List of Appendices

Appendix A: Digital Appendix

(Available for viewing at WisDOT Southwest Region Office)

Appendix B: Traffic Forecasts

WisDOT TRAFFIC FORECAST REPORT

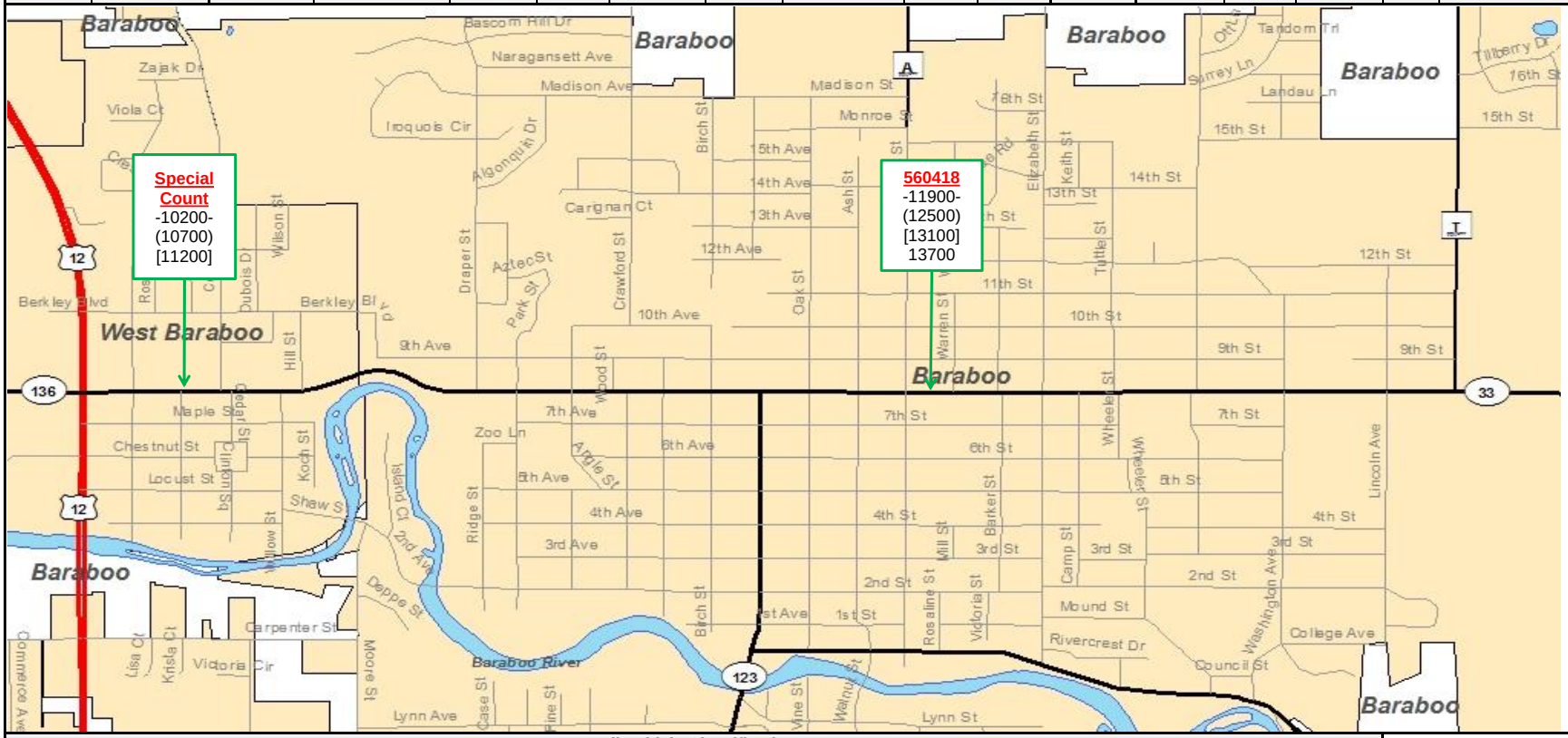
PROJECT ID(S): 5090-04-09
ROUTE(S): STH 33

Region/COUNTY(IES): SW / Sauk, Columbia
LOCATION: Baraboo - Portage
COMPLETED: 5/5/2016

Traffic Forecasting Section; Bureau of Planning and Economic Development; Division of Transportation Investment Management

Developed by: Kory Dercks
Phone: (608) 266-1379
FAX #: (608) 267-0294
E-Mail: kory.dercks@dot.wi.gov

Design Values (%)											Truck Classification						
Site(s)	Route(s)	Volume(s)	Site Growth %	K250	K100	K30	P	D(Dsgn. Hr.)	T(DHV)	T(PHV)	AADTT	2D	3AX	2S1+2S2	3-S2	DBL-BTM	Total %
Special Count	STH 33	11710	0.50%	10.5	11.2	11.8	13.1	59/41	9.3	8.1	1100	7.5	0.3	1.5	1.2	0.3	10.8%
560418	STH 33	13670	0.50%	11.0	11.7	12.3	13.7	59/41	9.3	8.1	1280	7.5	0.3	1.5	1.2	0.3	10.8%
				10.6	11.3	11.9	13.2	59/41	5.0	4.4		1.6	1.6	0.9	1.4	0.3	5.8%



Full Vehicle Classification														
Site(s)	Route(s)	MC	CARS	SU2-4	BUSES	SU2-6	SU3	SU4+	ST4-	ST5	ST6+	MU5-	MU6	MU7+
Special Count	STH 33	1.3	64.5	23.2	2.3	5.2	0.3	0.0	1.5	1.2	0.0	0.3	0.0	0.0
560418	STH 33	1.3	64.5	23.2	2.3	5.2	0.3	0.0	1.5	1.2	0.0	0.3	0.0	0.0

N

SITE ID = Colored, **bolded**, and underlined

Symbol	Count	Symbol	Forecast
-000-	2016 Count	000	2046 AADT
000	2014 Count	[000]	2036 AADT
+000+	2011 Count	(000)	2026 AADT

NOTES ON THE FORECAST:

1. This projection assumes that no major new traffic generators will be developed in the area served by the roadway or intersection over the course of the planning period.
2. Truck classification percentages for STH 33 were taken from 2016 vehicle classification data taken at the Special Count site between Mulberry & Connie Streets Baraboo, Sauk County, which is estimated at 10.8%.
3. STH 33 is a Factor Group II (Urban-Other) roadway (indicating low to moderate fluctuation in traffic from a seasonal perspective). It is functionally classified as an Urban Principal Arterial (14) for count purposes.
4. 2016 mainline counts were factored to estimate AADT using 2015 factors from the Bureau of State Highway Programs.
5. It was assumed that the new county administration and the health and human services buildings in Portage would have a negligible impact on STH 33 volumes in Baraboo. Therefore, a build scenario forecast was not prepared for this area.

WisDOT TRAFFIC FORECAST REPORT

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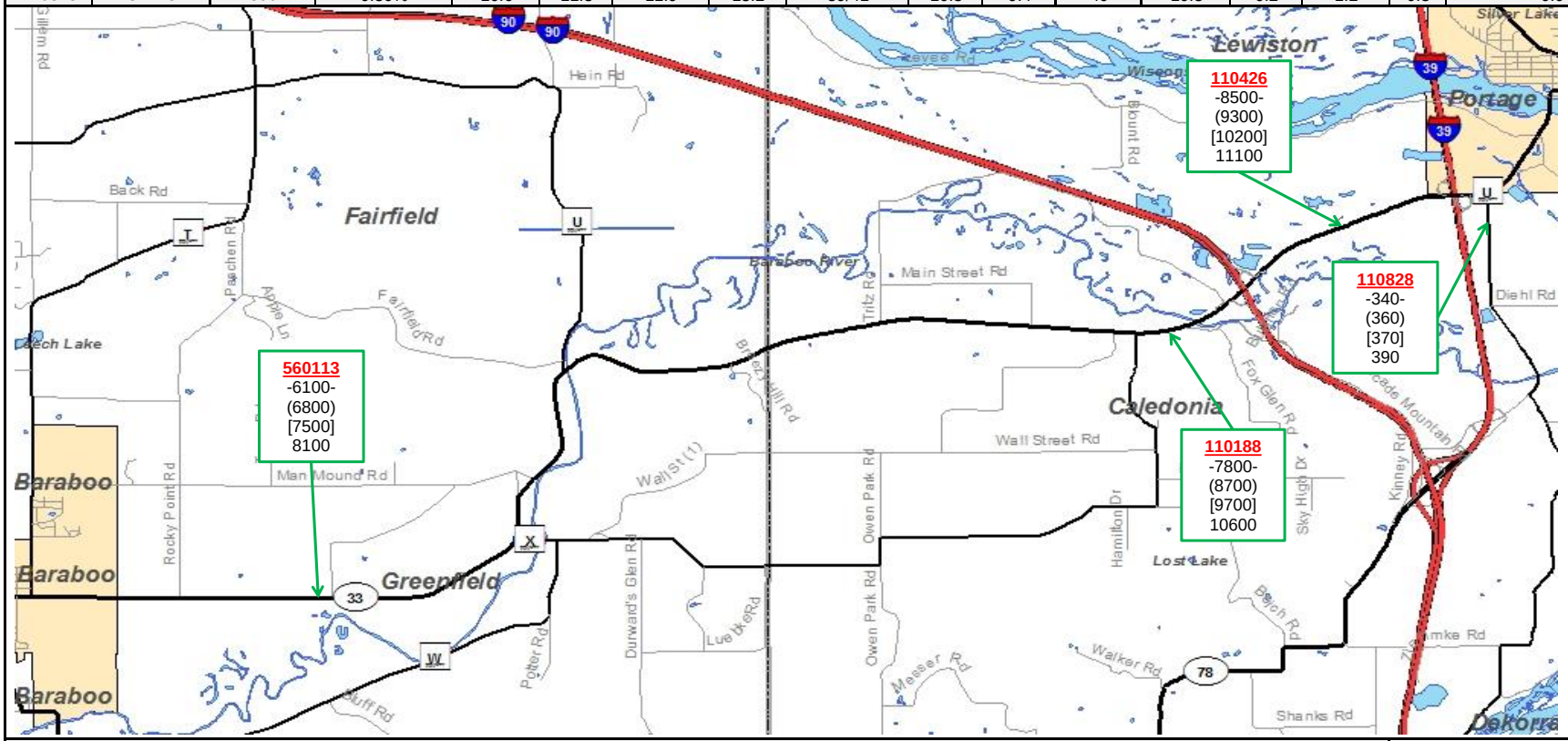
560113	STH 33	8150	1.10%	10.5	11.2	11.8	13.1	59/41	13.0	11.3	920	8.2	1.0	1.5	4.3	0.1	15.1%
110426	STH 33	11090	1.04%	11.0	11.7	12.3	13.7	59/41	15.0	13.1	1470	7.0	2.0	1.8	6.4	0.2	17.4%
110828	CTH U	390	0.50%	10.6	11.3	11.9	13.2	59/41	10.8	9.4	40	10.8	0.2	1.2	0.3	0.0	12.5%



