

Essex Pearl St Multimodal Improvements Scoping Study

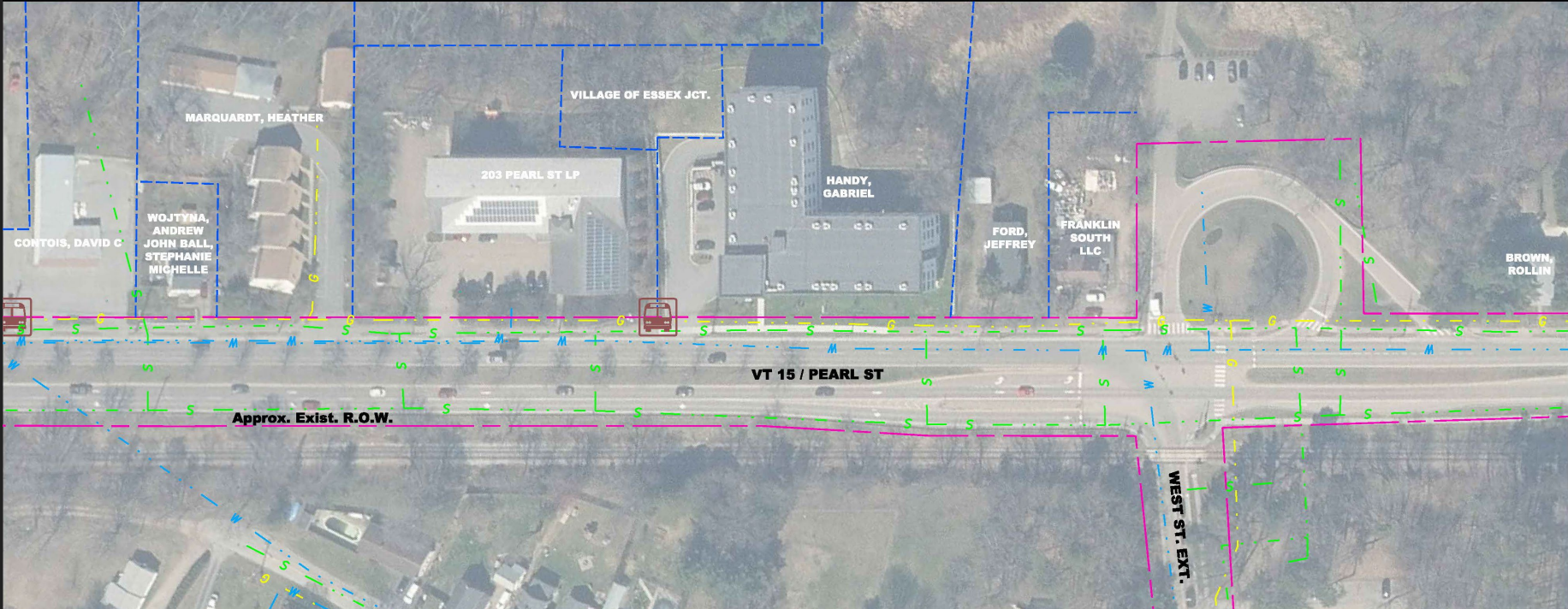
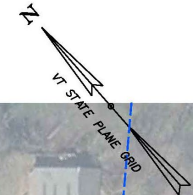
Planning Commission – 08/07/2025




Agenda


- Background – 2018 Scoping Study
- Purpose & Need
- Review Alternatives:
 - Previous 2018 Study Alternatives and Cost Estimate Updates
 - New 2025 Alternative and Cost Estimate
- Questions/Comments/Input
- Next Steps


PEARL STREET MULTIMODAL SCOPING STUDY - BASE MAP





LEGEND


 **TRANSIT STOP**


 **SEWER LINE**


 **VT GAS LINE**

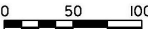
 **WATERLINE**


 **CULVERT**

 **STATE RIGHT OF WAY**

 **TOWN RIGHT OF WAY**

 **PARCEL BOUNDARY**


SCALE IN FEET



Purpose & Need Statement

Current Study

Purpose:

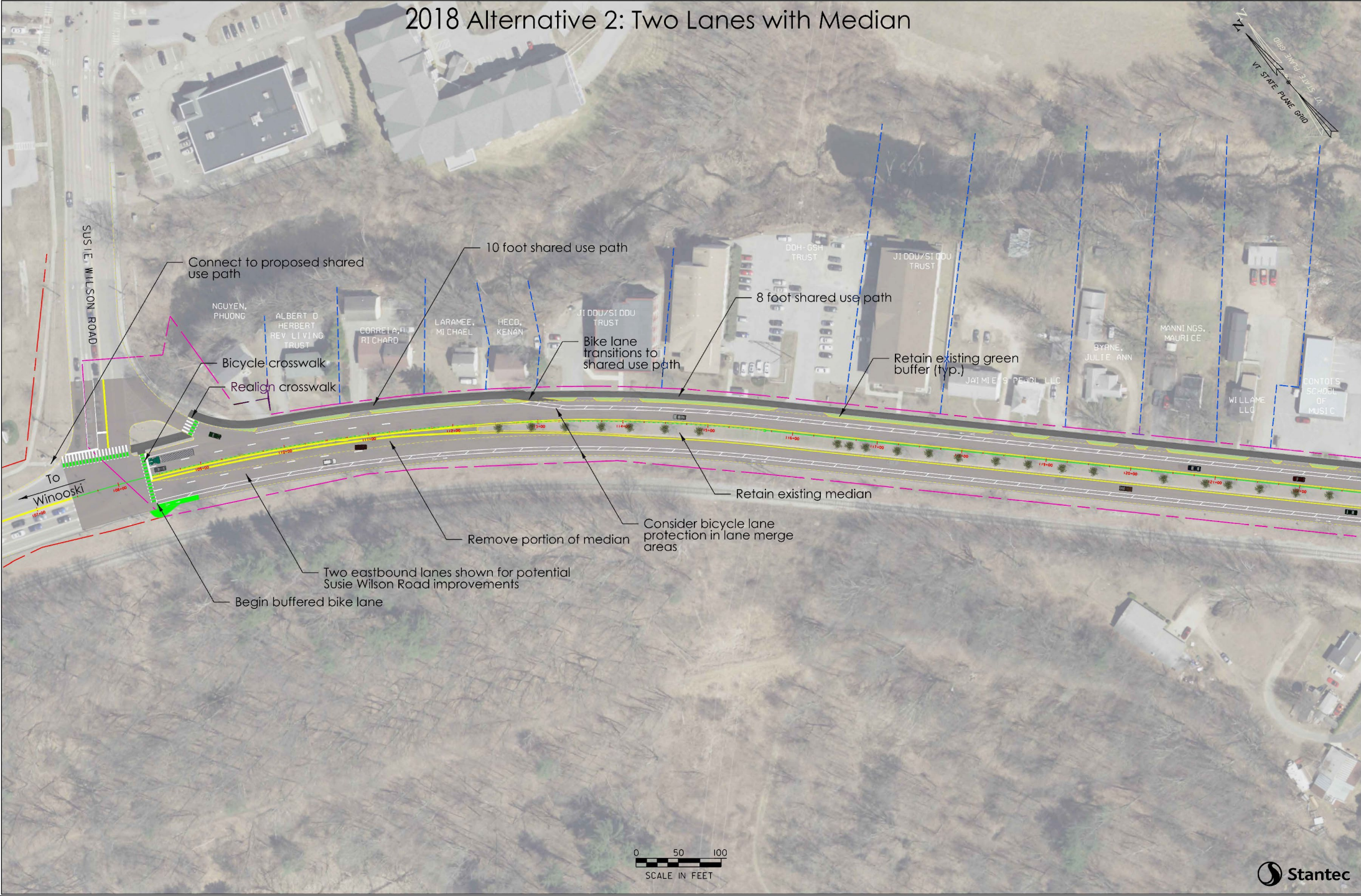
The purpose of this project is to provide safe, visible, comfortable, and convenient multimodal accommodations, including improved transit facilities, that connect existing and/or planned facilities on Pearl Street (VT Route 15) between Susie Wilson Road and West Street extension, for use by all ages, abilities, and trip purposes, while maintaining safe and efficient vehicular and pedestrian conditions on VT Route 15.

