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Traffic and Pedestrian Safety Study
For the Mattituck Hamlet

Prepared by AKRF, Inc. for Supervisor Russell and the Southold Town Board

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A. INTRODUCTION

The Love Lane and Main Road (Route 25) intersection is located in the Mattituck hamlet, in the Town of Southold, NY. The intersection is located in the hamlet's center, which is a commercialized area with many stores and restaurants located along Love Lane. It is also a wide, skewed, and unsignalized intersection with a lack of crosswalks for pedestrians to use when crossing the street. Based on the crash data between 2015 to 2017, Love Lane has the fifth highest crash total in the Town of Southold. The high number of crashes could be attributed to the unsafe vehicular flow caused by dangerous conflicting movements. The study of traffic and pedestrian safety improvement alternatives along Route 25 was conducted to address safety concerns raised by the community, as well as the Mattituck-Laurel Civic Association. The study was conducted in two phases: an initial study conducted in 2018 and an expanded study area conducted in 2019. The initial study area focused on Love Lane and Route 25 and a few adjacent intersections. However, the study area was expanded to increase the number of intersections along Route 25 to cover the majority of the hamlet center, which included intersections adjacent to an existing high school to the east of Love Lane as well as intersections to the west of New Suffolk Avenue. As a result of the study, various options of traffic calming and improvements to pedestrian safety were developed.

B. DATA COLLECTION & FIELD OBSERVATIONS

DATA COLLECTION

Turning movement counts were collected for the typical summer (highest) weekday AM, PM, and Saturday peak periods. The counts for the initial study area were collected on Tuesday August 8, 2018 and Saturday August 21, 2018. The counts for the expanded study area were collect on Tuesday October 22, 2019 and Saturday October 26, 2019 and compared to peak summer conditions at overlapping intersections. Supplemental pedestrian counts at Love Lane, obtained from NYSDOT, were used for the study which were collected on Tuesday July 8, 2014.

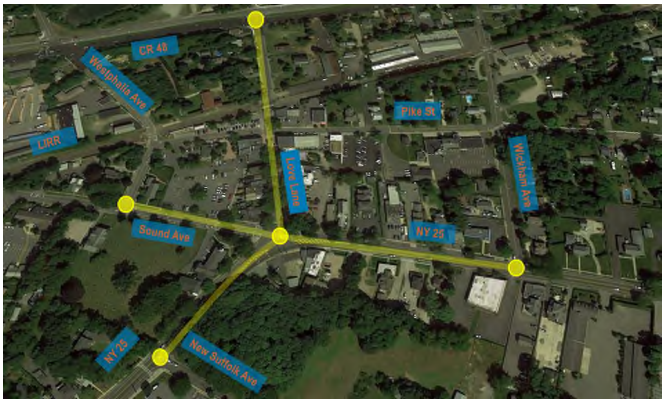

Figure 1: Initial Study Area

Figure 2: Expanded Study Area

FIELD OBSERVATIONS

In addition to the dates of the turning movement counts, supplemental field observations were conducted on Monday July 31, 2017 and on Thursday August 30, 2018. The field observations included noting any apparent speeding and traffic congestion, parking issues, and challenges that pedestrians face while attempting to cross Main Road (Route 25) or Love Lane. The results of the field observations were that there is no traffic calming and few options for pedestrians to cross Route 25 in the hamlet center. At the Love Lane and Route 25 intersection, it is hazardous for pedestrians to cross the street. This is due to cars driving at observed high speeds between New Suffolk Avenue and Love Lane and because of the curvature on eastbound Route 25 combined with a lack of crosswalks or traffic calming at Love Lane. There are no sidewalks along the south side of Route 25 between Love Lane and New Suffolk Avenue. Furthermore, it was observed that large trucks traveling along Route 25 would use Love Lane in order to cut through to North Road (County Route 48).

C. EXISTING CONDITIONS

CRASH DATA ANALYSIS

Table 1 displays the intersections with the highest crash total in the entire Town of Southold from 2015 to 2017, according to the Town's 2019 Comprehensive Plan. Based on Table 1, it can be seen that Love Lane and Route 25 has the fifth highest crash total in the Town of Southold. Additionally, two other intersections that were included in the traffic and pedestrian safety improvement alternatives study, Wickham Avenue and Route 25 and New Suffolk Avenue and Route 25, were also notable high crash locations in the Town of Southold. As seen in Table 1, Wickham Avenue and Route 25 has the sixth highest crash total while New Suffolk Avenue and Route 25 has the ninth highest crash total. A crash data analysis was conducted using crash data collected from 2015 to 2017. It showed that the predominant collision type for intersections located in the study area consisted of overtaking, rear end, right angle, and left turn. The results of the crash data analysis can be seen in Table 5 in the Appendix.

Table 1
High Crash Locations in Town of Southold

Intersection	Total Crashes 2015–2017	Hamlet
NY State Route 25 and Main Bayview Road / Ackerly Pond Lane	17	Southold
County Route 48 and Wickham Avenue	17	Mattituck
NY State Route 25 and County Route 48	16	Greenport West
County Route 48 and Cox Lane	14	Cutchogue
County Route 48 and Cox Neck Road / Old Sound Avenue	12	Mattituck
NY State Route 25 and Sound Avenue / Love Lane	**12**	**Mattituck**
County Route 48 and Peconic Lane / Mill Road	12	Peconic
NY State Route 25 and Wickham Avenue	**11**	**Mattituck**
Pike Street and Wickham Avenue	11	Mattituck
County Route 48 and Depot Lane	11	Cutchogue
County Route 48 and Hortons Lane	11	Southold
NY State Route 25 and Factory Avenue / Sigsbee Road	10	Mattituck
NY State Route 25 and New Suffolk Road	7	Cutchogue
NY State Route 25 and Depot Lane	7	Cutchogue
County Route 48 and Ackerly Pond Lane	7	Southold
County Route 48 and Albertson Lane	7	Southold
NY State Route 25 and New Suffolk Avenue	**6**	**Mattituck**
County Route 48 and Mill Lane	6	Mattituck
NY State Route 25 and Eugenes Road / Cox Lane	6	Cutchogue
NY State Route 25 and Peconic Lane	6	Peconic
NY State Route 25 and S. Harbor Road	6	Southold
NY State Route 25 and Youngs Avenue	6	Southold
County Route 48 and Chappel Lane	6	Greenport West
NY State Route 25 and Boisseau Avenue/Hobart Road	5	Southold
County Route 48 and Youngs Avenue	5	Southold
NY State Route 25 and Chappel Lane	5	Greenport West
Bold - Intersections located within Study Area		

Table 1 (cont.d)
High Crash Locations in Town of Southold

Intersection	Total Crashes 2015–2017	Hamlet
County Route 48 and Moores Lane	5	Greenport West
NY State Route 25 and Champlin Place / Wilmarth Avenue	5	Greenport West
NY State Route 25 and Gillette Drive	5	East Marion
NY State Route 25 and Dock Road	5	Orient
Bold - Intersections located within Study Area		

EXISTING TRAFFIC CONDITIONS

Traffic Volumes

Existing peak hour traffic volumes for the initial study area were developed based on the traffic data collected in 2018. The peak hours used for the AM, PM, and Saturday analysis for the initial study area were 8:00 AM to 9:00 AM, 4:00 PM to 5:00 PM, and 12:45 PM to 1:45 PM, respectively.

Existing peak hour traffic volumes for the expanded study area were developed by first comparing the 2019 traffic volumes to the 2018 traffic volumes at Love Lane and Route 25 to see if adjustments to the 2019 data were necessary. It was determined that there was an insignificant difference between the counts, approximately five percent. As a result, no adjustments were made to the 2019 traffic volumes and the peak hour volumes for the expanded study area were developed based on the traffic data collected in 2019. The peak hours used for the AM, PM, and Saturday analysis for the initial study area were 7:30 AM to 8:30 AM, 4:30 PM to 5:30 PM, and 12:00 PM to 1:00 PM, respectively.

Traffic Analysis - Level of Service

A traffic capacity study was conducted by using the *Synchro Software (Synchro 10)*. The Synchro analysis was conducted for the weekday AM, PM and Saturday peak hours. The geometry of the intersections and movements allowed at each approach in the study area were taken using measurements from Google Aerial view and observed based on the collected turning movement counts. The supplemental pedestrian counts at Love Lane, obtained from NYSDOT were used as the conflicting pedestrians inputs for the analysis.

For the existing conditions, level of service (LOS) results were generated using methodologies presented in the 2010 Highway Capacity Manual (HCM). The HCM procedure evaluates the LOS for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle. The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined in Table 2.

Table 2
Level of Service Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds
Source: Transportation Research Board. *Highway Capacity Manual*, 2010.	

LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total

intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups.

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized in Table 3.

Table 3
Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2010.

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections.

The LOS results of the existing conditions analysis for the weekday AM, PM, and Saturday peak hours can be seen in Table 4. As seen in Table 4, the Saturday peak hour has the most cases of poor LOS. Also, it can be seen that the southbound along Love Lane and the southbound approach along Pacific Street both have very significant delays of greater than 200 seconds per vehicle in the Saturday peak hour.