Full Vehicle Classification														
Site(s)	Route(s)	MC	CARS	SU2-4	BUSES	SU2-6	SU3	SU4+	ST4-	ST5	ST6+	MU5-	MU6	MU7+
560113	STH 33	2.8	59.1	23.1	1.4	6.8	0.9	0.1	1.5	4.2	0.1	0.1	0.0	0.0
110426	STH 33	0.6	56.3	25.8	2.0	5.0	1.7	0.3	1.8	6.1	0.3	0.2	0.0	0.0
110828	CTH U	0.2	52.6	34.8	0.0	10.8	0.2	0.0	1.2	0.3	0.0	0.0	0.0	0.0

N

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Symbol	Count	Symbol	Forecast
-000-	2016 Count	000	2046 AADT
000	2014 Count	[000]	2036 AADT
+000+	2011 Count	(000)	2026 AADT

NOTES ON THE FORECAST:

1. This projection assumes that no major new traffic generators will be developed in the area served by the roadway or intersection over the course of the planning period.
2. Truck classification percentages for STH 33 were taken from 2016 vehicle classification data taken at site # 560113, STH 33 east of CTH T, which is estimated at 15.1%, and at site #110426, STH 33 between I-90/94 & I-39, which is estimated at 17.4%. Truck classification percentages for CTH U were taken from 2016 classification data at site #110828, CTH U south of STH 33, which is estimated at 12.5%.
3. STH 33 is a Factor Group IV (Rural-Other) roadway (indicating low to moderate fluctuation in traffic from a seasonal perspective). It is functionally classified as a Rural Minor Arterial (6) for count purposes.
4. 2016 mainline counts were factored to estimate AADT using 2015 factors from the Bureau of State Highway Programs.
5. Turning movement counts for the west leg of the STH 33 & Cascade Mountain Road intersection were expanded to estimate AADT at site #110188.

WisDOT TRAFFIC FORECAST REPORT

PROJECT ID(S): 5090-04-09
ROUTE(S): STH 33

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LOCATION: Baraboo - Portage
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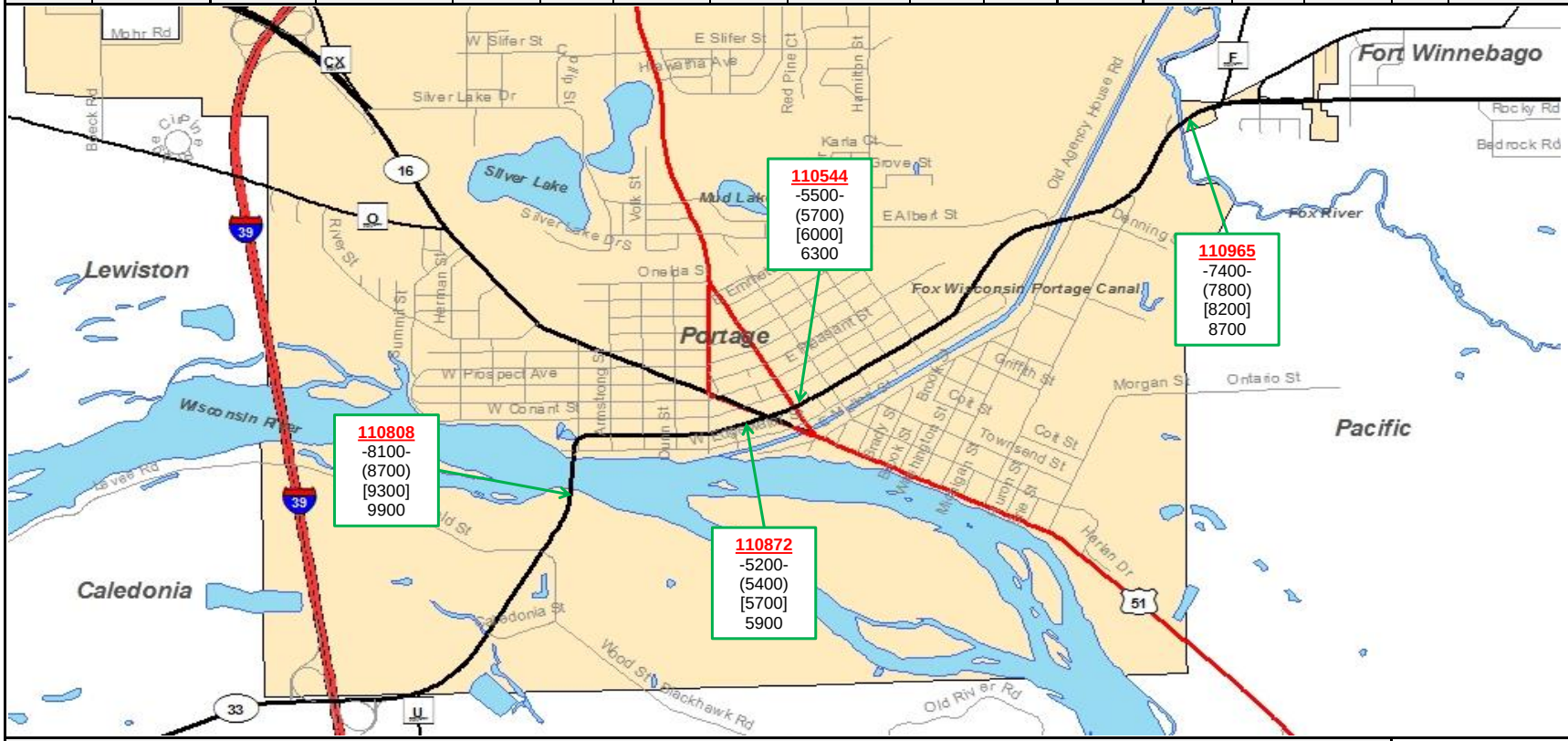
Design Values (%)											Truck Classification						
Site(s)	Route(s)	Volume(s)	Site Growth %	K250	K100	K30	P	D(Dsgn. Hr.)	T(DHV)	T(PHV)	AADTT	2D	3AX	2S1+2S2	3-S2	DBL-BTM	Total %
110808	STH 33	9930	0.77%	10.5	11.2	11.8	13.1	59/41	12.6	11.0	1180	6.8	0.7	1.2	5.9	0.0	14.6%
110544	STH 33	6290	0.50%	11.0	11.7	12.3	13.7	59/41	16.9	14.7	1070	8.4	0.6	2.1	8.4	0.1	19.6%
110965	STH 33	8690	0.60%	10.6	11.3	11.9	13.2	59/41	13.8	12.1	1190	10.0	0.7	2.1	3.3	0.0	16.1%



Full Vehicle Classification														
Site(s)	Route(s)	MC	CARS	SU2-4	BUSES	SU2-6	SU3	SU4+	ST4-	ST5	ST6+	MU5-	MU6	MU7+
110808	STH 33	0.5	61.4	23.5	2.0	4.8	0.5	0.2	1.2	5.8	0.1	0.0	0.0	0.0
110544	STH 33	0.9	56.6	22.9	3.4	5.0	0.6	0.0	2.1	8.3	0.1	0.1	0.0	0.0
110965	STH 33	0.7	58.4	24.7	2.9	7.1	0.6	0.1	2.1	3.2	0.1	0.0	0.0	0.0

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NOTES ON THE FORECAST:

1. This projection assumes that no major new traffic generators will be developed in the area served by the roadway or intersection over the course of the planning period.
2. Truck classification percentages for STH 33 were taken from 2016 vehicle classification data taken at site # 110808, STH 33 south of Pierce St, which is estimated at 14.6%, at site #110544, STH 33 between De Witt & Jefferson Streets, which is estimated at 19.6%, and at site #110965, STH 33 west of CTH F, which is estimated at 16.1%.
3. STH 33 is a Factor Group II (Urban-Other) roadway (indicating low to moderate fluctuation in traffic from a seasonal perspective). It is functionally classified as an Urban Principal Arterial (14) for count purposes.
4. 2016 mainline counts were factored to estimate AADT using 2015 factors from the Bureau of State Highway Programs.