Need:

1. There is a need to complete a missing bicycle facility link in the City, Town, and regional bicycle network.
2. There is a need to provide an inviting travel corridor for a growing number of residents and bicycle commuters that reinforces the City's, Town's, and region's goals for pedestrian and bicycle mobility.
3. There is a need to identify short- and medium-term improvements that can be accomplished within the existing resources secured by the City of Essex.

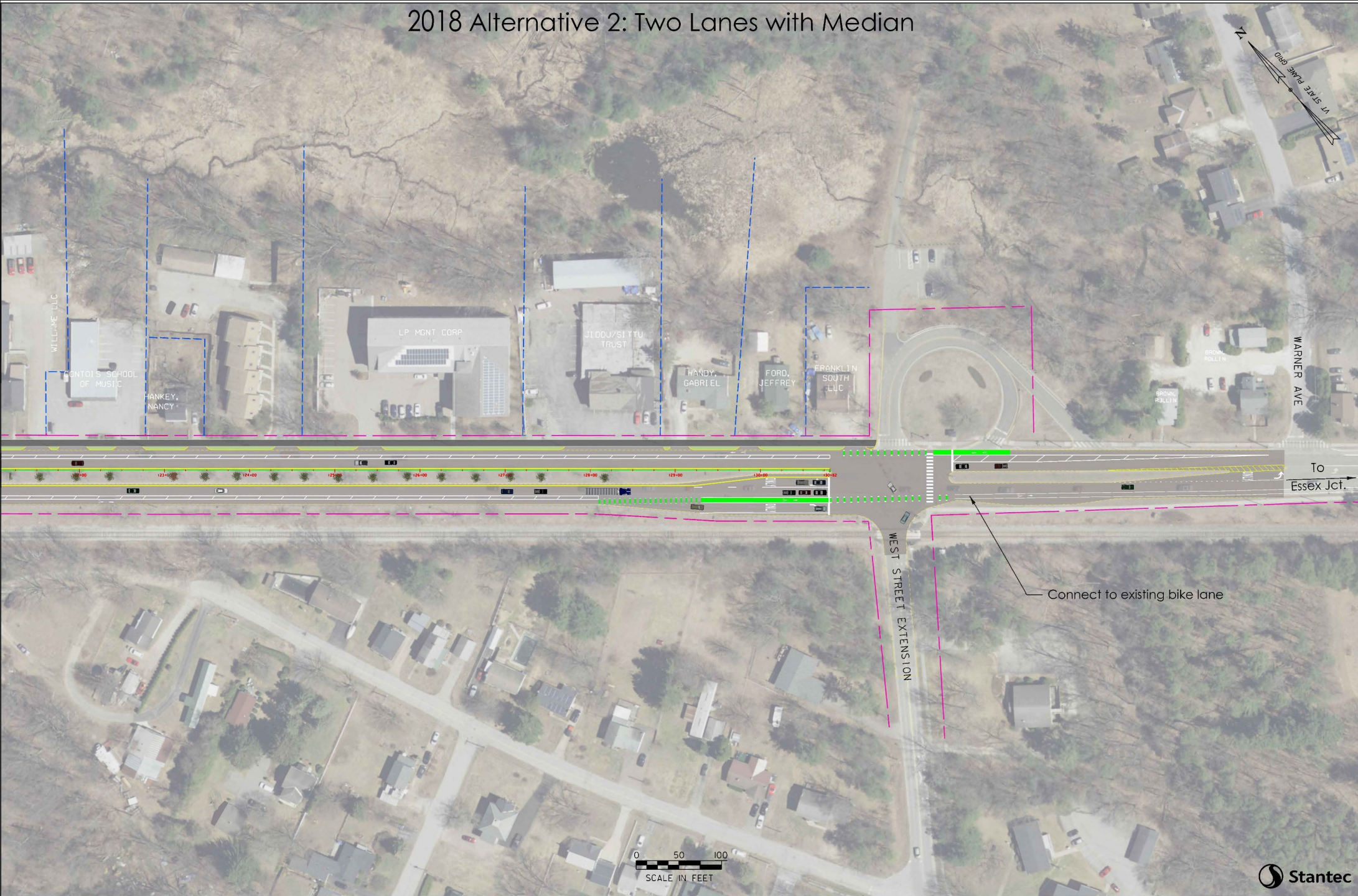
2018

2018 Alternative 2: Two Lanes with Median



2018

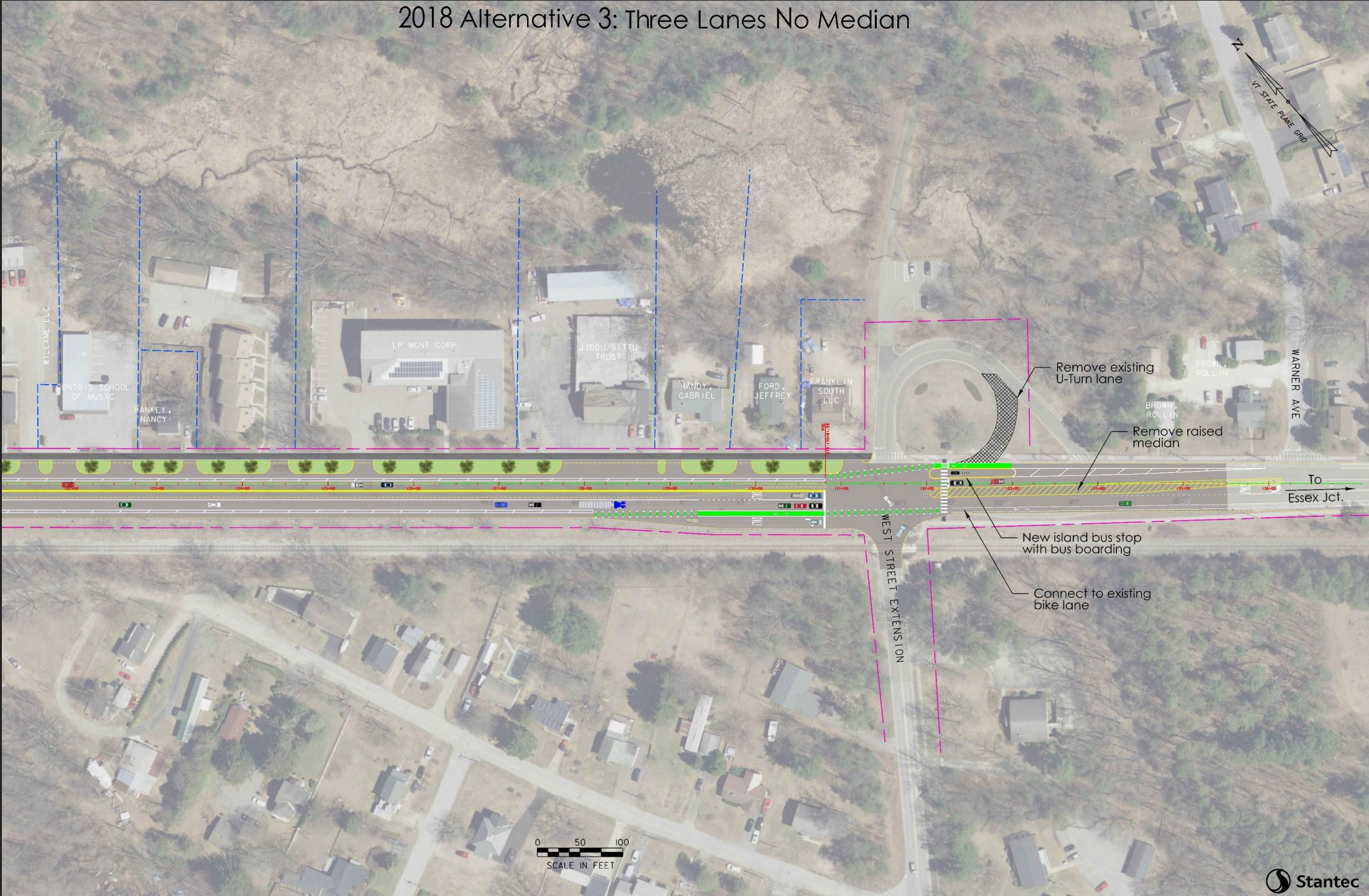
2018 Alternative 2: Two Lanes with Median





2018

2018 Alternative 3: Three Lanes No Median

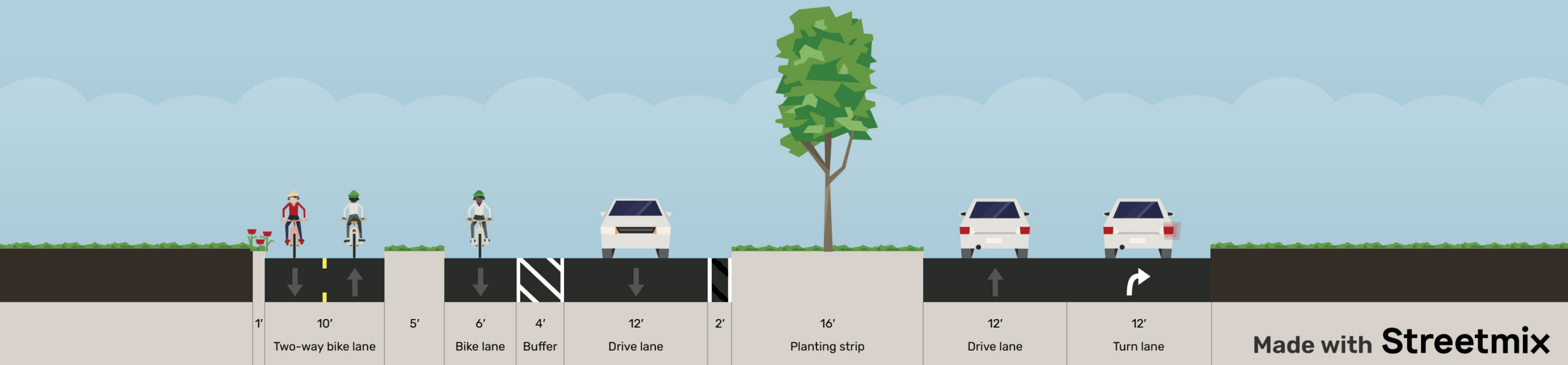
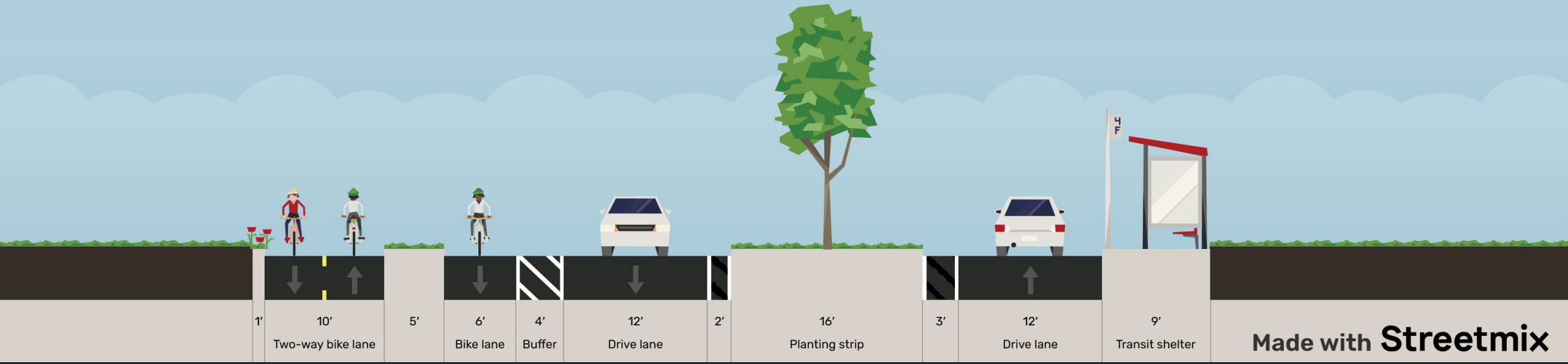


