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TECHNICAL MEMORANDUM

TO: Mr. Joshua Crabb, Highway Superintendent
Fairhaven Highway Department
5 Arsene Street
Fairhaven, Massachusetts 02719

DATE: September 22, 2025

FROM: Samuel W. Gregorio, PE, PTOE, RSP_1, Senior Project Manager
Gerson M. Ribeiro EIT, Project Engineer

PROJ NO.: T1680

RE: Sconticut Neck Road / Manhattan Avenue / Little Bay Road – Fairhaven, Massachusetts
Traffic Operational & Safety Assessment

INTRODUCTION

TEC, Inc. (TEC) has been retained by the Town of Fairhaven (the "Town") to provide an evaluation of the existing traffic control, traffic operations, and traffic safety characteristics at the intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road in Fairhaven, Massachusetts. The four-legged two-way stop-controlled (TWSC) intersection is a critical crossroads at the north end of the Sconticut Neck peninsula serving the residential side-streets, adjacent commercial establishments, and recreational traffic. The geometrics of the intersection of further complicated by the offset alignment between both the Manhattan Avenue and Little Bay Road approaches, the Highland Avenue terminus directly west along Manhattan Avenue, and various open curb cuts for the surrounding commercial businesses. The location has been identified as a location of concern in the community.

TEC has evaluated the traffic operations and safety characteristics of the study intersection under base year and future year conditions consistent with the *Transportation Impact Assessment (TIA) Guidelines* issued by the Massachusetts Department of Transportation (MassDOT)[1] and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports. The future year examines traffic operations under a 10-year planning horizon (2035) for traffic volume projections, which includes an evaluation of the future year conditions with and without recommended improvements. The findings and recommendations for the improvements are based on the detailed traffic analyses included in this report.

EXISTING CONDITIONS

A field inventory of the existing conditions at the Sconticut Neck Road / Manhattan Avenue / Little Bay Road intersection was conducted by TEC staff in March and April of 2025 to obtain

[1] *Transportation Impact Assessment (TIA) Guidelines*; Massachusetts Department of Transportation; March 13, 2014.

information related to intersection geometrics, operating characteristics, and safety characteristics. A description of the existing roadway and intersection geometry is provided below. A graphical depiction of the study area is provided in Figure 1.

Geometry

Sconticut Neck Road Corridor

Sconticut Neck Road is a north-south urban minor arterial roadway local roadway under the jurisdiction of the Town of Fairhaven. The roadway provides a local connection between Huttleston Avenue (US Route 6) to the north and the southerly coastline Sconticut Neck to the south. Sconticut Neck Road ranges between ±23-feet and ±40-feet in width. The corridor generally provides a single travel lane in each direction with auxiliary turn and channelized lanes provided at its intersection with US Route 6 and at the Leroy Wood Elementary School. The directional flow along Sconticut Neck Road is separated by a marked centerline except for a short segment approaching US Route 6 where a raised asphalt median is also present and south of Starboard Drive at the southerly end.

Sidewalks are not continuous along the entire length of Sconticut Neck Road. There are segments where sidewalks are present on one or both sides of the roadway, and other segments where no dedicated pedestrian facility exists. Bicycle accommodation is not provided along the corridor; however, the shoulders at some sections are greater than 5 feet wide and can support bicycle travel comfortably. Land uses along Sconticut Neck Road are generally residential in nature except for the area near US Route 6 intersection and Little Bay Road where much of the land use is light commercial in nature.

There is no MassDOT Special Speed Regulation along Sconticut Neck Road. A majority of the corridor is therefore subject to a 30 mile per hour (mph) statutory speed limit under Massachusetts General Law (MGL) Chapter 90, Section 17 (Ch90 §17) for thickly settled / business districts in absence of a Special Speed Regulation. The segment between #551 Sconticut Neck Road to the north and Nobska Road to the south is generally not thickly settled and therefore is subject to a 40-mph statutory speed limit under the same MGL Ch90 §17. Note that prior to this assessment, 25-mph and 35-mph posted speed limits were present along the corridor; however, a documented Special Speed Regulation did not support these speed zones. The speed limit signs have since been removed from the corridor by the Town.

Currently, Sconticut Neck Road is undergoing construction as part of the Leroy Wood Elementary School Safe Routes to School Project (MassDOT Project #609518). During TEC's visit it was noted that there was a new sidewalk, curb ramps, utility work, and pavement patches along Sconticut Neck Road in the vicinity.

North

1" = 200'

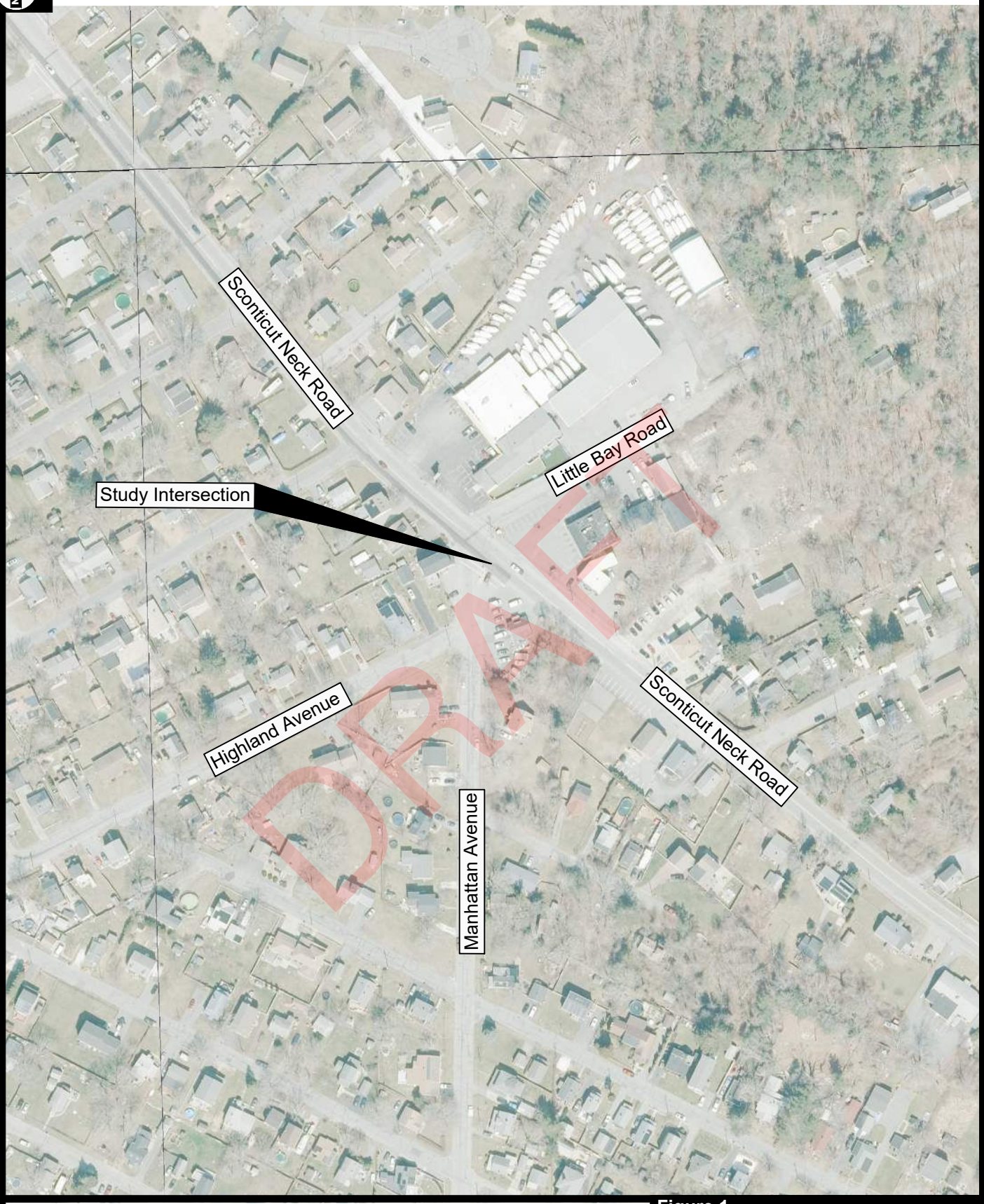

Figure 1

Locus Map
Existing Conditions

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Intersection Description

Manhattan Avenue and Little Bay Road intersect Sconticut Neck Road to form an offset four-legged, unsignalized intersection. Both Manhattan Avenue and Little Bay Road, local roads under the jurisdiction of the Town of Fairhaven, operate under stop-control while the Sconticut Neck Road northbound and southbound approaches are free-flowing. All four intersection approaches consist of single general-purpose travel lanes. Directional flow along Sconticut Neck Road is separated by a marked centerline. Directional flow along the Manhattan Avenue eastbound approach is separated by a raised concrete median while the Little Bay Road westbound approach is unmarked.