Columbia County Building Development - Trip Generation

Daily Average										
Land Use	ITE Land Use Type	ITE Code	Size	Units	Rate	Base Trip Generation				
						Number of Trips	In %	In Trips	Out %	Out Trips
County Administration Building	Office Building	710	69	1,000 SF	11.03	**761**	50%	381	50%	380
Health and Human Services Building	Office Building	710	46	1,000 SF	11.03	**507**	50%	254	50%	253
TOTAL						1268		635		633

SF = Square Feet

AM Peak Hour										
Land Use	ITE Land Use Type	ITE Code	Size	Units	Rate	Base Trip Generation				
						Number of Trips	In %	In Trips	Out %	Out Trips
County Administration Building	Office Building	710	69	1,000 SF	1.56	**108**	88%	95	12%	13
Health and Human Services Building	Office Building	710	46	1,000 SF	1.56	**72**	88%	63	12%	9
TOTAL						180		158		22

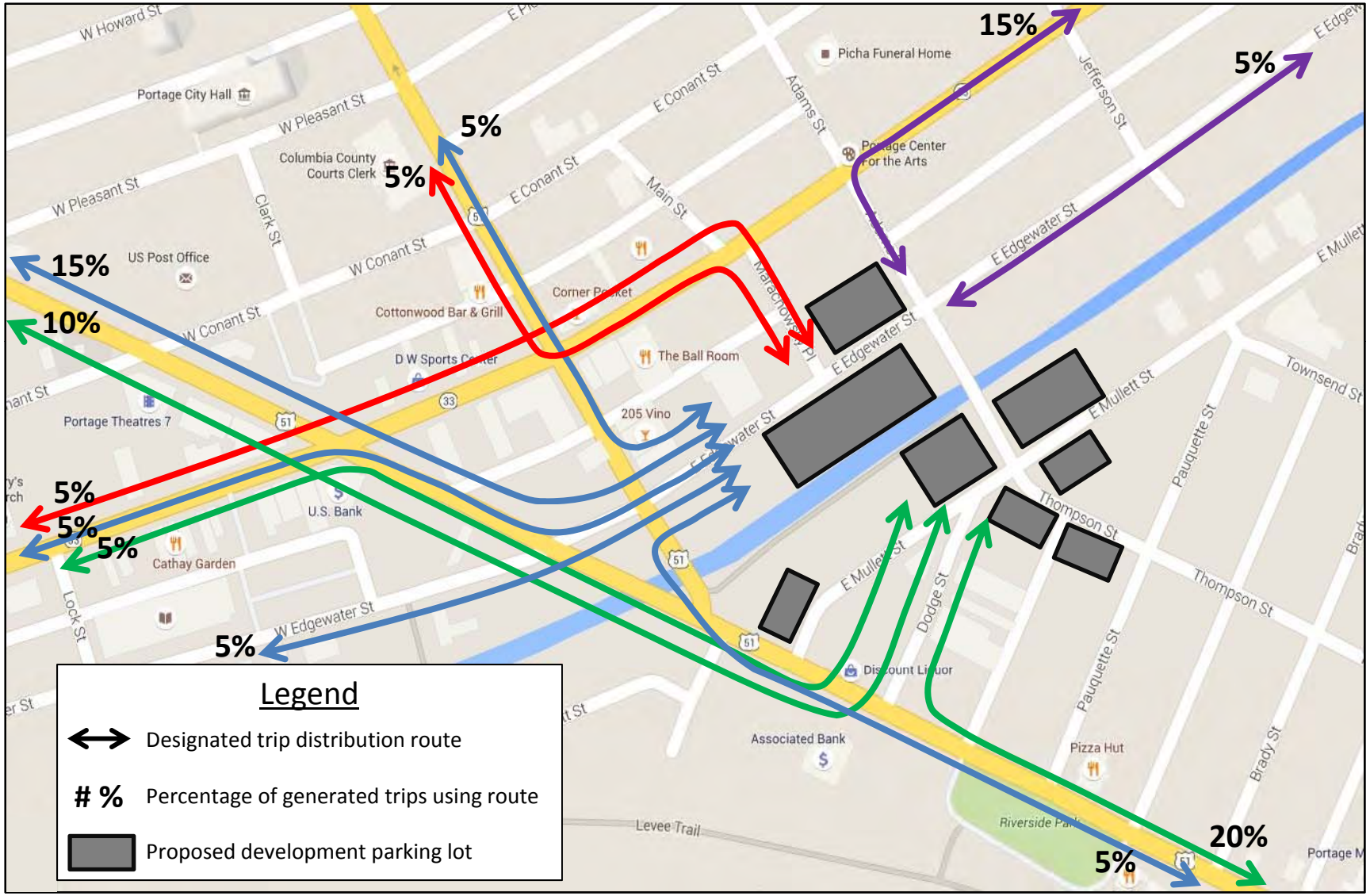
SF = Square Feet

PM Peak Hour										
Land Use	ITE Land Use Type	ITE Code	Size	Units	Rate	Base Trip Generation				
						Number of Trips	In %	In Trips	Out %	Out Trips
County Administration Building	Office Building	710	69	1,000 SF	1.49	**103**	17%	18	83%	85
Health and Human Services Building	Office Building	710	46	1,000 SF	1.49	**69**	17%	12	83%	57
TOTAL						172		30		142

SF = Square Feet

Note: No trips have been removed due to loss of existing buildings. This is because the buldings to be removed are low traffic generators and are not expected to impact overall traffic operations.

Columbia County Development Trip Distribution



Note: Trip distribution routes and percentages are approximate, and apply to both signalized and roundabout alternatives at the Wisconsin St./DeWitt St. intersection.

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110426	STH 33	11220	1.09%	11.0	11.6	12.3	13.6	59/41	15.0	13.1	1470	7.0	2.0	1.8	6.4	0.2	17.4%
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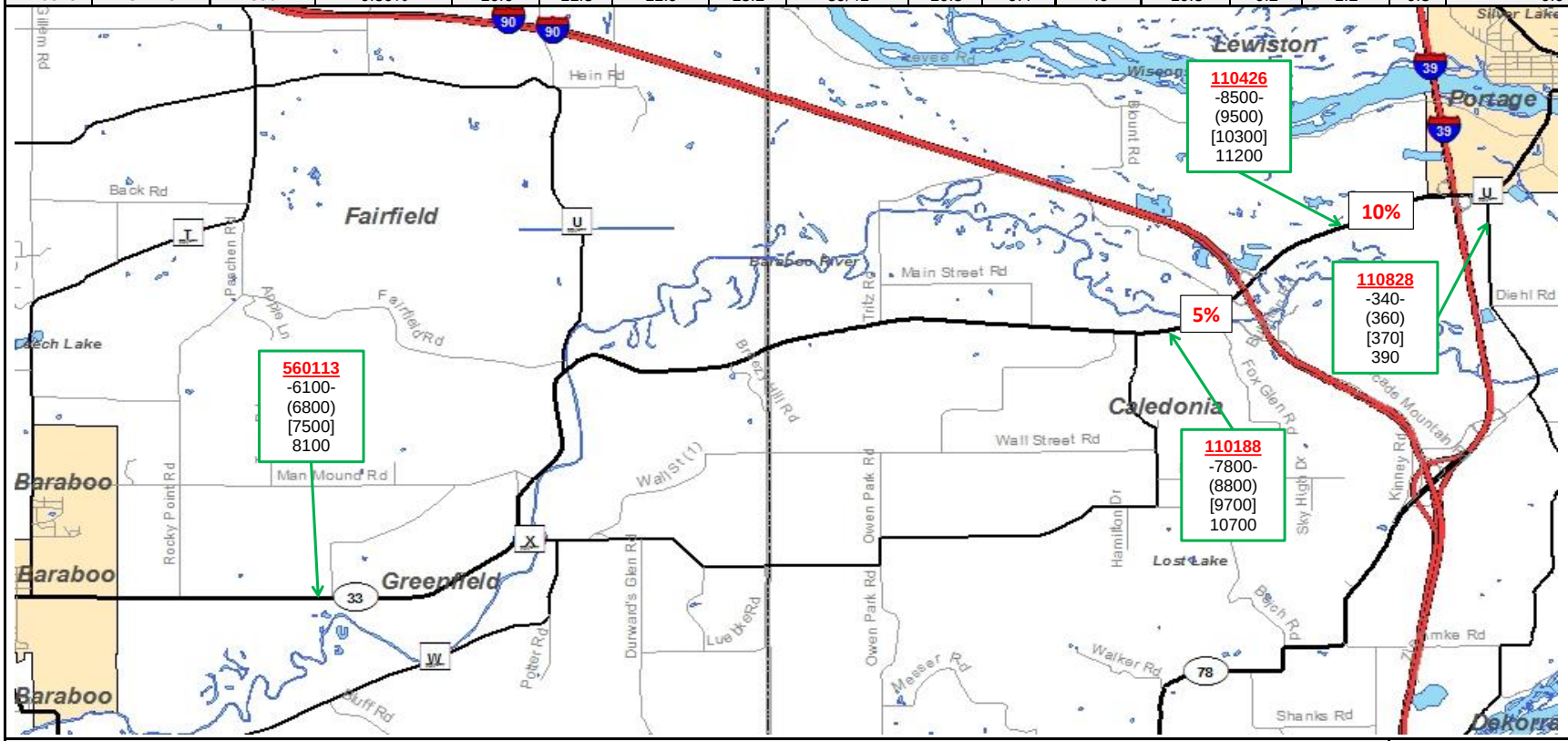

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5. Turning movement counts for the west leg of the STH 33 & Cascade Mountain Road intersection were expanded to estimate AADT at site #110188.
6. This forecast assumes a 1,000 square foot county administration building and a 1,000 square foot health and human services building will be built in Portage by 2026. It is estimated that this development will generate 1268 daily trips, with 180 trips in the AM peak hour, and 172 trips in the PM peak hour. The estimated distribution percentages of the generated trips were derived from TIA information that was provided for a previous forecast in Portage, and are displayed on the map in red.

