NOTICE OF MEETING

SHEBOYGAN COUNTY TRAFFIC SAFETY COMMISSION

April 15, 2026 - 10:00 A.M.

Law Enforcement Center
525 North 6th Street
Sheboygan, WI 53081
West Conference Room

Remote Access:

https://meet.google.com/phr-azua-ebn

Phone: +1-401-375-3531

PIN: 683 846 112#

Members of the Committee may be appearing remotely. Persons wanting to observe the meeting may come to the Law Enforcement Center or listen remotely.

AGENDA

- Call to Order
- Certification of Compliance with Open Meeting Law
- Approval of Minutes
- Correspondences/Communications
- Consideration of four-way stop at County Road AA (Center Ave) and Heritage Drive
- Consideration of no parking restrictions on the 3900 block of South Business Drive
- Consideration of CTH Y and CTH O Traffic Study
- Quarterly Operating Automobile While Intoxicated Reports
- Quarterly Fatality Reports
- Wisconsin Department of Transportation Report
- BOTS Update
- Adjournment

Prepared by:
Jodi LeMahieu
Recording Secretary

Matt Spence
Committee Chairman

Note: persons with disabilities needing assistance to attend or participate are asked to notify the Sheriff's Department, 459-3895, prior to the meeting so that accommodations may be arranged.
A majority of the members of the County Board of Supervisors or of any of its committees may be present at this meeting to listen, observe and participate. If a majority of any such body is present, their presence constitutes a "meeting" under the Open Meeting Law as interpreted in State ex rel. Badke v. Greendale Village Board, 173 Wis. 2d 553 (1993), even though the visiting body will take no action at this meeting.

Posted on April 9, 2026 @ 2:10 pm

SHEBOYGAN COUNTY TRAFFIC SAFETY COMMISSION MINUTES

Law Enforcement Center
525 North 6th Street
Sheboygan, WI 53081

West Conference Room

January 21, 2026 **Called to Order: 10:00 AM** **Adjourned: 10:46 AM**

MEMBERS PRESENT: **In Person:** Terry Martin, Jerry Jorgensen, Matt Spence, Shawn Splivalo, Todd Rasmussen, Scott Hoogester, Jason Liermann, Desarae Rohde, David Dahms, Justin Hansen, Byran Olson, Alicia Kegler, Eric Sikorski, Mike Meeusen

MEMBERS ABSENT: Joel Urmanski, Matt Starker

OTHERS PRESENT: Corey Norlander, Brad Robinson, Jodi LeMahieu

Call to Order

Chairman Spence called the meeting to order.

Certification of Compliance with Open Meeting Law

Chairman Spence certified compliance with the open meeting law. The notice was posted at 10:55 am on January 16, 2026.

Approval of Minutes

Motion by Liermann, second by Martin, to approve the minutes from the previous meeting. Motion carried.

Correspondences/Communications

The Committee received a recommendation for a four-way stop at the intersection of CTH AA (Center Avenue) and Heritage Drive in Oostburg. The Transportation Department will evaluate wait times. This item will be discussed at the next meeting.

Discussion regarding Weeden Creek Rd/County Highway EE Between S 12th and S Business

A speed study was recently conducted. The data does not support lowering the speed limit at this time.

Discussion of traffic impact on State Highways

Discussion was held regarding the traffic on state highways.

Quarterly Operating Automobile While Intoxicated Reports

Quarterly Operating While Intoxicated Reports were reviewed with the Committee members.

Quarterly Fatality Reports

Quarterly Fatality Reports were reviewed with the Committee members.

Wisconsin Department of Transportation Report

DOT provided an update on current and upcoming construction projects.

BOTS Update

Quarterly information from the Bureau of Traffic Safety was presented to the Committee.

