HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

Wisconsin Department of Transportation
DT1501 3/2024

GENERAL INSTRUCTIONS

Please read all directions. ***Submit completed applications to the appropriate WisDOT Regional HSIP Coordinator.*** Additional information can be found on the WisDOT HSIP website: https://wisconsindot.gov/Pages/doing-bus/local-gov/astnce-pgms/highway/hsip.aspx

All shaded areas will be completed by WisDOT staff.

Box 1	Identify the project limits and/or those areas applicable to your project. For 'Name of Road/Intersection,' use **From-To** (South-North or West-East) format for a road segment such as "6th St.–9th St." If the project is within the boundary of a Metropolitan Planning Organization (MPO), provide the name of the MPO. Indicate whether the project is located on a connecting highway or local roadway and if the location is urban or rural. Locations are considered urban if it is located within a federally designated urban area boundary which is defined by having a population of greater than or equal to 5,000. For state highway projects, indicate if the Safety Certification Process (https://wisconsindot.gov/rdwy/fdm/fd-11-38.pdf#fd11-38) was completed.
Box 2	If the project involves an improvement to a roadway segment, provide the requested information.
Box 3	If the project involves an improvement to an intersection, provide the requested information.
Box 4	Identify and describe existing safety hazards such as visibility restrictions, curves, hills, intersection problems, bike/pedestrian conflicts, narrow shoulders, rutting, etc. Incorporate relevant crash history and data-supported evidence.
Box 5	List all proposed countermeasure(s) with the project. Examples include: 1. Converting from a Two-Way Stop-Controlled Intersection to a Roundabout 2. Widening paved shoulders and installing shoulder rumble strips 3. Installing flashing yellow arrow, signal head per lane, high visibility crosswalks Describe the proposed improvement in as much detail as possible. A detailed description explaining how the project will address the identified hazard(s) is essential for WisDOT review. Include any other important considerations that may be unique to the project or location. In addition, briefly discuss any alternatives considered and why these options are not the preferred alternative.
Box 6	**Provide a summary of the estimated costs and anticipated schedule dates for ALL project elements associated with the project, regardless of whether HSIP funding is being requested.** This includes preliminary engineering/design engineering, construction, construction engineering, mobilization, contingencies, utilities, real estate, and all related oversight and delivery costs. Cost estimates should be provided in today's dollars. For each project element (PE/Design, Real Estate, Construction, Other), indicate whether or not HSIP funding is being requested.
Box 7	Provide contact information for application sponsor's primary contact person or agency.
Box 8	Application must be signed by an official able to commit funds and certify as to the answers provided in Box 8. Leave blank for STATE projects.

Required Supporting Materials (RSM): Completed applications require the following (to be submitted to appropriate Region Office in digital or paper form – Region Office will transmit final digital copy to Central Office):

A. All applications must include:

RSM 1A. General sketch of project proposal: *An adequate sketch is the minimum requirement. Preliminary plan layout sheets or study reports should be provided if available. Basic example attached.*

RSM 2A. Collision diagram: *Must use most current consecutive 5 years of crash data available. Crash records available from the WisTransPortal Project website (http://transportal.cee.wisc.edu/services/crash-data). Agencies can request crash data or WisTransPortal account access through this website. Basic diagram example attached. Not required for projects resulting from statewide crash analyses or for corridor shoulder widening projects.*

RSM 3A. Crash Reports (DT4000): *Submit most current consecutive 5 years of crash data available and appropriate crash analysis. Reports should be sent to Region offices. Reports available from the WisTransPortal Project website (http://transportal.cee.wisc.edu/services/crash-data). Agencies can request crash reports or WisTransPortal account access through this website. Regions should not submit crash reports to Central Office.*

RSM 4A. Site photos of existing conditions.

RSM 5A. Itemized cost estimate: *Provide with as much detail as possible. For projects on the State Trunk Network (including connecting highways), an itemized cost estimate is needed to determine if signalization and/or intelligent transportation systems components are incidental to the project. See example attached.*

RSM 6A. PEF worksheet and results: *Completed by Regional Safety Engineer. Project applications resulting from a statewide systemic safety analysis do not require a PEF.*

B. If your project is proposing a change in intersection traffic control or a complete intersection reconstruction, your application must also include:

RSM 1B. Warrant documentation: *Required for proposals to install new traffic* signals. See MUTCD, Part IV, Section C (http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf) *for additional information. Contact Regional Safety Engineer for example worksheets.*

RSM 2B. Completed Traffic Control Signal Approval Request (Form DT1199): *Required for proposals to install new traffic signals on the State Trunk Highway Network, including connecting highways and ramp terminals. Contact Regional Safety Engineer for Form DT1199.*