Table 4
Existing Level of Service Analysis

Intersection	Weekday AM				Weekday PM				Saturday			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Sound Avenue & Westphalia Road												
SB	R	0.08	8.9	A	R	0.11	9.2	A	R	0.09	9.0	A
North Road & Love Lane												
NE	L	0.00	0.0	A	L	0.00	9.7	A	L	0.00	9.1	A
NW	LTR	0.15	16.3	C	LTR	0.20	20.2	C	LTR	0.69	56.5	F
SE	LTR	0.04	23.0	C	LTR	0.04	43.3	E	LTR	0.12	64.9	F
SW	L	0.07	9.1	A	L	0.09	8.9	A	L	0.12	11.1	B
Main Road (Rt 25) & New Suffolk Avenue												
WB	LR	0.45	30.0	D	LR	0.59	61.0	F	LR	0.94	139.0	F
SB	L	0.01	8.7	A	L	0.04	9.6	A	L	0.06	10.9	B
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A

Table 4 (cont.d)
Existing Level of Service Analysis

Intersection	Weekday AM				Weekday PM				Saturday			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & Sound Avenue & Love Lane												
EB	L2*	0.01	7.4	A	L2*	0.01	7.5	A	L2*	0.01	7.4	A
	L**	0.00	0.0	A	L**	0.00	0.0	A	L**	0.00	0.0	A
WB	T	0.41	10.8	B	T	0.75	19.2	C	T	0.94	45.5	E
SB	LR	0.12	33.8	D	LR	0.92	>200.0	F	LR	3.72	>200.0	F
Main Road (Rt 25) & Wickham Avenue												
EB	L	0.08	8.6	A	L	0.18	9.8	A	L	0.24	10.3	B
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.17	14.9	B	LR	0.46	22.5	C	LR	1.00	114.7	F
Main Road (Rt 25) & Bay Avenue/Legion Avenue												
EB	L	0.01	8.3	A	L	0.01	8.7	A	L	0.01	8.9	A
WB	L	0.03	8.9	A	L	0.04	9.5	A	L	0.10	11.0	B
SB	LTR	0.03	12.6	B	LTR	0.06	20.2	C	LTR	0.17	33.4	D
Main Road (Rt 25) & Pacific Street												
EB	L	0.00	8.4	A	L	0.01	8.8	A	L	0.03	9.2	A
WB	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NB	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A
SB	LTR	0.21	24.7	C	LTR	0.50	61.2	F	LTR	1.34	>200.0	F
Main Road (Rt 25) & Reeve Avenue												
WB	L	0.00	8.3	A	L	0.00	8.8	A	L	0.00	9.0	A
WB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LR	0.03	14.3	B	LR	0.22	26.0	D	LR	0.18	26.0	D
Main Road (Rt 25) & Maple Avenue												
EB	LT	0.01	0.3	A	LT	0.00	0.1	A	LT	0.00	0.1	A
WB	TR	0.23	0.0	A	TR	0.34	0.0	A	TR	0.33	0.0	A
SB	LR	0.04	13.9	B	LR	0.07	18.8	C	LR	0.03	15.1	C
Main Road (Rt 25) & School Street												
EB	L	0.01	8.1	A	L	0.01	8.6	A	L	0.01	8.6	A
EB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.05	14.5	B	LR	0.16	21.9	C	LR	0.21	27.0	D

* From Main Road Onto Sound Avenue
** From Main Road Onto Love Lane

D. TRAFFIC AND SAFETY IMPROVEMENTS

LOVE LANE AND ROUTE 25

As stated earlier, Love Lane and Route 25 is a wide, skewed, and unsignalized intersection that is dangerous due to unsafe vehicular flow caused by conflicting movements. The conflicting movements can be attributed to the high volume of vehicles turning onto Love Lane. During the Saturday peak hour, which had the highest volumes, there were 123 vehicles making the left turn from Route 25 onto Love Lane and 627 vehicles making the through movement along Route 25. It was observed that large trucks traveling along Route 25 would use Love Lane in order to cut through to North Road (County Road 48). Eight out of the 12 total crashes at this intersection from of 2015 to 2017, involved vehicles either making left turns from Route 25 onto Love Lane or exiting from Love Lane onto Route 25. Furthermore, the lack of crosswalks makes it hazardous for pedestrians to cross the street. Various alternatives were developed in order to improve the vehicular flow and pedestrian safety at Love Lane and Route 25 by adding a traffic signal or reducing the number of conflict points and introducing traffic calming measures. Three alternatives are presented: leaving the intersection unsignalized but with two sub-options to reduce conflict points through turn restrictions; adding a traffic signal and maintaining all traffic movements; and converting the intersection to a roundabout and maintaining all traffic movements. The LOS results of the traffic analysis conducted to analyze the feasibility of the three alternatives can be found in the Appendix.

Love Lane Alternative 1A and 1B: Unsignalized with Turn Restrictions

Alternative 1A and 1B include safety improvements that can be implemented in the short term and are not complex but will divert traffic and reduce conflict points, therefore increasing safety for vehicles, bicyclists and pedestrians. Alternative 1A would only allow right turns at the southbound Love Lane approach. This alternative also includes adding crosswalks, pedestrian safety signage on all legs of the intersection, and pavement markings used to narrow the perceived width of road. The lane striping would be adjusted such that westbound Route 25 traffic destined to Love Lane and Sound Avenue would be aligned with the Sound Avenue, improving the current striping scheme, which causes confusion and is sometimes not followed by motorists according to observations. Also, on-street parking would be allowed along Route 25, which causes the intersection to seem tighter to drivers and result in slower speeds. Cars travelling eastbound along Route 25 are still able to turn left onto Love Lane in this alternative and the free-flow Route 25 through movements would be maintained. This alternative diverts less than 100 vehicles per hour per direction to any other nearby intersection.

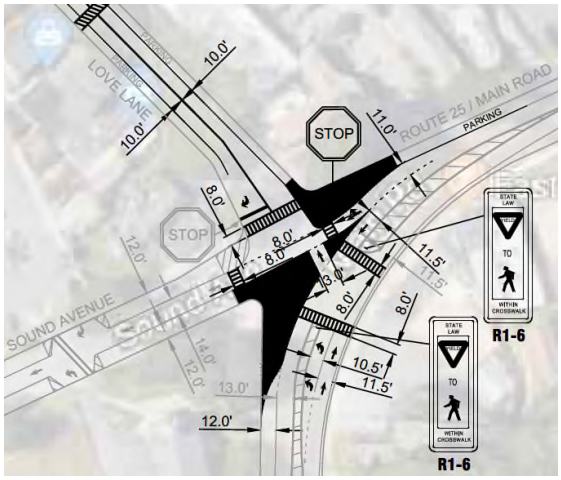

Figure 3: Alternative 1A - Love Lane Right Turns Only

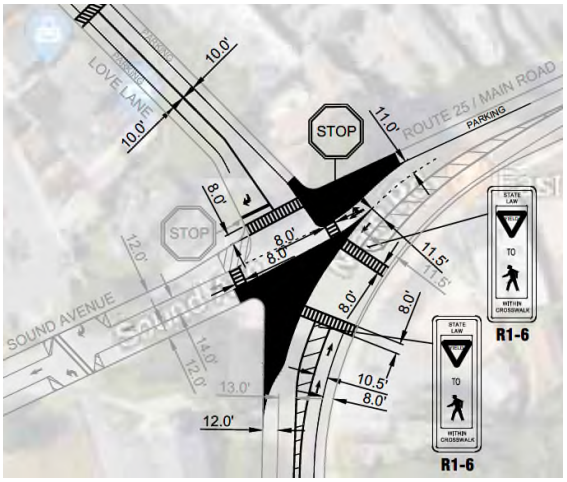

Figure 4: Alternative 1B - Love Lane Right Turns Only & No Lefts onto Love Lane

Alternative 1B is very similar to Alternative 1A. The difference between the two alternatives is that eastbound Route 25 left turn onto Love Lane would be prohibited. This alternative provides the same safety benefits at Love Lane as Alternative 1A. However, this alternative would reduce more conflict points at the expense of more diverted traffic. The maximum number of diverted vehicles increases to less than 115 vehicles per hour per direction. Also, more on-street parking is available in this alternative since the exclusive left turn only lane will be removed.

Synchro traffic analysis, summaries of which are contained in the Appendix, was conducted for both options, and found to have little additional delay on the westbound Route 25 approach by adding stop control to the right turn movements onto Love Lane and Sound Avenue. There would be substantial improvements on the Love Lane southbound approach since left turns would be prohibited, and no negative traffic effects on other approaches. The overall intersection level of service would improve with these options. In addition, traffic conditions at nearby conditions which would experience higher traffic volumes due to diversion of traffic from prohibited movements recommended by these options were tested, and found to have no adverse effects on traffic.

Love Lane Alternative 2: Signalized

Alternative 2 includes using a traffic signal along with safety improvements. In this alternative, the Love Lane and Route 25 intersection would become signalized. However, in order to justify the use of a traffic control signal the intersection must satisfy at least one traffic signal warrant from 2009 Edition of the Federal Manual on Uniform Traffic Control Devices (MUTCD), as modified by New York Codes Rules, and regulations, Title 17B. Warrant 2 (Four-Hour Vehicular Volume) and Warrant 7 (Crash Experience) were both satisfied. Therefore, a traffic control signal would be warranted at Love Lane and Route 25.

The proposed traffic signal would be a three phase signal with a 90 second cycle length. The eastbound Route 25 left turn onto Love Lane would be a protected-only movement and the storage length would be increased to 150 feet in order to prevent queue spillback. The intersection with the proposed signal timing was analyzed using Synchro and it was determined that under existing conditions the overall intersection would be LOS C or better with no spillback. Additionally, on-street parking would be allowed along Route 25 and other traffic calming treatments could be implemented in order to slow down traffic. Crosswalks would be added on all legs of the intersection to allow pedestrians to cross the road safely. Curbs would be extended to shorten the crossing distance for pedestrians and improve the efficiency of the intersection for traffic flow. Furthermore, the lane striping would be adjusted such that westbound Route 25 traffic destined to Love Lane and Sound Avenue would be aligned with the Sound Avenue, improving the current striping scheme, which causes confusion and is sometimes not followed by motorists according to observations.

