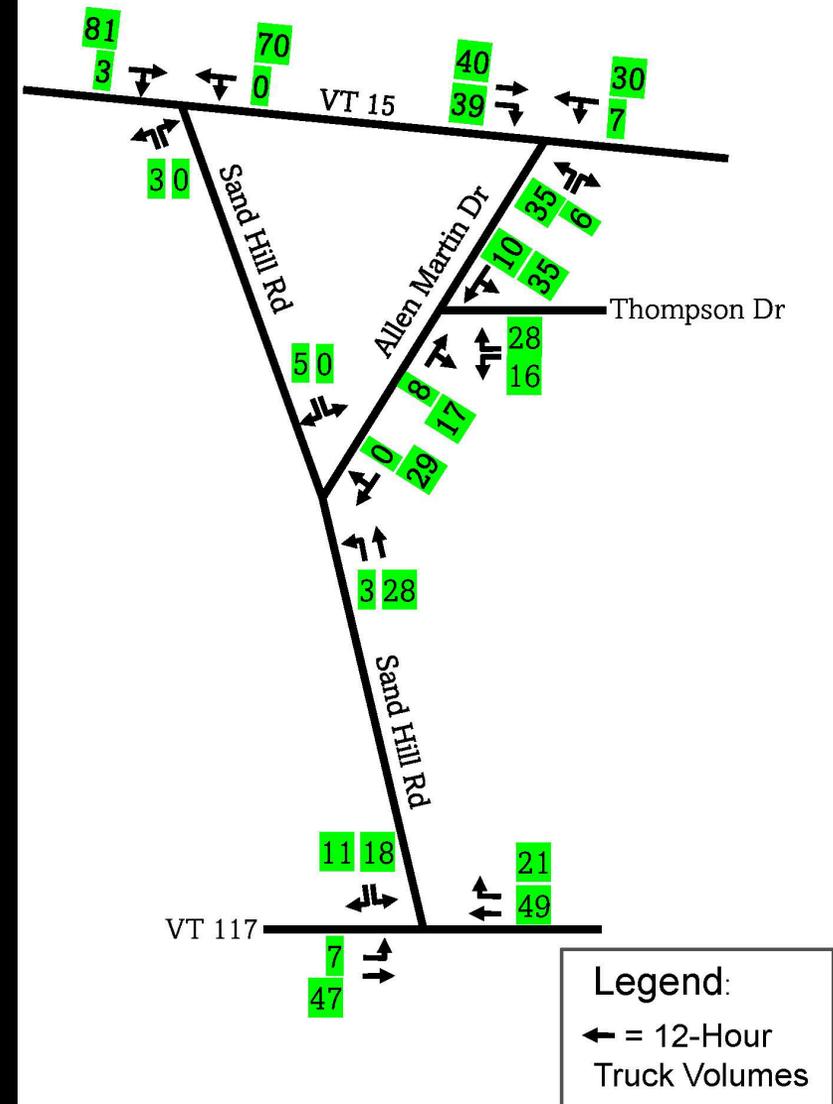
Network Conditions & Analysis

Existing Truck Travel Data

12 Hours – 6am to 6pm

Class 1 Motorcycles		Class 7 Four or more axle, single unit	
Class 2 Passenger cars		Class 8 Four or less axle, single trailer	
			
			
Class 3 Four tire, single unit		Class 9 5-Axle tractor semitrailer	
			
Class 4 Buses		Class 10 Six or more axle, single trailer	
			
		Class 11 Five or less axle, multi-trailer	
Class 5 Two axle, six tire, single unit		Class 12 Six axle, multi-trailer	
			
Class 6 Three axle, single unit		Class 13 Seven or more axle, multi-trailer	
			
			
			