Adjournment

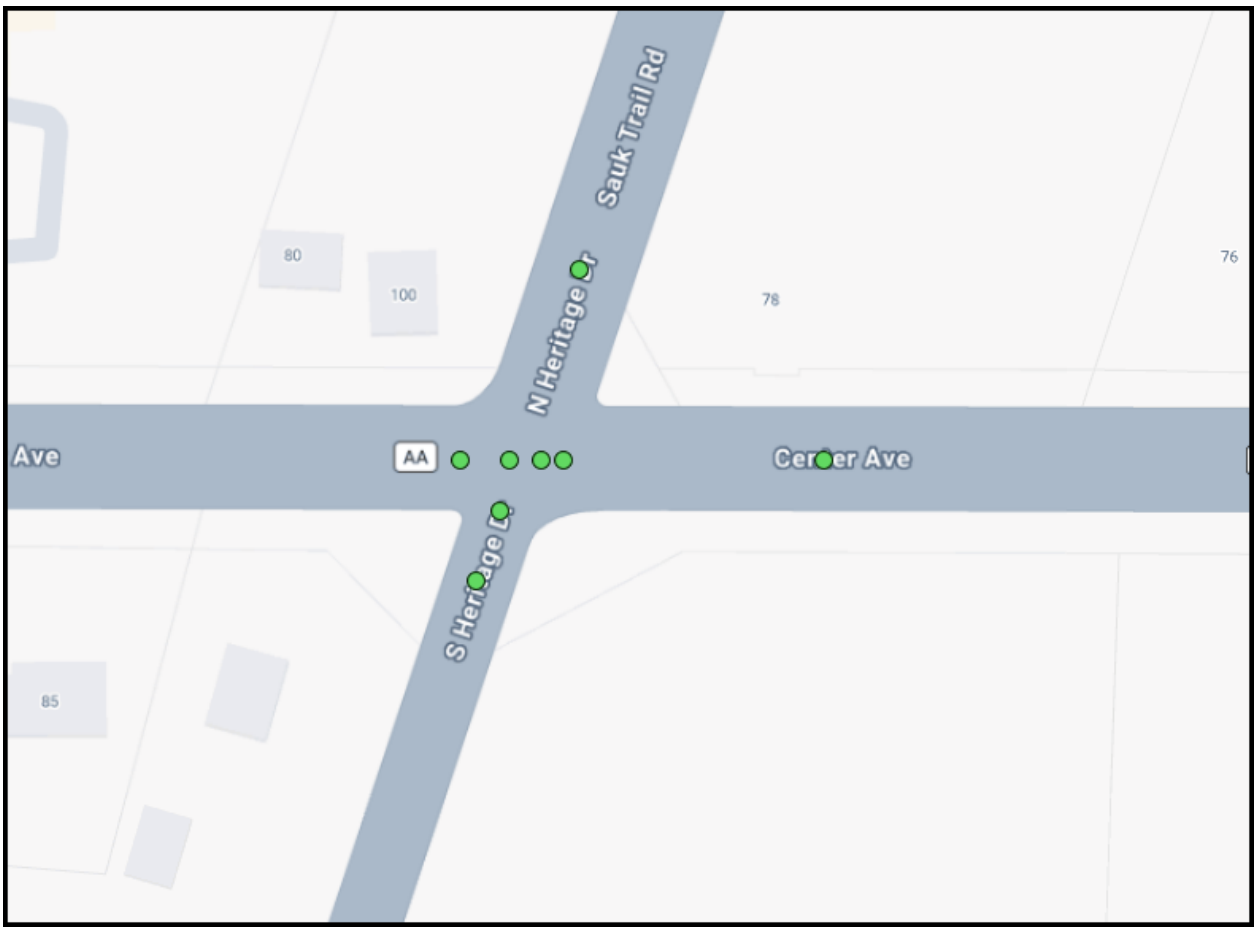
Motion by Splivalo, second by Liermann, to adjourn. Motion carried.

Prepared by:
Jodi LeMahieu
Recording Secretary

Matt Spence
Committee Chairman

Accident History 4/9/2021 – 4/9/2026 Center Ave / Cty AA & Heritage Drive

Date	Report #	Details
10/7/2025	S25-15064	Automobile Following too closely – Unit 2 stopped on Center Ave in lane of traffic due to other stopped traffic. Unit 1 was unable to stop in time – rear ended Unit 2
6/23/2025	S25-09801	Failure to Yield from stop sign (from S Heritage), Also did not have headlights on in heavy rain
3/25/2025	S25-04414	Failure to Yield from stop sign (from S Heritage)
7/9/2022	S22-09683	Failure to Yield from stop sign (from S Heritage)
9/7/2021	S21-13090	Unit 1 (be on Center/AA) struck Unit 2 as it was proceeding through intersection.
7/24/2021	S21-10812	Failed to Yield Right of Way (from Heritage)
5/25/2021	S21-07197	Failure / Yield Right of Way from Stop Sign (from S Heritage)
5/7/2021	S21-06260	Failed to Yield from stop sign (from S Heritage)