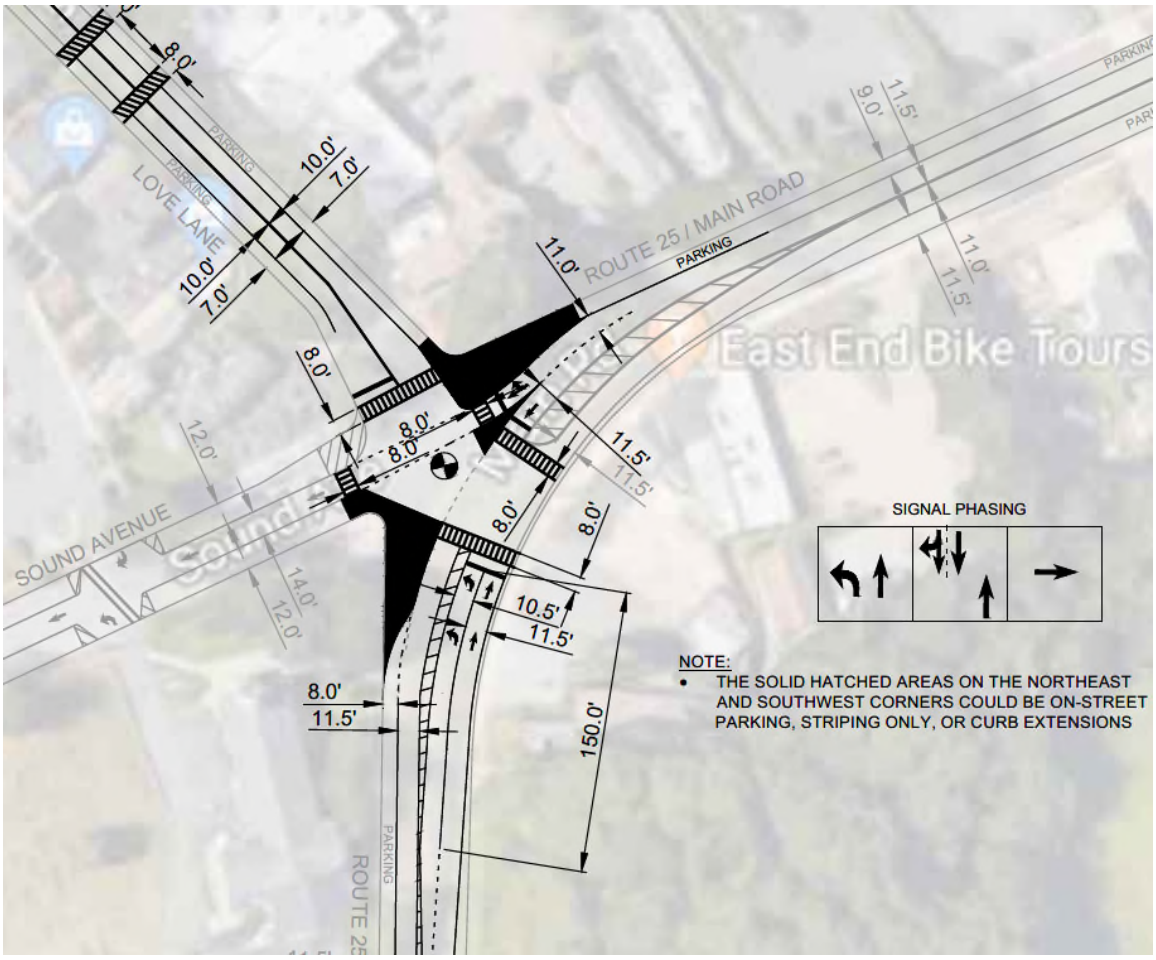

Figure 5: Alternative 2 - Traffic Control Signal

Love Lane Alternative 3: Roundabout

Alternative 3 proposes using a roundabout to improve traffic and pedestrian safety. The design of the roundabout was based on the Federal Highway Administration's (FHWA) Roundabout Informational Guide. The roundabout would slow down traffic because drivers must yield prior to entering the roundabout. Also, the possibility of right-angle, left-turn, or head-on collisions are virtually eliminated since a roundabout provides one-way travel with curved roads. Furthermore, the roundabout promotes a continuous flow of traffic, which is essential due to the amount of vehicles traveling along Route 25. As seen in **Figure 6**, the roundabout was designed to have an outer diameter of 100 feet and the center island can be mountable for large trucks. The only encroachment beyond the existing Route 25 public right-of-

way would be on the southwest corner, where a small part of the vacant land in front of the church would need to be acquired by an easement.

Figure 6: Alternative 3 – Roundabout

In concert with the roundabout alternative, it is recommended that the left turns going from New Suffolk Avenue onto westbound Route 25 be prohibited to eliminate an unsafe maneuver that currently has heavy delays during peak hours. According to anecdotal accounts, some motorists destined to the west do not attempt this left turn now, and turn right to use Love Lane or Sound Avenue to reach their destination. The result would be that only right turns are allowed from New Suffolk Avenue, and vehicles would use the roundabout at Love Lane and Route 25 as a U-turn. By prohibiting the left turn from New Suffolk Avenue, the pedestrian safety at the crosswalks and the traffic conditions would be improved. The Synchro analysis shows that in the Saturday peak hour, which had the highest volumes, the conditions would improve from LOS F and a delay of 139.0 seconds per vehicle to LOS C and a delay of 24.3 seconds per vehicle on the New Suffolk Avenue approach and negligible additional delays at the roundabout.

NYSDOT Review of Love Lane and Route 25 Improvements

NYSDOT conducted a review of the three alternatives presented above, and verbal comments were communicated at a meeting held on January 3, 2019 which was attended by representatives of the Town, NYSDOT, Suffolk County Department of Public Works, and AKRF, Inc. Regarding Alternative 1A/1B – Unsignalized with Turn Restrictions, NYSDOT explained that they do not recommend marking uncontrolled crosswalks despite doing so at other intersections within the hamlet and Town on Route 25 because it gives a false sense of security to pedestrians. There were no concerns regarding the proposed turn prohibitions. For

Alternative 2 – Signalized Intersection, NYSDOT expressed a dislike for this option since it would have the potential to create long queues and frustrate motorists with new delays on eastbound and westbound Route 25 where there are none now. The Town agreed with this. NYSDOT stated they preferred Alternative 3 – Roundabout because it allows for safer conditions for pedestrians using marked crosswalks and overall safety for all users. The Town stated a preference for this alternative also. A representative from the traffic engineering group of the Suffolk County Department of Public Works was also in attendance and did not have any concerns with the three alternatives' effects on County Route 48. Both NYSDOT and Suffolk County Department of Public Works had received the draft recommendations and traffic backup in November 2018 and had conducted reviews of the traffic engineering studies prior to the January 2019 meeting. Additional NYSDOT comments received on September 30, 2020 were that ADA accessibility, bicycle routes, and sidewalks must be maintained at the roundabout, and that the inner diameter and the splitter islands at the roundabout must be raised concrete.

Following the January 2019 meeting, NYSDOT's Roundabout Design Unit based in Albany reviewed and refined the concept first presented by AKRF, Inc, as shown in Figure 7 below. NYSDOT recommended increasing the outer diameter to 120 feet to better accommodate the largest tractor trailer truck, carrying a 53-foot trailer. This is called a WB-67 design vehicle because the total wheelbase including the tractor and trailer is 67 feet. However, it is AKRF's and the Town's opinion that this is an overdesign because County Route 48, which parallels Route 25, is a designated truck route and is used by large tractor trailers for through-trips because it is wider, faster and safer. According to AKRF observations, there were no WB-67 trucks travelling along Route 25, and designing the roundabout for an occasional one would be provided using the mountable center island. Additionally, increasing the outer diameter of the roundabout beyond 100 feet would encroach on additional private property on the northwest and northeast corners which are utilized by private businesses, compared to the small sliver of vacant land on the southwest corner in front of the church which would be encroached upon with a 100-foot roundabout. The Town of Southold wishes to discourage large truck traffic cutting through Love Lane between Route 25 and County Route 48 in order to maintain pedestrian safety, which the roundabout would help accomplish.

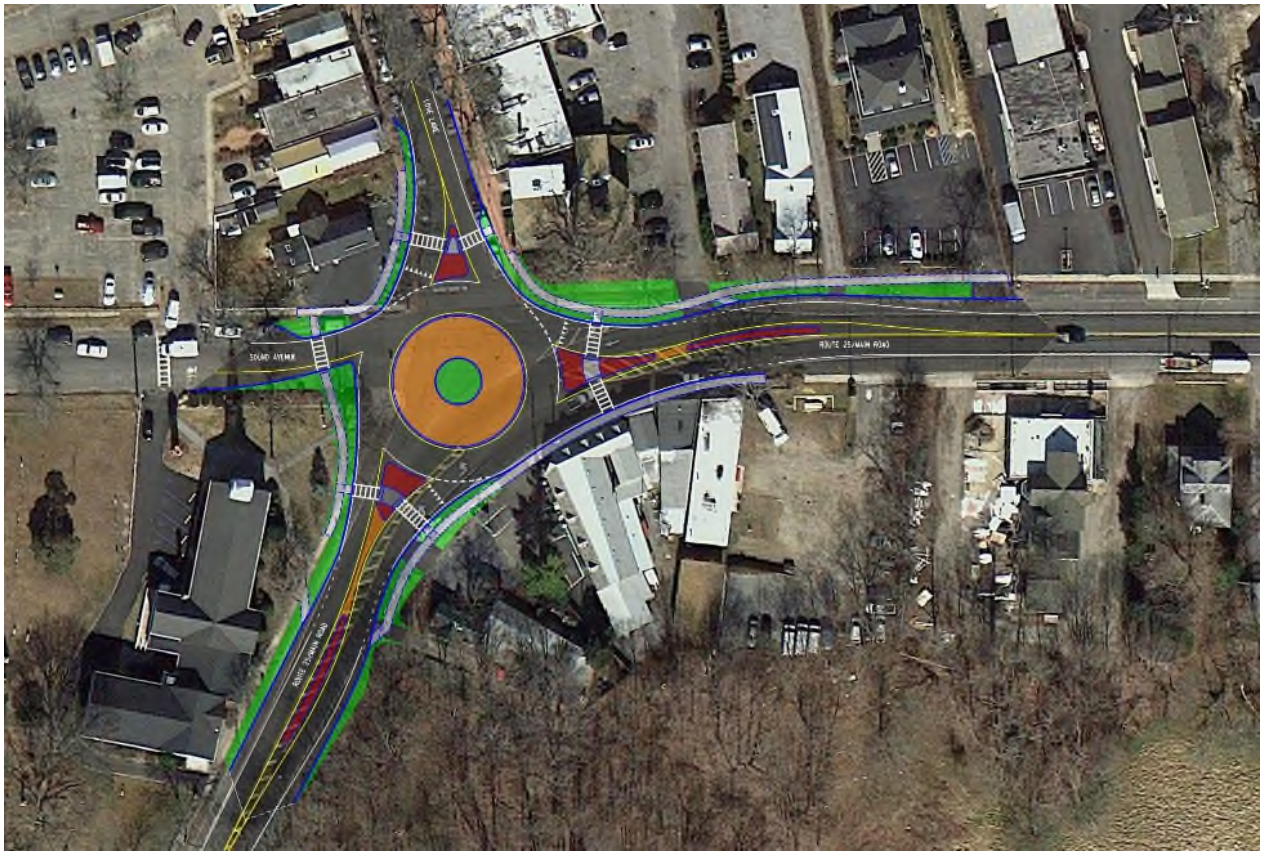

Figure 7: Alternative 3 – Roundabout Design by NYSDOT

COMPLETE STREETS RECOMMENDATIONS

Complete Streets is an approach to planning and design that focuses on improving safety and mobility for all users, including pedestrians, bicyclists, bus/transit users, and motorists. Complete Streets allow for a much safer and efficient transportation network because they reduce motor vehicle-related crashes and pedestrian risk. This approach was taken into account as part of the traffic and pedestrian safety improvement alternatives study for the Mattituck hamlet.