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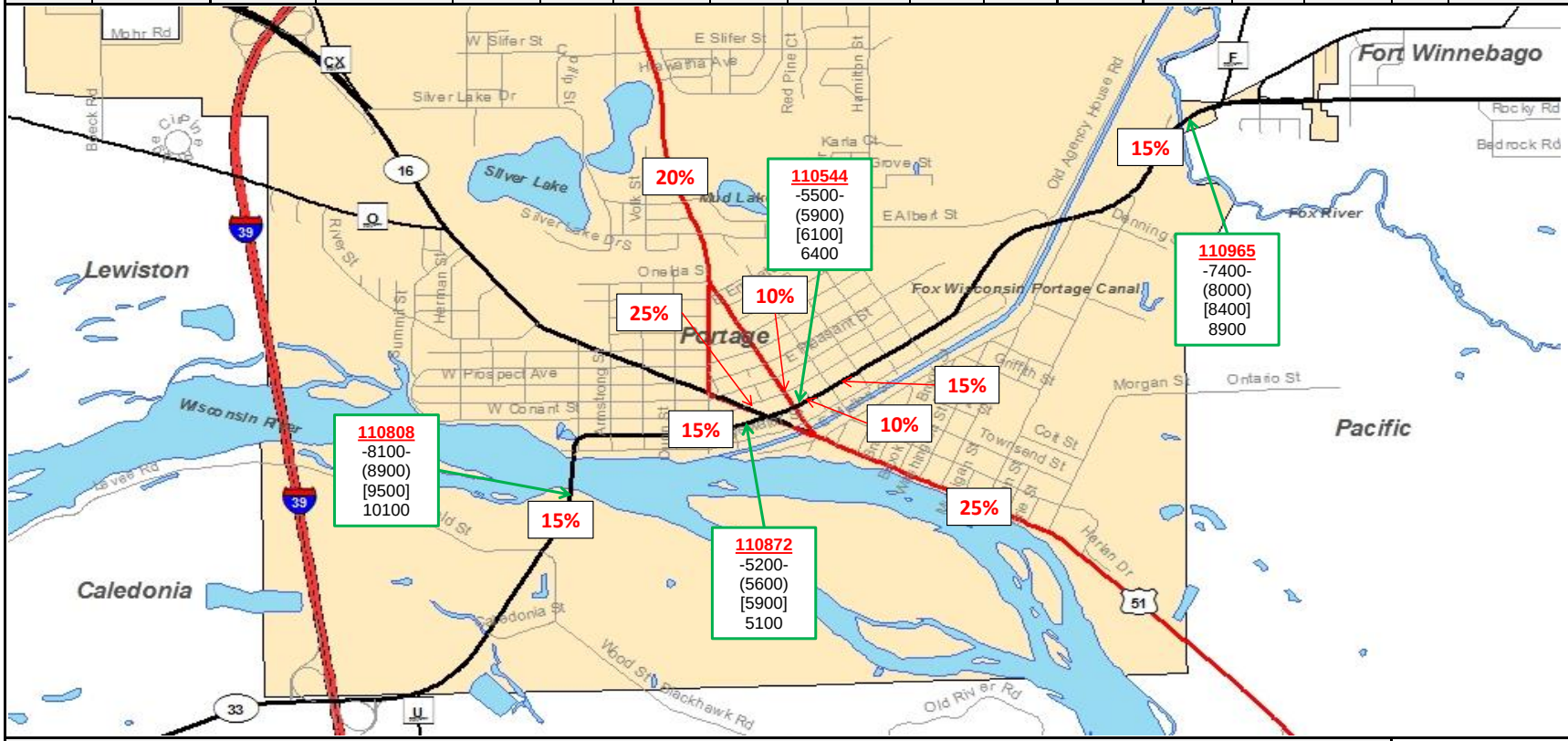
110808	STH 33	10120	0.85%	10.5	11.2	11.8	13.0	59/41	12.6	11.0	1180	6.8	0.7	1.2	5.9	0.0	14.6%
110544	STH 33	6410	0.58%	11.0	11.6	12.3	13.6	59/41	16.9	14.7	1070	8.4	0.6	2.1	8.4	0.1	19.6%
110965	STH 33	8880	0.69%	10.6	11.3	11.9	13.2	59/41	13.8	12.1	1190	10.0	0.7	2.1	3.3	0.0	16.1%



Full Vehicle Classification														
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110544	STH 33	0.9	56.6	22.9	3.4	5.0	0.6	0.0	2.1	8.3	0.1	0.1	0.0	0.0
110965	STH 33	0.7	58.4	24.7	2.9	7.1	0.6	0.1	2.1	3.2	0.1	0.0	0.0	0.0

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Appendix C: Safety Analysis Documents

Safety Analysis Report
For
WIS 33 Safety Corridor Study

Project ID
US 12 to Garrison Road
Baraboo to Portage
Sauk and Columbia Counties, WI

Introduction and Methodology

TranSmart Technologies, Inc. conducted a safety analysis as part of the *WIS 33 Corridor Study*. The study area is located along the WIS 33 corridor between US 12 (in the village of West Baraboo, Sauk County) and Garrison Road (east of the city of Portage, Columbia County). The overall goals of the study are to collect data related to the corridor, define existing operational deficiencies, determine future corridor needs, and develop options to preserve the long-term function and safety of the highway. The information collected for this report will be used throughout the study process to develop strategies and recommendations that achieve the study goals. The design of proposed intersection and/or segment improvements will focus on reducing crashes overall, with an emphasis on reducing injury crashes.

Within the study area, WIS 33 is a two-lane highway with the exception of a four-lane segment through the city of Baraboo. The corridor is approximately 21 miles long and passes through the village of West Baraboo and the cities of Baraboo and Portage. Between Baraboo and Portage, WIS 33 crosses I-90/94 and I-39, and has an interchange at each interstate highway.

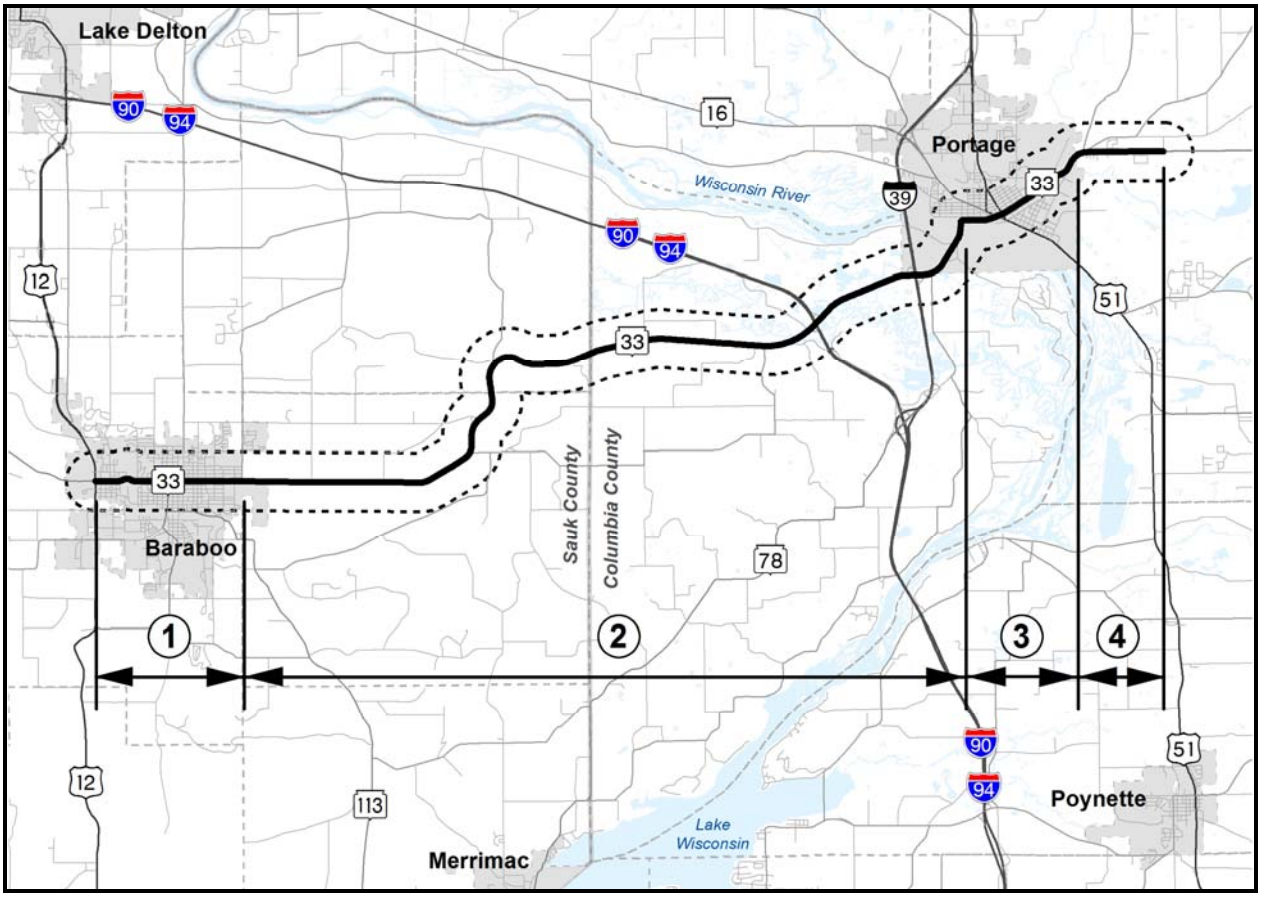
Average Annual Daily Traffic (AADT) volumes along the WIS 33 corridor vary widely. In Baraboo, the 2014 volumes range from 8,500 (west of Taft) to 14,800 (east of Hill St.). In the rural segment between Baraboo and Portage, the 2014 volumes range from 5,200 (between CTH U and Breezy Hill Rd.) to 8,800 (between I-90 and I-39). And in Portage, the 2014 volumes range from 5,900 (west of Albert St.) to 7,800 (west of MacFarlane Rd.). East of Portage to Garrison Road, the 2014 volumes range from 7,600 to 8,400. Intersections along the corridor experienced between 6,275 and 17,650 entering vehicles daily in 2014, with 15 of the 17 intersections over 10,000 entering vehicles located in Baraboo or West Baraboo.