Truck Traffic – 12 Hours Count



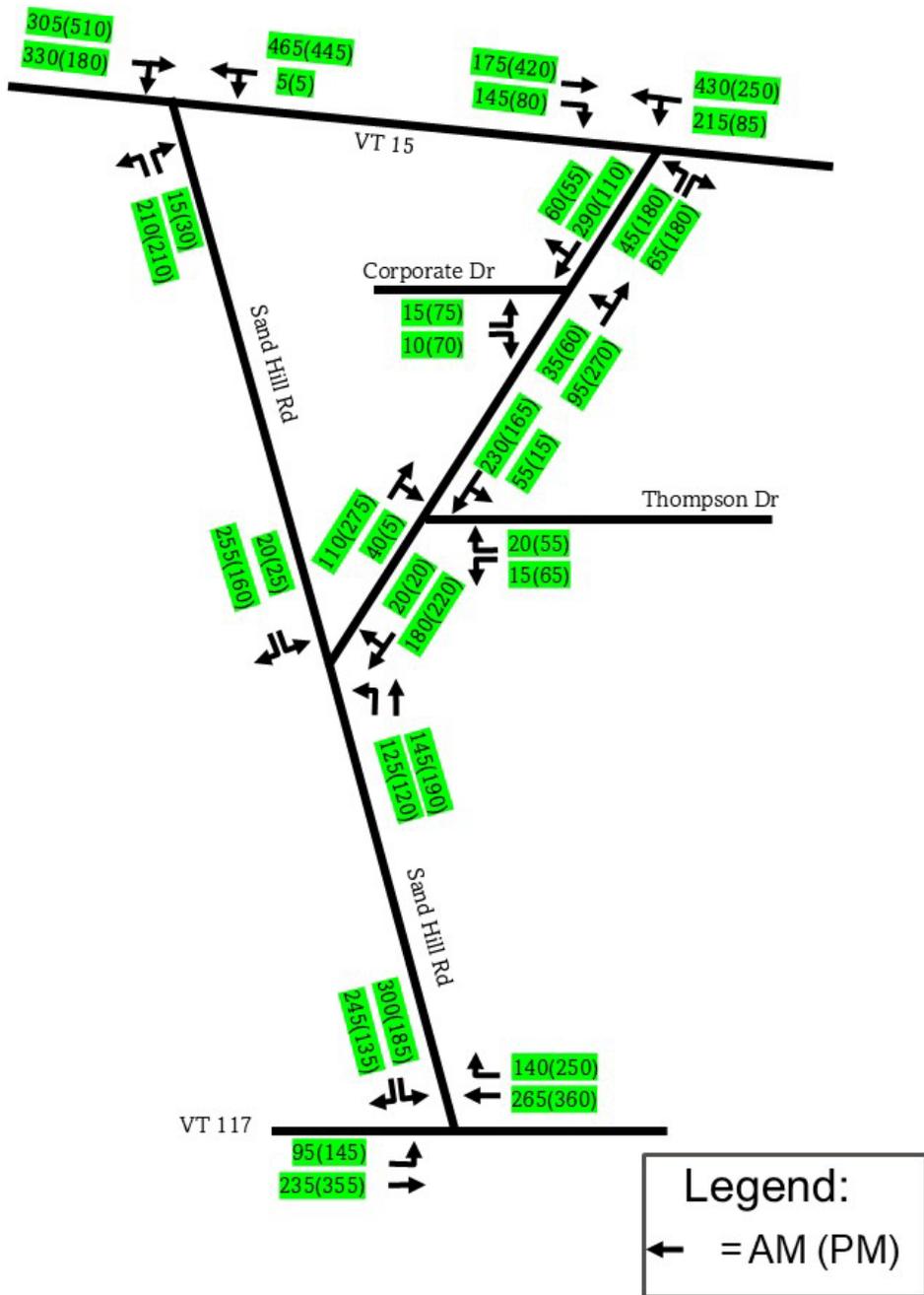
VT 117 counts from 9/27/2023

Allen Martin Dr/Thompson Dr and Allen Martin Dr/VT 15 counts from 11/12/2024

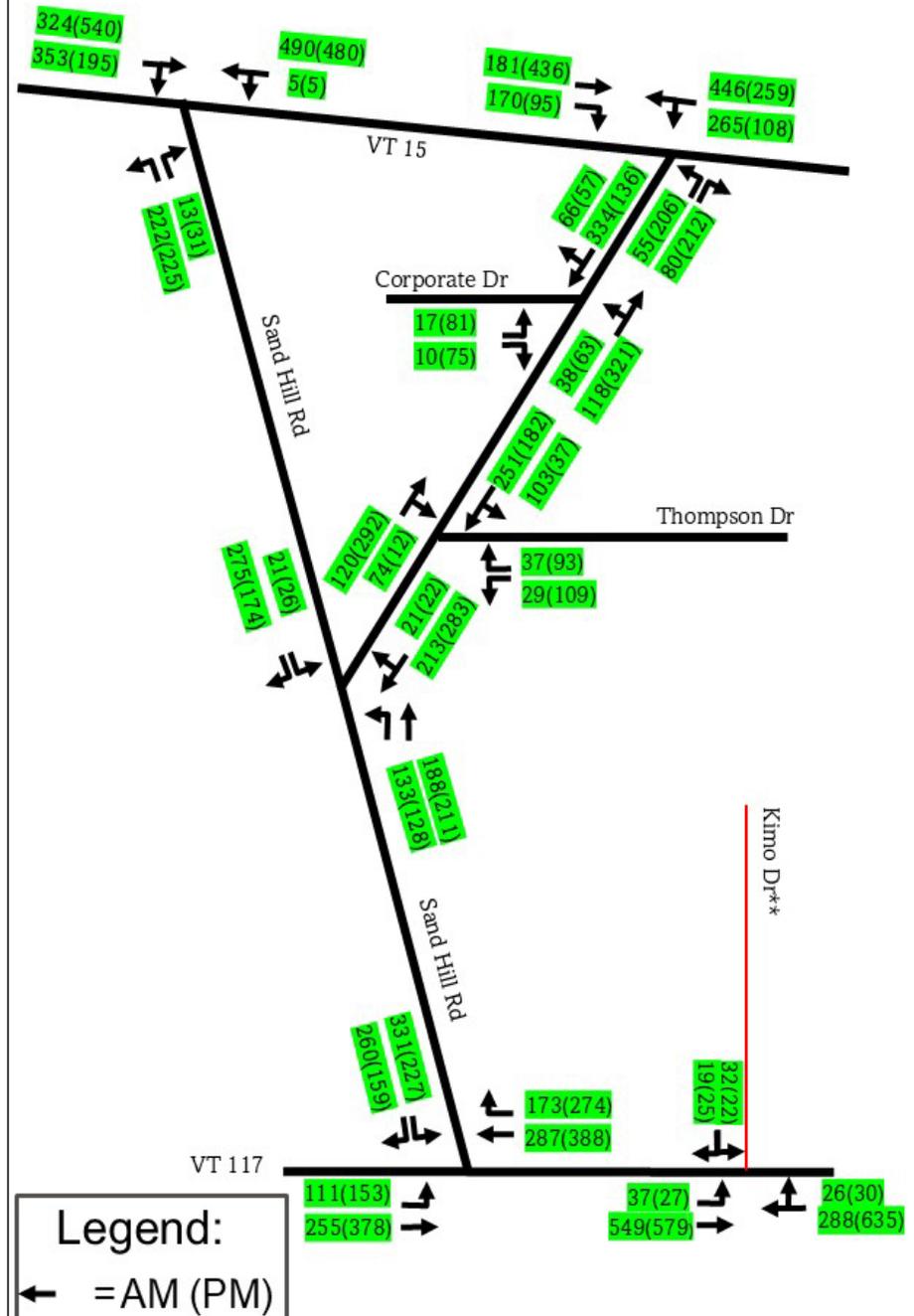
Sand Hill Rd/Allen Martin Dr counts from 11/19/2024