Image 1: View of the intersection from Sconticut Neck Road looking south.

An asphalt sidewalk is provided along the westerly side of Sconticut Neck Road through the intersection; however, no accessible pedestrian curb ramps are provided. A crosswalk is provided between these sidewalk segments across the Manhattan Avenue eastbound approach. Much of the intersection is absent of curbing or a traditional pavement edge to provide vertical and/or horizontal separation between vehicle and pedestrian traffic. There is no bicycle accommodation at the intersection. The entirety of the easterly side of roadway is a flush asphalt area between Sconticut Neck Road and surface parking areas. Because of this, traffic access/egressing the Friendly Farm Convenience Store (#121 Sconticut Neck Road) operates as the intersection's fifth leg.

Public Transportation

The Southeastern Regional Transit Authority (SRTA) provides bus service in the vicinity of the study intersection via Bus Route 211 – "Fairhaven." The route crosses over Sconticut Neck Road approximately 2,300 feet north of the intersection between David Drown Boulevard and Stop & Shop. The bus route operates between the SRTA New Bedford Terminal and Stop & Shop with key stops at Market Basket New Bedford, Fairhaven High School, Southcoast Health in Fairhaven, Walmart Fairhaven, Fairhaven Commons, and Plaza Way in Fairhaven. The route operates outbound from the SRTA New Bedford Terminal on weekdays at 30-minute headways between 6:05 AM to 5:35 PM and inbound from Stop & Shop at 30-minute headways between 6:45 AM to 6:15 PM. On weekends, the route operates outbound from the SRTA New Bedford Terminal at 30-minute headways between 8:05 AM to 4:35 PM and inbound from Stop & Shop at 30-minute headways between 8:40 AM to 5:10 PM. Bus Route schedules and maps for Route 211 are provided within Attachment A.

TRAFFIC VOLUMES

Traffic volume data for this report was obtained from manual Turning Movement Counts (TMCs) and supplemented with Automatic Traffic Recorder (ATR) counts conducted at the study area intersection. The details of the data collection effort for this project are described below.

Turning Movement Counts

To establish existing traffic volume conditions at the study area intersection, manual TMCs were conducted on Wednesday, May 28, 2025, for a continuous 12-hour mid-week weekday period from 7:00 AM – 7:00 PM and on Saturday, May 31, 2025, during the Saturday midday (11:00 AM – 1:00 PM) peak period. Area schools were in regular session at the time of traffic counts. The weekday morning peak hour occurred between 8:00 AM and 9:00 AM and the evening peak hour occurred between 3:45 PM and 4:45 PM. The detailed TMC data sheets, partitioned into 15-minute intervals, are provided within Attachment B.

Automatic Traffic Recorder Counts

ATR counts were conducted for a continuous 48-hour mid-week period on Sconticut Neck Road north of Hacker Street from Wednesday, May 28, 2025 through Thursday, May 29, 2025 concurrent with the TMCs. The ATRs were obtained to gather additional daily traffic volume data, vehicle speeds, and vehicle classifications. A summary of the weekday ATR traffic data is presented in Table 1. A detailed summary of the ATR data, partitioned into one-hour and 15-minute intervals, is provided within Attachment C.

Table 1 – Existing Weekday Traffic Volume Summary

Location	Weekday Traffic Volume[a]	Weekday Morning Peak Hour			Weekday Evening Peak Hour		
		Traffic Volume[b]	K Factor[c]	Directional Distribution[d]	Traffic Volume	K Factor	Directional Distribution
Sconticut Neck Road north of Hacker Street	10,382	731	7.0%	61.6% NB	937	9.0%	56.9% SB

[a] Daily traffic expressed in vehicles per day.
[b] Hourly traffic expressed in vehicles per hour.
[c] Percent of daily traffic volumes which occur during the peak hour.
[d] Percent of peak hour volume in the predominant direction of travel.

Sconticut Neck Road carries approximately 10,385 vehicles per day (vpd) on an average weekday north of Hacker Street. The weekday morning and weekday evening peak hours generally consist of 7.0% to 9.0% of the overall daily traffic volume. Directional distribution along the roadway is weighted heavily in the northbound direction during the weekday morning peak and southbound direction during the evening peak hours. This is consistent with commuter traffic travelling from/to Interstate 195 (I-195) and US Route 6. Speed data

collected as part of the ATR indicates that the average speed and 85th percentile speed along Sconticut Neck Road northbound direction is 31 mph and 35 mph, respectively. The average speed and 85th percentile speed along Sconticut Neck Road southbound direction is 28 mph and 33 mph, respectively. Overall, the 85th percentile speed along Sconticut Neck Road, north of Hacker Street, is slightly over the 30-mph statutory speed limit.

Seasonal Adjustment

In accordance with MassDOT standards, traffic volumes are typically adjusted to average month conditions. To account for seasonal adjustment, TEC utilized MassDOT's published weekday seasonal and axle correction factors as published in 2024 (most recent publication). The factors provide a month-to-month overview of traffic volumes statewide by roadway functional classification and land type (urban vs. rural). For both local and urban minor arterial roadways, factor group U4-U7, traffic volumes in the month of May were approximately 9.0 percent higher (0.91 factor) than average month conditions. Therefore, the May 2025 traffic volumes were unadjusted to reflect a conservative condition. The compiled seasonal adjustment data is provided in Attachment D. The 2025 Base Year seasonal adjusted morning and evening peak hour turning movements are depicted graphically in Figure 2.

Future Traffic Volumes

To determine traffic volumes under future year conditions, 2025 Base Year traffic volumes at the intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road were projected to the year 2035 to provide a 10-year planning horizon. Traffic volumes on the roadway network at that time would include existing traffic, new traffic due to general background traffic growth, and traffic related to specific developments by others, if applicable. Consideration of these factors resulted in the development of the 2035 Future Year Condition traffic volumes.

Background Growth

Traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an ambient growth rate for the area roadways and applies that percentage to all mainline and side street traffic volumes. The drawback to such a procedure is that some turning volumes may grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic. However, the drawback of this

procedure is that the potential growth in population and development external to the project area would not be accounted for in the traffic projections.

To provide a conservative analysis framework, both procedures were used.

General Ambient Growth

To project traffic to a future horizon year, TEC utilized MassDOT published year-by-year annual growth data between 2016 and 2019. The data indicates that, for both urban minor arterial and local road traffic volumes grew 1.7 percent between 2016 and 2017, 0.3 percent between 2017 and 2018, and decreased 0.4 percent between 2018 and 2019. This equates to an annual growth rate of approximately 0.53 percent per year on average between 2016 and 2019. To provide a consistent analysis scenario, a 1.0 percent per year compounded annual traffic growth rate was used to account for potential future traffic growth external to the study area and any presently unforeseen development. MassDOT historic growth rate data have been included in Attachment E.

Specific Developments by Others

TEC coordinated with the Town's Highway Superintendent to identify any nearby private / public development projects in the vicinity of the study area that either in the planning or were recently approved but not yet occupied. Currently, there are no development in the study area vicinity that would be expected to significantly change traffic volumes in the area and at the intersection.