2025 Alternative 2

Existing Curbs, 10-foot Separated Shared-use Path, Transit Stop

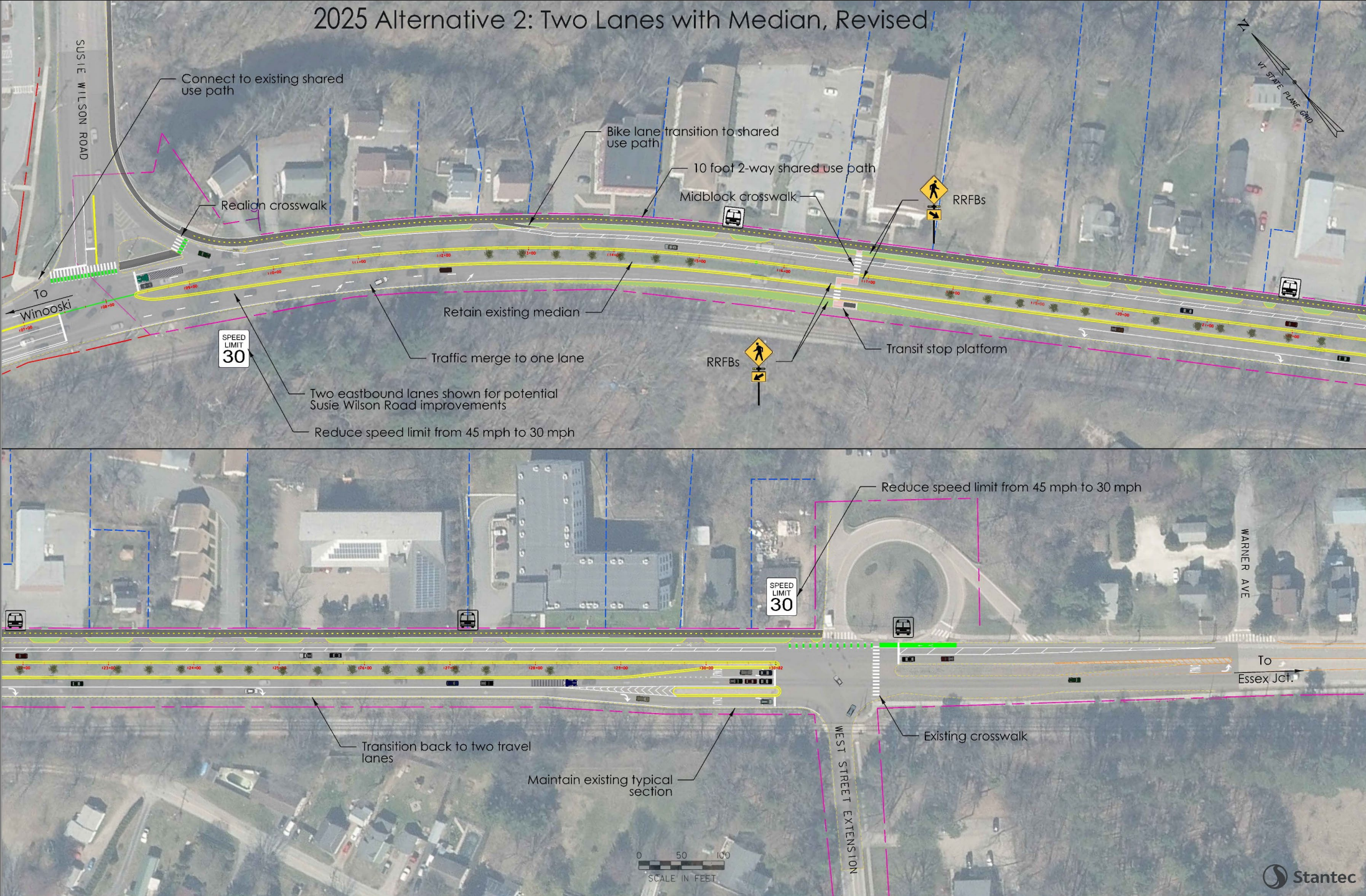
This alternative retains most of the existing median and curbs. The existing two-lane westbound roadway reduced to one lane, with a buffered bike lane, and the adjacent sidewalk is converted to a 10-foot shared-use path separated from the roadway by a 5-foot grass median. The existing two-lane eastbound roadway is primarily maintained as is, except for a narrowing to one-lane approximately mid-way through the study area to accommodate a public transit stop with a mid-block pedestrian crossing.

Typical Sections – 2025 Alternative 2



2025

2025 Alternative 2: Two Lanes with Median, Revised



Project Costs (adjusted to reflect 2025 costs)

Item	2018 Alternative 1 No Action	2018 Alternative 2 (2 lanes with Median)	2018 Alternative 3 (3 Lanes No Median)	2018 Option A (EAA to SWR Bike Lane)	2025 Alternative 2 (2 lanes with Median, Revised)
Construction Costs	\$0	\$1,450,000	\$3,400,000	\$310,000	\$760,000
Right-of-Way Costs	\$0	\$10,000	\$10,000	\$0	\$10,000
Design Engineering	\$0	\$218,000	\$510,000	\$47,000	\$114,000
Construction Engineering	\$0	\$145,000	\$340,000	\$31,000	\$76,000
TOTAL PROJECT COSTS	\$0	\$1,823,000	\$4,260,000	\$388,000	\$960,000

Cost of Median Removal Alone

Item	Median Removal
Construction Costs	\$1,450,000
Right-of-Way Costs	\$0
Design Engineering	\$218,000
Construction Engineering	\$145,000
TOTAL PROJECT COSTS	\$1,823,000