Sand Hill Rd/VT 15 counts from 11/20/2024

Balanced Existing Network AM and (PM)



Full Buildout Network AM and (PM)



Recommendations to Improve Network

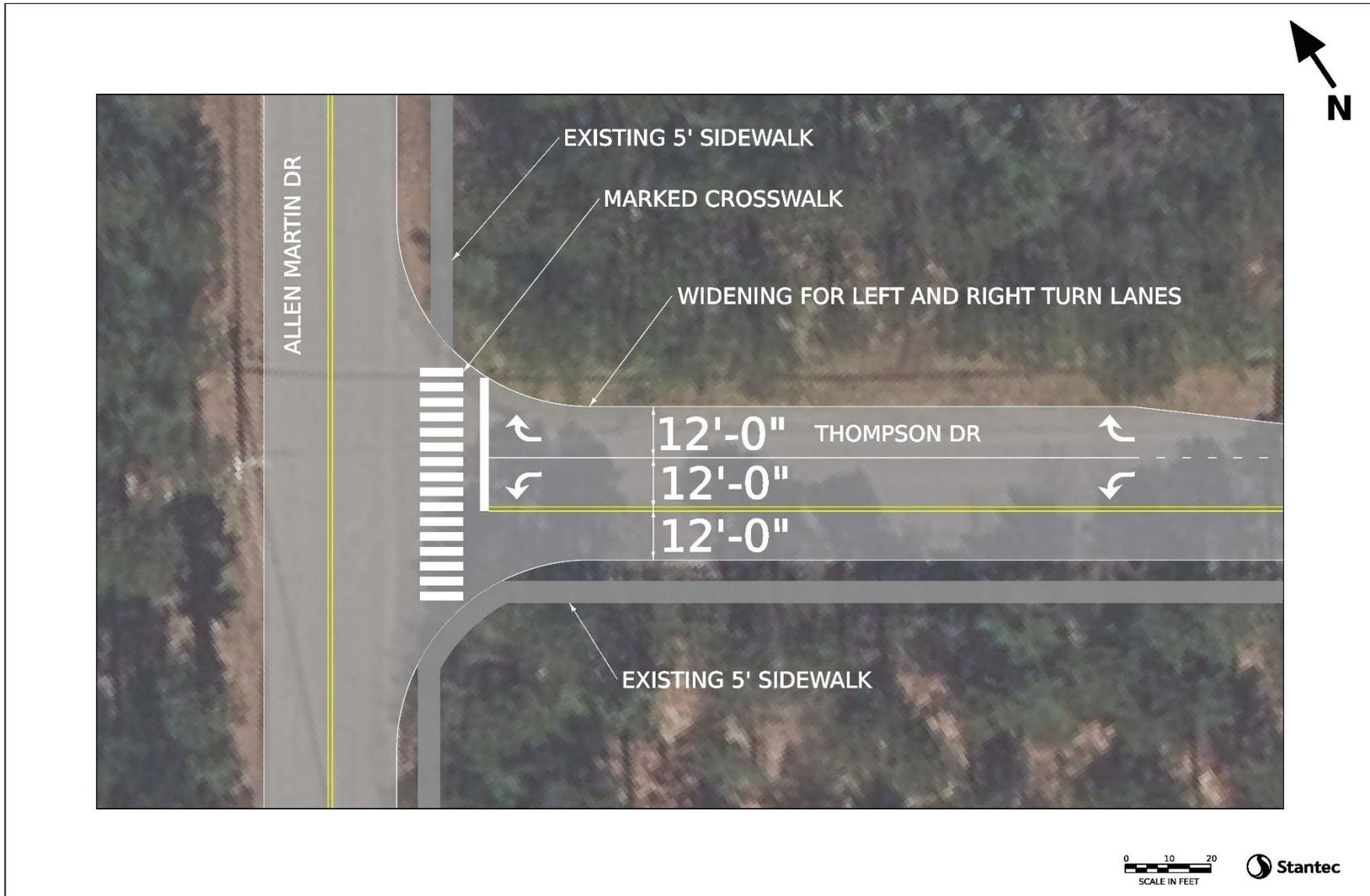
Existing Condition

Allen Martin Drive and Thompson Drive



Recommendation