Pedestrian Walkability

It is recommended that crosswalks with Americans with Disabilities Act (ADA) compliant pedestrian ramps, sidewalks, and curbs are added throughout the hamlet, specifically along intersections on Route 25 in the study area in order to promote walkability and improve the pedestrian experience. Crosswalks with ADA compliant pedestrian ramps should be added on all legs of an intersection, where possible. In the existing condition there are some intersections that have sidewalks but they are not consistent throughout the whole stretch of Route 25 in the study area. As a result, all gaps in the sidewalk network should be closed in order to improve walkability.

Gateway Treatments

The addition of concrete curbs will slow traffic down and will communicate to drivers that they are in a hamlet center; this is a type of gateway treatment. Other gateway treatments should be considered, such as landscaped decorative signage upon entry to the hamlet on the west and east ends of Route 25. Gateway treatments not only calm traffic, but also give a sense of place and can incorporate historic, art, or cultural elements reflective of the Mattituck-Laurel area.

Transit

The Long Island Railroad (LIRR) has a station one block away from Route 25 located on Pike Street between Love Lane and Westphalia Road. There is a sign on Route 25 directing traffic to the station. However, for pedestrians and bicyclists along Route 25 and Love Lane or LIRR riders exiting the station, there is no wayfinding signage or intuitive route connecting the station to Route 25. It is recommended that a sidewalk be considered on the north side of Pike Street along with pedestrian and bicycle-scale wayfinding signage.

Suffolk County Transit operations the S92 bus route along Route 25 in the hamlet. However, there are no bus stops or shelters. It is recommended that marked bus stops be placed in Mattituck in consultation with Suffolk County Transit with shelters or benches to promote the use of transit and provide basic infrastructure for those riders who currently use the S92 route. In addition, where bus stops are marked, additional consideration should be given to accessibility, pedestrian, and bicycle access such as wide enough sidewalks and areas for bicyclists to put their bikes on bus racks or for persons in wheelchairs to use lifts on the buses without blocking the sidewalk or having to wait in the street.

Converting Yield Control to Stop Control and Normalizing Skewed Intersections

Yield signs on cross street approaches to Route 25 should be converted into stop signs, specifically at the northbound approach at Bay Avenue and the southbound approach at Maple Avenue. The yield control is not safe for pedestrians or vehicles due to sight distances. Therefore, converting to a stop control will ensure that vehicles come to a full stop and allow pedestrians to cross safely. In addition to converting the yield control to stop control at the northbound approach at Bay Avenue, a curb extension should be added at the southwest corner of the Bay Avenue and Route 25 intersection. This will help normalize the skewed intersection to operate more similar to a 90 degree/perpendicular intersection which his benefits for motorists and pedestrians. As seen in Figure 8, the southwest corner in the existing condition has a wide corner radius. In order to slow down vehicles making the right turn from Route 25 to Bay Avenue, a curb extension is recommended to tighten up the intersection and force vehicles to turn at a sharper angle. Furthermore, the sidewalk space is increased and the walkability and pedestrian safety are improved. Similarly, the southeast corner could be extended in place of or in addition to the southwest corner to reduce

the skew in the northbound Bay Avenue approach. However, adding these curb extensions will require the grading and stormwater flow to be investigated, and they would reduce the turning radius for large trucks. In order to avoid both issues raised by the curb extensions, or to implement this improvement immediately, paint or bollards can be used instead of curbs.

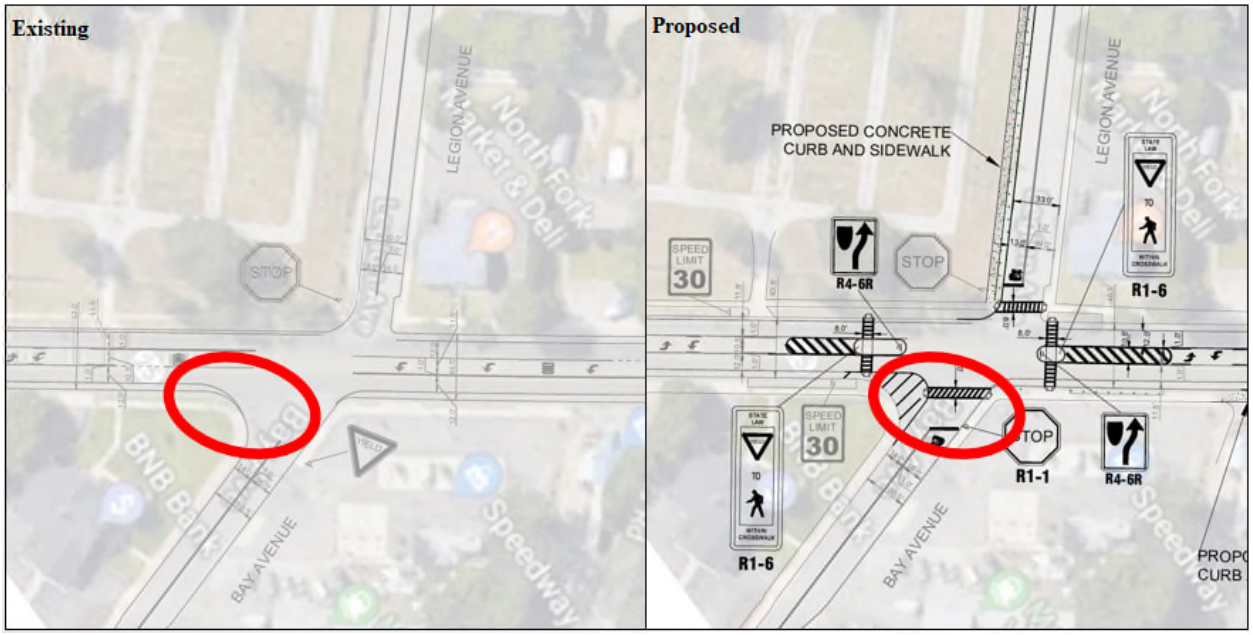

Figure 8: Existing vs. Proposed Bay Avenue

Bicycles

Along with the general walkability, traffic, and safety improvements mentioned above, there were also three different alternatives developed to improve traffic safety conditions, provide for pedestrian crossings of Route 25, and address the wide lane widths in the existing conditions which encourage speeding. For any alternative that involves reducing the lane widths or shoulder widths, there are benefits to vehicular and pedestrian safety. However, bicyclists along State Bike Route 25 who will benefit from slower vehicle speeds within the hamlet center may be forced to "take the lane" and share the road with vehicular traffic. In commercial downtowns and hamlet centers, this already happens on State Bike Route 25 where there is on-street parking taking over the shoulder where cyclists normally ride in between hamlet centers. As is summarized below in the NYSDOT comments, this concern was raised and is noted. Therefore, it is recommended that upon design and implementation of specific improvements, bicycle travel and facilities be assessed and integrated with any alternative to preserve Route 25 as an important regional bike route.

Complete Streets Alternative 1: Install Pedestrian Refuge Island

Alternative 1 includes adding pedestrian refuge islands as illustrated in Figure 8 in order to reduce the lane widths to slow down the speed of vehicles traveling along Route 25. This alternative would make uncontrolled crossings shorter and safer for pedestrians by providing pedestrians with refuges and would even provide some safety benefits without marked crosswalks, should NYSDOT decide marking crosswalks is not feasible.

Traffic analysis tests were conducted to analyze the feasibility of this improvement, the results of which can be found in the Appendix. In this alternative, the left turn lanes at Bay Avenue/Legion Avenue and Route 25 and at Pacific Street and Route 25 would need to be removed in order to add pedestrian refuge islands. Although the left turn volumes are low, they meet minimum traffic volume warrants for left turn lanes. The addition of pedestrian refuge islands combined with the removal of left turn lanes could potentially increase rear-end crashes and increase delays significantly during the Saturday peak hour. The results of the Synchro analysis for this alternative shows that the delays along Route 25 do not increase noticeably at Bay/Legion Avenues and at Pacific Street. Also, the side street approaches, Bay Avenue and

Legion Avenue, have acceptable LOS in the AM and PM but in the Saturday peak hour the delay would increase by 60 seconds per vehicle. At Pacific Street, the side street approach along Pacific Street has an acceptable LOS in the AM. However, in the PM peak hour the existing LOS is F and would deteriorate with an increase in delay. In the Saturday peak hour the existing LOS is F and the deterioration would be noticeable with an increase in delay by 20 second per vehicle. Therefore, based on these preliminary traffic analysis tests, pedestrian refuge islands are not recommended where existing left turn lanes are present on Route 25 and would have to be eliminated, but are recommended at other intersections in the study area where there are not dedicated left turn lanes.

Complete Streets Alternative 2: Install Neckdowns

Alternative 2 includes installing neckdowns along Route 25 as shown in Figure 9. Neckdowns are curb extensions that narrow the travel lane at intersections or midblock locations by extending the curb into the parking lane. They are effective because they shorten the crossing distance for pedestrians and do not eliminate left-turn lanes. However, there are reduced safety benefits when compared to pedestrian refuge islands since motorists slow down more for raised islands in the middle of the street as compared to curbs extending from the side of the street. Also, neckdowns can interrupt the flow of stormwater and could cause large trucks turning right to have difficulty making turns because of the sharper angle. Both issues can be avoided by using paint and bollards instead of concrete curbs.