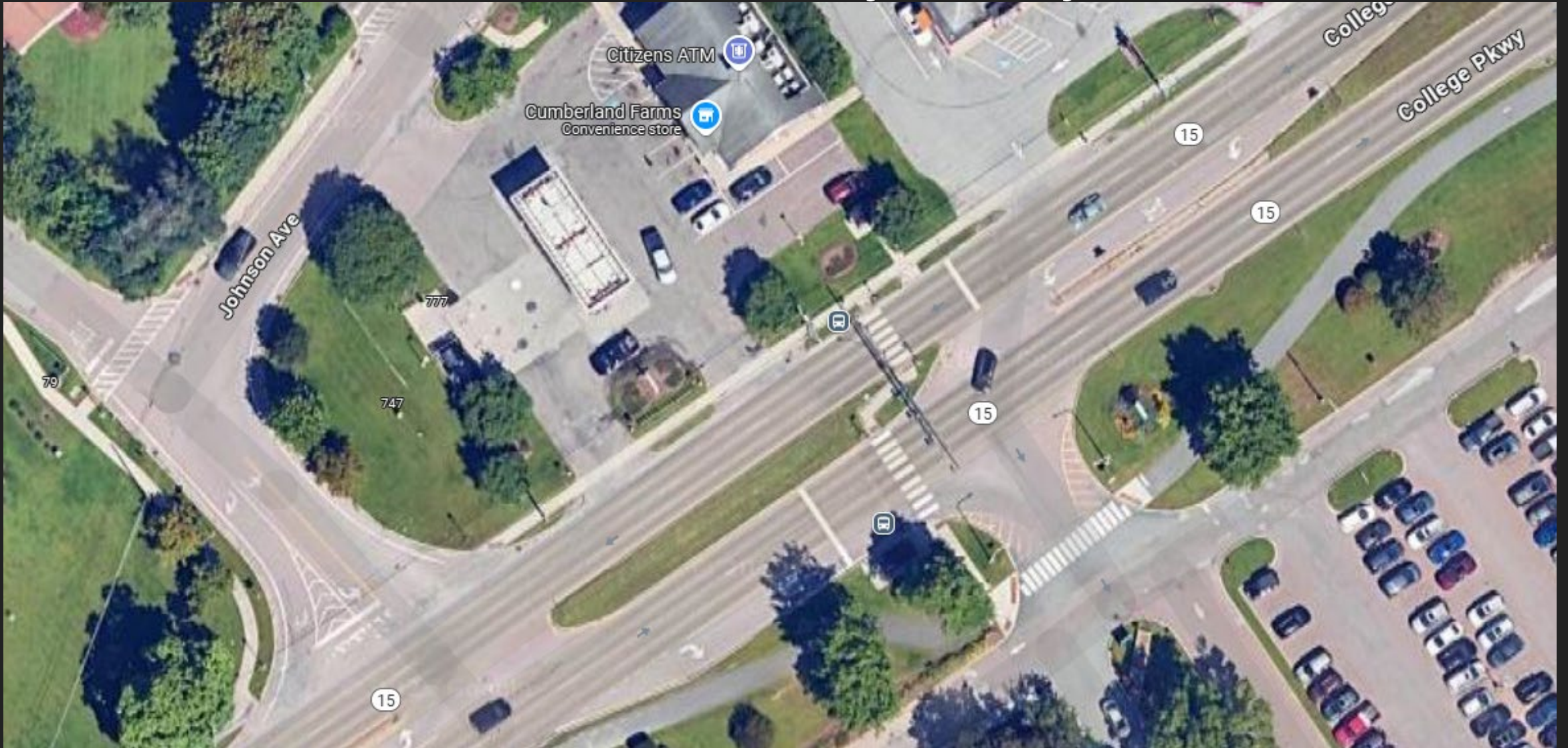
Mid-block Crossing

VTrans Criteria for Installation

- ☐ Speed limit is 40 mph or less
- ☐ 20 or more pedestrians using the crossing per hour during the highest pedestrian volume hour (elementary school age and elderly pedestrians count as 2 each)
- ☐ AADT exceeds 3,000 vehicles per day (VT Route 15 – East of Susie Wilson Road = 16,800 AADT)
- ☐ There is a sidewalk or adequate shoulder for use by pedestrians.
- ☐ There is not another crosswalk across the same roadway within 200 feet;
- ☐ A determination has been made that the pedestrian shall have the right of way over the vehicular traffic;
- ☐ There is adequate sight distance (equal to or exceeding the stopping sight distance for the posted speed) available in both directions.

Crosswalks should not be marked on 3 or 4 lane roadways with AADT greater than 9,000 vehicles per day unless other crosswalk enhancements, such as **pedestrian refuge islands, advanced yield lines, or rectangular rapid flashing beacons are included.**