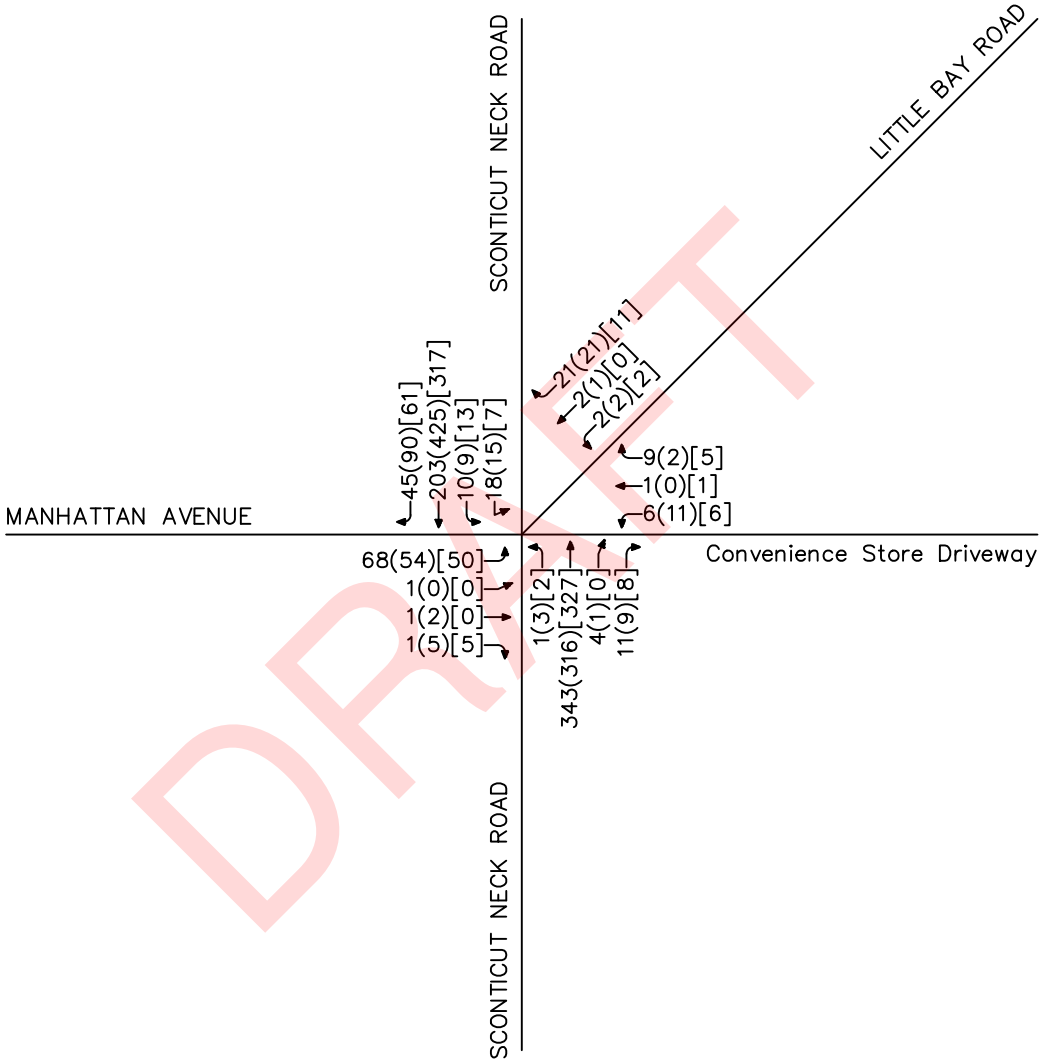
2035 Future Year Traffic Volumes

The 2035 Future Year Condition traffic volumes were obtained by applying a 1.0 percent compounded annual growth rate to the 2025 Base Year Condition traffic volumes over the 10-year planning horizon period. The 2035 Future Year weekday morning and evening peak hour turning movements are depicted graphically in Figure 3.

SAFETY EVALUATION

Crash History Analysis

Crash reports for the study area were compiled and analyzed for the most recent consecutive seven-year period (2018-2024) on file identified from MassDOT's Interactive Mapping Portal for Analysis and Crash Tracking (IMPACT) system. A summary of the vehicle crash data and intersection crash rate is provided in Table 2. A compilation of the detailed crash data is provided in Attachment F.



XXX(XXX)[XXX] = WEEKDAY MORNING PEAK HOUR(WEEKDAY EVENING PEAK HOUR)[SATURDAY MIDDAY]

Figure 2

**2025 Base Year Conditions
Weekday Morning, Weekday Evening, and Saturday Midday
Peak Hour Traffic Volumes**

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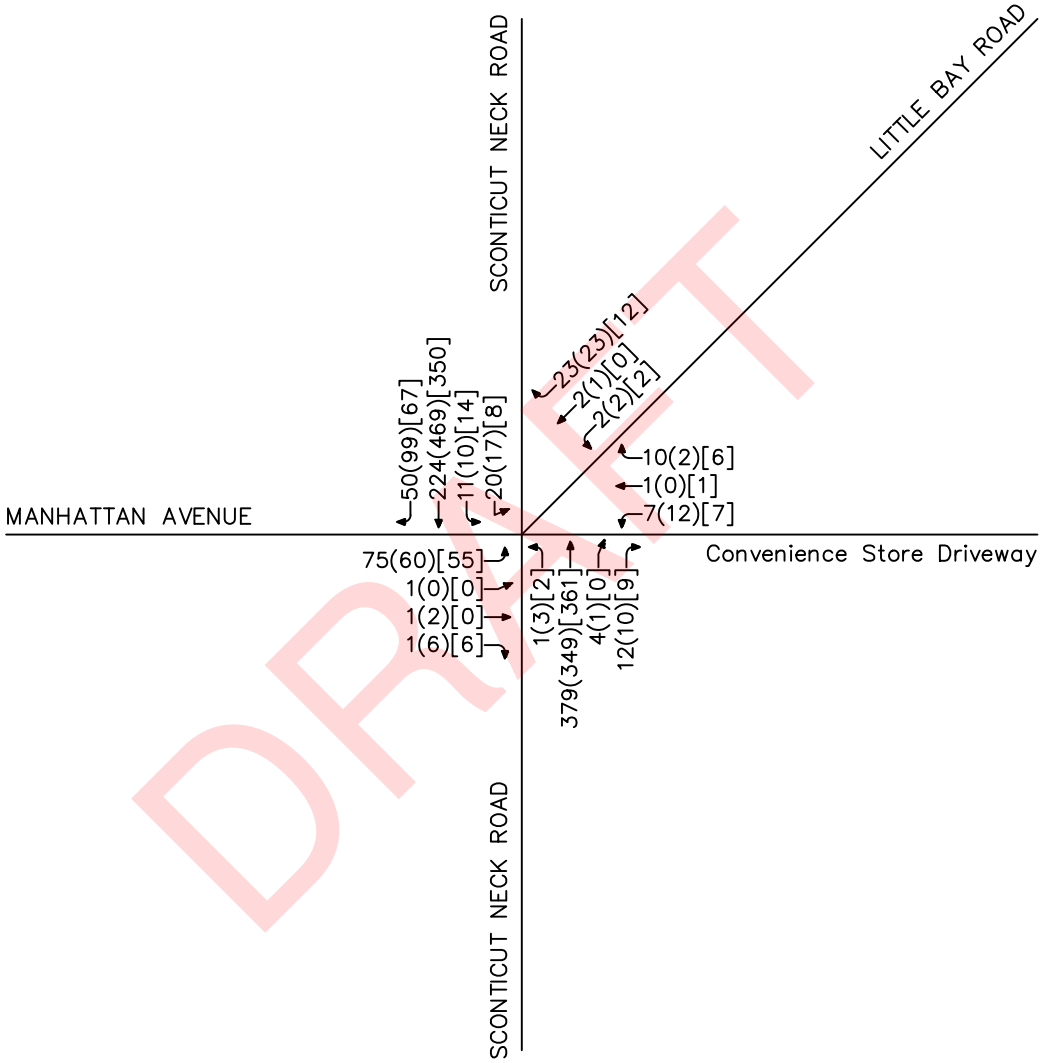

XXX(XXX)[XXX] = WEEKDAY MORNING PEAK HOUR(WEEKDAY EVENING PEAK HOUR)[SATURDAY MIDDAY]

Figure 3

**2035 Future Year Conditions
Weekday Morning, Weekday Evening,
and Saturday Midday
Peak Hour Traffic Volumes**

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Crash Rates

In addition to examining the number of crashes in the study area, an intersection crash rate was calculated to compare the occurrence of crashes to the volume of traffic passing through the study area intersection. The crash rate per million entering vehicles (MEV) for intersections was calculated using the weekday evening peak hour volumes from the TMCs and K-factor (relation of peak-hour traffic to daily traffic) in Table 1. The crash rate at the intersections was compared to the statewide and district-wide averages published by MassDOT in June 2018 for intersections and June 2023 for roadway segments to determine the significance of the crash occurrence. The statewide and District 5 average for unsignalized intersections is 0.57 crashes per MEV. Crash rate calculations can be found in Attachment F.

The crash history at the study area intersection was also compared against Equivalent Property Damage Only (EPDO) rates within the Southeast Regional Planning and Economic Development District (SRPEDD) boundaries. EPDO ranks crashes based on the crash severity for the current 2019-2021 HSIP year of crash data. Within this current methodology, any type of injury crash (including fatal, incapacitating / suspected serious, non-incapacitating / suspected minor, and possible) has a weight of twenty-one (21) compared to property damage only crashes. The current SRPEDD threshold for HSIP-eligibility is ≥129, as reported by MassDOT's Traffic and Safety Engineering Section. The intersection was found to have an EPDO of only 1, which is lower than the SRPEDD HSIP-eligibility threshold of 129. Note that the EPDO would be expected to increase upon the release of the 2020-2022 HSIP year of crash data; however, not to the extent of the expected HSIP-eligibility threshold.