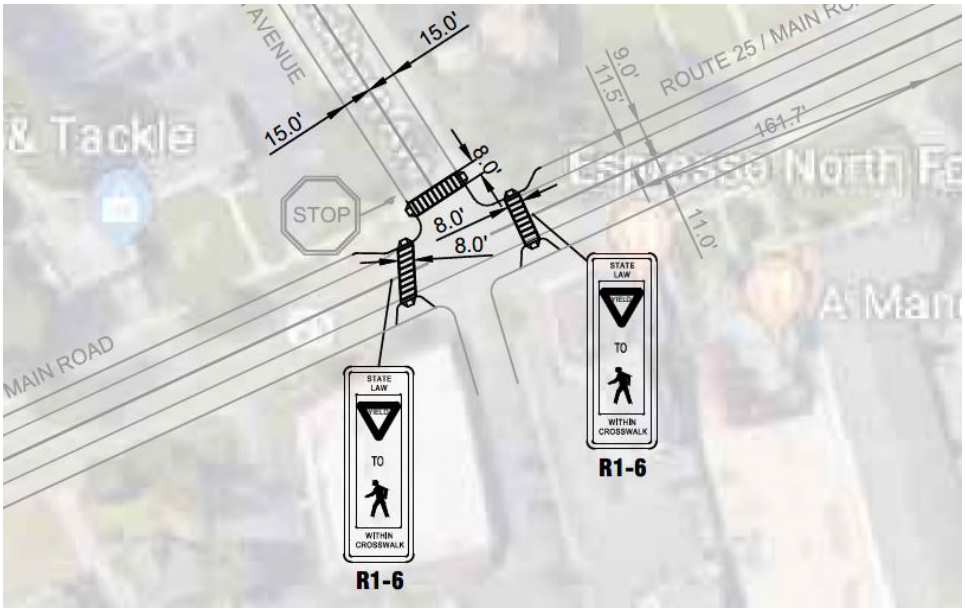

Figure 9: Neckdowns

Complete Streets Alternative 3: Install On-Street Parking Lanes

Alternative 3 includes adding on-street parking lanes wherever possible to reduce the wide travel lane widths. The on-street parking lanes will help calm traffic because the tighter lane widths along with cars parked on the sides of the road will give the roadway segment a more compact appearance. They are more effective in calming traffic if the spaces are occupied by parked vehicles but they can still calm traffic with striping even if the spaces are not occupied. The parking lanes can work in tandem with the curb extensions, pedestrian refuge islands, and neckdowns mentioned in the other alternatives. The Mattituck-Laurel Civic Association's desire for a downtown hamlet identity reinforces the idea that on-street parking lanes should be installed. The on-street parking lanes will give Route 25 near Love Lane the appearance of a main street. Also, the merchants located along Love Lane will benefit from having on-street available for patrons. There may be potential increased conflicts with through traffic since the approaches along Route 25 will be one lane. However, there should not be any noticeable increases in delay or crashes. Where left turn lanes exist on Route 25 at Bay Avenue/Legion Avenue and at Pacific Street, on-street parking would not be recommended since the left-turn lanes should be maintained.

NYSDOT Review of Complete Streets Recommendations

The above Complete Streets recommendations were sent to NYSDOT and Suffolk County Department of Public Works Traffic Engineering staff on March 20, 2020 for review, and NYSDOT sent review comments related to traffic operations and safety on August 19, 2020. Suffolk County responded that they did not have any comments since the recommendations do not affect County Route 48. Similar to the review of the Love Lane alternatives, NYSDOT re-stated concerns regarding implementation of new uncontrolled marked crosswalks despite there being others on Route 25 in Mattituck and throughout the Town that do not have high pedestrian crash rates. However, there were no concerns raised for the addition of marked crosswalks across side streets which are under Town jurisdiction. NYSDOT agreed with the conclusion of this study that installation of pedestrian refuge islands would reduce the shoulder widths and remove any existing on-street parking. Furthermore, there were concerns with the pedestrian refuge islands narrowing the width of Route 25 that would potentially reduce the shoulder width making it too narrow for bicyclists, where bicycles would need to share the road with vehicles. AKRF agrees that, and has recommended above that any alternative moving forward into design and implementation consider bicycle travel to preserve Route 25 as an important regional bike route.

E. ANTICIPATED COSTS, APPROVALS, AND IMPLEMENTATION SCHEDULE

The preferred alternative for Love Lane at Route 25 is a roundabout. The total cost for design and construction of a roundabout at this location would be in the range of $1 million to $2 million, assuming no significant utility relocation or right-of-way acquisition is needed, and the property easement with the church can be negotiated fairly. The estimated costs for striping, signage and temporary installations such as flexible stake bollards are nominal and can be built into routine repaving projects. Therefore, the Complete Streets Alternative 3: Install On-Street Parking Lanes could be completed without a capital project. Complete Streets Alternatives 1 and 2 (Pedestrian Refuge Island and Neckdowns) would require capital projects, since they involve construction of new curbs and potentially stormwater/drainage work, as would the recommendation of completing gaps in the sidewalk network. Sidewalk construction ranges from $100 to 250 per linear foot. It is estimated that between 1,000 to 2,000 linear feet of sidewalk would be required to fill gaps or, depending on a detailed inspection of concrete condition, replace existing sidewalks. The costs for the sidewalk extensions and replacements would range from $100,000 to $500,000. According to FHWA guidance, curb extensions cost approximately $25,000 to $40,000 each and pedestrian islands cost approximately $40,000 to $50,000 each. The total cost for these alternatives would depend on the final selection of preferred alternatives at each intersection, but would be approximately $400,000 to $500,000.

The approvals required for implementation of the recommendations would include a NYSDOT Highway Work Permit for doing construction on the NYSDOT right-of-way. If any objects such as a "Welcome to Mattituck" signage associated with a gateway treatment were placed in the NYSDOT right-of-way, a Use and Occupancy Permit would also be required.

Depending on the availability of grant funding, the implementation schedule for the roundabout could range from two to five years. Non-capital Complete Street recommendations could be implemented the next time Route 25 is due for repaving, which could be in as little as two years. The capital project Complete Street recommendations would also depend on grant funding availability, and may need to be phased over a period exceeding five years.

F. CONCLUSION

The Love Lane and Route 25 intersection located in the Mattituck hamlet in the Town of Southold is located in the hamlet's center. From 2015 to 2017, the intersection had the fifth highest crash total in the Town of Southold. The high number of crashes could be attributed to the unsafe vehicular flow caused by dangerous conflicting movements. The Mattituck-Laurel Civic Association's desire for a downtown hamlet identity as well as concerns about pedestrian safety raised by the community fueled the need for traffic and pedestrian safety improvement alternatives.

Various options of traffic calming and improvements to pedestrian safety were developed to improve the traffic and pedestrian experience at the Love Lane and Route 25 intersection as well as other intersections along Route 25, as part of the expanded study area.

The Love Lane improvements had three alternatives. Alternative 1A and 1B were two similar alternatives that kept the intersection unsignalized but with turn restrictions to slow traffic and reduce conflicts between vehicles and pedestrians. It was determined that, although these alternatives would achieve the goals of improving safety and were feasible from a traffic operations perspective, NYSDOT may not allow marked crosswalks across Route 25 since they would be uncontrolled; therefore, this alternative was not preferred.

Love Lane Alternative 2 would be signalizing the intersection. Although this alternative is feasible from a traffic operations perspective and would allow marked crosswalks across Route 25 controlled by the traffic signal, it was not preferred by NYSDOT because it would potentially create long queues during peak summer and fall traffic periods since it is an isolated traffic signal along a through-route, and the Town agreed it was not preferred. Love Lane Alternative 3 would be installing a roundabout to calm traffic, reduce conflicts between vehicles and pedestrians, and allow marked crosswalks across Route 25 by NYSDOT. This alternative is the preferred alternative of the Town and NYSDOT. It would also help discourage large truck traffic cutting through Love Lane between Route 25 and County Route 48 as compared to a traffic signal.

There were also three Complete Streets alternatives for the rest of the hamlet study area. Complete Streets is an approach to planning and design that focuses on improving safety and mobility for all users, including pedestrians, bicyclists, bus/transit users, and motorists. This approach was used to develop recommendations on how to improve the intersections along Route 25 for all users. General improvements included installing crosswalks with ADA compliant pedestrian ramps, sidewalks, and concrete curbs. Also, yield signs should be converted to stop signs to enhance the pedestrian experience and improve traffic conditions. Transit accessibility and connectivity recommendations are included, as is a discussion of bicycling on State Bike Route 25. Along with these general improvements, three alternatives were developed. Complete Streets Alternative 1 included installing pedestrian refuge islands in order to help reduce lane widths to slow down the speed of vehicles, while improving pedestrian safety at the same time. In this alternative, the left turn lanes at Bay Avenue/Legion Avenue and Route 25 would not allow installation at these locations. Complete Streets Alternative 2 includes installing neckdowns, which are curb extensions that narrow the travel lane at intersections or midblock locations by extending the curb into the shoulder or parking lanes. This alternative has reduced safety benefits compared to Complete Streets Alternative 1 since motorists tend to slow down when there is a raised island located in the middle of the street rather than curbs extending from the side. Complete Streets Alternative 3 include installing on-street parking lanes. The on-street parking lanes will aid in creating the downtown hamlet identity near Love Lane since patrons to the commercialized area near Love Lane would increase, while also improving traffic conditions.