MEMORANDUM

To:	Bryan Olson, PE, Sheboygan County		
From:	Noutheng Yang, PE, PTOE, Andrew Rowell, PE, PTOE, Ayres Associates		
Date:	March 16, 2026	Project No.:	45-0804.00
Re:	CTH Y and CTH O Traffic Study		

Project Background

Sheboygan County has requested a traffic study be conducted at the CTH Y and CTH O (Superior Avenue) intersection located in Plymouth, Wisconsin. The request, as summarized within the following technical memorandum, included a review of intersection crash history, analysis of intersection operations, and the development of potential geometric intersection improvements to enhance safety.

Study Area

The CTH Y and CTH O intersection, as shown in **Figure 1,** is an urban, four-legged intersection. CTH Y is a north/south roadway with a posted speed limit of 45 mph. CTH O is an east/west roadway with a posted speed limit of 35 mph. The existing intersection lane configuration is as follows:

- Northbound: Shared left-turn/through lane and shared through/right-turn lane
- Southbound: Shared left-turn/through lane and shared through/right-turn lane
- Eastbound: Shared left-turn/through/right-turn lane
- Westbound: Exclusive left-turn lane and shared through/right-turn lane

A shared-use path is present along the south side of CTH O, directly abutting the back of curb within the intersection area.

Figure 1: Study Intersection

920.498.1200 | 700 Pilgrim Way, Suite 180 | Green Bay, WI 54304
www.AyresAssociates.com

Safety Analysis

As shown in **Table 1**, intersection crash data for the years 2020 through 2024 indicates that 13 crashes occurred at the intersection over the five-year period, or an average of 2.6 crashes per year. The intersection crash rate was estimated at 0.66 per million entering vehicles (MEV). Typically, a crash rate of 1.0 or greater indicates an intersection with a crash concern.

Two right-angle, four rear-end, and seven left-turn related crashes were recorded at the intersection. A review of the crash reports indicates:

- The two angle crashes were caused by drivers running red lights.
- The four rear end crashes were caused by aggressive driving (vehicle attempted to pass a left-turning vehicle), distracted driving, brake issues, and operating while intoxicated.
- Six of the seven left-turn crashes were caused by left-turn drivers failing to yield the right-of-way while one left-turn crash was due to the southbound left-turn driver not seeing a northbound through vehicle in the right lane that was blocked by a northbound left-turn vehicle in the left lane.
    - It should be noted that six of the seven left-turn crashes also involved northbound or southbound left-turn vehicles while only one left-turn crash involved a westbound left-turn vehicle, where a dedicated left turn lane already exists.

Intersection crash types can be seen in **Table 2**.

Table 1: Crash Severity

Location	Crashes/Year					Crash Severity			Total	Annual Average
	2020	2021	2022	2023	2024	Property Damage Only	Injury	Fatal		
CTH Y and CTH O	3	2	1	2	5	8	5	0	**13**	**2.6**
Total	**3**	**2**	**1**	**2**	**5**	**8**	**5**	**0**	**13**	**2.6**

Table 2: Crash Types

Location	Angle	Rear End	Left-Turn	Total
CTH Y and CTH O	2	4	7	**13**
Total	**2**	**4**	**7**	**13**

2025 Existing Traffic Volumes

Average annual daily traffic (AADT) volumes provided by the Wisconsin DOT for each leg are as follows:

Table 3: AADT Volumes

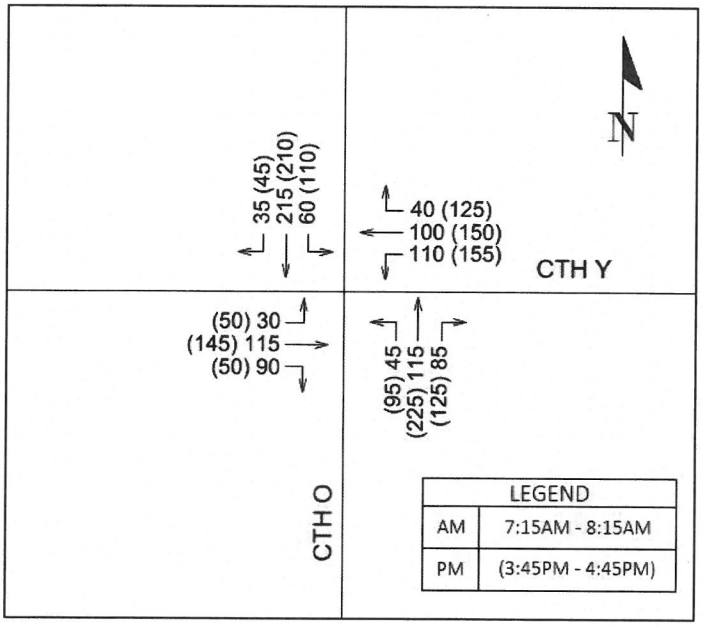
Approach Leg	AADT Volume
North	5,000
South	7,100
East	7,300
West	2,300

Intersection turning movement counts were collected at the CTH Y and CTH O intersection from 11:30 AM – 8:00 PM on Tuesday, September 16, 2025, and from 6:00 AM – 11:30 AM on Friday, September 19, 2025. The intersection turning movement counts included passenger vehicles, single-unit trucks, buses, and heavy trucks.

The existing peak hour traffic volumes at the intersection, as shown in **Figure 2**, are based on the collected intersection turning movement count data and indicate a morning peak hour of 7:15 AM – 8:15

AM and evening peak hour of 3:45 PM – 4:45 PM. A summary of the existing traffic count data can be found in **Appendix A**.

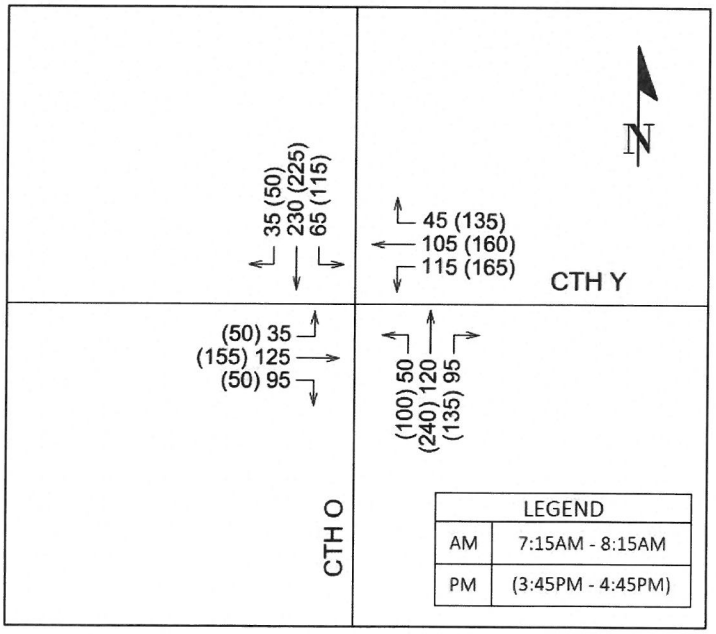
Figure 2: 2025 Existing Peak Hour Traffic Volumes



2047 Background Traffic Volumes

Under guidance from the Bay-Lake Regional Planning Commission, the Sheboygan County average growth rate of 0.3% per year was used to forecast the 2025 existing traffic volumes to the 2047 background traffic volumes used for traffic operations analysis. The 2047 background traffic volumes are shown in **Figure 3**.

Figure 3: 2047 Background Peak Hour Traffic Volumes



Traffic Operations Analysis

Methodology

For the purpose of this study, Level of Service (LOS) 'D' as defined in the Highway Capacity Manual (HCM) 7th Edition was used as the threshold for acceptable peak hour intersection operating conditions. Intersection operation is typically quantified based on its LOS during peak traffic volume periods. The LOS is determined based on the average amount of delay experienced on average by each vehicle entering an intersection during the study period and is categorized by grades 'A' through 'F'. **Table 4** provides a brief summary of the different intersection LOS.