This report summarizes the project's crash analysis. Crash data for the corridor for the five-year period from 2010 through 2014 was provided by the Wisconsin Department of Transportation (WisDOT). The corridor was divided into four segments for crash analysis (see Figure 1): two urban segments (Baraboo and Portage) and two rural segments. Segmentation has been determined by roadway classifications and the needs of traffic operations analysis (as determined by traffic volumes and speed zones within the corridor). The segments are described as follows:

- Segment 1—Located in West Baraboo/Baraboo. This is a 2.7-mile long urban segment from US 12 to County T (Taft) with a posted speed limit of 25 miles per hour (mph) and three signalized intersections. This segment is 44 feet wide, with four 11 foot lanes.
- Segment 2—Located east of Baraboo, is 14.5 miles long, starting at County T (Taft) and ending at the Wisconsin River bridge just west of Portage. It is a two-lane rural highway with a posted speed limit of 55 mph in most locations. The segment has a posted 45 mph speed limit at various spots near I-90/94 and I-39.
- Segment 3—Located in Portage between the Wisconsin River bridge and East Cook Street, is a 1.6 mile urban segment of two-lane highway with on-street parking in many locations. The segment has two signalized intersections and a speed limit of 25 mph.

- Segment 4—Located east of Portage, between East Cook Street and Garrison Road, is a 2.5-mile rural segment of two-lane highway with no signalized intersections and a posted speed limit of 55 mph.

Figure 1 WIS 33 segments for crash analysis



Crash rates were calculated for each of the segments and for 31 intersections within the corridor. A five-year crash analysis was performed for crashes occurring between 2010 and 2014. The crash rates generated from the analysis were compared to statewide averages for similar highway segments (as classified by WisDOT) over the same period of time.

In addition to crash rates, the types and severity of crashes and the factors that contributed to crashes were analyzed to determine if there were patterns that indicated possible safety issues as a result of the existing geometry of the highway or intersections.

Corridor Crash Rates

A total of 434 non-deer crashes occurred within the study area in the five-year period between 2010 and 2014. Intersection-related crashes accounted for 225 (52%) of the total non-deer crashes as shown in table 1 below.

Table 1 WIS 33 segment and intersection crash totals

Segment	Non-Intersection Crashes	Intersection Crashes	Total
1—US 12 to Taft/County T (Baraboo)	83	146	229
2—Taft/County T to Wisconsin River	72	26	98
3—Wisconsin River to East Cook St (Portage)	39	37	76
4—East Cook St to Garrison Rd	15	16	31
Entire Corridor	209	225	434

Of the total crashes, 98 (22.5%) were single vehicle non-collision type crashes.

Table 2 below shows WIS 33 segment crash data and rates (per 100 million vehicle miles). Only Segment 2 had fatal crashes (three fatal crashes in the 5-year study period). This caused Segment 2 to have a KAB (fatal, A Injury and B Injury) crash rate above the state average rate for that functional peer group (rural two-lane highway with ADT >7,000). Segments 1, 3 and 4 had overall crash rates above state averages for Low Speed two-lane Highways Posted at 40 mph or lower (Segments 1 and 3) and Rural two-lane highway with ADT >7,000 (Segment 4). Segment rates above statewide rates are noted with bold type/underlined.

Table 2 WIS 33 segment crash data (excluding deer crashes) and rates (per 100 million vehicle miles) 2010-2014

Segment	Crashes	Crash Rate	State Avg Crash Rate*	(K)Fatal Crashes	A Inj Crashes	B Inj Crashes	C Inj Crashes	KAB Crash Rate	State Avg. KAB Crash Rate*
1—US 12 to Taft/County T (Baraboo)	229	**384**	283	0	4	17	39	35.2	35.7
2—Taft/County T to Wisconsin River	98	49	88.5	3	4	13	12	10	17.75
3—Wisconsin River to E Cook St (Portage)	76	**397**	283	0	1	9	8	**52.2**	35.7
4—East Cook St to Garrison Rd	31	**91**	88.5	0	2	4	5	17.65	17.75

*Low Speed two-lane highways Posted at 40 mph or lower for Segments 1 and 3. Rural two-lane highway with ADT>7,000 for Segments 2 and 4. Crash rates are given in units of crashes per 100 million vehicle miles traveled (HMVMT). KAB includes fatal, A Injury and B Injury crashes.

Further information for each segment can be found in the attached segment crash statistics worksheets.

Intersection Crashes

There are 63 public road intersections within the corridor, 45 of which experienced crashes during the years studied. Crash rates for each of the intersections, as shown in Table 3, are well below a crash rate of 1.5 per million entering vehicles, a threshold that is generally considered to indicate a potential safety issue that may require further evaluation. However, additional criteria such as how the crash rates of individual intersections within a corridor compare against each other and crash severity are also considered when evaluating intersection safety. An intersection's crash severity rate is the percentage of crashes at that location that result in at least one injury or fatality. Intersections with higher crash rates compared to others in a corridor and those with severity rates above 30 percent may also be candidates for further study.

WIS 33 intersections at East Street and Ash Street (in Baraboo), Mulberry Street (in West Baraboo) and East Albert Street (east of Portage) had the highest overall crash rates in the study. Although none of the intersections on the corridor exceeded the 30 percent severity rate, Mulberry Street and County X were approaching that rate.

Individual crash reports were analyzed for four urban (East Street, Mulberry Street, Ash Street, and Draper Street) and four rural (East Albert Street, County X, County U, and the Caledonia/Fairfield Street) intersections. In addition, collision diagrams were created for the 15 intersections with the highest overall crash rates to illustrate the crashes and to detect crash trends.

The WIS 33/East Street intersection in Baraboo experienced total of 26 crashes in the five year study period: eight angle crashes, eight rear end crashes, eight sideswipe crashes and two fixed object crashes. Seven of the crashes occurred when a vehicle was making a left turn from WIS 33 to East Street and did not yield the right of way to through vehicles. Seven of the crashes (five westbound and two eastbound) were rear end crashes on WIS 33 as traffic approached the intersection. Three of these occurred when westbound vehicles waiting to turn left were struck from behind, and the other four occurred when vehicles stopped for a red light were struck from behind. Enhancing traffic signal visibility may improve drivers' attention and alertness to their obligation to slow down or stop at this location. A crash statistics sheet with collision diagram of the East Street intersection is included as an attachment to this document.

The Mulberry Street intersection experienced a total of 14 crashes during the study period, half of which occurred in 2014. Nine of the crashes involved northbound or southbound vehicles getting hit by eastbound or westbound vehicles (seven between 3:00 and 6:00 pm), suggesting insufficient gaps or sight distance (two southbound vs. westbound, five southbound vs. eastbound, and two northbound vs. eastbound vehicles). The intersection crash statistics sheet and collision diagram attached to this document (see Map 2) show these crashes and four others: a southbound rear end, a westbound rear end, two eastbound left turners vs. westbound through vehicles and a northbound right turner who hit the stop sign.

The Ash Street intersection experienced 13 crashes during the study period. There were seven angle, three rear-end, three sideswipe and one fixed object crashes in total. Two of the crashes involved northbound vs. eastbound vehicles and one was a northbound vs. westbound vehicle suggesting insufficient gaps or sight distance. Three crashes involved WIS 33 vehicles turning left and not yielding to through vehicles. Three crashes involved vehicles on WIS 33 turning left and being struck from behind while they waited for gaps in traffic. These crashes are detailed in the attached intersection collision diagram and crash statistics sheet.

At Draper Street, there were 12 crashes in the study period (four angle, three rear end, three sideswipe, one fixed object and one crash involving a pedestrian). Two crashes resulted from southbound vehicles being struck by westbound vehicles that were not able to stop for a red light due to snowy roads. Two crashes resulted from eastbound vehicles turning left and not yielding right of way to westbound through vehicles. Two crashes occurred when eastbound left turning vehicles were struck from behind while waiting for gaps in traffic. One crash involved a southbound left turning vehicle striking a pedestrian who was in the crosswalk.

East Albert Street, located east of Portage, had eight intersection related crashes in the five year study period. Three crashes involved southbound vehicles being struck by westbound vehicles. There were no other detectible patterns at this intersection.

In a rural location, at County X, there were five crashes during the study period. All five occurred during non-daylight hours (dusk or dark). Four of the five crashes occurred during wet or snowy roads. Four of the five crashes were single car "run off road" crashes in which the vehicle struck a ditch or traffic sign. The only two-car crash involved an eastbound vehicle crossing the centerline and striking a westbound vehicle while both vehicles were negotiating a curve under snowy road conditions.

At County U (Sauk County) there were five crashes at the intersection during the study period. Two crashes involved southbound vehicles turning left onto WIS 33 and being struck by westbound vehicles, resulting in minor injuries. One crash involved an eastbound vehicle attempting a U-turn and being struck by another eastbound vehicle. The five intersection related crashes all occurred during non-daylight hours (dark or dusk). There were five other single vehicle crashes near County U that are shown on the attached collision diagram for County U. These five crashes were all run off road type crashes (two occurred under snowy or icy road conditions.) in which the vehicle overturned, struck the ditch or guardrail or jackknifed.

At the WIS 33/Caledonia/Fairfield Street intersection, there were six crashes in the study period. Four involved vehicles stopped on WIS 33 (waiting to turn left onto Fairfield or Caledonia) that were struck from behind, half resulting in B-injury crashes. Two crashes involved westbound right turning vehicles being sideswiped by westbound vehicles trying to pass them on the right.