Allen Martin Drive and Thompson Drive



1. Mark crosswalk to accommodate pedestrians

Town Project Short Term

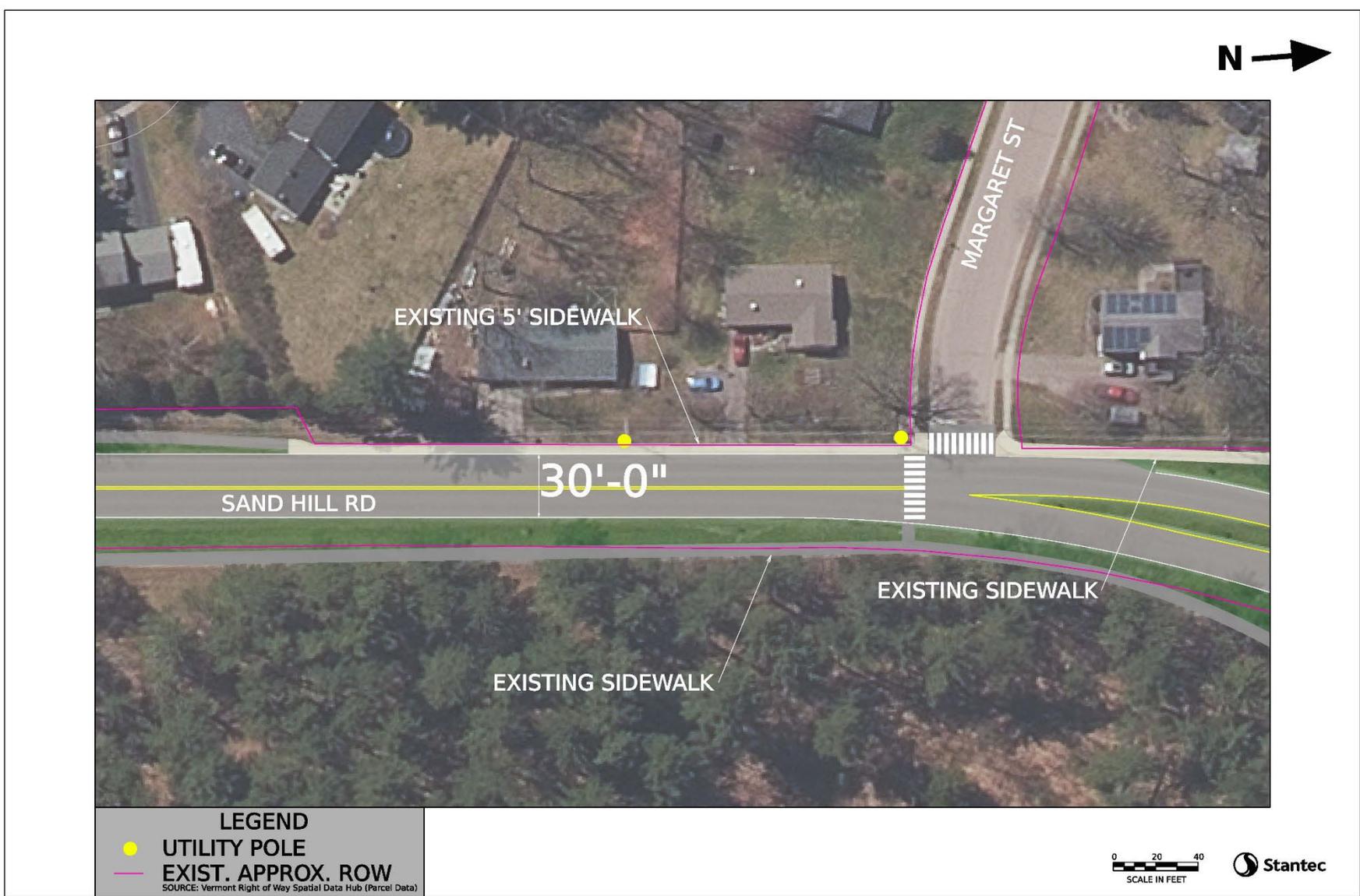
2. Add minor road turn lanes

Town Project Medium Term

Existing Condition

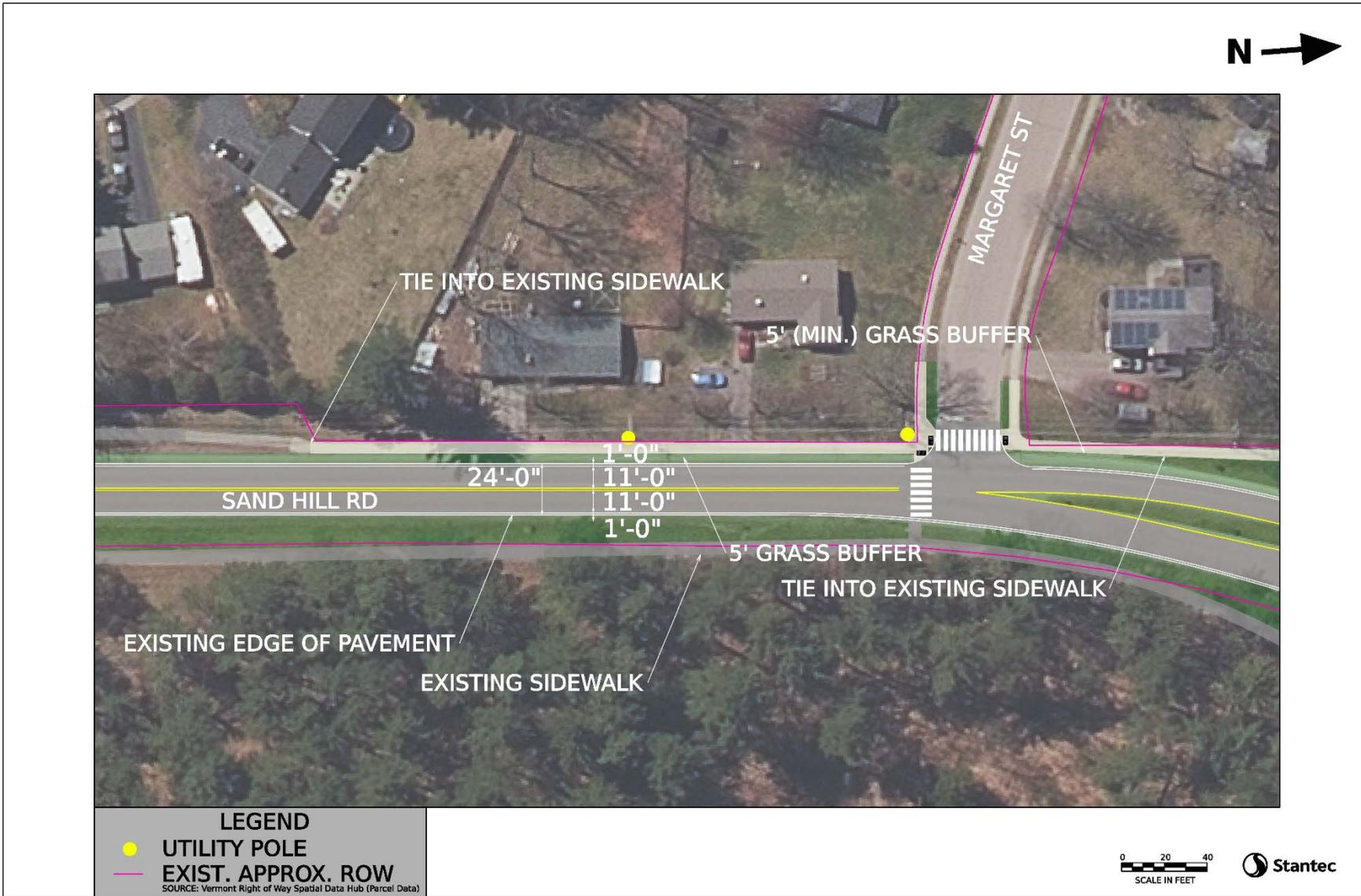
Allen Martin Drive and Lower Sand Hill Road