G. APPENDIX

Table 5
Crash Data Analysis

Intersection	Predominant Collision Type	Attributing Factors	No. of Collisions	Total No. of Collisions
North Road (Route 48) and Love Lane	1. Overtaking	1. Passing or lane usage improperly	1	
	2. Rear End	2. Following too closely	1	2
Sound Avenue and Westphalia Road	1. Rear End	1. Driver Inattention	1	1
Main Road (Route 25) and Legion Avenue/Bay Avenue	1. Rear End	1. Following too closely	2	
	2. Right Angle	2. Failure to yield right of way	1	
	3. Overtaking	3. Passing or lane usage improperly	1	4
Main Road (Route 25) and Pacific Street	1. Left Turn (against other car)	1. Failure to yield right of way	1	
	2. Other (Caused by animal)	2. Animal's Action	1	
	3. Rear End	3. Following too closely	1	3
Main Road (Route 25) and New Suffolk Avenue	1. Right Angle	1. Failure to yield right of way	3	
	2. Other (weather condition)	2. Pavement slippery	1	
	3. Rear End	3. Backing unsafely	1	6
Main Road (Route 25) and Love Lane	1. Right Angle	1. Failure to yield right of way	6	
	2. Left Turn (with other car)	2. Driver Inattention	2	
	3. Overtaking	3. Traffic control devices disregarded	1	12
Main Road (Route 25) and Wickham Avenue	1. Left Turn (with other car)	1. Failure to yield right of way	3	
	2. Rear End	2. Driver inattention	2	
	3. Right Angle	3. Turning improper	2	11
Main Road (Route 25) and Reeve Avenue	1. Left Turn (against other car)	1. Failure to yield right of way	1	
	2. Rear End	2. Backing unsafely	1	
	3. Other (Caused by animal)	3. Animal's action	1	4
Main Road (Route 25) and Maple Avenue	1. Rear End	1. Following too closely		
		2. Driver Inattention	2	2
Main Road (Route 25) and School Street	1. Left Turn (against other car)		1	
	2. Right Angle	1. Failure to yield right of way	1	2

Table 6

Existing & Love Lane Alternative 1A & 1B & 2 AM Level of Service Analysis

Intersection	Weekday AM															
	Existing				Love Lane Alternative 1A: Unsignalized				Love Lane Alternative 1B: Unsignalized				Love Lane Alternative 2: Signalized			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Sound Avenue & Westphalia Road																
SB	R	0.08	8.9	A	R	0.08	8.9	A	R	0.08	8.9	A	R	0.08	8.9	A
North Road & Love Lane																
NE	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NW	LTR	0.15	16.3	C	LTR	0.13	14.5	B	LTR	0.07	21.4	C	LTR	0.15	16.3	C
SE	LTR	0.04	23.0	C	LTR	0.03	19.0	C	LTR	0.03	18.8	C	LTR	0.04	23.0	C
SW	L	0.07	9.1	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.07	9.1	A
Main Road (Rt 25) & New Suffolk Avenue																
WB	LR	0.45	30.0	D	LR	0.45	30.0	D	LR	0.44	29.3	D	LR	0.45	30.0	D
SB	L	0.01	8.7	A	L	0.01	8.7	A	L	0.01	8.6	A	L	0.01	8.7	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
Main Road (Rt 25) & Wickham Avenue																
EB	L	0.08	8.6	A	L	0.08	8.6	A	L	0.14	8.9	A	L	0.08	8.6	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.17	14.9	B	LR	0.33	16.6	C	LR	0.36	18.3	C	LR	0.17	14.9	B
Main Road (Rt 25) & Bay Avenue/Legion Avenue																
EB	L	0.01	8.3	A	L	0.01	8.3	A	L	0.01	8.3	A	L	0.01	8.3	A
WB	L	0.03	8.9	A	L	0.03	8.9	A	L	0.03	8.9	A	L	0.03	8.9	A
SB	LTR	0.03	12.6	B	LTR	0.03	12.6	B	LTR	0.03	12.6	B	LTR	0.03	12.6	B
Main Road (Rt 25) & Pacific Street																
EB	L	0.00	8.4	A	L	0.02	8.4	A	L	0.03	8.4	A	L	0.02	8.4	A
WB	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NB	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A
SB	LTR	0.21	24.7	C	LTR	0.21	24.7	C	LTR	0.21	25.4	D	LTR	0.21	24.7	C
Main Road (Rt 25) & Reeve Avenue																
WB	L	0.00	8.3	A	L	0.00	8.3	A	L	0.00	8.3	A	L	0.00	8.3	A
WB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LR	0.03	14.3	B	LR	0.03	14.3	B	LR	0.03	14.3	B	LR	0.03	14.3	B
Main Road (Rt 25) & Maple Avenue																
EB	LT	0.01	0.3	A	LT	0.01	0.3	A	LT	0.01	0.3	A	LT	0.01	0.3	A
WB	TR	0.23	0.0	A	TR	0.23	0.0	A	TR	0.23	0.0	A	TR	0.23	0.0	A
SB	LR	0.04	13.9	B	LR	0.04	13.9	B	LR	0.04	13.9	B	LR	0.04	13.9	B
Main Road (Rt 25) & School Street																
EB	L	0.01	8.1	A	L	0.01	8.1	A	L	0.01	8.1	A	L	0.01	8.1	A
EB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.05	14.5	B	LR	0.05	14.5	B	LR	0.05	14.5	B	LR	0.05	14.5	B

Table 7

Existing & Love Lane Alternative 1A & 1B & 2 PM Level of Service Analysis

Intersection	Weekday PM															
	Existing				Love Lane Alternative 1A: Unsignalized				Love Lane Alternative 1B: Unsignalized				Love Lane Alternative 2: Signalized			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Sound Avenue & Westphalia Road																
SB	R	0.11	9.2	A	R	0.11	9.2	A	R	0.11	9.2	A	R	0.11	9.2	A
North Road & Love Lane																
NE	L	0.00	9.7	A	L	0.00	9.7	A	L	0.00	9.7	A	L	0.00	9.7	A
NW	LTR	0.20	20.2	C	LTR	0.16	16.4	C	LTR	0.10	26.7	D	LTR	0.20	20.2	C
SE	LTR	0.04	43.3	E	LTR	0.03	31.1	D	LTR	0.03	29.7	D	LTR	0.04	43.3	E
SW	L	0.09	8.9	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.09	8.9	A
Main Road (Rt 25) & New Suffolk Avenue																
WB	LR	0.59	61.0	F	LR	0.59	61.0	F	LR	0.57	58.0	F	LR	0.59	61.0	F
SB	L	0.04	9.6	A	L	0.04	9.6	A	L	0.04	9.6	A	L	0.04	9.6	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
Main Road (Rt 25) & Wickham Avenue																
EB	L	0.18	9.8	A	L	0.18	9.8	A	L	0.25	10.3	B	L	0.18	9.8	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.46	22.5	C	LR	0.81	46.7	E	LR	0.89	64.0	F	LR	0.46	22.5	C
Main Road (Rt 25) & Bay Avenue/Legion Avenue																
EB	L	0.01	8.7	A	L	0.01	8.7	A	L	0.01	8.7	A	L	0.01	8.7	A
WB	L	0.04	9.5	A	L	0.04	9.5	A	L	0.04	9.5	A	L	0.04	9.5	A
SB	LTR	0.06	20.2	C	LTR	0.06	20.2	C	LTR	0.06	20.2	C	LTR	0.06	20.2	C
Main Road (Rt 25) & Pacific Street																
EB	L	0.01	8.8	A	L	0.01	8.8	A	L	0.03	8.9	A	L	0.01	8.8	A
WB	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NB	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A
SB	LTR	0.50	61.2	F	LTR	0.50	61.2	F	LTR	0.52	64.7	F	LTR	0.50	61.2	F
Main Road (Rt 25) & Reeve Avenue																
WB	L	0.00	8.8	A	L	0.00	8.8	A	L	0.00	8.8	A	L	0.00	8.8	A
WB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LR	0.22	26.0	D	LR	0.22	26.0	D	LR	0.22	26.0	D	LR	0.22	26.0	D
Main Road (Rt 25) & Maple Avenue																
EB	LT	0.00	0.1	A	LT	0.00	0.1	A	LT	0.00	0.1	A	LT	0.00	0.1	A
WB	TR	0.34	0.0	A	TR	0.34	0.0	A	TR	0.34	0.0	A	TR	0.34	0.0	A
SB	LR	0.07	18.8	C	LR	0.07	18.8	C	LR	0.07	18.8	C	LR	0.07	18.8	C
Main Road (Rt 25) & School Street																
EB	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A
EB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.16	21.9	C	LR	0.16	21.9	C	LR	0.16	21.9	C	LR	0.16	21.9	C

Table 8

Existing & Love Lane Alternative 1A & 1B & 2 SAT Level of Service Analysis

Intersection	Saturday															
	Existing				Love Lane Alternative 1A: Unsignalized				Love Lane Alternative 1B: Unsignalized				Love Lane Alternative 2: Signalized			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Sound Avenue & Westphalia Road																
SB	R	0.09	9.0	A	R	0.09	9.0	A	R	0.09	9.0	A	R	0.09	9.0	A
North Road & Love Lane																
NE	L	0.00	9.1	A	L	0.00	9.1	A	L	0.00	9.1	A	L	0.00	9.1	A
NW	LTR	0.69	56.5	F	LTR	0.56	36.7	E	LTR	0.04	60.5	F	LTR	0.69	56.5	F
SE	LTR	0.12	64.9	F	LTR	0.09	47.3	E	LTR	0.08	43.3	E	LTR	0.12	64.9	F
SW	L	0.12	11.1	B	L	0.02	10.4	B	L	0.02	10.4	B	L	0.12	11.1	B
Main Road (Rt 25) & New Suffolk Avenue																
WB	LR	0.94	139.0	F	LR	0.94	139.0	F	LR	0.91	128.0	F	LR	0.94	139.0	F
SB	L	0.06	10.9	B	L	0.06	10.9	B	L	0.06	10.8	B	L	0.06	10.9	B
	T	0.00	0.0	A	T	0.00	A	A	T	0.00	0.0	A	T	0.00	0.0	A
Main Road (Rt 25) & Wickham Avenue																
EB	L	0.24	10.3	B	L	0.24	10.3	B	L	0.37	11.4	B	L	0.24	10.3	B
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	1.00	114.7	F	LR	1.48	284.7	F	LR	2.54	777.7	F	LR	1.00	114.7	F
Main Road (Rt 25) & Bay Avenue/Legion Avenue																
EB	L	0.01	8.9	A	L	0.01	8.9	A	L	0.01	8.9	A	L	0.01	8.9	A
WB	L	0.10	11.0	B	L	0.10	11.0	B	L	0.10	11.0	B	L	0.10	11.0	B
SB	LTR	0.17	33.4	D	LTR	0.17	33.4	D	LTR	0.17	33.4	D	LTR	0.17	33.4	D
Main Road (Rt 25) & Pacific Street																
EB	L	0.03	9.2	A	L	0.03	9.2	A	L	0.06	9.3	A	L	0.03	9.2	A
WB	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NB	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A
SB	LTR	1.34	293.3	F	LTR	1.34	293.3	F	LTR	1.45	345.7	F	LTR	1.34	293.3	F
Main Road (Rt 25) & Reeve Avenue																
WB	L	0.00	9.0	A	L	0.00	9.0	A	L	0.00	9.0	A	L	0.00	9.0	A
WB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LR	0.18	26.0	D	LR	0.18	26.0	D	LR	0.18	26.0	D	LR	0.18	26.0	D
Main Road (Rt 25) & Maple Avenue																
EB	LT	0.00	0.1	A	LT	0.00	0.1	A	LT	0.00	0.1	A	LT	0.00	0.1	A
WB	TR	0.33	0.0	A	TR	0.33	0.0	A	TR	0.33	0.0	A	TR	0.33	0.0	A
SB	LR	0.03	15.1	C	LR	0.03	15.1	C	LR	0.03	15.1	C	LR	0.03	15.1	C
Main Road (Rt 25) & School Street																
EB	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A
EB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.21	27.0	D	LR	0.21	27.0	D	LR	0.21	27.0	D	LR	0.21	27.0	D