RSM 3B. Operational analysis: *Per FDM-11-25-3 (https://wisconsindot.gov/rdwy/fdm/fd-11-25.pdf#fd11-25-3), required for proposals to change the overall intersection traffic control. A capacity analysis should be performed for existing traffic control with forecasted traffic volumes for the design year. At a minimum, perform a capacity analysis for existing traffic control with the most recent traffic volumes for the peak hours. The capacity analysis should be performed using the 2010 Highway Capacity Manual Methodology (e.g., HCS, Synchro). However, if the information necessary for a detailed capacity analysis is not available use any means necessary to demonstrate existing and future capacity concerns, if any. For example, a field survey with pictures during peak hours to demonstrate existing capacity concerns may be sufficient. Contact the Regional Safety Engineer to discuss alternate options to meet the operational analysis requirement.*

RSM 4B. Intersection Control Evaluation (ICE): *As outlined in FDM 11-25-3 (https://wisconsindot.gov/rdwy/fdm/fd-11-25.pdf#fd11-25-3), the ICE process describes the need for a change in the existing intersection and provides a preliminary review of alternatives. All HSIP projects involving a change in intersection traffic control or a complete intersection reconstruction on the State Trunk Network, including connecting highways, must include, as an attachment, a Phase I: Scoping ICE that has been reviewed by Central Office Bureau of Traffic Operations. While not a requirement for local projects, it is recommended these projects still follow the ICE process. Contact the Regional Safety Engineer for additional information.*

Optional Support Materials (OSM)

C. If applicable, each application may also include:

OSM 1C. Local Support/Commitment: *A list of local support received and/or letters of commitment can be used to augment application materials.*

OTHER IMPORTANT NOTES AND CONSIDERATIONS:

- Applications that do not include applicable Required Support Materials will not be accepted.
- This is *NOT* a federal-aid grant program. Project sponsors are responsible for 10% of total project costs, up to the approved project cost. Any costs incurred in excess of the approved project cost will be the responsibility of the project sponsor.
- Local lets are not permitted. All let projects must be let through the state letting process regardless of project sponsor or project location.
- Federal law restricts federal-aid projects from using publicly owned land of a park, recreation area, or wildlife refuge.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION *(continued)*

Wisconsin Department of Transportation DT1501

Design ID	Tied Project IDs
Related IDs (CONST) (R/W)	

1. PROJECT LOCATION

Name of Road/Intersection			Highway Number
Hampton Avenue & Santa Monica Boulevard			
County Milwaukee	City of	Village of Whitefish Bay	Town of
Native Nation	Name of the Metropolitan Planning Organization (MPO) the project is represented by Southeastern Wisconsin MPO		
Did the project complete the Safety Certification Process (state highways only)? ☐ Yes ☐ No			
Is the project located on a connecting highway? ☐ Yes ☒ No			
Is the project located on a local roadway? ☒ Yes ☐ No			
What area type is the project? ☒ Urban ☐ Rural			

2. SEGMENT INFORMATION

Current Annual Average Daily Traffic	Project Length (miles)
E leg = 5,500 vpd W leg = 13,900 vpd N leg = 6,500 vpd S leg = 9,100 vpd	Functional area of intersection

3. INTERSECTION INFORMATION

Existing Traffic Control	Entering Vehicle Volume	Pedestrian/Bicycle Volume (if available)
☐ Yield Control ☐ One-Way Stop-Control ☐ Two-Way Stop-Control ☐ All-Way Stop-Control ☒ Traffic Signal ☐ Roundabout ☐ Other (List):	17,500 vpd	High

4. IDENTIFICATION OF HAZARDS

Describe existing hazards such as: visibility restrictions, curves, hills, intersection problems, bike/pedestrian conflicts, narrow shoulders, rutting, etc. Describe any relevant crash history resulting from existing hazards or deficiencies.

The intersection of Hampton Avenue and Santa Monica Boulevard, located in the Village of Whitefish Bay, has experienced a history of severe left-turn angle crashes. One (1) A-level, two (2) B-level, and one (1) property damage only (PDO) left-turn angle crashes have occurred at this interseciotn in the five year period from 2019 through 2023, including one involving a pedestrian (A-level crash). In addition to the four (4) left-turn angle crashes, five (5) right-angle crashes have occurred in the same period.

Traffic signal poles in the north leg and south leg medians have been struck three (3) times in the past five years, while the traffic signal pole in the northeast quadrant has been struck one (1) time. Signs in the east leg median have been struck two (2) times.

There are many contributing factors to the frequency and severity of the crashes, including the lack of protected left-turning movements, older traffic signal equipment, no signal heads present over the northbound and southbound lanes, signal poles being in the medians on the north and south legs. For pedestrians, there are no high-visibility crosswalks and the curb ramps are not up to ADA standards.