Table 3 Intersection crash data (sorted by overall crash rate)

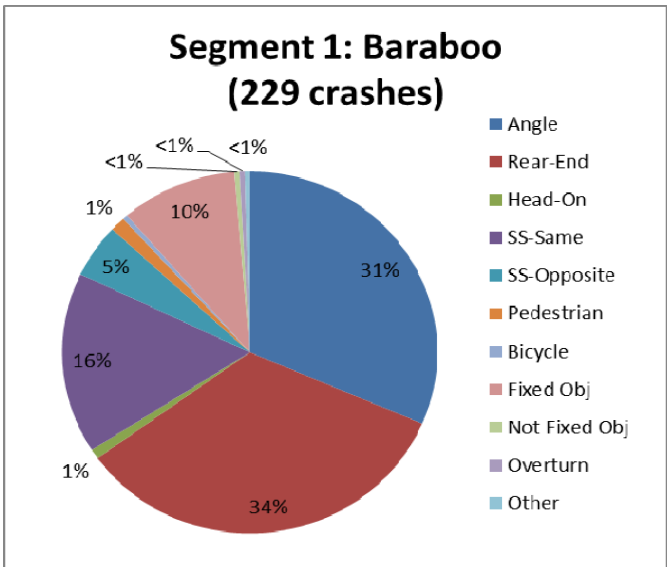
Intersection	Location	Total Crashes*	Entering Daily Traffic Volume	Intersection Crash Rate	Severity
East St	Baraboo	26	17,650	0.81	0.19
Mulberry St	West Baraboo	14	13,925	0.55	0.24
Ash St	Baraboo	14	14,675	0.52	0.15
E Albert St	Portage	8	8,900	0.49	0.12
Draper St	Baraboo	12	15,000	0.44	0.15
County X	Fairfield/Greenfield	5	6,275	0.44	0.26
County U (Sauk)	Fairfield/Greenfield	5	7,245	0.38	0.15
Caledonia St/Fairfield	Portage	6	8,650	0.38	0.13
DeWitt St (US 51)	Portage	7	10,400	0.37	0.00
Pierce St	Portage	5	7,680	0.36	0.14
Park St	Baraboo	8	13,200	0.33	0.17
Willow St	West Baraboo	8	13,900	0.32	0.00
Washington St	Baraboo	6	10,275	0.32	0.05
MacFarlane Rd	Portage	5	8,600	0.32	0.00
County F	Portage	5	8,550	0.32	0.13
Oak St	Baraboo	7	14,175	0.27	0.12
Wisconsin St. (WIS 16)	Portage	8	16,275	0.27	0.07
Jefferson St	Baraboo	6	12,425	0.26	0.04
Adams St	Portage	4	8,450	0.26	0.06
Tritz Rd (east)	Caledonia	4	9,150	0.24	0.12
Connie Rd	West Baraboo	6	13,775	0.24	0.08
Summit St	Baraboo	6	13,650	0.24	0.08
Broadway St	Baraboo	7	16,000	0.24	0.07
Birch St	Baraboo	5	13,150	0.21	0.08
Elizabeth St	Baraboo	6	15,850	0.21	0.07
Lock St	Portage	3	7,650	0.21	0.14
County T/Taft Rd	Baraboo	3	7,850	0.21	0.14
Tuttle St	Baraboo	4	11,225	0.20	0.10
Cascade Mountain Rd	Caledonia	3	9,150	0.18	0.06
County U (Columbia)	Portage	3	8,950	0.18	0.00
County EE/Pacific Estates Rd	Portage	2	7,650	0.14	0.14

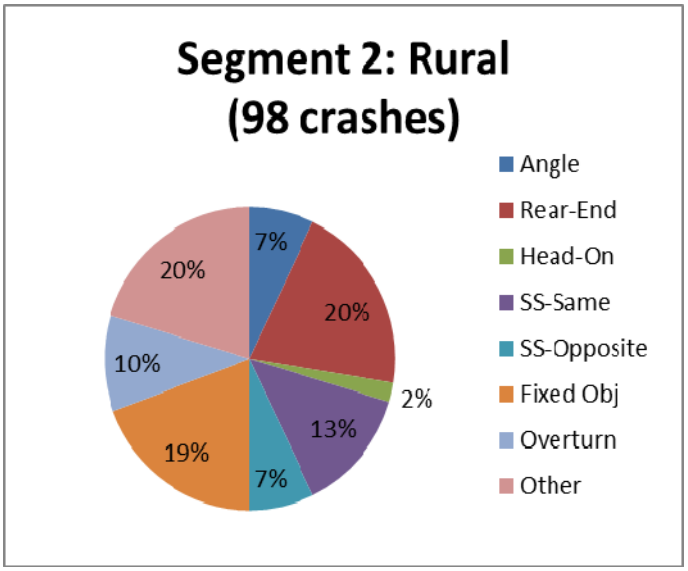
*Five year total 2010 - 2014

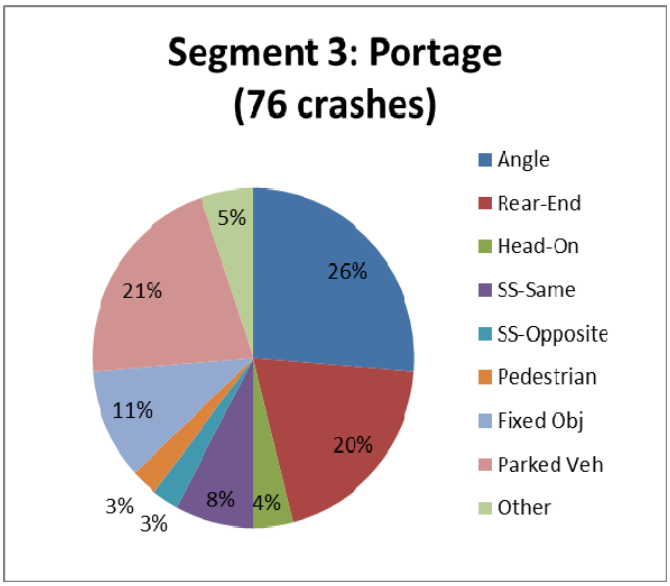
Crash Types 2010-2014

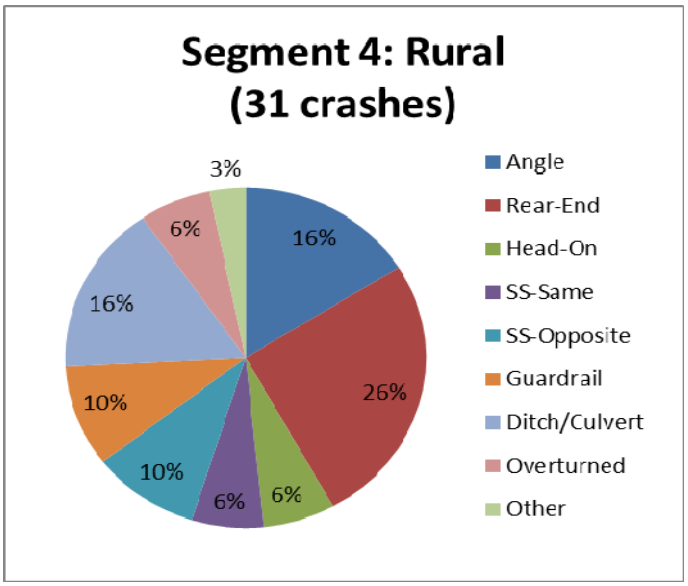
The types of crashes occurring on the four segments of the WIS 33 corridor are illustrated in the charts found in Figure 2. The most common type of crash occurring on the two rural segments analyzed was rear end. In Segment 2, nearly half of all crashes were one-vehicle crashes in which the vehicle ran off the road (Fixed Object, Overturn and Other). In Segment 4, 35% of all crashes were one-vehicle ran off road (ROR) crashes. For the urban segments (Segments 1 and 3), the most frequent types of crashes were rear end and angle crashes. In Portage, 21% of crashes involved parked cars. These figures include intersection and non-intersection crashes.