Table 9

Main Road (Rt 25) & Sound Avenue & Love Lane: Love Lane Alternatives AM Level of Service Analysis

Intersection	Weekday AM																							
	Existing				Alt 1A: Unsignalized				Alt 1B: Unsignalized				Alt 2: Signalized				Alt 3: Roundabout HCM 6				Alt 3: Roundabout HCM 2010			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & Sound Avenue & Love Lane																								
EB	L2*	0.01	7.4	A	L2*	0.01	7.4	A	L2*	-	-	-	L2*	-	-	-	L2*	-	-	-	L2*	-	-	-
	L**	0.00	0.0	A	L**	0.00	0.0	A	L**	-	-	-	L**	0.23	24.5	C	L**	-	-	-	L**	-	-	-
	T	-	-	-	T	-	-	-	T	-	-	-	T	0.36	5.9	A	T	-	-	-	T	-	-	-
	LT	-	-	-	LT	-	-	-	LT	-	-	-	LT	-	-	-	LT	0.39	6.4	A	LT	0.48	8.7	A
WB	T	0.41	10.8	B	T	0.48	11.5	B	T	0.48	11.5	B	T	0.43	13.8	B	T	-	-	-	T	-	-	-
	R	-	-	-	R	-	-	-	R	-	-	-	R	0.07	2.5	A	R	-	-	-	R	-	-	-
	TR	-	-	-	TR	-	-	-	TR	-	-	-	TR	-	-	-	TR	0.39	6.6	A	TR	0.48	9.0	A
SB	R	-	-	-	R	0.00	8.6	A	R	0.00	8.6	A	R	-	-	-	R	-	-	-	R	-	-	-
	LR	0.12	33.8	D	LR	-	-	-	LR	-	-	-	LR	0.31	10.4	B	LR	0.13	5.7	A	LR	0.15	7.0	A
	Intersection		-	-	Intersection		-	-	Intersection		-	-	Intersection		10.3	B	Intersection		-	-	Intersection		-	-

* From Main Road Onto Sound Avenue
** From Main Road Onto Love Lane

Table 10

Main Road (Rt 25) & Sound Avenue & Love Lane: Love Lane Alternatives PM Level of Service Analysis

Intersection	Weekday PM																							
	Existing				Alt 1A: Unsignalized				Alt 1B: Unsignalized				Alt 2: Signalized				Alt 3: Roundabout HCM 6				Scenario 3: Roundabout HCM 2010			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & Sound Avenue & Love Lane																								
EB	L2*	0.01	7.5	A	L2*	0.01	7.5	A	L2*	-	-	-	L2*	-	-	-	L2*	-	-	-	L2*	-	-	-
	L**	0.00	0.0	A	L**	0.00	0.0	A	L**	-	-	-	L	0.33	33.9	C	L**	-	-	-	L**	-	-	-
	T	-	-	-	T	-	-	-	T	-	-	-	T	0.46	6.5	A	T	-	-	-	T	-	-	-
	LT	-	-	-	LT	-	-	-	LT	-	-	-	LT	-	-	-	LT	0.52	8.2	A	LT	0.63	12.0	B
WB	T	0.75	19.2	C	T	0.85	26.1	D	T	0.85	25.7	D	T	0.72	20.4	C	T	-	-	-	T	-	-	-
	R	-	-	-	R	-	-	-	R	-	-	-	R	0.15	5.4	A	R	-	-	-	R	-	-	-
	TR	-	-	-	TR	-	-	-	TR	-	-	-	TR	-	-	-	TR	0.66	11.8	B	TR	0.81	20.8	C
SB	R	-	-	-	R	0.02	8.9	A	R	0.02	8.9	A	R	-	-	-	R	-	-	-	R	-	-	-
	LR	0.92	>200.0	F	LR	-	-	-	LR	-	-	-	LR	0.50	20.2	C	LR	0.30	10.1	B	LR	0.36	13.1	B
	Intersection		-	-	Intersection		-	-	Intersection		-	-	Intersection		14.9	B	Intersection		-	-	Intersection		-	-

* From Main Road Onto Sound Avenue
** From Main Road Onto Love Lane

Table 11

Main Road (Rt 25) & Sound Avenue & Love Lane: Love Lane Alternatives SAT Level of Service Analysis

Intersection	Saturday																							
	Existing				Alt 1A: Unsignalized				Alt 1B: Unsignalized				Alt 2: Signalized				Alt 3: Roundabout HCM 6				Alt 3: Roundabout HCM 2010			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & Sound Avenue & Love Lane																								
EB	L2*	0.01	7.4	A	L2*	0.01	7.4	A	L2*	-	-	-	L2*	-	-	-	L2*	-	-	-	L2*	-	-	-
	L**	0.00	0.0	A	L**	0.00	0.0	A	L**	-	-	-	L**	0.46	32.7	C	L**	-	-	-	L**	-	-	-
	T	-	-	-	T	-	-	-	T	-	-	-	T	0.58	7.2	A	T	-	-	-	T	-	-	-
	LT	-	-	-	LT	-	-	-	LT	-	-	-	LT	-	-	-	LT	0.79	16.1	C	LT	0.97	39.2	E
WB	T	0.94	45.5	E	T	1.05	69.9	F	T	1.04	67.2	F	T	0.63	19.2	B	T	-	-	-	T	-	-	-
	R	-	-	-	R	-	-	-	R	-	-	-	R	0.11	5.0	A	R	-	-	-	R	-	-	-
	TR	-	-	-	TR	-	-	-	TR	-	-	-	TR	-	-	-	TR	0.70	13.7	B	TR	0.85	25.7	D
SB	R	-	-	-	R	0.01	8.7	A	R	0.01	8.7	A	R	-	-	-	R	-	-	-	R	-	-	-
	LR	3.72	>200.0	F	LR	-	-	-	LR	-	-	-	LR	0.33	12.5	B	LR	0.20	8.4	A	LR	0.25	10.6	B
	Intersection		-	-	Intersection		-	-	Intersection		-	-	Intersection		13.6	B	Intersection		-	-	Intersection		-	-

* From Main Road Onto Sound Avenue
** From Main Road Onto Love Lane

Table 12

Route 25 Love Lane: Roundabout vs. Roundabout w. Prohibited NB Left from New Suffolk Ave AM Level of Service Analysis

Intersection	Weekday AM															
	Roundabout - HCM 6				Roundabout with Prohibited NB L from New Suffolk Ave - HCM 6				Roundabout - HCM 2010				Roundabout with Prohibited NB L from New Suffolk Ave - HCM 2010			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & Sound Avenue & Love Lane																
EB	LT	0.39	6.4	A	LT	0.46	7.2	A	LT	0.48	8.7	A	LT	0.56	10.2	B
WB	TR	0.39	6.6	A	TR	0.43	7.6	A	TR	0.48	9.0	A	TR	0.52	10.4	B
SB	LR	0.13	5.7	A	LR	0.14	6.2	A	LR	0.15	7.0	A	LR	0.17	7.8	A

Table 13

Route 25 Love Lane: Roundabout vs. Roundabout w. Prohibited NB Left from New Suffolk Ave

PM Level of Service Analysis

Intersection	Weekday PM															
	Roundabout - HCM 6				Roundabout with Prohibited NB L from New Suffolk Ave - HCM 6				Roundabout - HCM 2010				Roundabout with Prohibited NB L from New Suffolk Ave - HCM 2010			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & Sound Avenue & Love Lane																
EB	LT	0.52	8.2	A	LT	0.56	8.9	A	LT	0.63	12.0	B	LT	0.68	13.5	B
WB	TR	0.66	11.8	B	TR	0.70	13.6	B	TR	0.81	20.8	C	TR	0.86	25.6	D
SB	LR	0.30	10.1	B	LR	0.32	10.9	B	LR	0.36	13.1	B	LR	0.38	14.3	B

Table 14

Route 25 Love Lane: Roundabout vs. Roundabout w. Prohibited NB Left from New Suffolk Ave

SAT Level of Service Analysis

Intersection	Saturday															
	Roundabout - HCM 6				Roundabout with Prohibited NB L from New Suffolk Ave - HCM 6				Roundabout - HCM 2010				Roundabout with Prohibited NB L from New Suffolk Ave - HCM 2010			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & Sound Avenue & Love Lane																
EB	LT	0.79	16.1	C	LT	0.84	19.0	C	LT	0.97	39.2	E	LT	1.02	52.6	F
WB	TR	0.70	13.7	B	TR	0.75	16.3	C	TR	0.85	25.7	D	TR	0.91	33.7	D
SB	LR	0.20	8.4	A	LR	0.22	9.1	A	LR	0.25	10.6	B	LR	0.26	11.5	B

Table 15

Existing vs. Prohibited Left Turns from New Suffolk Avenue Level of Service Analysis

Intersection	Weekday AM								Weekday PM								Saturday							
	Existing				No Left From New Suffolk Avenue				Existing				No Left From New Suffolk Avenue				Existing				No Left From New Suffolk Avenue			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Main Road (Rt 25) & New Suffolk Avenue																								
WB	LR	0.45	30.0	D	R	0.21	13.5	B	LR	0.59	61.0	F	R	0.20	15.9	C	LR	0.94	139.0	F	R	0.37	24.3	C
SB	L	0.01	8.7	A	L	0.01	8.7	A	L	0.04	9.6	A	L	0.04	9.6	A	L	0.06	10.9	B	L	0.06	10.9	B
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A

Table 16

Existing & Love Lane Alternative 1A & 1B & 2 with Ped Islands AM Level of Service Analysis