5. PROPOSED IMPROVEMENT

5a. Provide a brief list/summary of the proposed countermeasure(s) that will address the identified hazards.

It is proposed to update all traffic signals, including new poles to provide signal heads with retro-reflective backplates over each approach lane, install new controller/cabinet, install new video vehicle detection, install audible push buttons, install new emergency vehicle preemption, and replace all conduit/wiring/pull boxes.

It is also proposed to add left-turn protection to all left-turn movements via new left-turn signal heads. Signal heads with flashing yellow capabilities are requested because they can operate in protected-only mode, as proposed, but offer more flexibility for accommodating future travel demands and incorporating features like adaptive protected phasing for pedestrians.

Geometric improvements include pavement repair, friction treatment via concrete grooving, and curb bumpouts (where feasible) with ADA compliant curb ramps and high-visibility crosswalks.

5b. Describe the proposed project and how the countermeasure(s) address the identified hazards. In addition, briefly discuss any alternatives considered and why these options are not the preferred alternative.

Adding left-turn protection should virtually eliminate the left-turn crashes this intersection has experienced (0.01 CMF ID: 333), including the vehicle/vehicle left-turn crashes and the vehicle/pedestrian, like the pedestrian A-level crash that occurred at this intersection in 2021. Based on the details of the A-level pedestrian crash, if this intersection operated with left-turn protected-only movements, it is highly unlikely that a crash like that could occur because there no longer would be a conflicting permissive left-turn movement with a walk phase.

Adding retro-reflective backplates to all signal heads (0.85 CMF ID: 1410) and signal heads over each approach lane will increase the traffic signal visibility, which should reduce all crash types, particularly ones where drivers disregard the traffic control (there were three). Crashes where drivers disregard traffic control can often be severe.

The proposed geometric improvements of pavement repair, friction treatment, and curb bumpouts are expected to reduce the likelihood of crashes in inclement weather (there were five) and better serve pedestrians by shortening their crossing distances. Furthermore, the curb ramps will be updated to ADA compliant designs and high-visibility crosswalks will be added to all four crosswalks, which will assist pedestrians in crossing at the intersection by decreasing their crash risk. In addition, removing median-located traffic signal poles will reduce the likelyhood of the poles being struck.

Operationally, a traffic signal is a viable alternative at this intersection, so no other traffic control alternatives were investigated.

6. TOTAL PROJECT COSTS - *Provide ALL project costs in today's dollars for all project elements, regardless of whether HSIP funding will be used*

	Prelim. Engineering/ Design (*include state review*)	**Real Estate**	**Major Construction Items** *(include Const. Engineering, Mobilization, and Contingencies)*	**Other Costs**	**TOTAL**
SFY2024					
SFY2025					
SFY2026	$146,092				$146,092
SFY2027		$50,000			$50,000
SFY2028			$1,272,502		$1,272,502
SFY2029					
TOTAL	$146,092	$50,000	$1,272,502		$1,468,594
HSIP Funding Requested? (Yes/No) *	Yes	No	Yes	Yes or No	Yes

* Generally, 90% of the requested safety funding is covered with federal HSIP funds and the remaining 10% is covered by state and/or local funds. The project sponsor is responsible for any project costs exceeding the approved HSIP funding amount.

Is this project advanceable? ☐ Yes ☒ No; If yes, what SFY is the project advanceable to

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION *(continued)*

Wisconsin Department of Transportation DT1501

7. CONTACT INFORMATION

Primary Contact Person and Agency Name	Title
Matthew Collins	Director of Public Works
Address	(Area Code) Telephone Number
155 W. Fairmount Avenue	(414)962-6690 ext. 114
City, State, ZIP Code	Municipality
Whitefish Bay, WI 53217	Village of Whitefish Bay

8. SIGNATURE OF LOCAL APPROVING AUTHORITY

X *Matthew Collins*	08/15/2024
(Signature of Local Approving Authority)	(Date – mm/dd/yyyy)

WisDOT INFORMATION *(shaded areas to be completed by WisDOT Regional Staff Only)*

A. Environmental Documentation Type ☐ Environmental Impact Statement ☐ Categorical Exclusion ☐ Environmental Assessment ☐ Planning Studies ☐ Other:	B. HSIP Work Type
C. Functional Class	D. PEF

E. Is this project location identified in one of the Statewide Safety Initiatives (If yes, select all that apply)? ☐ Yes ☐ No
☐ Cross Median Crashes (CMC) ☐ High Risk Rural Roads (HRRR) ☐ INSS-Rural ☐ INSS-Urban
☐ Location of Interest Report (LOIR) ☐ Horizontal Curve Initiative ☐ Other (List):