Crash Data Summary

The intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road experienced a total of nine (9) crashes, or an average of 1.5 crash per year, over the seven-year period. The intersection has a crash rate of 0.21 per MEV, well below the statewide and districtwide averages for unsignalized intersections. One-third (3 or 9) of the crashes were angled crashes, each including a Sconticut Neck Road southbound vehicle and all noting failure to yield the right-of-way as the contributing factor. The intersection also experienced one (1) sideswipe crash, one (1) rear-end crash, and two (2) single vehicle crashes. The data also reported two (2) pedestrian crashes. The crash that occurred Tuesday, February 28, 2025 at 6:24 PM resulted in a pedestrian fatality. Specific details of the crash are currently not public; however, the MassDOT IMPACT database does provide some information about the crash. The crash involved a vehicle travelling along Sconticut Neck Road northbound which struck a pedestrian crossing Sconticut Neck Road on the south side of the intersection. Note that there is limited pedestrian accommodation at the intersection.

Table 2 – Crash Data Summary

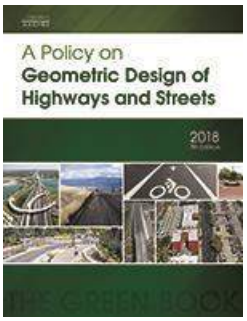
Parameter		Sconticut Neck Road / Manhattan Avenue / Little Bay Road
Year	2018	2
	2019	0
	2020	1
	2021	0
	2022	1
	2023	3
	2024	2
	TOTAL	***9***
Average Annual Crashes [a]		*1.29*
MassDOT Crash Rate [a]		*0.21*
EPDO [b]		*1*
Manner of Collision	Angle	3
	Rear-end	1
	Sideswipe	1
	Single Vehicle	2
	Ped / Bike	2
	TOTAL	***9***
Road Surface Conditions	Dry	8
	Wet	1
	TOTAL	***9***
Injury Status (Crash Severity)	Prop Damage	5
	Non-Fatal Injury	2
	Fatal Injury	1
	Not Reported	1
	TOTAL	***9***
Day of Week	Monday-Friday	5
	Saturday-Sunday	4
	TOTAL	***9***
Time of Day	6:00AM-9:00AM	1
	9:00AM-12:00PM	2
	12:00PM-3:00PM	2
	3:00PM-6:00PM	1
	6:00PM-9:00PM	3
	9:00PM-6:00AM	0
	TOTAL	***9***

[a] Rate based on completed crash years (2018-2021)
[b] Rate based on HSIP-eligible years (2019-2021)

Sight Distance Evaluation

TEC visited the site and measured the available sight lines at the Sconticut Neck Road / Manhattan Avenue / Little Bay Road intersection in April 2025. The available sight lines were

compared to minimum requirements established by the American Association of State Highway and Transportation Officials (AASHTO)[2].



Current AASHTO 'Green Book' (2018)

Sight distance represents the length of roadway that is visible to a driver traveling within the roadway. Two types of sight distance are typically evaluated for driveways and intersections: stopping sight distance (SSD) and intersection sight distance (ISD). SSD is the minimum distance required for a driver traveling along a roadway to perceive an object in the roadway and stop safely in advance of the object when traveling on a wet pavement surface. SSD is measured from an eye height of 3.5 feet to an object height of 2 feet above the ground, which is equivalent to a driver viewing the taillight of a vehicle ahead. SSD is measured along the centerline of the travel lane approaching a driveway or intersection.

ISD represents the length of the roadway visible to a driver waiting to exit a driveway or minor street. Minimum ISD requirements are based on the distance required for a driver to exit a minor street onto a major street without requiring an approaching vehicle to reduce its speed from the design speed to less than 70 percent of the design speed. ISD is measured from an eye height of 3.5 feet to an object height of 3.5 feet and is measured from a distance 15 feet beyond the edge of the travel-way of the major roadway to represent a driver waiting to exit a driveway or minor roadway.

SSD is typically considered the critical sight distance, as it represents the minimum distance required for safe stopping, while ISD represents an acceptable speed reduction for approaching vehicles. The ISD, however, must be at least equal to the minimum required SSD in order to prevent a driver from entering the roadway when an approaching vehicle is too close to safely stop. The guidance provided by AASHTO states:

> *"If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, this may require a major-road vehicle to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road."*

Sight distances as reported utilize the 85th percentile speed as collected in May 2025 to account for the roadway operating speed. In addition, the roadway grades entering the intersection from each approach were approximated based on the online MassMapper

[2] *A Policy on Geometric Design of Highways and Streets (the "Green Book")*; American Association of State Highway and Transportation Officials; Washington DC; 2018

database[3]. Tables 3 and 4 provide a summary of the available SSD and ISD at the intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road, respectively.

Table 3 – Existing Stopping Sight Distance Measurements

Approach / Direction	Operating Speed [(a)]	AASHTO Recommended Minimum	Measured Stopping Sight Distance
Sconticut Neck Road / Manhattan Avenue / Little Bay Road:			
Sconticut Neck Road Northbound	35 MPH	245 FT	>500 FT
Sconticut Neck Road Southbound	33 MPH	230 FT	>500 FT

[a] Operating speeds calculated as 85th percentile speed from ATR counts in May 2025.

Table 4 – Existing Intersection Sight Distance Measurements

Approach / Direction	Operating Speed [(a)]	AASHTO Desired Minimum	AASHTO Recommended Minimum	Measured Intersection Sight Distance
Sconticut Neck Road at Manhattan Avenue [West]				
Manhattan Avenue looking North [looking left]	33 MPH	365 FT	230 FT	>500 FT
Manhattan Avenue looking South [looking right]	35 MPH	390 FT	245 FT	460 FT
Sconticut *Neck Road at Little Bay Road [East]*				
Little Bay Road looking North [looking right]	33 MPH	365 FT	230 FT	430 FT
Little Bay Road looking South [looking left]	35 MPH	390 FT	245 FT	195[(b)] FT

[a] Operating speeds calculated as 85th percentile speed from ATR counts in May 2025.
[b] ISD restricted by donation bin

As shown in Table 3, the SSD along Sconticut Neck Road at the study area intersection exceeds AASHTO minimum recommendations for safe operations. Similarly, Table 4 indicates the ISD at the study area intersection exceeds AASHTO recommended and desired minimum requirements except for the Little Bay Road westbound approach looking south where ISD is restricted by the charity donation bin. With the relocation of the donation bin, Little Bay Road looking south exceeds the AASTHO minimum and desired recommendations for ISD.

Image 2: ISD sight line looking south from Little Bay Road

Although ISD sight lines were generally sufficient at the intersection, a key concern is the location of unmarked and marked off-street parking stalls in close proximity to the roadway edge on the intersection's southwest corner. Specifically, there are no direct parking stall markings at 116 Sconticut Neck Road (Mac's Soda Bar) which allows vehicles to park within the needed sight triangle area.

[3] https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html

General Safety Observations

TEC's field observations noted several general concerns about existing conditions at the study intersection, which may negatively impact safety. Several of these concerns require additional evaluation and design work to further develop and determine the feasibility of the safety enhancements. More specific safety challenges located at the study area intersection are described below:

- *Intersection Offset* – The Manhattan Avenue eastbound approach and Little Bay Road westbound approaches are offset by 55-feet which requires left-turning vehicles from each approach to cross paths. The offset also would further impact traffic operations beyond as reported in this technical memorandum as the inability to direct oppose side-street traffic may result in driver hesitation and other interrupting flow maneuvers by opposing vehicles which cannot be accessed in the standard analysis software.
- *Vehicle Speeds* – The speed data collected in May 2025 indicates that the 85th percentile speed along Sconticut Neck Road, north of Hacker Street, is slightly over the 30-mph statutory speed limit. There are no statutory speed limit traffic signs for "thickly settled" area in the vicinity of the intersection or along the corridor. The nature of the roadway tangent and width invites higher travel speeds, especially with limited pavement markings and roadway edge blending (see below). The historic 25 mph regulatory speed limit signs, removed out the outset of this project with the absence of a MassDOT Special Speed Regulation, would be expected to be ignored by motorists due to the roadway geometrics.
- *Access Management* – The open curb cuts for 105 Sconticut Neck Road (Save Sum Serve Consignment), 114 Sconticut Neck Road, 116 Sconticut Neck Road (Mac's Soda Bar), 121 Sconticut Neck Road (Friendly Farm Convenience Store), and 123 Sconticut Neck Road all have significantly extensive driveway curb cuts. These conditions present a substantial safety challenge for accessing/egressing vehicles at the several properties and the motoring public along each of the intersecting roadways where motorists do not have clear definition of where the potential roadway conflict point exists.
- *Head-In Parking* - The open curb cuts for 105 Sconticut Neck Road (Save Sum Serve Consignment) and 123 Sconticut Neck Road have prominent and utilized head-in parking in close proximity to Sconticut Neck Road. Those head-in parking spaces at 123 Sconticut Neck Road do not provide sufficient

space for a vehicle to exit the parking space without directly overhanging Sconticut Neck Road.