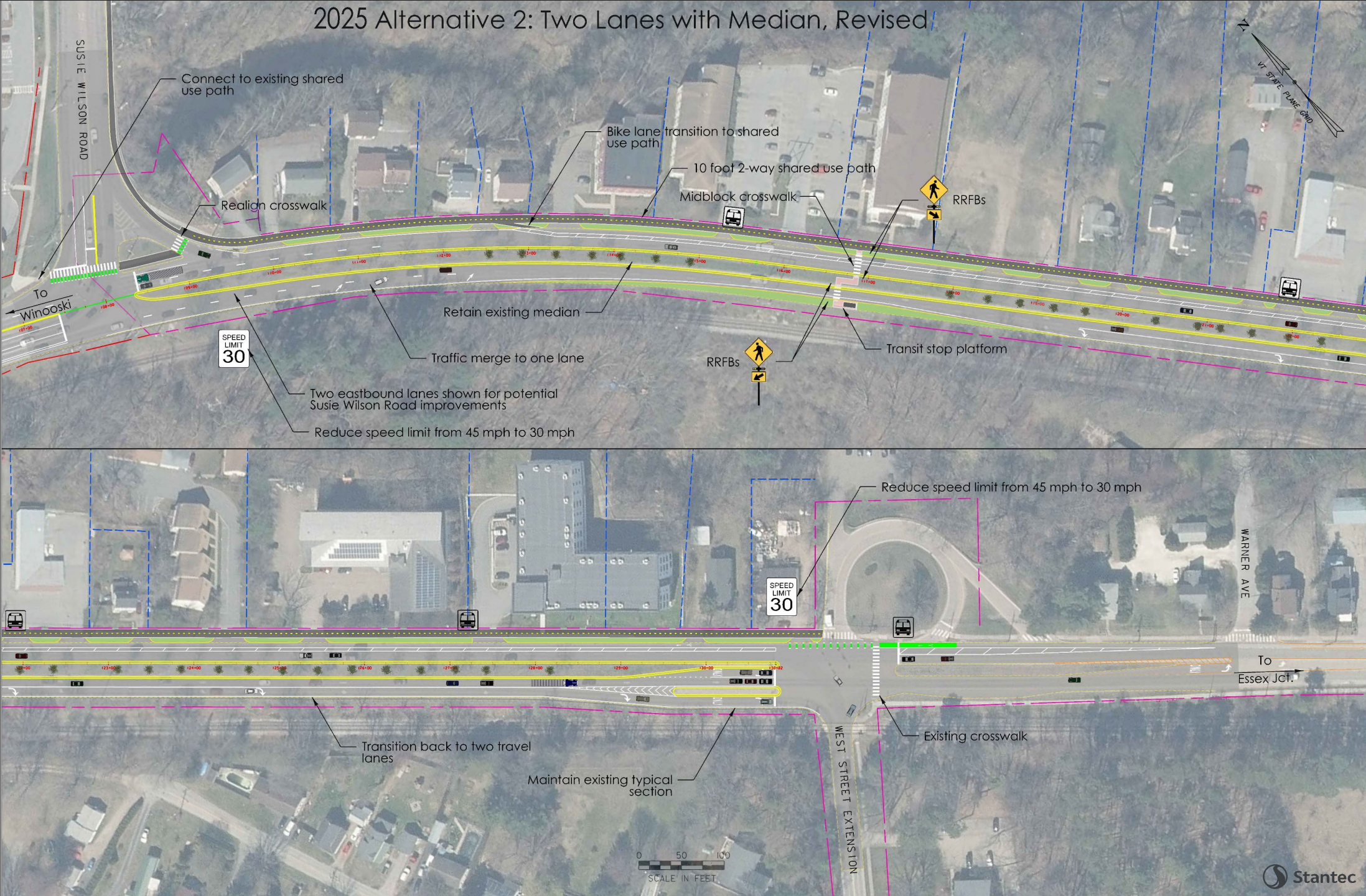
Colchester RT 15 by Fanny Allen



Alternatives Comparison

Item	Alternative 1 No Action	2018 Alternative 2 (2 lanes with Median)	2018 Alternative 3 (3 Lanes No Median)	2025 Alternative 2 (2 lanes with Median, Revised)
Project Costs	\$0	\$1,823,000	\$4,260,000	\$960,000
Complete Missing Bicycle Link	No	Yes	Yes	Yes
Inviting Corridor for Bike/Ped Mobility	No	Yes	Yes	Yes
Use by All Ages & Experience Levels	No	Yes	Yes	Yes
Transit Access	No Change	No Change	No Change	EB Bus Stop Added
Safety	No Improvement	Improved	Improved	Improved
Within Available Budget	Yes	No	No	Yes

Questions/
Comments/
Input



Next Steps

- Incorporate comments
- Consider additional alternative
- Complete alternatives evaluation
- Alternatives refinement
- Selection of preferred alternative
- Report and Implementation Plan

Thank you!

Christine Forde, CCRPC
cforde@ccrpcvt.org

Chris Yuen, City of Essex Junction
cyuen@essexjunction.org

Sean Neely, Stantec:
sneely@stantec.com

Additional Information

COSTS: 2018 Alternative 2 – Updated to 2025

Item No.	Item Description	Unit	Unit Price	Quantity	\$
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	Lump Sum	\$10,000.00	1	\$10,000.00
203.1500	Common Excavation	Cubic Yard	\$35.00	1550	\$54,250.00
203.1600	Solid Rock Excavation	Cubic Yard	\$120.00	80	\$9,600.00
210.1000	Coarse-Milling, Bituminous Pavement	Square Yard	\$4.00	19200	\$76,800.00
301.3500	Subbase of Dense Graded Crushed Stone	Cubic Yard	\$60.00	1550	\$93,000.00
406.0230	Bituminous Concrete Pavement, Type IIS, QA Tier III	Ton	\$195.00	375	\$73,125.00
406.0410	Bituminous Concrete Pavement, Type IVS, QA Tier I	Ton	\$125.00	3025	\$378,125.00
616.4100	Removal of Existing Curb	Linear Foot	\$7.00	1155	\$8,085.00
618.1500	Bituminous Concrete Sidewalk	Ton	\$235.00	250	\$58,750.00
630.1000	Uniformed Traffic Officers	Hour	\$100.00	500	\$50,000.00
630.1500	Flaggers	Hour	\$50.00	500	\$25,000.00
635.1100	Mobilization/Demobilization (Est 12%)	Lump Sum	\$128,959.49	1	\$128,959.49
641.1000	Traffic Control	Lump Sum	\$115,142.40	1	\$115,142.40
646.4030	Durable 4 Inch White Line, Epoxy Paint	Linear Foot	\$1.40	10700	\$14,980.00
646.4130	Durable 4 Inch Yellow Line, Epoxy Paint	Linear Foot	\$1.60	5300	\$8,480.00
646.4830	Durable 24 Inch Stop Bar, Epoxy Paint	Linear Foot	\$15.00	170	\$2,550.00
646.4930	Durable Letter or Symbol, Epoxy Paint	Each	\$175.00	20	\$3,500.00
646.5030	Durable Crosswalk Marking, Epoxy Paint	Linear Foot	\$30.00	130	\$3,900.00
646.9001	Colored Pavement Markings, Green	Square Foot	\$19.00	3125	\$59,375.00
900.6450	Lump Sum Project, J (ADD PED PHASE TO EX. SIGNAL SYSTEM)	Lump Sum	\$30,000.00	1	\$30,000.00
				Subtotal	\$1,203,621.89
				Contingency	20.00%
				Total	\$1,450,000.00