F. Which Strategic Highway Safety Plan (SHSP) goal(s) are addressed by this request (Select all that apply)?
☐ Improve Safety Culture, Safety Data, Safety Technology ☐ Reduce Driver Distraction/Improve Driver Alertness
☐Reduce Alcohol & Drug-Impaired Driving ☐ Reduce the Incidence and Severity of Motorcycle Crashes
☐ Improve Non-Motorist Safety ☐ Increase Occupant Protection ☐ Improve Safety of Intersections
☐ Reduce Lane Departure Crashes ☐ Improve Work Zone Safety ☐ Curb Aggressive Driving/Reduce Speed-Related Crashes
☐ Improve Driver Performance (Teens, Older, and Competent)

Region Approval – Project Supervisor	Date – mm/dd/yyyy
Region Approval – Planning Supervisor	Date – mm/dd/yyyy

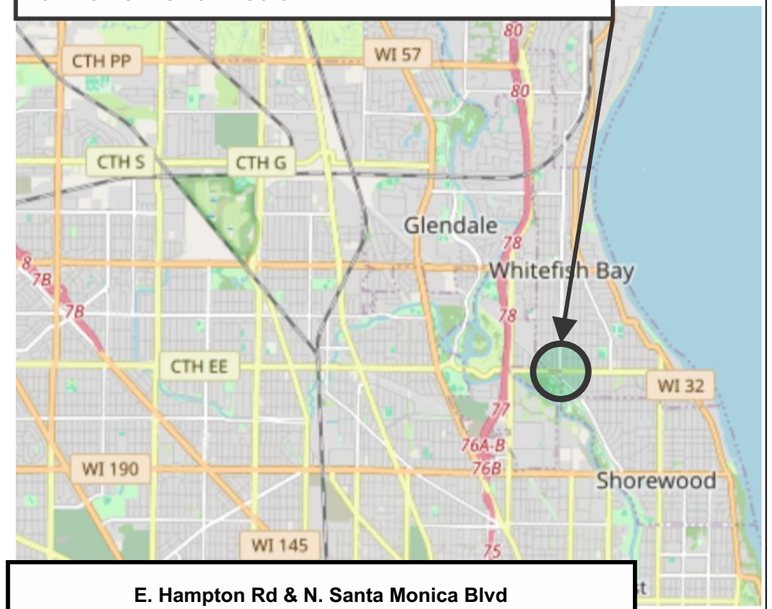
C.O. Decision ☐ Approved ☐ Disapproved	
Approving Authority	Date – mm/dd/yyyy