The 95th percentile queue is also included in the operations summary as an additional performance measure. The 95th percentile queue (sometimes referred to as the "maximum probable queue") represents the distance from the stop bar at which 95% of all queues for a given movement within the analysis time period are expected to be contained. In other words, there is only a 5% probability that the 95th percentile queue length will be exceeded during the analysis period.

Intersection operations for traffic signal control at the study intersection were analyzed using Synchro 12 software. The results presented within this report are based on HCM 7 equations and methodologies.

Table 4: Intersection Level of Service Description

Alpha LOS	Signalized (sec/veh)	Unsignalized Delay (sec/veh)	Description
A	≤ 10	≤ 10	No Congestion: Very few vehicles experience delay.
B	> 10 – 20	> 10 – 15	Minimal Congestion: Some vehicles experience delay but many travel through intersection without stopping.
C	> 20 – 35	> 15 – 25	Minor Congestion: Many vehicles experience delays but some travel through intersection without stopping.
D	> 35 – 55	> 25 – 35	Moderate Congestion: Most vehicles experience delay.
E	> 55 – 80	> 35 – 50	Severe Congestion: Most vehicles experience significant delays. Volumes nearing capacity.
F	> 80 Or V/C >1.0	> 50 Or V/C >1.0	Extreme Congestion: Nearly all vehicles experience significant delays. Volume may be higher than capacity. Potential gridlock.

The HCM operations analysis output summaries provided by Synchro are included in **Appendix B**.

2025 Existing - Traffic Operations

As seen in **Table 5**, year 2025 existing weekday morning and evening peak hours are expected to operate with all intersection movements at LOS 'B' or better. Maximum queue lengths are not expected to exceed 100 feet in length for any movement during either peak hour.

Table 5: 2025 Existing Peak Hour Traffic Operations

CTH Y & CTH O: 2025 Existing - Traffic Operations														
Intersection	Peak Scenario	Control	MOE	Movement										OVERALL
				EBL	EBT	EBR	WBL	WBT	WBR	NBL | NBT	NBT | NBR	SBL | SBT	SBT | SBR	
CTH Y & CTH O	AM Peak	Traffic Signal	LOS	A			A	A		A	A	A	A	A
			Delay (sec)	9.6			8.5	8.7		8.5	8.7	8.7	8.9	8.9
			Queue (ft)	100'			50'	75'		50'	50'	75'	75'	--
	PM Peak	Traffic Signal	LOS	A			A	B		A	A	A	A	A
			Delay (sec)	9.7			9.1	10.3		9.1	9.3	9.9	8.9	9.5
			Queue (ft)	125'			75'	125'		100'	100'	75'	75'	--

2047 Background - Traffic Operations

As seen in **Table 6**, all intersection movements under the year 2047 weekday morning and evening peak hours are expected to operate with all intersection movements at LOS 'B' or better. Maximum queue lengths are not expected to exceed 150 feet in length for any movement during either peak hour.

Table 6: 2047 Background Peak Hour Traffic Operations

CTH Y & CTH O: 2047 Background - Traffic Operations															
Intersection	Peak Scenario	Control	MOE	Movement											OVERALL
				EBL	EBT	EBR	WBL	WBT	WBR	NBL | NBT	NBT | NBR	SBL | SBT	SBT | SBR		
CTH Y & CTH O	AM Peak	Traffic Signal	LOS	A			A	A		A	A	A	A		A
			Delay (sec)	9.8			8.6	8.8		8.6	8.8	8.8	9.0		9.0
			Queue (ft)	125'			75'	75'		75'	75'	75'	75'		--
	PM Peak	Traffic Signal	LOS	B			A	B		A	A	A	A		A
			Delay (sec)	10.5			9.9	11.2		9.0	9.2	10.0	8.7		9.9
			Queue (ft)	125'			100'	150'		125'	125'	100'	100'		--

Improvement Scenarios

Although future traffic operations are anticipated to be acceptable at the CTH Y and CTH O intersection, improvement scenarios were analyzed under the 2047 background traffic volumes to potentially improve safety and operations at the intersection. Three specific improvement scenarios were analyzed:

- Add Left-Turn Lanes with Existing Signal Timings
- Add Left-Turn Lanes with Protected Signal Phasing
- Roundabout

2047 Left-Turn Lanes with Existing Signal Timings - Traffic Operations

Under the Left-Turn Lanes with Existing Signal Timings scenario, dedicated left-turns are provided for each intersection approach with the following intersection lane configuration:

- Northbound: Dedicated left-turn lane, dedicated through lane, dedicated right-turn lane
- Southbound: Dedicated left-turn lane, dedicated through lane, shared through/right-turn lane
- Eastbound: Dedicated left-turn lane, shared through/right-turn lane
- Westbound: Exclusive left-turn lane and shared through/right-turn lane (maintains existing lane configuration)

A conceptual exhibit of this scenario is described later in this report and is included as **Appendix C**.