- *Roadway Edge Blending* - At the intersection and along the corridors, the roadway edge along Sconticut Neck Road, Manhattan Avenue, and Little Bay Road is not clearly defined by curbing or a termination of pavement. Where vertical granite curbing is present, the reveal is nearly flush with the roadway. Overall, this lack of roadway edge in conjunction with the adjacent off-street asphalt parking fields creates a blending effect where the visual of the downstream roadway to the motoring public is an expansive roadway width which typically results in higher speeds. This same condition is also experienced along Little Bay Road

Image 3: Open curb cut and asphalt blending along 121 SNR / Friendly Farm.

- *Exposed Vertical Infrastructure* – At the intersection and along the corridor, several stationary vertical infrastructure features, such as utility poles, fire hydrants, light poles, podium signage, and charity donation bin, do not have any vertical protection from vehicles along Sconticut Neck Road resulting in significant safety exposure to the motoring public.

- *Sight Distance* – ISD along Little Bay Road westbound approach looking south is restricted by the charity donation bin. With the relocation of the donation bin, Little Bay Road looking south exceeds the AASTHO minimum and desired recommendations for ISD. Although ISD sight lines were generally sufficient at the intersection, a key concern is the location of unmarked and marked off-street parking stalls in close proximity to the roadway edge on the intersection's southwest corner. Specifically, there are no direct parking stall markings at 116 Sconticut Neck Road (Mac's Soda Bar) which allows vehicles to park within the needed sight triangle area.

Image 4: Crosswalk leads directly into median without accessible path across Manhattan Avenue.

- *Lack of Pedestrian and Bicycle Accommodations* - An asphalt sidewalk is provided along the westerly side of Sconticut Neck Road through the intersection; however, no accessible pedestrian curb ramps are provided. A non-accessible crosswalk is provided between these sidewalk segments across the Manhattan

Avenue eastbound approach. There are no crossing opportunities across Sconticut Neck Road and insufficient pedestrian space with protection from vehicles and surface parking traffic in the vicinity of the intersection. There is no bicycle accommodation at the intersection.

- *Missing / Out-of-Place Traffic Signage* – Both the Sconticut Neck Road northbound and southbound approaches do not have an advance offset intersection warning sign (W2-7L). In addition, both the Manhattan Avenue eastbound and Little Bay Road westbound approaches do not have advanced stop ahead (W3-1) warning sign. There is also no stop sign (R1-1) along the Little Bay Road westbound approach. The existing stop sign along Manhattan Avenue eastbound is placed on the left-side (likely for upstream visibility) as opposed to the right-side of the side-street approach. There are currently no 'Keep Right' (R4-7) signs defining the raised concrete median within the Manhattan Avenue eastbound approach.
- *Missing Pavement Markings* – There are currently no pavement markings along Manhattan Avenue or Little Bay Road and no shoulder line markings within the widen roadway surface of Sconticut Neck Road in the vicinity of the intersection.
- *Pavement Condition* – The pavement in the vicinity of the intersection is in a degraded condition with several visible utility patch locations, as well as areas of noticeable cracking.

TRAFFIC CONTROL WARRANTS

The study examines several warranting conditions for both traffic control and other elements to potential design recommendations. The following section summarizes these analyses.

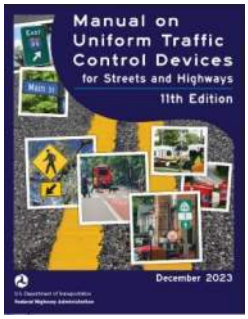
All-Way Stop Warrant Analysis

All-way stop-control is a useful safety measure at unsignalized intersections if certain traffic conditions exist. Installation of all-way stop-control (AWSC) is based upon Section 2B.12 through to Section 2B.17 of the *Manual on Uniform Traffic Control Devices (MUTCD)*, which outlines the guidance and options, not standards. Only those applicable warrants are highlighted.

- *Section 2B.13 – Warrant A: Crash Experience*:
  - *"For a four-leg intersection, there are five or more reported crashes in a 12-month period or six or more reported crashes in a 36-month*

period that were of a type susceptible to correction by the installation of all-way stop control."

CONDITION NOT MET – There was only one reported angled crash in the in a 12-month period and two reported angled crashes in the 36-month period (2022 to 2024).



Current *MUTCD* Edition (2023)

- <u>*Section 2B.14 – Warrant B: Sight Distance*</u>:
  - *"All-way stop control may be installed at an intersection where an engineering study indicates that sight distance on the minor-road approaches controlled by a stop sign is not adequate for a vehicle to turn onto or cross the major (uncontrolled) road."*

  CONDITION NOT MET – The ISD and SSD exceed AASHTO minimum recommendations. Except for the Little Bay Road looking south where the ISD is approximately 50 feet short due to donation bin sight line restriction. The ISD for Little Bay Road looking south could be easily corrected with the donation bin relocation. For that reason, the all-way stop condition is not warranted.

- <u>*Section 2B.16 – Warrant D: 8-Hour Volume*</u>:
  - *"All-way stop control may be installed at an intersection where an engineering study indicates: (A). The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the major street approaches is at least 300 units per hour for each of any 8 hours of a typical day; and (B). The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the minor street approaches is at least 200 units per hour for each of any of the same 8 hours."*

  CONDITION NOT MET – The 2025 Base Year seasonally adjusted volumes do not meet the threshold outlined in the warrant.

Based on the analysis evaluated for the intersection, an AWSC condition at the intersection is not found to be warranted. AWSC analysis worksheets are provided in Attachment G.

<u>Rectangular Rapid Flashing Beacon Candidate Analysis</u>

Utilizing the Federal Highway Administration (FHWA) publication's *Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations,* updated on July 2018, Table 1 (shown in Exhibit 1 on the following page) recommended countermeasures for a

location with an Average Annual Daily Traffic (AADT) between 9,000 and 15,000 vpd, a speed limit of 30 mph (statutory), and a two-lane cross-section indicates that a Rectangular Rapid Flashing Beacon (RRFB) is not a candidate countermeasure for any proposed crosswalk across Sconticut Neck Road. Other potential countermeasures for the crosswalk may include high-visibility crosswalk markings, curb extensions, in-street pedestrian crossing signs, or a pedestrian refuge island.

Table 1. Application of pedestrian crash countermeasures by roadway feature.

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	● 1 2 4 5 6	● 1 5 6 7 9	○ 1 5 6 ● 7 9	● 1 4 5 6	● 1 5 6 7 9	○ 1 5 6 ● 7 9	● 1 4 5 6 7 9	○ 1 5 6 7 9	○ 1 5 6 ● 9
3 lanes with raised median (1 lane in each direction)	● 1 2 3 4 5	● 1 3 5 7 9	○ 1 3 5 ● 7 9	○ 1 3 4 5 7 9	○ 1 3 5 ● 7 9	○ 1 3 5 ● 7 9	○ 1 3 4 5 7 9	○ 1 3 5 ● 7 9	○ 1 3 5 ● 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	● 1 2 3 4 5 6 7 9	● 1 3 5 6 7 9	○ 1 3 5 6 ● 9	○ 1 3 4 5 6 7 9	○ 1 3 5 6 ● 7 9	○ 1 3 5 6 ● 9	○ 1 3 4 5 6 7 9	○ 1 3 5 6 ● 9	○ 1 3 5 6 ● 9
4+ lanes with raised median (2 or more lanes in each direction)	● 1 3 5 7 8 9	● 1 3 5 7 8 9	○ 1 3 5 8 ● 9	○ 1 3 5 7 8 9	○ 1 3 5 ● 7 8 9	○ 1 3 5 8 ● 9	○ 1 3 5 ● 7 8 9	○ 1 3 5 8 ● 9	○ 1 3 5 8 ● 9
4+ lanes w/o raised median (2 or more lanes in each direction)	● 1 3 5 6 7 8 9	○ 1 3 5 6 ● 7 8 9	○ 1 3 5 6 ● 8 9	○ 1 3 5 6 7 8 9	○ 1 3 5 6 ● 7 8 9	○ 1 3 5 6 ● 8 9	○ 1 3 5 6 ● 7 8 9	○ 1 3 5 6 ● 8 9	○ 1 3 5 6 ● 8 9

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Lagerwey, J. Feaganes, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100, Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition. (revised 2012). Chapter 4F, Pedestrian Hybrid Beacons. FHWA, Washington, D.C.; FHWA. Crash Modification Factors (CMF) Clearinghouse. http://www.cmfclearinghouse.org/; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). http://www.pedbikesafe.org/PEDSAFE/; Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.; Thomas, Thirsk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C.; and personal interviews with selected pedestrian safety practitioners.