Discomfort of pedestrians on sidewalk



Recommendation

Allen Martin Drive and Lower Sand Hill Road



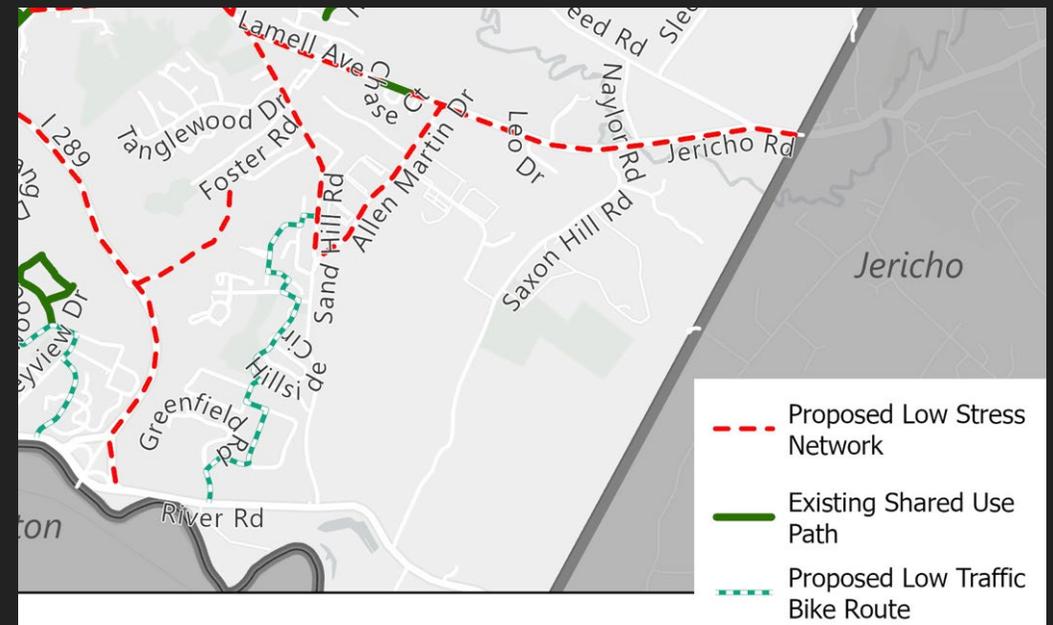
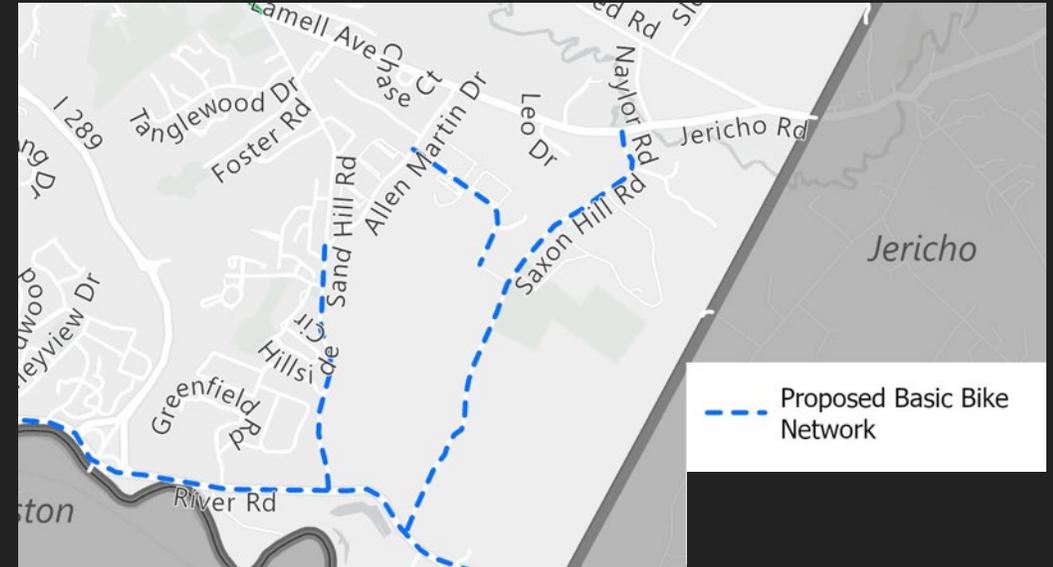
Add 5-Foot grass buffer, reduce roadway width to 11-Foot lanes with 1-Foot shoulders

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:

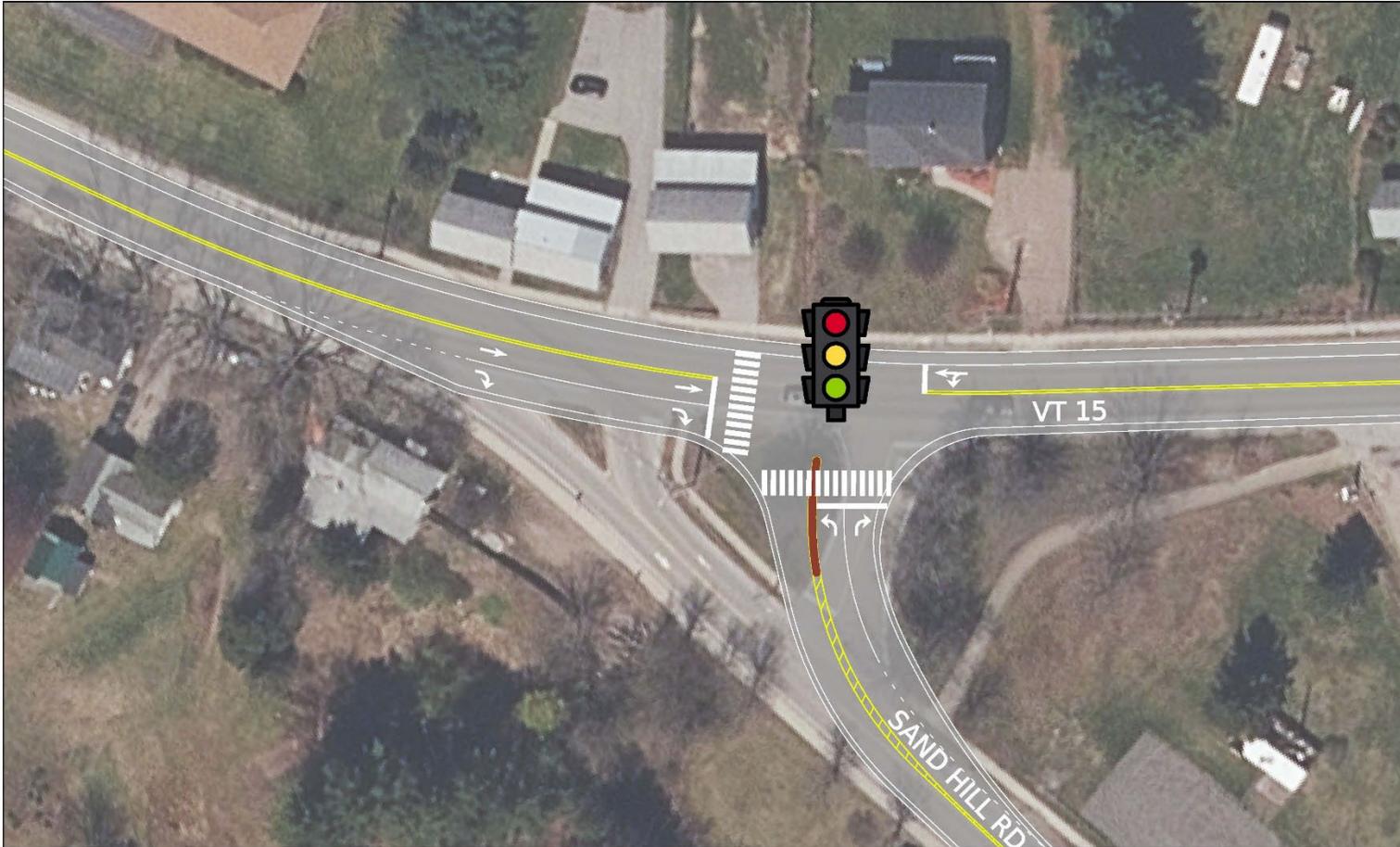


Signalization

VT 15 and Sand Hill Road

Signalize
Intersection

State Project
2028



0 20 40
SCALE IN FEET



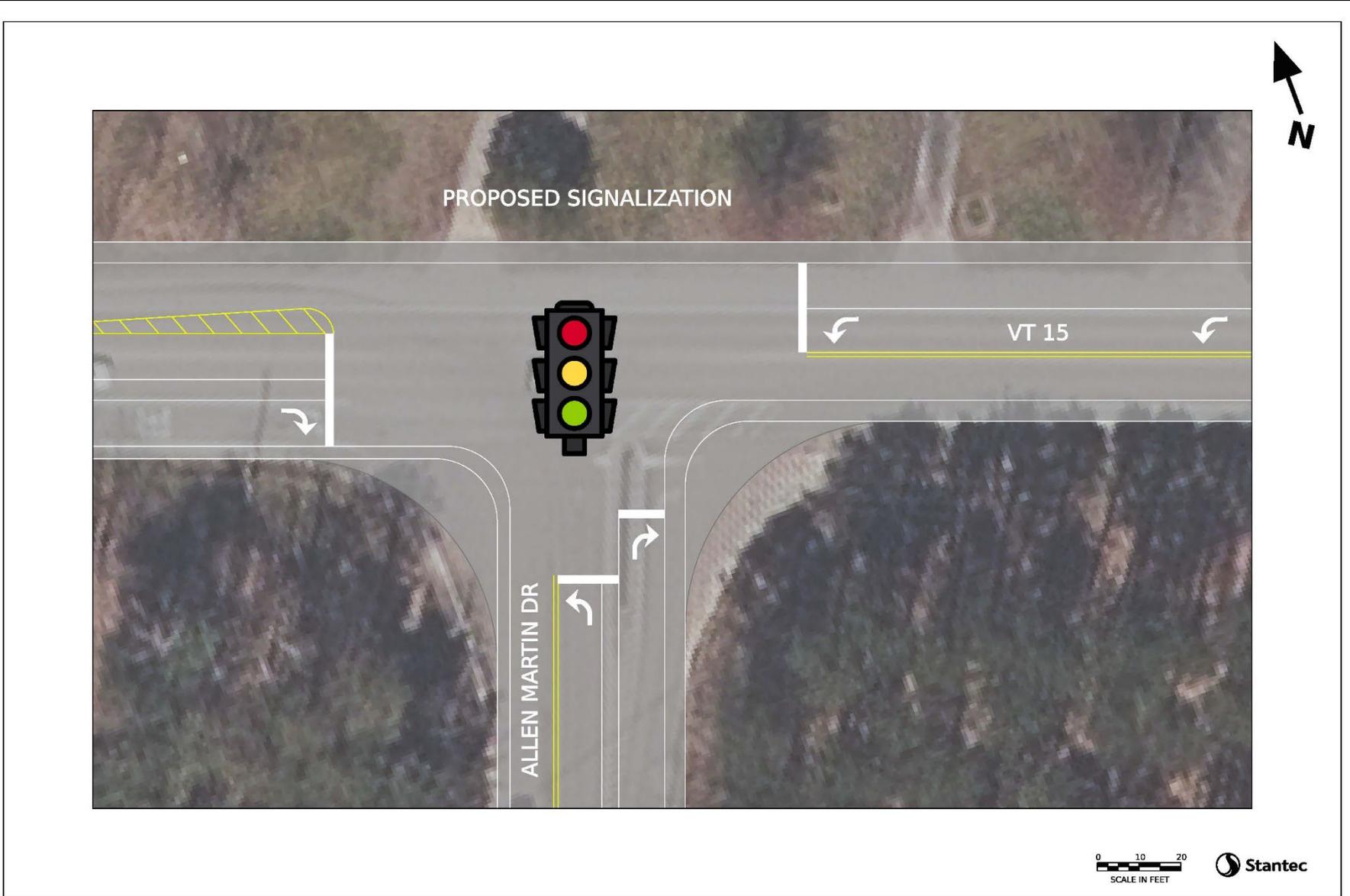
Existing Condition

VT 15 and Allen Martin Drive



Recommendation

VT 15 and Allen Martin Drive



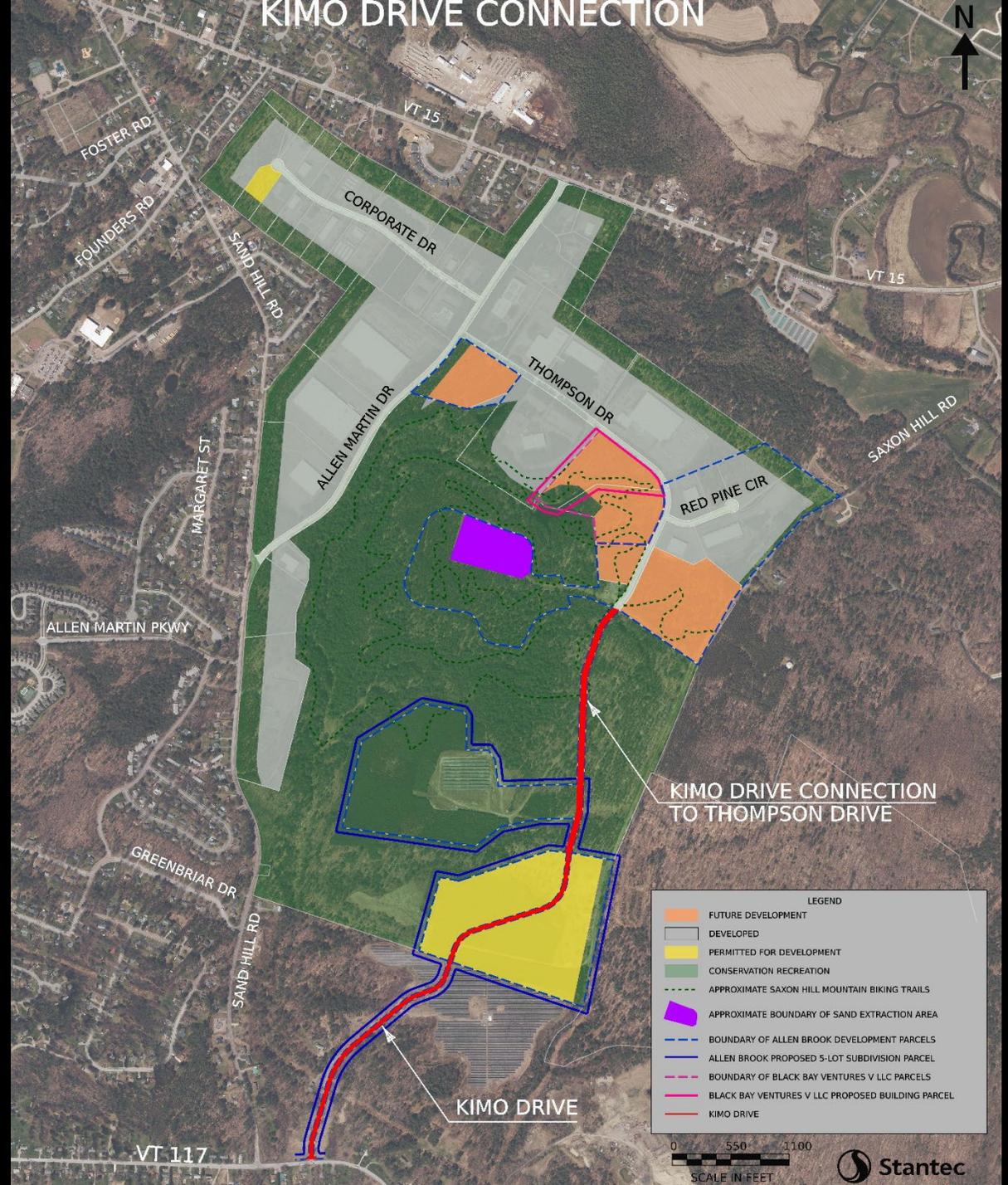
Signalize
Intersection

State Project
Long Term

Recommendation

Kimo Drive Connection

- Removes most 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)
- Developer Project
- Medium/Long 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	Timeframe	Responsible Party