COSTS: 2018 Alternative 3 – Updated to 2025

Item No.	Item Description	Unit	Unit Price	Quantity	\$
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	Lump Sum	\$20,000.00	1	\$20,000.00
203.1500	Common Excavation	Cubic Yard	\$35.00	7200	\$252,000.00
203.1600	Solid Rock Excavation	Cubic Yard	\$120.00	360	\$43,200.00
210.1000	Coarse-Milling, Bituminous Pavement	Square Yard	\$5.00	14200	\$71,000.00
301.3500	Subbase of Dense Graded Crushed Stone	Cubic Yard	\$60.00	5900	\$354,000.00
406.0220	Bituminous Concrete Pavement, Type IIS, QA Tier II	Ton	\$155.00	2250	\$348,750.00
406.0410	Bituminous Concrete Pavement, Type IVS, QA Tier I	Ton	\$120.00	3450	\$414,000.00
601.2615	18 Inch CPEP(SL)	Linear Foot	\$120.00	320	\$38,400.00
604.2000	Precast Reinforced Concrete Catch Basin with Cast Iron Grate	Each	\$7,500.00	4	\$30,000.00
604.4101	Rehabilitating DIs, Catch Basins, or Manholes, Class I	Each	\$1,700.00	16	\$27,200.00
616.2100	Vertical Granite Curb	Linear Foot	\$95.00	2800	\$266,000.00
616.4100	Removal of Existing Curb	Linear Foot	\$7.00	1155	\$8,085.00
618.1500	Bituminous Concrete Sidewalk	Ton	\$235.00	275	\$64,625.00
630.1000	Uniformed Traffic Officers	Hour	\$100.00	1300	\$130,000.00
630.1500	Flaggers	Hour	\$50.00	1300	\$65,000.00
635.1100	Mobilization/Demobilization (Est. 12%)	Lump Sum	\$282,605.40	1	\$282,605.40
641.1000	Traffic Control (Est 8%)	Lump Sum	\$188,403.60	1	\$188,403.60
646.4030	Durable 4 Inch White Line, Epoxy Paint	Linear Foot	\$1.40	10700	\$14,980.00
646.4130	Durable 4 Inch Yellow Line, Epoxy Paint	Linear Foot	\$1.60	5300	\$8,480.00
646.4830	Durable 24 Inch Stop Bar, Epoxy Paint	Linear Foot	\$15.00	170	\$2,550.00
646.4930	Durable Letter or Symbol, Epoxy Paint	Each	\$175.00	20	\$3,500.00
646.5030	Durable Crosswalk Marking, Epoxy Paint	Linear Foot	\$30.00	130	\$3,900.00
646.9001	Colored Pavement Markings, Green	Square Foot	\$19.00	3125	\$59,375.00
900.6450	Lump Sum Project, . (STORMWATER TREATMENT)	Lump Sum	\$50,000.00	1	\$50,000.00
900.6450	Lump Sum Project, . (LANDSCAPING)	Lump Sum	\$50,000.00	1	\$50,000.00
900.6450	Lump Sum Project, . (ADD PED PHASE TO EX. SIGNAL SYSTEM)	Lump Sum	\$30,000.00	1	\$30,000.00
				Subtotal	\$2,826,054.00
				Contingency	20.00%
				Total	\$3,400,000.00

COSTS: 2025 Alternative 2

Item No.	Item Description	Unit	Unit Price	Quantity	\$
201.1000	Clearing and Grubbing, Including Individual Trees and Stumps	Lump Sum	\$10,000.00	1	\$10,000.00
203.1500	Common Excavation	Cubic Yard	\$35.00	1700	\$59,500.00
203.1600	Solid Rock Excavation	Cubic Yard	\$120.00	90	\$10,800.00
210.1000	Coarse-Milling, Bituminous Pavement	Square Yard	\$4.00	600	\$2,400.00
301.3500	Subbase of Dense Graded Crushed Stone	Cubic Yard	\$60.00	1200	\$72,000.00
406.0230	Bituminous Concrete Pavement, Type IIS, QA Tier III	Ton	\$195.00	0	\$0.00
	Pedestrian Scale Street Lights	Each	\$10,000.00	5	\$50,000.00
616.4100	Removal of Existing Curb	Linear Foot	\$7.00	1155	\$8,085.00
616.2100	Vertical Granite Curb	Linear Foot	\$100.00	700	\$70,000.00
618.1005	Portland Cement Concrete Sidewalk, 5 Inch	Square Yard	\$115.00	60	\$6,900.00
618.1500	Bituminous Concrete Sidewalk	Ton	\$200.00	350	\$70,000.00
630.1000	Uniformed Traffic Officers	Hour	\$100.00	400	\$40,000.00
630.1500	Flaggers	Hour	\$50.00	1000	\$50,000.00
635.1100	Mobilization/Demobilization (Est 12%)	Lump Sum	\$63,148.44	1	\$63,148.44
641.1000	Traffic Control	Lump Sum	\$50,000.00	1	\$50,000.00
646.4030	Durable 4 Inch White Line, Epoxy Paint	Linear Foot	\$1.40	4280	\$5,992.00
646.4130	Durable 4 Inch Yellow Line, Epoxy Paint	Linear Foot	\$1.60	3100	\$4,960.00
646.4830	Durable 24 Inch Stop Bar, Epoxy Paint	Linear Foot	\$15.00	60	\$900.00
646.4930	Durable Letter or Symbol, Epoxy Paint	Each	\$175.00	60	\$10,500.00
646.5030	Durable Crosswalk Marking, Epoxy Paint	Linear Foot	\$30.00	140	\$4,200.00
646.9001	Colored Pavement Markings, Green	Square Foot	\$19.00	0	\$0.00
900.6450	Lump Sum Project, J1 (ADD PED PHASE TO EX. SIGNAL SYSTEM)	Lump Sum	\$30,000.00	0	\$0.00
678.2020003	RRFB, Solar-Powered, Single Sided	Each	\$10,000.00	4	\$40,000.00
				Subtotal	\$629,385.44
				Contingency	20.00%
				Total	\$760,000.00

COSTS: Median Removal (Construction Only)

Item Description							Unit	Unit Price	Quantity	\$
Clearing and Grubbing, Including Individual Trees and Stumps							Lump Sum	\$15,000.00	1	\$15,000.00
Common Excavation							Cubic Yard	\$30.00	4500	\$135,000.00
Solid Rock Excavation							Cubic Yard	\$120.00	50	\$6,000.00
Subbase of Dense Graded Crushed Stone							Cubic Yard	\$60.00	3600	\$216,000.00
Bituminous Concrete Pavement, Type IIS, QA Tier II							Ton	\$155.00	1575	\$244,125.00
Bituminous Concrete Pavement, Type IVS, QA Tier III							Ton	\$175.00	950	\$166,250.00
18 Inch CPEP(SL)							Linear Foot	\$110.00	320	\$35,200.00
Precast Reinforced Concrete Catch Basin with Cast Iron Grate							Each	\$7,500.00	4	\$30,000.00
Rehabilitating DIs, Catch Basins, or Manholes, Class I							Each	\$1,700.00	16	\$27,200.00
Removal of Existing Curb							Linear Foot	\$7.00	1155	\$8,085.00
Uniformed Traffic Officers							Hour	\$100.00	200	\$20,000.00
Flaggers							Hour	\$50.00	1000	\$50,000.00
Mobilization/Demobilization (Est. 12%)							Lump Sum	\$123,193.20	1	\$123,193.20
Traffic Control, All-Inclusive (Est 10%)							Lump Sum	\$102,661.00	1	\$102,661.00
Durable 4 Inch White Line, Epoxy Paint							Linear Foot	\$1.40	9200	\$12,880.00
Durable 4 Inch Yellow Line, Epoxy Paint							Linear Foot	\$1.60	5200	\$8,320.00
Durable 24 Inch Stop Bar, Epoxy Paint							Linear Foot	\$15.00	170	\$2,550.00
Lump Sum Project, J6 (STORMWATER TREATMENT)							Lump Sum	\$50,000.00	1	\$50,000.00
									Subtotal	\$1,252,464.20
									Contingency	15.00%
									Total	\$1,450,000.00

Purpose & Need Statement

Previous Study

Purpose:

The purpose of this project is to provide a safe, visible, comfortable, convenient, and direct bicycle facility connecting existing and/or planned facilities on VT Route 15 between (Ethan Allen Avenue) Susie Wilson Road and West Street extension, for bicyclists of various ages and abilities, while maintaining safe and efficient vehicular and pedestrian conditions on VT Route 15.