Exhibit 1: Applicability of Pedestrian Crash Countermeasures

Although not directly identified as a candidate for an uncontrolled pedestrian crossing treatment, the FHWA publication is not a warranting document. Whereas MassDOT would generally provide this guidance for candidacy to be met for installation on State Highway

Layout (SHLO) or utilizing state / federal funds, the Town is not precluded from installation of an RRFB at this location should it be deemed a net benefit to the location and supported by engineering judgement. Under the existing geometric conditions where the roadway width is equivalent to a three-lane cross-section and a need exists for pedestrians to cross the roadway in a more pronounced location; TEC would generally consider this location a viable candidate for RRFB installation.

Signal Warrant Analysis

A traffic signal warrant analysis was conducted for the intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road using the May 2025 TMCs. The *MUTCD* contains eight warrants for evaluating justifications for the installation of a traffic signal. Two (2) vehicular volume warrants were evaluated to determine whether installation of a traffic signal is justified for the study intersection. These warrants include:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume

Warrant Results

Based on the 2025 Base Year traffic volumes, the intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road does not meet the *MUTCD* warranting criteria for both Warrants 1 and 2. The signal warrant analysis worksheets are provided in Attachment H.

TRAFFIC IMPACT ANALYSIS

To assess the quality of future traffic flow with each alternative, roadway capacity and vehicle queue analyses were conducted under 2025 Base Year Conditions and 2035 Future Year Conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

Sidra Intersection Usage for Atypical Traffic Control & Geometry

Some of the capacity and queue analyses were conducted using Sidra Intersection 10.0 software and methodology due to the restrictions posed on intersection analysis using present and former Synchro and Highway Capacity Software (HCS) software which each *utilize Highway Capacity Manual (HCM)* methodologies. This includes the inability of Synchro / HCS to correctly analyze five-legged intersection which is the operating condition of the intersection including the Friendly Farm Convenience Store Driveway. Sidra

Intersection software is an approved analysis software program and bases its analysis equations on HCM methodologies.

Levels of Service

A primary result of capacity analysis is the assignment of level-of-service to traffic facilities under various traffic-flow conditions.[4] The concept of level-of-service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level of service (LOS) A representing the best operating conditions and LOS F representing the worst. Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

Queue Length Analysis

Vehicle queue analyses are a direct measurement of an intersection's ability to process vehicles under various traffic control and volume scenarios and lane use arrangements. The 95th percentile queues for unsignalized intersections and both the 50th (average) and 95th percentile vehicle queues for signalized intersections are typically the reporting condition for each intersection, which are based on the number of vehicles that experience a delay of six seconds or more at an intersection and is a function of the traffic signal timing; vehicle arrival patterns during the analysis period; and the saturation flow rate. The 50th percentile or average vehicle queue is the average number of vehicles that are projected to be delayed by six seconds or more at the intersection under study during the analysis period. The 95th percentile vehicle queue is the vehicle queue length that will be exceeded only 5% of the time, or approximately three minutes out of 60 minutes during the peak one hour of the day. During the remaining 57 minutes, the vehicle queue length will be less than the 95th percentile queue length.

Parameters for Traffic Impact Analysis

Unsignalized Intersections

The levels of service of two-way stop-controlled unsignalized intersections are determined by application of a procedure described in the *HCM 6th Edition*. Level of service is measured

[4] The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual 6th Edition*; Transportation Research Board; Washington, DC; 2017

in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and stop signs. Control delay includes the effects of initial deceleration delay approaching a stop sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the *HCM 6th Edition*. Table 5 summarizes the relationship between level of service and average control delay for unsignalized intersections.

Table 5 – Level of Service Criteria for Unsignalized Intersections [a]

Level of Service (v/c ≤ 1.0)	Level of Service (v/c > 1.0)	Average Control Delay (sec/veh)	Description
A	F	≤10.0	LOS A represents a condition with little or no control delay to minor street traffic.
B	F	10.1 to 15.0	LOS B represents a condition with short control delays to minor street traffic.
C	F	15.1 to 25.0	LOS C represents a condition with average control delays to minor street traffic.
D	F	25.1 to 35.0	LOS D represents a condition with long control delays to minor street traffic.
E	F	35.1 to 50.0	LOS E represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
F	F	>50.0	LOS F represents a condition where minor street demand volume exceeds capacity of an approach lane, with excessive control delays resulting.

[a] Source: *Highway Capacity Manual 7th Edition*; Transportation Research Board; Washington D.C.; 2022

Signalized Intersections

LOS for signalized intersections is calculated using the operational analysis methodology of the *HCM 6thEdition*. This method assesses the effects of signal type, timing, phasing, progression; vehicle mix; and geometrics on delay. LOS designations are based on the criterion of control or signal delay per vehicle. Control or signal delay can be related to driver discomfort, frustration, and fuel consumption, and includes initial deceleration delay approaching the traffic signal, queue move-up time, stopped delay and final acceleration delay. Table 6 summarizes the relationship between LOS and control delay. The tabulated control delay criterion may be applied in assigning LOS designations to individual lane groups, to individual intersection approaches, or to entire intersections.

Table 6 – Level of Service Criteria for Signalized Intersections [a]

Level of Service (v/c ≤ 1.0)	Level of Service (v/c > 1.0)	Average Control Delay (sec/veh)	Description
A	F	≤10.0	LOS A describes operations with very low control delay; most vehicles do not stop at all.
B	F	10.1 to 20.0	LOS B describes operations with relatively low control delay. However, more vehicles stop than LOS A.
C	F	20.1 to 35.0	LOS C describes operations with higher control delays. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	F	35.1 to 55.0	LOS D describes operations with control delay in the range where the influence of congestion becomes more noticeable. Many vehicles stop and individual cycle failures are noticeable, whereby motorists are not able to get through the signal on one cycle.
E	F	55.1 to 80.0	LOS E describes operations with high control delay values. Individual cycle failures are frequent occurrences.
F	F	>80.0	LOS F describes operations with high control delay values that often occur with over-saturation. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

[a] Source: *Highway Capacity Manual 7th Edition*; Transportation Research Board; Washington D.C.; 2022

Intersection Capacity and Queue Analysis Results

For the capacity and queue analysis scenarios where the intersection is unsignalized, the evaluation assesses traffic operations with the open curb cut from the Friendly Farm Convenience Store property as the fifth leg. This fifth leg leads to the use of Sidra Intersection software as previously noted. Under the current 2025 Base Year and 2035 Future Year conditions, the movements at the intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road operate at acceptable levels of service (LOS C or better) during the weekday morning and Saturday midday peak hours. The Manhattan Avenue eastbound approach operates at LOS D during the weekday evening peak hour. The volume-to-capacity ratios (v/c) are well below 1.00, indicating that the intersection has adequate capacity to accommodate the current and projected traffic demand. Vehicle queues at the intersection are evaluated to not extend more than two (2) vehicles along all approaches.

TEC evaluated the introduction of an AWSC condition at the intersection although TEC did note that an AWSC condition is not warranted at the study location. Upon the introduction of the condition, the intersection operates significantly degrade as an overwhelming majority of the intersection's traffic is forced to stop regardless of conflicting flows. Level of service is shown to degrade to LOS E or F along both Sconticut Neck Road northbound and southbound during each peak time period with v/c ratios increasing close to or well above 1.00 indicating approach capacity has been exceeded. In addition, vehicles queues are greatly increased to levels beyond the principal area of the intersection including blocking numerous side-street intersections upstream with more than 50 vehicles during the

weekday evening peak hour. This level of gridlock introduced at the neighborhood level intersection would likely lead to significant driver frustration given the limited side-street traffic volumes; thereby, resulting in low compliance with the traffic control condition. Whereas AWSC warrant may be met with additional traffic volumes along Sconticut Neck Road in the future, TEC does not believe the introduction of AWSC would be an overall net benefit for both traffic safety and operations.