The scenario analyzes the intersection traffic operations under existing signal timing parameters. As seen in **Table 7**, all intersection movements under this scenario are expected to operate at LOS 'B' or better with similar delays as the background scenario. Maximum queue lengths are not expected to exceed 125 feet in length for any movement during either peak hour.

Table 7: 2047 Left-Turn Lanes with Existing Signal Timings Peak Hour Traffic Operations

CTH Y & CTH O: 2047 Left-Turn Lanes with Existing Signal Timings - Traffic Operations																
Intersection	Peak Scenario	Control	MOE	Movement												OVERALL
				EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBT | SBR	
CTH Y & CTH O	AM Peak	Traffic Signal	LOS	A	A		B	A		B	A	A	B	A	A	A
			Delay (sec)	9.4	9.1		12.0	8.3		11.0	9.3	8.9	10.8	9.5	9.6	9.6
			Queue (ft)	25'	75'		50'	50'		50'	50'	50'	50'	50'	50'	--
	PM Peak	Traffic Signal	LOS	B	A		B	B		B	B	A	B	A	A	B
			Delay (sec)	12.4	9.2		12.3	10.2		11.4	10.2	9.1	13.2	9.4	9.5	10.5
			Queue (ft)	50'	100'		75'	125'		75'	125'	50'	75'	75'	75'	--

Given the number of left-turn crashes experienced at the intersection, the addition of dedicated left-turn lanes removes left turning traffic from the through lane, allowing the through traffic to move more efficiently through the intersection. This configuration is also expected to enhance intersection safety by positioning the opposing left turning traffic across from each other, with the goal to provide better visibility of opposing traffic prior to completing the respective left turn movement.

2047 Left-Turn Lanes with Protected Phasing - Traffic Operations

The Left-Turn Lanes with Protected Phasing scenario is identical to the previous improvement scenario with the addition of updated signal timings that include protected/permissive left-turn signal phasing for each approach.

As seen in **Table 8**, all intersection movements under this scenario are expected to operate at LOS 'C' or better. Maximum queue lengths are not expected to exceed 225 feet in length for any movement during either peak hour.

Table 8: 2047 Left-Turn Lanes with Protected Phasing Peak Hour Traffic Operations

CTH Y & CTH O: 2047 Left-Turn Lanes with Protected Phasing - Traffic Operations																
Intersection	Peak Scenario	Control	MOE	Movement												OVERALL
				EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBT | SBR	
CTH Y & CTH O	AM Peak	Traffic Signal	LOS	B	C		B	B		B	B	B	B	B	B	B
			Delay (sec)	15.4	23.2		15.7	17.3		16.2	20.0	18.9	16.0	20.0	20.0	19.2
			Queue (ft)	25'	175'		75'	125'		50'	100'	75'	50'	100'	100'	--
	PM Peak	Traffic Signal	LOS	B	C		B	C		B	C	B	B	C	C	C
			Delay (sec)	17.2	23.2		16.4	22.1		16.2	23.3	19.5	16.9	20.1	20.2	20.4
			Queue (ft)	50'	175'		100'	225'		75'	200'	75'	75'	100'	100'	--

Overall intersection delay for this scenario is anticipated to increase, almost double from the background scenario, due to the inclusion of protected left-turn phases. Although the respective phases may help to further mitigate left-turn crashes, the phases take green time away from other intersection movements, increasing overall intersection delay. The inclusion of protected left-turn phases provides minimal operational benefit due to the relatively low volume of left-turns at the intersection.

2047 Roundabout - Traffic Operations

Under the Roundabout scenario, each approach consists of a single lane with the exception of the northbound approach, which consists of a shared left-turn/through lane and a partial bypass right-turn lane.