Need:

1. Complete a missing bicycle facility link in the town, village, and regional bicycle network.
2. Provide an inviting travel corridor for a growing number of residents and bicycle commuters that reinforces the Town's, Village's and Region's goals for pedestrian and bicycle mobility.
3. Facilitate use by all age groups, experience levels, and trip purposes.

Purpose & Need Statement

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Need:

1. Complete a missing bicycle facility link in the town, village, and regional bicycle network.

- VT Route 15 is an important regional transportation corridor that was reconstructed in the 1960's as a median divided highway with four (4) 12-foot lanes. It has long been recognized that this area of VT Route 15 lacks bicycle facilities and while some improvements have been constructed, gaps remain. East of the study area bicycle lanes exist along VT Route 15 from West Street Extension to the Five Corners intersection and beyond. West of the study area a shared use path from Lime Kiln Road to Susie Wilson Road has been designed and construction is expected in 2022. This leaves a missing link in the bicycle network from Susie Wilson Road to West Street extension.

2. Provide an inviting travel corridor for a growing number of residents and bicycle commuters that reinforces the Town's, Village's and Region's goals for pedestrian and bicycle mobility.

- Land use and zoning changes in the project area have introduced a greater need to connect corridor residents to surrounding destinations. The 2016 Essex Town Plan states the following specific transportation policy: "Multiple modes of transportation that connect residents to schools, workplaces, shopping centers and recreational areas shall be supported." The 2014 Village Comprehensive Plan objectives include: continuing to increase the number of sidewalks and other facilities to support bike and pedestrian travel, making it easier for residents to visit downtown businesses; provide well-marked bike and pedestrian lanes, to encourage safety by allowing residents to comfortably and securely navigate the community; and promote and implement strategies to encourage the use of bicycles as alternate transportation modes.

3. Facilitate use by all age groups, experience levels, and trip purposes.

- The current facility – VT Route 15 roadway and existing sidewalk - is challenging for all bicycle users, including the most experienced and confident cyclists. The existing roadway is posted at 45 mph and has 4 lanes, 12-feet wide, and no shoulders for much of the corridor. This discourages would-be commuters and recreational cyclists needing to travel along VT Route 15. This connection would provide access to schools, shopping centers, and workplaces and therefore it is expected to be used by a wide range of ages and abilities.

Purpose & Need Statement

Current Study

Purpose: The purpose of this project is to provide safe, visible, comfortable, and convenient multimodal accommodations, including improved transit facilities, that connect existing and/or planned facilities on Pearl Street (VT Route 15) between Susie Wilson Road and West Street extension, for use by all ages, abilities, and trip purposes, while maintaining safe and efficient vehicular and pedestrian conditions on VT Route 15.

Need:

1. There is a need to complete a missing bicycle facility link in the City, Town, and regional bicycle network.

- VT Route 15 is an important regional transportation corridor that was reconstructed in the 1960's as a median divided highway with four (4) 12-foot lanes. A shared use path runs from Lime Kiln Road and ends at Susie Wilson Road. On-street bike lanes run from West Street Extension towards Five Corners. This leaves a missing link in the bicycle network from Susie Wilson Road to West Street extension.
- The City of Essex Junction Community and Strategic Action Plan (2024) identifies the need to "Develop a citywide multimodal transportation plan." The public input identified in the plan indicates a demand for safe bicycle facilities and specifically calls out the need for bicycle facilities on VT 15.
- The Essex Town Plan (2024) identifies the need to "Transition from an auto-centric focus to a multi-modal focus that increases attention and investment in walking, biking, and transit use." It also identifies that "multiple modes of transportation that connect residents to schools, workplaces, shopping centers and recreational areas shall be supported."

2. There is a need to provide an inviting travel corridor for a growing number of residents and bicycle commuters that reinforces the City's, Town's, and region's goals for pedestrian and bicycle mobility.

- There continues to be residential and commercial growth in the project area [cite plan/study]. There are no existing dedicated bicycle facilities within the project area. Bicyclists and pedestrians of all ages and abilities currently share a sidewalk that was not designed for this shared use. The Chittenden County Regional Active Transportation Plan (2022) identifies this segment of the Pearl Street corridor as a medium priority for making improvements to the countywide bicycle network. Due to its roadway characteristics, the regional plan also identifies this segment of Pearl Street as a high traffic stress segment.
- The City of Essex Junction Community and Strategic Action Plan (2024) indicates the need to enhance transportation safety. The plan states, "To create a walkable and bikeable community will require a focus on safety."
- The Essex Town Plan (2024) identifies a goal to "develop and implement a Safe System Approach to more effectively address traffic safety issues." Public input from the 2018 scoping study indicates that the public expressed concerns about safety for bicyclists and pedestrians in this area. The public preferred the idea of providing off-road bicycle facilities such as a shared use path versus providing on-road bicycle lanes. The public also identified the need to improve safety for the crosswalk at the Susie Wilson Road intersection.

3. There is a need to identify short- and medium-term improvements that can be accomplished within the existing resources secured by the City of Essex.

- The City has funds available for the design and construction of improvements. If additional funding is available, potential add-on improvements could be included.

Existing Conditions

Traffic Operations

		2017 Existing			2025 Existing		
	Peak Hour	LOS ¹	Delay ²	V/C ³	LOS ¹	Delay ²	V/C ³
<u>Signalized Intersections</u>							
VT Route 15 / Susie Wilson Rd							
	AM	C	27.0	0.76	C	32.2	0.68
	PM	D	44.0	0.87	D	37.4	0.81
VT Route 15 / West Street Ext							
	AM	A	9.6	0.48	B	14.5	0.72
	PM	B	14.9	0.79	C	23.2	0.90