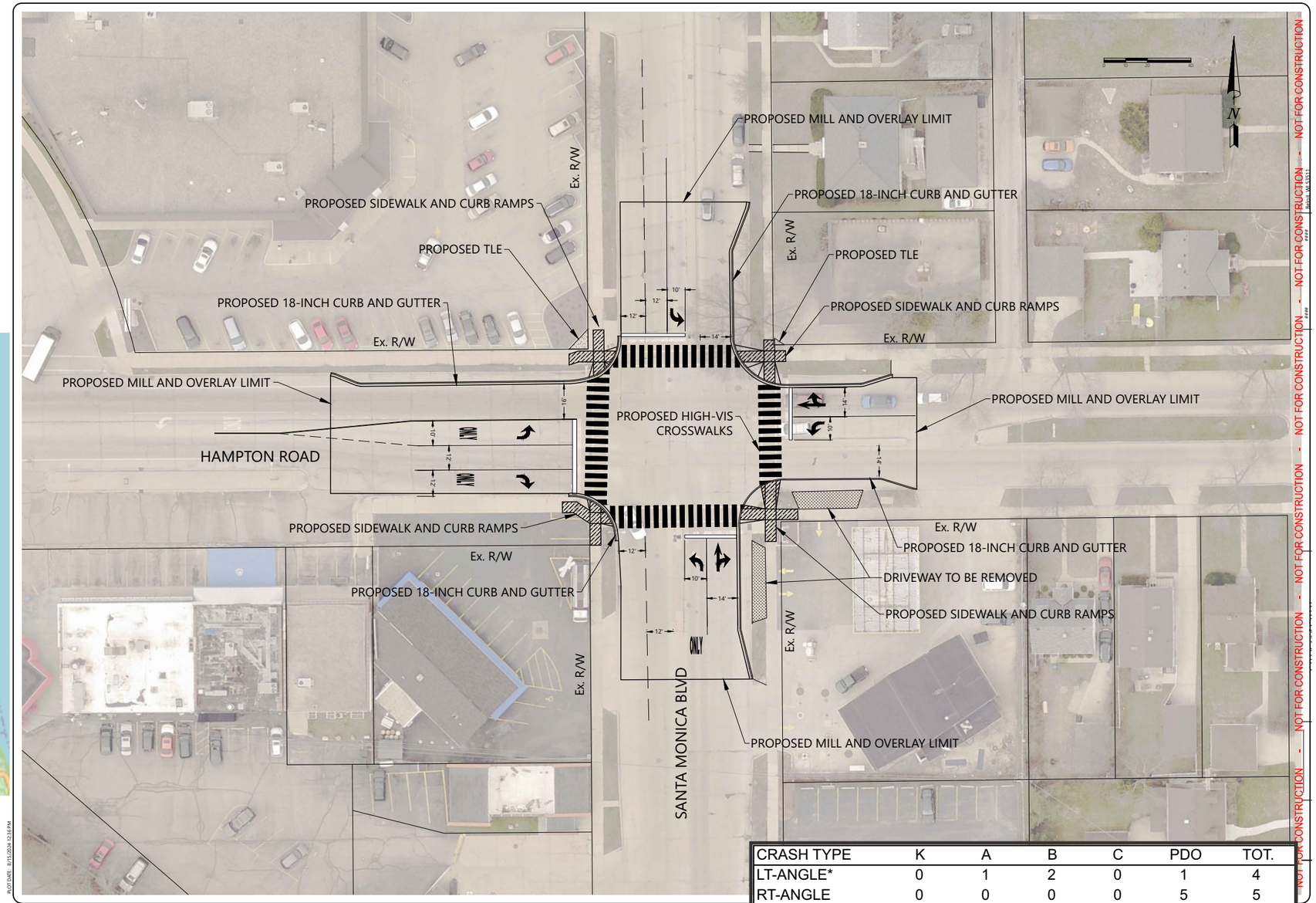
RSM 1A

GENERAL SKETCH OF PROJECT PROPOSAL

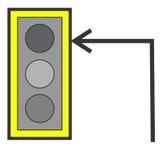
E. Hampton Rd & N. Santa Monica Blvd
RECOMMENDED IMPROVEMENTS

1. Yellow Retro-Reflective Backplates
2. Protected left-turns
3. Signal heads over each lane
4. Audible pedestrian push buttons
5. High-visibility crosswalks
6. Curb bumpouts
7. ADA compliant curb ramps
8. Pavement friction





E. Hampton Rd & N. Santa Monica Blvd
RECOMMENDED IMPROVEMENT
CMF values



YELLOW RETRO-REFLECTIVE BACKPLATES
(CMF = 0.85)

PROTECTED LEFT-TURNS
(CMF = 0.01 left-turns)

E. Hampton Road & N. Santa Monica Blvd

DESIGN	$146,092.00
CONSTRUCTION	$1,272,502.00
ROW AQUISITION	$50,000.00
TOTAL PROJECT IMPROVEMENTS COST	**$1,468,594.00**

CRASH TYPE	K	A	B	C	PDO	TOT.
LT-ANGLE*	0	1	2	0	1	4
RT-ANGLE	0	0	0	0	5	5
REAR-END	0	0	0	0	2	2
SIDE-SWIPE-SAME	0	0	0	0	1	1
FIXED-OBJECT	0	0	0	0	6	6
DRIVEWAY-RELATED	0	0	0	0	1	1
TOTAL	0	1	2	0	16	19

*One driver making permissive left-turn struck a pedestrian in the crosswalk with WALK indicated

N

CRASH SEVERITY DEFINITIONS
K = Fatality
A = Suspected Serious Injury
B = Suspected Minor Injury
C = Possible Injury
PDO = No Apparent Injury

RSM 1A

CONCEPTUAL SAFETY IMPROVEMENTS

E. HAMPTON ROAD & N. SANTA MONICA BOULEVARD
WHITEFISH BAY, WISCONSIN

RSM 2A

COLLISION DIAGRAMS

SB_{10} 12/21/2022 2 PM

SB_6 11/30/2023 5 PM DRK

NB_9 10/12/2023 9 PM WET DRK ALC SPD

SB_2 02/20/2023 7 AM

WB_9 11/04/2021 12 PM SPD

NB_1 09/24/2021 12 PM B-INJ NBL FTY

EB_5 02/22/2023 4 PM SNW

WB_1 02/28/2022 6 PM DRK WBL FTY

NB_0 02/25/2021 9 AM A-INJ EBL- Ped in Cross*

*Driver making left turn during permissive left-turn phase struck a pedestrian that had a WALK indication. The pedestrian was severely injured.