As seen in **Table 9**, all intersection movements under this scenario are expected to operate at LOS 'B' or better with slightly improved delays compared to the background scenario. Maximum queue lengths are expected to be less than 100 feet in length for any intersection approach during either peak hour.

Table 9: 2047 Roundabout Peak Hour Traffic Operations

CTH Y & CTH O: 2047 Roundabout - Traffic Operations																
Intersection	Peak Scenario	Control	MOE	Movement												OVERALL
				EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
CTH Y & CTH O	AM Peak	Traffic Signal	LOS	A			A			A		A	A			A
			Delay (sec)	9.0			6.5			5.4		3.6	8.4			7.2
			Queue (ft)	50'			50'			25'		25'	75'			--
	PM Peak	Traffic Signal	LOS	A			B			A		A	B			A
			Delay (sec)	8.5			11.4			7.7		4.0	10.3			9.2
			Queue (ft)	50'			100'			50'		25'	75'			--

The reconstruction of the intersection to a roundabout would be expected to mitigate the types of right-angle and left-turn crashes occurring at the intersection. However, a roundabout may also cause other crash types/patterns not currently present at the intersection.

Conceptual Designs
A conceptual exhibit showing left turn lane improvements for the north, south, and west legs of this intersection is included as **Appendix C**. For north/south traffic, the required geometric changes to construct left turn lanes can be accomplished in the existing median areas. To construct a left turn lane on the west leg would require widening the curbline on the west leg. This design would have impacts to the adjacent properties, including relocation of the trail and utilities on the south side of the road and impacts to two large trees on the north side of the road. Additional right-of-way acquisition required for an eastbound left-turn lane may be challenging to obtain.

The cost estimate for this alternative is estimated at $739,320, including engineering design and construction administration. Additional utility relocation costs, and right-of-way acquisition and impact costs are anticipated.

As previously stated, most left-turn crashes involved northbound and southbound left-turning vehicles, and no eastbound left-turn vehicles were involved in a crash. A potential alternative scenario to implement would include providing left-turn lanes on the northbound and southbound approaches while leaving the existing eastbound approach as is. A conceptual exhibit with just the north/south and signal improvements is included in **Appendix D**.

The cost estimate for this alternative is estimated at $611,120, including engineering design and construction administration. No right-of-way acquisition or utility relocation is anticipated with this concept.

Conclusion
A review of the CTH Y and CTH O intersection indicates that 13 crashes occurred over the five-year crash period from 2020 through 2024 with seven left-turn crashes occurring at the intersection. The current intersection configuration is expected to operate with an acceptable level of service (LOS) through the 2047 background year.

Three improvement scenarios were analyzed to determine if additional intersection improvements could enhance intersection safety and operations. These included:

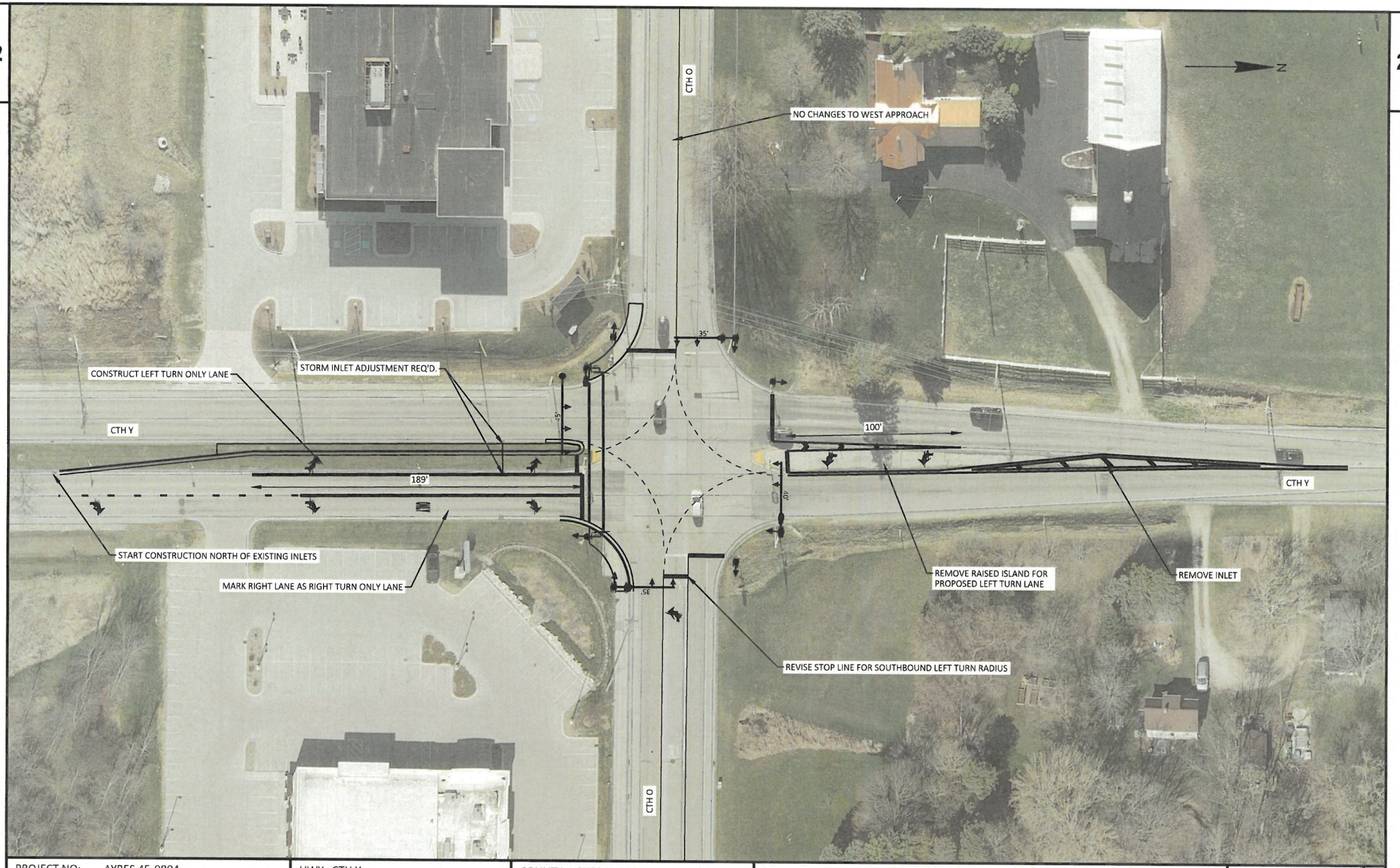
- Left-Turn Lanes with Existing Signal Timings
- Left-Turn Lanes with Protected Signal Phasing
- Roundabout

No intersection improvements were determined as an immediate need at the intersection. However, it is recommended that the Left-Turn Lanes with Existing Signal Timings scenario be given consideration for future implementation. The number of left-turn related crashes at the intersection could be mitigated by providing dedicated left-turn lanes. This would improve visibility for left turning traffic of opposing traffic prior to completing a left-turn movement.

It is not recommended to implement protected left-turn phasing at this time as the volume of left turns is relatively low and the additional phasing would be expected to increase intersection operational delay.

Although a roundabout would help mitigate potential right-angle and left-turn crashes while slightly improving intersection operations, the cost to reconstruct the intersection as a roundabout is much higher than the addition of left-turn lanes.

It is noted that right-of-way acquisition required for an eastbound left-turn lane at the intersection may be challenging to obtain. As the majority of left-turn crashes were primarily northbound and southbound left-turning vehicles, and no eastbound left-turn vehicles were involved in a crash, a potential alternative scenario to implement would include providing left-turn lanes on the northbound and southbound approaches while leaving the existing eastbound approach as is.



PROJECT NO: AYRES 45-0804	HWY: CTH Y	COUNTY: SHEBOYGAN	CTH Y & CTH O INTERSECTION - NORTH/SOUTH TURN LANE IMPROVEMENT CONCEPT	SHEET E

FILE NAME : I:\45\450804 SHEBOYGAN CTH Y & CTH O\C3D\DSGN\EDGELINE\CTH O-CTH Y N-S CONCEPT.DWG
LAYOUT NAME - Plan 1 IN 50 FT

PLOT DATE : 3/16/2026 9:06 AM PLOT BY : ROWELL, ANDREW PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42