11	Allen Martin Dr / Thompson Dr	Safety & Intersection Operations	Crosswalk Markings & Minor Road Turn Lanes	Short Term / Medium Term	Town
13	Lower Sand Hill Rd	Safety – Pedestrian Facilities	Grass Buffer	Medium Term	Town
14	Lower Sand Hill Rd	Safety – Bicycle Facilities	Bike Lanes	Medium Term	Town
17	VT 15 / Allen Martin Dr	Intersection Operations	Signalization	Long Term	State
18	Entire Network	Residential Impacts of Truck Routes	Connect Kimo Dr to Thompson Dr as Future Truck Access Route	Medium Term / Long Term	Developer
19	Entire Network	N/A	Monitor Conditions: Conduct Traffic Study in 2035	Long Term	Town / CCRPC

Questions,
Answers,
Feedback



Next Steps

- Finalize & Submit Report

Thank You!

Aaron Martin, Town of
Essex

amartin@ESSEX.ORG

Sai Sarepalli, CCRPC:

ssarepalli@ccrpcvt.org

Kent Johnson, Town of
Essex

kjohnson@essex.org

Sean Neely, Stantec:

sneely@stantec.com

Supplemental Information

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

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

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

Existing Truck Travel Data

12 Hours – 6am to 6pm

Truck Trip Distribution Throughout Day