WB_2 02/13/2020 5 AM SNW DRK NB flashing red
03/03/2022 5 AM NB flashing red

WB_5 10/26/2020 10 AM WET

EB_9 02/23/2020 3 AM DRK SPD

EB_9 11/02/2023 6 PM SPD

SB_1 05/22/2020 3 PM B-INJ SBL FTY

NB_2 04/09/2019 10 AM
07/31/2023 4 PM

SB_9 06/16/2022 9 PM DRK ALC SPD WBL turn - signal

NB_9 11/10/2019 8 PM WET DRK SPD

N
NOT TO SCALE

TADI

CRASH STATISTICS

19 Crashes

- 0 Fatal Crash (K)
- 1 Suspected Serious (Type A)
- 2 Suspected Minor (Type B)
- 0 Possible (Type C)
- 16 No Apparent Injury

0.59 Crashes Per Million Entering Vehicles

LEGEND

- FTY Failure to Yield
- Moving Vehicle
- Backing Vehicle
- Pedestrian
- Bicyclist
- Parked Vehicle
- Traffic Signal
- Stop/Yield Sign
- (T) Tree
- (F) Fixed Object
- (N) Non-Fixed Object
- Angle (Right Angle)
- Angle (Left Turn)
- Angle (Right Turn)
- Sideswipe-Same
- Sideswipe-Opposite
- Head-On
- Rear-End
- Out of Control
- Overtake
- Overturn

(#) = CRASH FREQUENCY (if > 1 NON-PED/BIKE)

LABEL, DATE OF CRASH, TIME, SEVERITY, ROAD CONDITIONS, LIGHT, ALCOHOL, DRUGS, SPEED-RELATED, NOTES ABOUT CRASH

Note: Deer Crashes Not Included

*Economic Loss = $684k (KA), $217k (B), $123k (C),$10.8k (PDO)

CRASH SEVERITY DEFINITIONS

- K-Inj = Fatal Crash
- A-Inj = Suspected Serious Injury Crash
- B-Inj = Suspected Minor Injury Crash
- C-Inj = Possible Injury Crash
- = No Apparent Injury Crash

HIGHLIGHTED CRASHES

- > $1,000,000 in economic loss*
- > $500,000 in economic loss*
- Pedestrian or bicyclist struck by vehicle

CRASH HISTORY (2019-2023)
INTERSECTION OF
HAMPTON RD & SANTA MONICA BLVD
WHITEFISH BAY, WISCONSIN

RSM 3A

CRASH REPORTS

Crash Data

Corresponds to Collision Diagram

TRAFFIC ANALYSIS & DESIGN, INC.

Location:	**Hampton Ave and Santa Monica Blvd**	**From:**	**1/1/2019**		
Municipality:	**Village of Whitefish Bay**	**To:**	**12/31/2023**	**Duration**	
County:	**Milwaukee**	**AADT:**	**17,500**	**5**	**Years**
Traffic Control:	**Traffic Signal**	**Area Type:**	**Urban**	**0**	**Months**

Ref #	Label	Doc. #	Date	Crash Type	Time	Severity	Road Cond.	Light Cond.	Alc. Flag	Drug Flag	Speed Flag	Notes
1	EB_1	5VL04R6911	2/25/2021	LT-ANGLE	9 AM	A						EBL- Ped in Cross
2	EB_5	5VL04R692T	2/22/2023	REAR-END	4 PM		SNOW					
3	EB_9	5VL04TNC4B	2/23/2020	FIXED-OBJECT	3 AM			DARK			Y	
4	EB_9	5VL04R693S	11/2/2023	FIXED-OBJECT	6 PM			DAY			Y	
5	WB_1	5VL04L84MG	2/28/2022	LT-ANGLE	6 PM			DARK				WBL FTY
6	WB_2	5VL04L84L1	2/13/2020	RT-ANGLE	5 AM		SNOW	DARK				NB flashing red
7	WB_2	5VL04L84MH	3/3/2022	RT-ANGLE	5 AM							NB flashing red
8	WB_5	5VL00GSFCK	10/26/2020	REAR-END	10 AM		WET					
9	WB_9	5VL00GSFD6	11/4/2021	FIXED-OBJECT	12 PM						Y	
10	NB_1	5VL00GSFD4	9/24/2021	LT-ANGLE	12 PM	B						NBL FTY
11	NB_2	5VL00GSFC6	4/9/2019	RT-ANGLE	10 AM							
12	NB_2	5VL01713BH	7/31/2023	RT-ANGLE	4 PM							
13	NB_9	5VL04L84KB	11/10/2019	FIXED-OBJECT	8 PM		WET	DARK			Y	
14	NB_9	5VL04R693P	10/12/2023	FIXED-OBJECT	9 PM		WET	DARK	Y		Y	
15	SB_1	5VL04R690C	5/22/2020	LT-ANGLE	3 PM	B						SBL FTY
16	SB_2	5VL04TNC67	2/20/2023	RT-ANGLE	7 AM							
17	SB_6	5VL04TNC75	11/30/2023	SIDE-SWIPE-SAME	5 PM			DARK				
18	SB_9	5VL04VWD6Q	6/16/2022	FIXED-OBJECT	9 PM			DARK	Y		Y	WBL turn - signal
19	SB_{10}	5VL04L84N6	12/21/2022	DRIVEWAY-RELATED	2 PM							
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Ref #	Label	Doc. #	Date	Crash Type	Time	Severity	Road Cond.	Light Cond.	Alc. Flag	Drug Flag	Speed Flag	Notes
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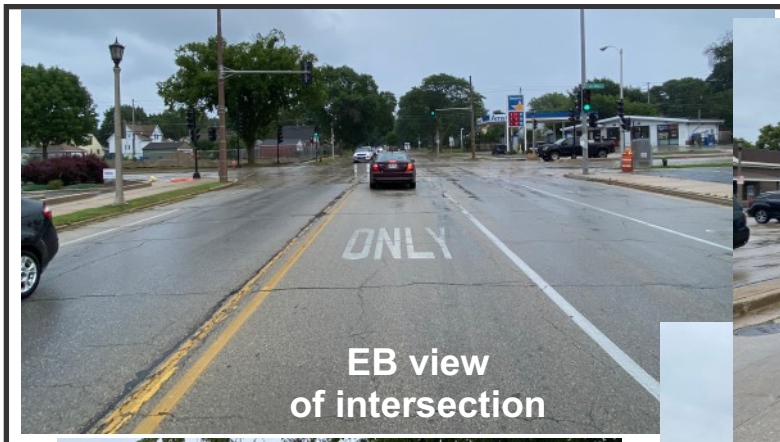
RSM 4A