Intersection	Weekday AM															
	Existing				Love Lane Alternative 1A: Unsignalized				Love Lane Alternative 1B: Unsignalized				Love Lane Alternative 2: Signalized			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Sound Avenue & Westphalia Road																
SB	R	0.08	8.9	A	R	0.08	8.9	A	R	0.08	8.9	A	R	0.08	8.9	A
North Road & Love Lane																
NE	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NW	LTR	0.15	16.3	C	LTR	0.13	14.5	B	LTR	0.07	21.4	C	LTR	0.15	16.3	C
SE	LTR	0.04	23.0	C	LTR	0.03	19.0	C	LTR	0.03	18.8	C	LTR	0.04	23.0	C
SW	L	0.07	9.1	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.07	9.1	A
Main Road (Rt 25) & New Suffolk Avenue																
WB	LR	0.45	30.0	D	LR	0.45	30.0	D	LR	0.44	29.3	D	LR	0.45	30.0	D
SB	L	0.01	8.7	A	L	0.01	8.7	A	L	0.01	8.6	A	L	0.01	8.7	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
Main Road (Rt 25) & Wickham Avenue																
EB	L	0.08	8.6	A	L	0.08	8.6	A	L	0.14	8.9	A	L	0.08	8.6	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.17	14.9	B	LR	0.33	16.6	C	LR	0.36	18.3	C	LR	0.17	14.9	B
Main Road (Rt 25) & Bay Avenue/Legion Avenue																
EB	L	0.01	8.3	A	L	0.01	8.3	A	L	0.01	8.3	A	L	0.01	8.3	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
WB	L	0.03	8.9	A	L	0.03	8.9	A	L	0.03	8.9	A	L	0.03	8.9	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LTR	0.17	16.9	C	LTR	0.17	16.9	C	LTR	0.17	16.9	C	LTR	0.17	16.9	C
SB	LTR	0.03	13.6	B	LTR	0.03	12.6	B	LTR	0.03	13.6	B	LTR	0.03	13.6	B
Main Road (Rt 25) & Pacific Street																
EB	L	0.00	8.4	A	L	0.02	8.4	A	L	0.03	8.4	A	L	0.02	8.4	A
	T	0.02	8.4	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
WB	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NB	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A
SB	LTR	0.21	25.0	D	LTR	0.21	25.0	D	LTR	0.22	25.5	D	LTR	0.21	25.0	D
Main Road (Rt 25) & Reeve Avenue																
WB	L	0.00	8.3	A	L	0.00	8.3	A	L	0.00	8.3	A	L	0.00	8.3	A
WB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LR	0.03	14.3	B	LR	0.03	14.3	B	LR	0.03	14.3	B	LR	0.03	14.3	B
Main Road (Rt 25) & Maple Avenue																
EB	L	0.01	8.1	A	L	0.01	8.1	A	L	0.01	8.1	A	L	0.01	8.1	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.04	13.9	B	LR	0.04	13.9	B	LR	0.04	13.9	B	LR	0.04	13.9	B
Main Road (Rt 25) & School Street																
EB	L	0.01	8.1	A	L	0.01	8.1	A	L	0.01	8.1	A	L	0.01	8.1	A
EB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.05	14.5	B	LR	0.05	14.5	B	LR	0.05	14.5	B	LR	0.05	14.5	B

Table 17

Existing & Love Lane Alternative 1A & 1B & 2 with Ped Islands PM Level of Service Analysis

Intersection	Weekday PM															
	Existing				Love Lane Alternative 1A: Unsignalized				Love Lane Alternative 1B: Unsignalized				Love Lane Alternative 2: Signalized			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Sound Avenue & Westphalia Road																
SB	R	0.11	9.2	A	R	0.11	9.2	A	R	0.11	9.2	A	R	0.11	9.2	A
North Road & Love Lane																
NE	L	0.00	9.7	A	L	0.00	9.7	A	L	0.00	9.7	A	L	0.00	9.7	A
NW	LTR	0.20	20.2	C	LTR	0.16	16.4	C	LTR	0.10	26.7	D	LTR	0.20	20.2	C
SE	LTR	0.04	43.3	E	LTR	0.03	31.1	D	LTR	0.03	29.7	D	LTR	0.04	43.3	E
SW	L	0.09	8.9	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.09	8.9	A
Main Road (Rt 25) & New Suffolk Avenue																
WB	LR	0.59	61.0	F	LR	0.59	61.0	F	LR	0.57	58.0	F	LR	0.59	61.0	F
SB	L	0.04	9.6	A	L	0.04	9.6	A	L	0.04	9.6	A	L	0.04	9.6	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
Main Road (Rt 25) & Wickham Avenue																
EB	L	0.18	9.8	A	L	0.18	9.8	A	L	0.25	10.3	B	L	0.18	9.8	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.46	22.5	C	LR	0.81	46.7	E	LR	0.89	64.0	F	LR	0.46	22.5	C
Main Road (Rt 25) & Bay Avenue/Legion Avenue																
EB	L	0.01	8.7	A	L	0.01	8.7	A	L	0.01	8.7	A	L	0.01	8.7	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
WB	L	0.04	9.5	A	L	0.04	9.5	A	L	0.04	9.5	A	L	0.04	9.5	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LTR	0.24	22.7	C	LTR	0.24	22.7	C	LTR	0.24	22.7	C	LTR	0.24	22.7	C
SB	LTR	0.09	28.1	D	LTR	0.09	28.1	D	LTR	0.09	28.1	D	LTR	0.09	28.1	D
Main Road (Rt 25) & Pacific Street																
EB	L	0.01	8.8	A	L	0.01	8.8	A	L	0.03	8.9	A	L	0.01	8.8	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
WB	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NB	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A
SB	LTR	0.50	62.1	F	LTR	0.50	62.1	F	LTR	0.53	68.5	F	LTR	0.50	62.1	F
Main Road (Rt 25) & Reeve Avenue																
WB	L	0.00	8.8	A	L	0.00	8.8	A	L	0.00	8.8	A	L	0.00	8.8	A
WB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LR	0.22	26.0	D	LR	0.22	26.0	D	LR	0.22	26.0	D	LR	0.22	26.0	D
Main Road (Rt 25) & Maple Avenue																
EB	L	0.00	8.6	A	L	0.00	8.6	A	L	0.00	8.6	A	L	0.00	8.6	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.07	18.8	C	LR	0.07	18.8	C	LR	0.07	18.8	C	LR	0.07	18.8	C
Main Road (Rt 25) & School Street																
EB	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A
EB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.16	21.9	C	LR	0.16	21.9	C	LR	0.16	21.9	C	LR	0.16	21.9	C

Table 18

Existing & Love Lane Alternative 1A & 1B & 2 with Ped Islands SAT Level of Service Analysis

Intersection	Saturday															
	Existing				Love Lane Alternative 1A: Unsignalized				Love Lane Alternative 1B: Unsignalized				Love Lane Alternative 2: Signalized			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Sound Avenue & Westphalia Road																
SB	R	0.09	9.0	A	R	0.09	9.0	A	R	0.09	9.0	A	R	0.09	9.0	A
North Road & Love Lane																
NE	L	0.00	9.1	A	L	0.00	9.1	A	L	0.00	9.1	A	L	0.00	9.1	A
NW	LTR	0.69	56.5	F	LTR	0.56	36.7	E	LTR	0.04	60.5	F	LTR	0.69	56.5	F
SE	LTR	0.12	64.9	F	LTR	0.09	47.3	E	LTR	0.08	43.3	E	LTR	0.12	64.9	F
SW	L	0.12	11.1	B	L	0.02	10.4	B	L	0.02	10.4	B	L	0.12	11.1	B
Main Road (Rt 25) & New Suffolk Avenue																
WB	LR	0.94	139.0	F	LR	0.94	139.0	F	LR	0.91	128.0	F	LR	0.94	139.0	F
SB	L	0.06	10.9	B	L	0.06	10.9	B	L	0.06	10.8	B	L	0.06	10.9	B
	T	0.00	0.0	A	T	0.00	A	A	T	0.00	0.0	A	T	0.00	0.0	A
Main Road (Rt 25) & Wickham Avenue																
EB	L	0.24	10.3	B	L	0.24	10.3	B	L	0.37	11.4	B	L	0.24	10.3	B
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	1.00	114.7	F	LR	1.48	284.7	F	LR	2.54	777.7	F	LR	1.00	114.7	F
Main Road (Rt 25) & Bay Avenue/Legion Avenue																
EB	L	0.01	8.9	A	L	0.01	8.9	A	L	0.01	8.9	A	L	0.01	8.9	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
WB	L	0.10	11.0	B	L	0.10	11.0	B	L	0.10	11.0	B	L	0.10	11.0	B
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LTR	0.69	61.8	F	LTR	0.69	61.8	F	LTR	0.69	61.8	F	LTR	0.69	61.8	F
SB	LTR	0.38	90.2	F	LTR	0.38	90.2	F	LTR	0.38	90.2	F	LTR	0.38	90.2	F
Main Road (Rt 25) & Pacific Street																
EB	L	0.03	9.2	A	L	0.03	9.2	A	L	0.06	9.3	A	L	0.03	9.2	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
WB	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A	L	0.00	0.0	A
NB	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A	LTR	0.00	0.0	A
SB	LTR	1.38	314.6	F	LTR	1.38	314.6	F	LTR	1.52	380.4	F	LTR	1.38	314.6	F
Main Road (Rt 25) & Reeve Avenue																
WB	L	0.00	9.0	A	L	0.00	9.0	A	L	0.00	9.0	A	L	0.00	9.0	A
WB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
NB	LR	0.18	26.0	D	LR	0.18	26.0	D	LR	0.18	26.0	D	LR	0.18	26.0	D
Main Road (Rt 25) & Maple Avenue																
EB	L	0.00	8.6	A	L	0.00	8.6	A	L	0.00	8.6	A	L	0.00	8.6	A
	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.03	14.7	B	LR	0.03	14.7	B	LR	0.03	14.7	B	LR	0.03	14.7	B
Main Road (Rt 25) & School Street																
EB	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A	L	0.01	8.6	A
EB	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A	T	0.00	0.0	A
SB	LR	0.21	27.0	D	LR	0.21	27.0	D	LR	0.21	27.0	D	LR	0.21	27.0	D