Figure 2 Manner of collision for each segment





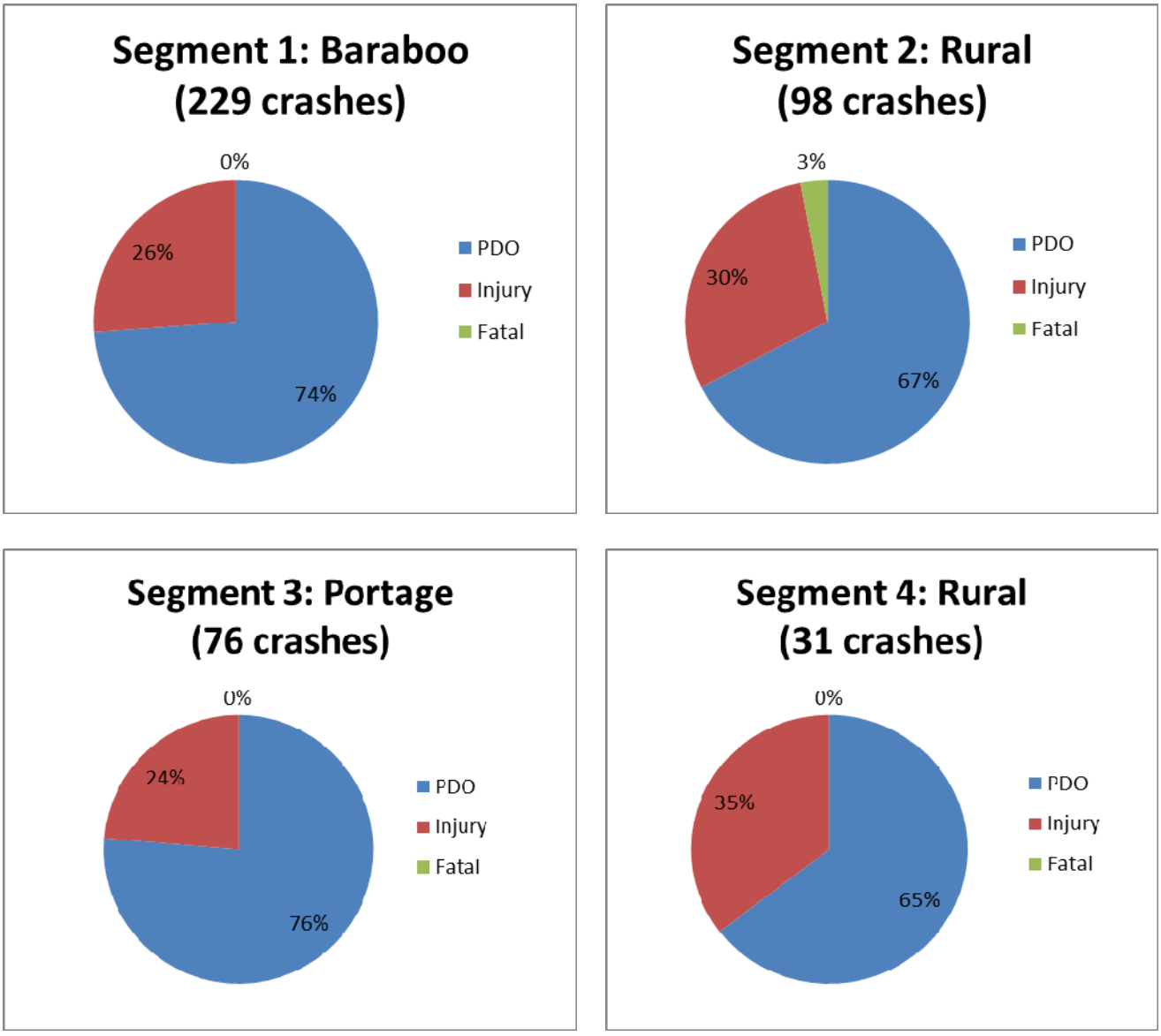




Crash Severity

Even though the majority of crashes on WIS 33 involved property damage only (PDO), several crashes involved injury for each of the segments (see **Figure 3** below). Three fatal crashes occurred on the corridor between 2010-2014, all in Segment 2. Segment 4 had the highest percentage of injury crashes at 35%, followed by Segment 2 with 33% injury or fatal crashes.

Figure 3 Crash severity for each segment



Injury Severity

WisDOT further records injury crashes by level of severity. Injury crashes within the corridor have been sorted into three subcategories as they are defined in the Law Enforcement Officer's Instruction Manual:

- **Type A: Incapacitating Injury**—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.
- **Type B: Non-incapacitating Injury**—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.
- **Type C: Possible Injury**—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.
- **Type K: Fatality—**Any fatality that occurs as the result of the crash.

As can be seen by the charts in Figure 4, Segment 2 experienced the highest percentage of combined fatal and incapacitating injury crashes at 24%, followed by Segment 4 with 18%.

Figure 4 Crash injury severity

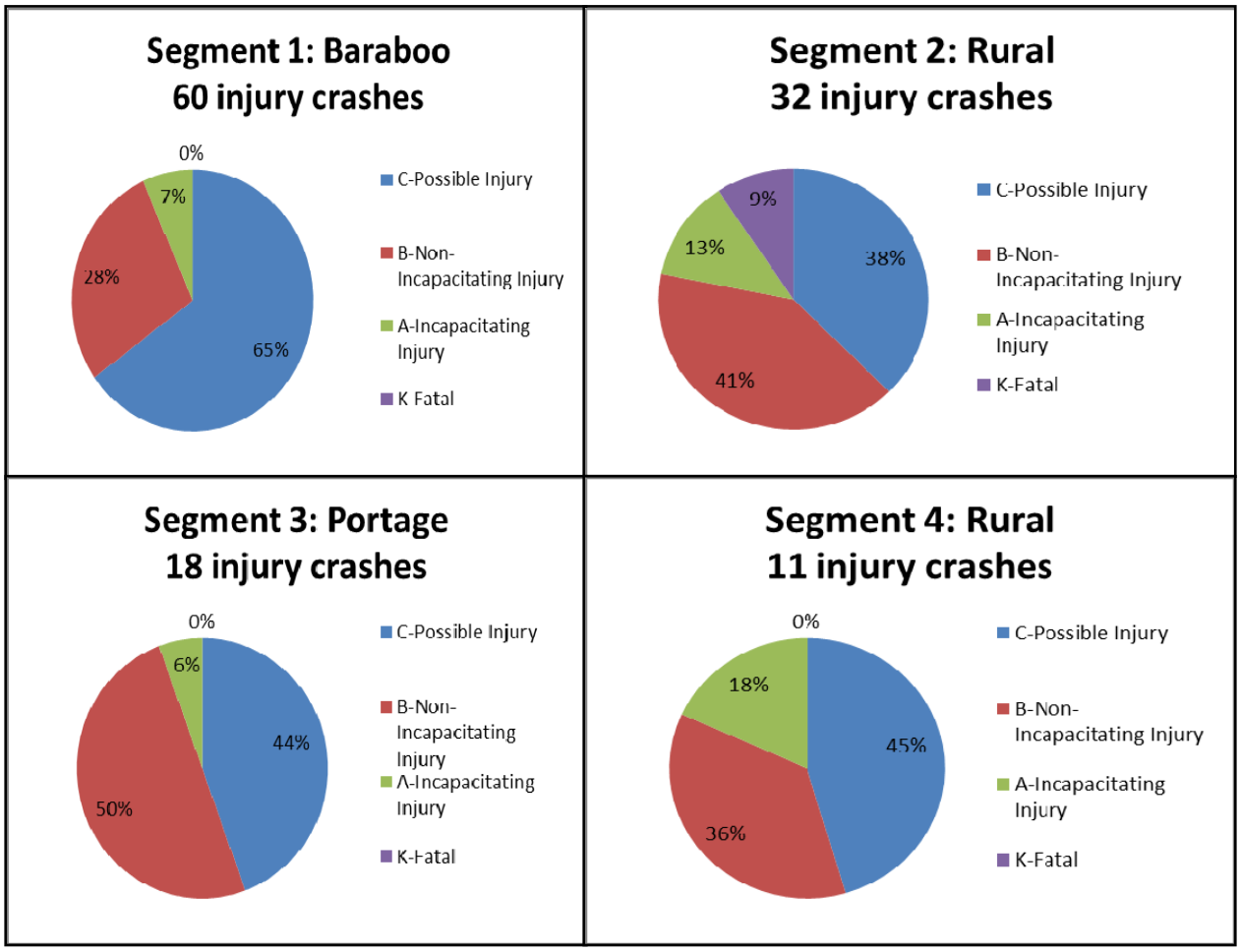


Table 4 below compares crash injury severity rates on WIS 33 with the statewide average rates for overall crash rates and KAB crash types. As shown, segments 1, 3 and 4 have overall crash rates above statewide average rates. Segment 3 also was the only segment to have its KAB crash rate of 52.2 per 100 million vehicle miles, above the statewide rate of 35.7.

Table 4 Crash rates compared to statewide average rates

Segment	Overall		Type KAB	
	WIS 33	Avg*	WIS 33	Avg
1—US 12 to Taft/County T (Baraboo)	**383.5**	283	35.2	35.7
2—Taft/County T to Wisconsin River	48.8	88.5	10	17.75
3—Wisconsin River to East Cook St (Portage)	**396.9**	283	**52.2**	35.7
4—East Cook St to Garrison Rd	**91.2**	88.5	17.65	17.75

*Statewide average crash rates were selected based on similar profile to the WIS 33 segment. Units are crashes per 100 million vehicle miles traveled. Segments 1 and 3 were "Low Speed 2-lane Highways < or = 40 mph" and Segments 2 and 4 were "Rural 2-lane Highways > 7,000 ADT".
Source: WisDOT

Contributing Factors

Contributing factors are factors that might have influenced a crash, not including driver error or roadway design, which WisDOT accounts for when considering improvements or other measures. Deer crashes were not included in the study. Factors that contributed to the crashes on WIS 33 segments are listed in Table 5 below. Some crashes included multiple factors. Many of the crashes along WIS 33 did not have contributing factors. For those crashes where contributing factors were present, darkness was the most common factor contributing to crashes on the rural segments followed by road condition. Road condition was the most common contributing factor on Segments 1 and 3, the urban segments. Only one crash on the corridor was affected by construction.

Table 5 Contributing factors for crashes, number and percent on each segment

Segment	Road Condition[1]		Dark[2]		Alcohol		Construction	
	#	%	#	%	#	%	#	%
1—US 12 to Taft/County T	75	33	19	8.3	5	2.2	0	0
2—Taft/County T to WI River	36	37	36	37	7	7	0	0
3—Wisconsin River to E Cook St	20	26	4	5.3	2	2.6	1	1.3
4—East Cook St to Garrison Rd	9	29	13	42	1	3.1	0	0

[1]Includes crashes that occurred on roads recorded as snow-covered, wet or icy.
[2]Includes crashes that occurred in the dark (not lit), dusk or dawn.