SITE PHOTOS



EB view
of intersection

NB view
of intersection

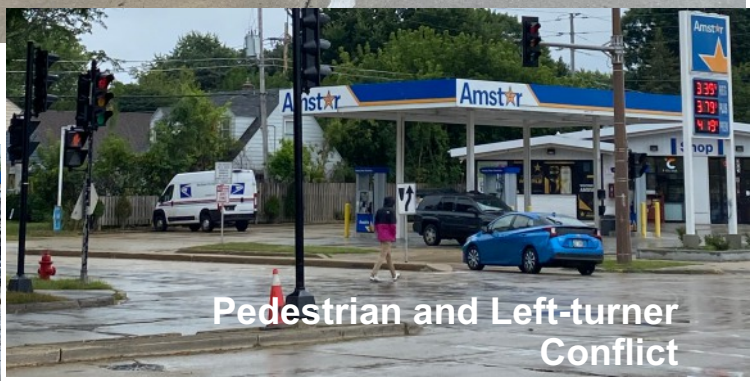
WB view
of intersection

Existing
Signal and Ped
Countdown Timer

SB view
of intersection

Existing Curb Ramp
and Crosswalks

Pedestrian w/Cane



Pedestrian and Left-turner
Conflict

RSM 4A
SITE PHOTOS

INTERSECTION OF E. HAMPTON RD & N. SANTA MONICA BLVD
WHITEFISH BAY, WISCONSIN

RSM 5A

ITEMIZED COST ESTIMATE

E. HAMPTON RD & N. SANTA MONICA BLVD
CONCEPTUAL COST ESTIMATE

DESIGN	$146,092.00
CONSTRUCTION	$1,272,502.00
ROW AQUISITION	$50,000.00
TOTAL PROJECT IMPROVEMENTS COST	**$1,468,594.00**

TRAFFIC SIGNAL IMPROVEMENTS					
ITEM	**ITEM DESCRIPTION**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL**
1	Controller and cabinet	1	EACH	$ 31,000.00	$ 31,000.00
2	Overhead vehicular signal indications and monotube poles including left-turn arrows and street lights if required	4	EACH	$ 32,000.00	$ 128,000.00
3	Other new poles and indications including street lights	4	EACH	$ 12,000.00	$ 48,000.00
4	Reflective backplates	20	EACH	$ 300.00	$ 6,000.00
5	Remove and reinstall pedestrian countdown timers	8	EACH	$ 1,000.00	$ 8,000.00
6	Audible/ADA compliant pedestrian push buttons	8	EACH	$ 650.00	$ 5,200.00
7	Emergency Vehicle Pre-emption	1	EACH	$ 12,000.00	$ 12,000.00
8	Video vehicle detection	1	LS	$ 42,000.00	$ 42,000.00
9	Wiring, conduit, pull boxes, site restoration	1	LS	$ 100,000.00	$ 100,000.00
10	Temporary traffic signals	1	LS	$ 80,000.00	$ 80,000.00
11	Misc. Signing & Pavement Marking (% of construction items)	5	%		$ 23,010.00
12	Mobilization & traffic control (% of construction items)	10	%		$ 46,020.00
13	Construction contingencies (% of construction items)	15	%		$ 69,030.00
14	Engineering Design and State Design Review (% of all construction, including mobilization, traffic control, and contingencies)	12	%		$ 71,791.00
15	Construction Engineering and Oversight (% of all construction, including mobilization, traffic control, and contingencies)	15	%		$ 89,739.00
	TRAFFIC SIGNAL IMPROVEMENTS COST				**$ 759,790.00**
	REAL ESTATE				
16	REAL ESTATE (R/W ACQUISITION)	1	LS	$ 50,000.00	$ 50,000.00
	REAL ESTATE SUBTOTAL COST				**$ 50,000.00**
	TOTAL TRAFFIC SIGNAL IMPROVEMENTS COST				**$ 809,790.00**