TEC evaluated the introduction of traffic signal control at the intersection although TEC did note that signal control is not warranted at the study location. Upon introduction of the condition, the operational analysis shows that traffic signal control does not significantly improve overall operations at the intersection where each approach operates at LOS C or better with v/c well below 1.00 indicating that the intersection has adequate capacity to accommodate the current traffic demand. The traffic control change would slightly increase delays and queues along the Sconticut Neck Road mainline (up to 15 vehicles) as expected based on the removal of free flow condition; however, the limited vehicle delay would likely see this queue operating as a rolling queue. Compared to the No-Build Condition, the traffic signal does not provide a substantial operational benefit for the overall financial cost of traffic signal infrastructure.

The results of the intersection capacity analysis are summarized in Table 7. The capacity analysis worksheets are provided in Attachment I.

Table 7 – Alternatives Capacity and Queue Analysis Summary

	2025 Base Year Condition				2035 Future Year Condition				2035 Future Year Condition (AWSC)				2035 Future Year Condition (Traffic Signal)			
Intersection / Lane Group	**V/C[a]**	**Delay[b]**	**LOS[c]**	**Queue[d]**	**V/C**	**Delay**	**LOS**	**Queue**	**V/C**	**Delay**	**LOS**	**Queue**	**V/C**	**Delay**	**LOS**	**Queue**
Sconticut Neck Road / Manhattan Avenue / Little Bay Road																
Weekday AM Peak Period																
Manhattan Street EB	0.25	19.5	C	27	0.27	20.4	C	30	0.21	14.5	B	<25	0.35	25.7	C	50
Conv. Store Driveway WB	0.06	14.9	B	<25	0.07	15.2	C	<25	-	-	-	-	-	-	-	-
Sconticut Neck Road NB	0.24	1.9	A	<25	0.24	1.8	A	<25	1.07	88.6	F	416	0.53	13.3	B	204
Sconticut Neck Road SB	0.19	2.5	A	<25	0.21	2.6	A	<25	0.80	37.8	E	163	0.46	13.3	B	153
Little Bay Road SW	0.07	12.1	B	<25	0.08	12.1	B	<25	0.07	12.7	B	<25	0.14	22.3	C	<25
Weekday PM Peak Period																
Manhattan Street EB	0.36	27.1	D	43	0.34	29.1	D	38	0.19	14.0	B	<25	0.68	15.6	B	374
Conv. Store Driveway WB	0.08	18.7	C	<25	0.09	20.5	C	<25	-	-	-	-	-	-	-	-
Sconticut Neck Road NB	0.21	1.7	A	<25	0.22	1.8	A	<25	0.98	67.5	F	314	0.42	11.1	B	192
Sconticut Neck Road SB	0.33	3.1	A	<25	0.36	3.5	A	<25	1.56	276.9	F	1302	0.68	15.4	B	374
Little Bay Road SW	0.78	11.9	B	<25	0.09	12.2	B	<25	0.07	12.7	B	<25	0.18	30.0	C	<25
Saturday Midday Peak Period																
Manhattan Street EB	0.27	4.4	A	<25	0.21	18.8	C	<25	0.17	6.8	B	15	0.55	14.1	B	44
Conv. Store Driveway WB	0.05	14.7	B	<25	0.04	13.8	B	<25	-	-	-	-	-	-	-	-
Sconticut Neck Road NB	0.22	1.7	A	<25	0.20	1..5	A	<25	1.00	71.3	F	324	0.46	12.1	B	185
Sconticut Neck Road SB	0.27	2.6	A	<25	0.25	2.4	A	<25	1.16	117.2	F	536	0.55	13.6	B	229
Little Bay Road SW	0.04	12.1	B	<25	0.04	11.7	B	<25	0.04	12.4	B	<25	0.09	23.8	C	<25

[a] Volume-to-capacity ratio,
[b] Delay expressed in seconds per vehicle (average)
[c] Level of service,
[d] 50th/95th Percentile Queue [95th Percentile Queue only for unsignalized intersections]

RECOMMENDATIONS

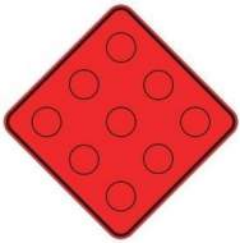
TEC has identified a series of improvements that can be considered for implementation by the Town of Fairhaven. Each improvement considered has been categorized as short-term, mid-term, or long-term. Some enhancements are defined to mitigate multiple safety and operational issues.

Short-Term Improvements

The following short-term improvements, generally considered to be implementable within one (1) calendar year, are described below. The recommended short-term improvements would immediately enhance traffic operations and safety for all users, including pedestrians and bicyclists, at the intersection of Sconticut Neck Road / Manhattan Avenue / Little Bay Road with a high benefit-to-cost ratio. Many of the short-term improvements should be undertaken by the town as part of their general maintenance as soon as resources are available from the town's highway maintenance budget and/or Chapter 90 funding. These improvements, which are generally lower cost in nature, are necessary to minimize conflicts between through traffic, turning traffic, pedestrian/bicycle traffic, and to provide improved traffic safety by lengthening sight lines and providing new, consistent, and reasonable traffic signs and pavement markings.

- Install stop-line and stop sign (R1-1) to the Little Bay Road westbound approach.
- Relocate the stop sign (R1-1) along the Manhattan Avenue eastbound approach to the right-side of the roadway, or at a minimum, install a supplemental stop sign (R1-1) to the right-side of the roadway.
- Install an advanced stop control (W3-1) warning sign on both the Manhattan Avenue eastbound and Little Bay Road westbound approaches.
- Install an advance offset intersection (W2-7L) warning sign on both the Sconticut Neck Road northbound and southbound approaches.
- In the absence of side-street approach realignment, consider installation of an object marker sign (OM4-1) along each side of Sconticut Neck Road directly opposite and facing each the Manhattan Avenue eastbound and Little Bay Road westbound approaches. These can be supplemented by a two-directional large arrow (W1-7) sign. The location of any modified Friendly Farm Convenience Store Driveway may alter the placement recommendation opposite Manhattan Avenue.

MUTCD W2-7L Sign



MUTCD OM4-1 Sign

- If medians are maintained, install 'Keep Right' (R4-7) signs at each end of the raised concrete median within the Manhattan Avenue eastbound approach.
- Remove all remaining speed limit signs along Sconticut Neck Road north and south of the intersection as the speed along Sconticut Neck Road is statutory and not regulatory by a MassDOT Special Speed Regulation.
- Consider the replacement of all stop signs and advance intersection and stop warning signs with LED enhanced signage to extend the visibility and importance of the downstream traffic condition.
- Install shoulder lines (solid white lines) along Sconticut Neck Road in order to define the edge of travel way for northbound and southbound traffic. This improvement should be considered beyond the intersection influence area.
- Remove and replace all faded signs at the intersection.
- Relocate the donation bin located within the Friendly Farms Convenience Store property to extend the sight lines to meet AASTHO minimum requirements for safe operations.
- Work with the property owner of 116 Sconticut Neck Road (Mac's Soda Bar) to delineate off-street parking on-site and remove potential for parked vehicles within the corner's sight triangle.
- Restripe a high-visibility crosswalk across the Manhattan Avenue eastbound approach.
- Construct Americans with Disabilities Act (ADA) / Architectural Access Board (AAB) / Public Right-of-Way Accessibility Guidelines (PROWAG) compliant pedestrian curb ramps at each end of the existing crosswalk crossing the Manhattan Avenue eastbound approach. Modify the median island within the Manhattan Avenue eastbound approach to create an accessible pedestrian passthrough.
- Consider the introduction of dedicated bicycle lanes along the Sconticut Neck Road corridor in both directions as supported by the expanded pavement width. This improvement should be considered beyond the intersection influence area.
- Provide "Motorist Give 4-FT to Pass Bicycle" (MA-R4-19) in the proximity of the study intersection to reinforce the legitimacy of the bicycle traffic near the intersection and along both the Sconticut Neck Road northbound and southbound approaches. As part of the recently approved safe passing law, MassDOT will be making 40,000 of these signs available for free to

MassDOT MA-R4-19 Sign

communities to install. It appears that several of these signs are in place along the several Town of Fairhaven corridors.

- Increase speed enforcement in the vicinity of the intersection along both Sconticut Neck Road and Manhattan Avenue where higher speeds are observed.
- Install dynamic speed radar feedback signs along the Sconticut Neck Road corridor in both directions. The signs should be placed at a proper interval from other signage along the corridor or proposed in the countermeasures above.
- Complete a complete pavement resurfacing of the various intersection approaches. This improvement should be considered beyond the intersection influence area.