INTERSECTION GEOMETRIC IMPROVEMENTS					
ITEM	**ITEM DESCRIPTION**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL**
	REMOVALS				
1	REMOVING CURB & GUTTER	550	LF	$ 20.00	$ 11,000.00
2	REMOVING SIDEWALK	110	SY	$ 20.00	$ 2,200.00
3	REMOVING CONCRETE PAVEMENT	1,200	SY	$ 15.00	$ 18,000.00
4	CONCRETE MILLING	2,500	SY	$ 5.00	$ 12,500.00
	REMOVAL SUBTOTAL COST				**$ 43,700.00**
	EARTHWORK				
5	COMMON EXCAVATION	400	CY	$ 50.00	$ 20,000.00
	EARTHWORK SUBTOTAL COST				**$ 20,000.00**
	PAVEMENT ITEMS				
6	FULL DEPTH CONCRETE SAW CUT	3000	LF	$ 3.00	$ 9,000.00
7	CONCRETE CURB AND GUTTER 18-INCH	550	LF	$ 35.00	$ 19,250.00
8	CONCRETE PAVEMENT, 8-INCH	700	SY	$ 100.00	$ 70,000.00
9	DRILLED DOWEL BARS	4600	EACH	$ 14.00	$ 64,400.00
10	DRILLED TIE RODS	650	EACH	$ 12.00	$ 7,800.00
11	CONCRETE SIDEWALK 4-INCH	500	SF	$ 12.00	$ 6,000.00
12	CONCRETE SIDEWALK 6-INCH & DETECTABLE WARNING	450	SF	$ 20.00	$ 9,000.00
13	BASE AGGREGATE DENSE, 1 1/4-INCH (12" DEPTH)	1100	TON	$ 25.00	$ 27,500.00
14	HMA PAVEMENT	375	TON	$ 120.00	$ 45,000.00
	PAVEMENT ITEMS SUBTOTAL COST				**$ 257,950.00**
	ROADWAY SUBTOTAL COST				**$ 321,650.00**
	MISC ITEMS				
15	PAVEMENT MARKING	7	LS	% OF ROADWAY SUBTOTAL	$ 22,515.50
16	DRAINAGE / STORM SEWER	10	LS	% OF ROADWAY SUBTOTAL	$ 32,165.00
17	TRAFFIC CONTROL / STAGING	20	LS	% OF ROADWAY SUBTOTAL	$ 64,330.00
18	EROSION CONTROL / RESTORATION	5	LS	% OF ROADWAY SUBTOTAL	$ 16,082.50
19	SIGNING	2	LS	% OF ROADWAY SUBTOTAL	$ 6,433.00
20	MOBILIZATION	10	LS	% OF ROADWAY SUBTOTAL	$ 32,165.00
	MISC ITEMS SUBTOTAL COST				**$ 173,691.00**
	TOTAL ROADWAY COST				**$ 495,341.00**
	DESIGN AND CONSTRUCTION				
21	COST ESTIMATE CONTINGENCIES	10	LS	% OF ROADWAY	$ 49,534.10
22	ENGINEERING DESIGN AND STATE DESIGN REVIEW	15	LS	% OF ROADWAY	$ 74,301.15
23	CONSTRUCTION ENGINEERING AND OVERSIGHT	8	LS	% OF ROADWAY	$ 39,627.28
	DESIGN AND CONSTRUCTION SUBTOTAL COST				**$ 163,462.53**
	TOTAL CONSTRUCTION COST				**$ 658,803.53**
	TOTAL PROJECT COST ESTIMATE				**$ 1,468,593.53**

NOTE: ESTIMATES ARE FOR CONCEPTUAL USE ONLY, AND ARE NOT BASED ON DETAILED FINAL DESIGNS

RSM 5A
COST ESTIMATE

E. HAMPTON RD & N. SANTA MONICA BLVD IMPROVEMENT COSTS SUMMARY
WHITEFISH BAY, WISCONSIN

RSM 6A

PEF WORKSHEET AND RESULTS
(Provided by WisDOT)