A conceptual plan of these short-term and mid-term safety and maintenance improvements within the study area is depicted in Attachment J.

Mid-Term Improvements

The following mid-term improvements, generally considered to be implementable between one (1) and two (2) calendar years, are described below. These improvements will require a more detailed design prior to implementation; but otherwise, they could be quickly implemented upon available funding through the Town Meeting for such capital improvements. Many of the improvement opportunities identified under the mid-term are beyond the budgetary constraints of Chapter 90 funding; however, the above noted short-term improvements can be implemented as part of a mid-term capital improvement project should the town wish to consolidate improvements into a single project.

- Install new vertical curbing along Sconticut Neck Road, Little Bay Road, and Manhattan Avenue to provide definition to each corridor and provide vertical separation between vehicle traffic, pedestrian traffic (where accommodated), and off-street parking areas. Utilize granite curbing, as opposed to asphalt berm, to visually separate corridor blending where the entire sidewalk and/or off-street parking to roadway surface is asphalt today. NOTE: new curbing would additionally add protection for roadside vertical infrastructure.
- Work with the property owner of 105 Sconticut Neck Road (Save Sum Serve Consignment) to decrease the curb cut opening along Sconticut Neck Road.
- Work with the residential dwelling at 114 Sconticut Neck Road to minimize the curb cut opening for the property.

- Work with the property owner of 116 Sconticut Neck Road (Mac's Soda Bar) to decrease the curb cut opening along both Sconticut Neck Road and Manhattan Avenue.
- Work with the property owner of 121 Sconticut Neck Road (Friendly Farm Convenience Store) to decrease the curb cut opening along both Sconticut Neck Road and Little Bay Road. Consider a single narrow driveway opening per roadway.
- (Re)construct sidewalks in the vicinity of the intersection to provide an accessible pedestrian surface. Sufficient space appears to be available along the easterly side of Sconticut Neck Road between the roadway surface and the several off-street parking areas, as well as along the northerly side of Little Bay Road and the southerly side of Manhattan Avenue. NOTE: New sidewalk along the easterly side of Sconticut Neck Road will require coordination with 105 Sconticut Neck Road (Save Sum Serve Consignment) and 123 Sconticut Neck Road on their existing head-in parking zones. Consideration should be given as to the location of the sidewalk versus the curb line based on the location of existing utility poles.
- At a minimum, construct a new pedestrian crossing across Sconticut Neck Road at the intersection including ADA / AAB / PROWAG compliant pedestrian curb ramps at each end of the crossing and a pedestrian sidewalk landing area on the easterly side of the roadway. Install high-visibility crosswalk markings, pedestrian crossing warning signs (W11-2) with 'arrow' plaques (W16-7p), and advanced pedestrian crossing warning signs (W11-2) with "AHEAD" plaques (W16-9p) along both the Sconticut Neck Road approaches. Consider LED enhanced signage to extend the visibility and importance of the traffic condition.

MUTCD W11-2 Sign w/ W16-9p Plaque

- Consider the installation of an RRFB for the proposed uncontrolled pedestrian crosswalk across Sconticut Neck Road intersection.
- Reconstruct the Manhattan Avenue eastbound approach, within the existing Right-of-Way (ROW), to provide a more perpendicular T-intersection. This improvement would additionally narrow the approach to reduce right-turn entering travel speeds and decrease pedestrian crossing distance / exposure within the pavement surface. These improvements would further define the location as two (2) separate T-intersections.

A conceptual plan of these short-term and mid-term safety and maintenance improvements within the study area is depicted in Attachment J. Note that various reconstruction efforts of the intersection will likely result in impacts to ROW. The conceptual plan as shown in

Attachment J depicts an approximation of the ROW based on information provided by the Town of Fairhaven. Some improvements could be altered to fit within the current ROW limits; however, the plan shows the more ideal location of such improvements regardless its impact to the ROW.

Long-Term Recommendations

Should the town wish to explore a more elaborate intersection realignment to result in both Manhattan Avenue eastbound and Little Bay Road westbound directly opposing, the financial burden that would be presented for this condition may necessitate the exploration of a state Transportation Improvement Program (TIP) project. As part of the TIP program, any realignment project that seeks to go beyond a limited scope of work (or "isolated intersection improvement") will be subject to preparation of a Design Justification Workbook and/or meeting certain FHWA controlling criteria requirements. This includes providing both pedestrian and bicycle infrastructure on each side of Sconticut Neck Road, Manhattan Avenue, and Little Bay Road and other intersecting side streets through the project limits. In addition, the timeline for design, permitting, and construction of this level of project is years longer than for isolated intersection reconstruction under municipal capital improvements as any improvements could be expected to be more than five (5) years away from state / federal funding. Finally, the expanded potential for scope along each intersection approach may result in both a higher financial need from the town as part of a 20% match and in right-of-way needs which will financially be directed at the town as opposed to inclusion within the TIP project.

Overall, TEC does not believe that the improvements noted at the intersection justify an application to MassDOT for TIP funding. This can be further explored in the future should additional safety and operational measures be deemed necessary.

FAIRHAVEN
SCONTICUT NECK ROAD / MANHATTAN AVENUE / LITTLE BAY ROAD
CONCEPTUAL SAFETY IMPROVEMENTS
FIGURE J-1

T1680_4.1_CONCEPT.DWG Plotted on 22-Sep-2025 9:30 PM

N

MANHATTAN AVENUE

HIGHLAND AVENUE

SCONTICUT NECK ROAD

LITTLE BAY ROAD

APPROXIMATE RIGHT-OF-WAY

INSTALL STOP SIGN (R1-1) & STOP LINE

INSTALL ADVANCED STOP CONTROL WARNING SIGN (W3-1)

ACCESS MANAGEMENT: CONDENSE CURB CUTS TO DEFINED DRIVEWAY LOCATIONS

COORDINATE WITH PROPERTY OWNER TO DELINEATE OFF-STREET PARKING

RECONSTRUCT MANHATTAN AVENUE TO REALIGN AT 90-DEGREES TO SCONTICUT NECK ROAD AND PROVIDE A CONSISTENT CROSS-SECTION & SHORTEN CROSSING DISTANCE

INSTALL TERMINUS OBJECT MARKER SIGN (OM4-1)

INSTALL ADVANCED PEDESTRIAN CROSSING WARNING SIGNS (W11-2) & (W16-9p)

INSTALL ADVANCED OFFSET INTERSECTION WARNING SIGN (W2-7L)

INSTALL STOP SIGN (R1-1) & STOP LINE

LIMIT OF INTERSECTION WORK. CONSIDER CORRIDOR-WIDE IMPROVEMENTS BEYOND INTERSECTION

RESURFACE PAVEMENT IN THE VICINITY OF THE INTERSECTION

LIMIT OF INTERSECTION WORK. CONSIDER CORRIDOR-WIDE IMPROVEMENTS BEYOND INTERSECTION

INSTALL RECTANGULAR RAPID FLASHING BEACON (RRFB) AT NEW SCONTICUT NECK ROAD CROSSING

ACCESS MANAGEMENT: CONDENSE CURB CUTS TO DEFINED DRIVEWAY LOCATIONS

POTENTIAL UTILITY POLE CONFLICT

RELOCATE DONATION BIN ON INTERSECTION CORNER

INSTALL NEW CURBING ALONG BOTH SIDES OF SCONTICUT NECK ROAD & PROVIDE SIDEWALKS ON EACH EDGE OF ROADWAY

INSTALL STOP SIGN (R1-1) & STOP LINE

ACCESS MANAGEMENT: CONDENSE CURB CUTS TO DEFINED DRIVEWAY LOCATIONS

UTILIZE WIDE SHOULDER TO PROVIDE DEDICATED BICYCLE LANES (SEEK AS CORRIDOR PROJECT)

PROVIDE SHOULDER LINES ALONG THE SCONTICUT NECK ROAD CORRIDOR

OR

INSTALL ADVANCED OFFSET INTERSECTION WARNING SIGN (W2-7L). LOCATION MAY BE USED FOR ADVANCED PEDESTRIAN CROSSING WARNING SIGNS (W11-2) & (W16-9p) WHICH WOULD NECESSITATE A SHIFT IN THE ADVANCED INTERSECTION WARNING SIGN (W2-7L) FURTHER SOUTH.

INSTALL ADVANCED STOP CONTROL WARNING SIGN (W3-1)

0 20 50 100

SCALE: 1" = 20'

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DESIGNED BY	CHECKED BY	DATE
SWG	SWG	9/21/2025
DRAWN BY	APPROVED BY	PROJECT NO.
SWG	SWG	T1680