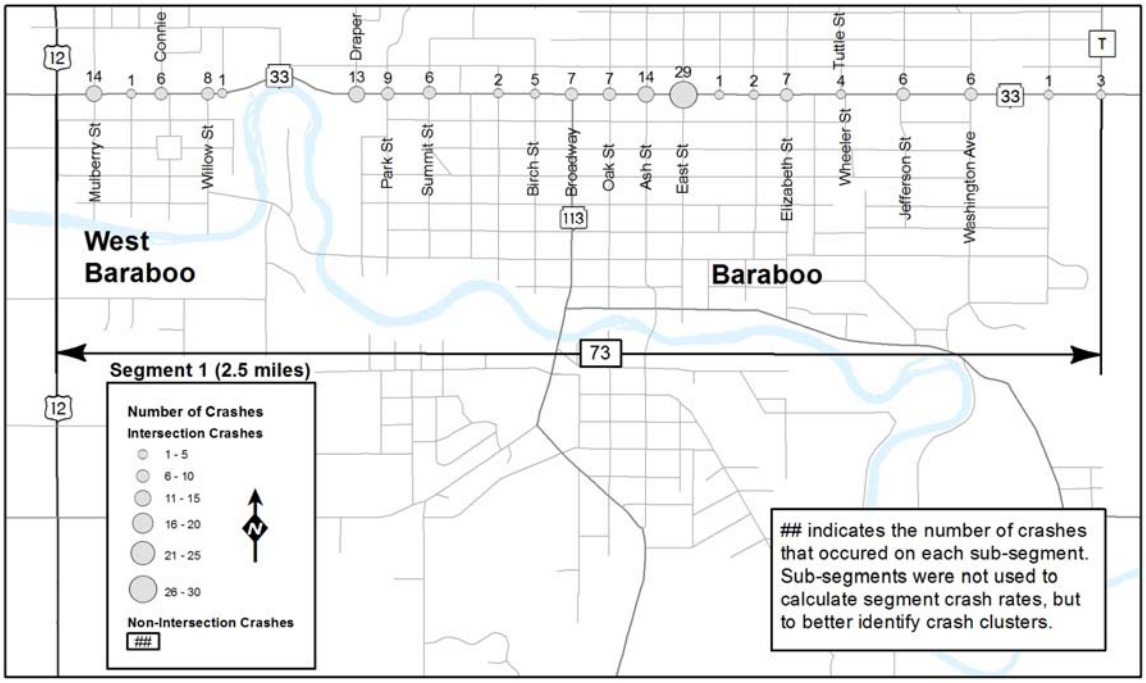
Conclusion/Summary of Findings

Crash analysis was undertaken on the WIS 33 study corridor's four segments[1] to identify locations where further investigation could be conducted. Three fatalities occurred in the corridor, two of which involved alcohol, and 11 crashes involving incapacitating injuries occurred. One of the fatalities resulted while the driver negotiated a curve. The car went onto the shoulder, the driver overcorrected and the car rolled, partially ejecting the driver. Another fatality occurred from a sideswipe (opposite direction) crash in which a car crossed the centerline while negotiating a curve. Another fatality resulted from a rear end motorcycle crash. All three fatalities were rural, non-intersection crashes in Segment 2.

The urban intersections at East Street, Mulberry Street, Ash Street and Draper Street had the highest overall crash rates and the rural intersections at East Albert Street, County X, County U (Sauk County) and Caledonia/Fairfield Streets had the highest overall crash rates. The County X and Mulberry Street intersections had the highest crash severity rates. The safety issues for each of these segments are summarized as follows:

Segment 1 (US 12 to County T/Taft Street) is categorized as a low-speed two-lane highway with a speed 40 mph or less. It experienced 229 crashes and a crash rate of 383.5 during the 2010 – 2014 study period, which was above the statewide average crash rate of 283. Figure 5 shows crash totals for the segment's intersections.

Figure 5 Segment 1 intersection and non-intersection crashes

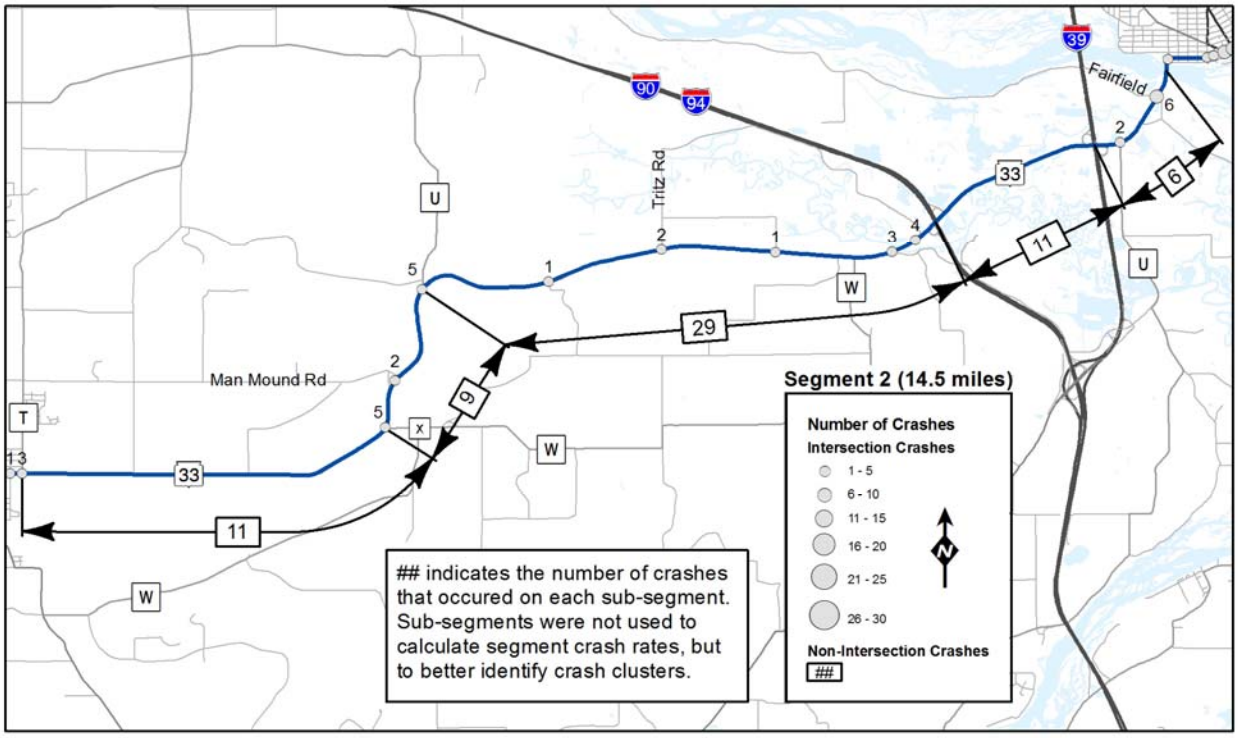


[1] Segment crash numbers include non-intersection crashes and intersection crashes. Deer crashes are not included in the study.

The East Street intersection experienced a total of 29 crashes, the highest intersection total in the corridor (for more details, see the intersection crash statistics sheet in the attached pages). The intersection at Mulberry Street experienced 14 crashes, giving it the second highest crash total and second highest crash rate in the corridor, followed by Ash Street and Draper Street. Three pedestrian crashes occurred in Segment 1, all at intersections, one each at Draper Street, Summit Avenue and at Tuttle Street. There was also a bicycle crash at Tuttle Street. Segment 1 had 21 KAB crashes (none fatal), and a KAB crash rate of 35.2, which is slightly below the statewide KAB crash rate of 35.7.

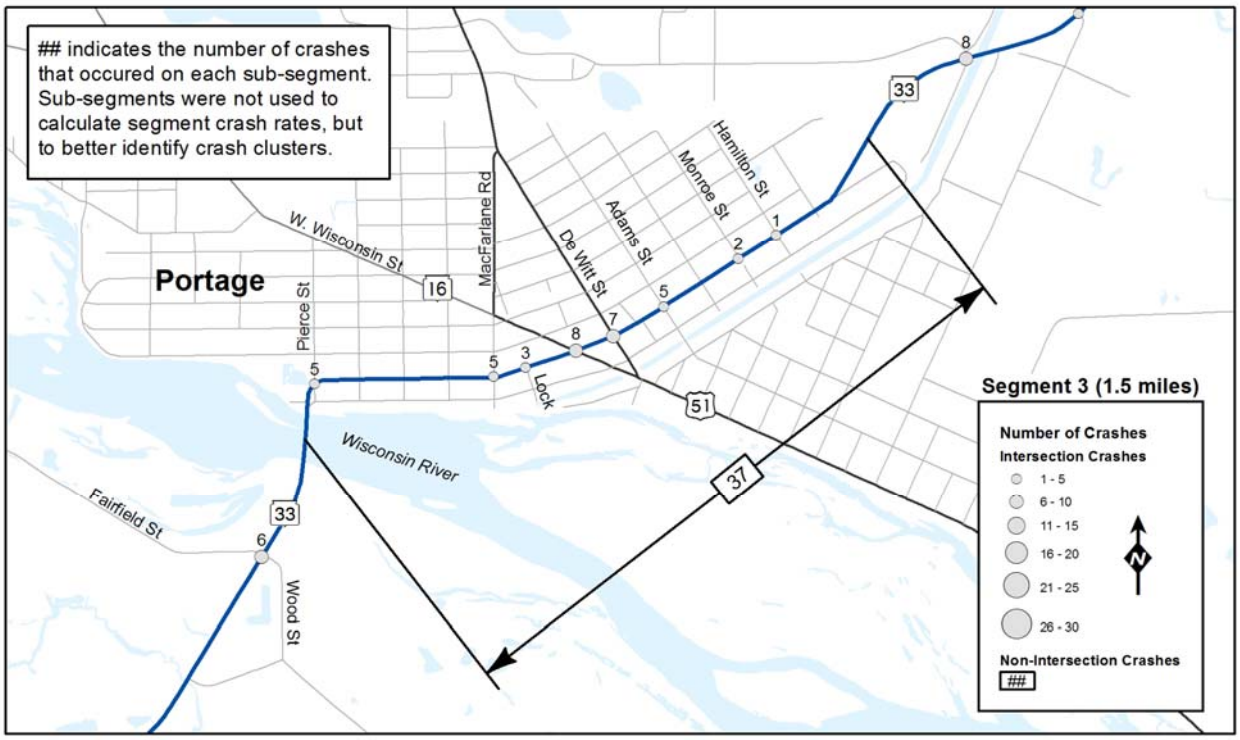
Segment 2 (CTH T/Taft St to Wisconsin River) is categorized as a rural two-Lane highway with an Average Daily Traffic (ADT) greater than 7,000. It experienced 98 non-deer crashes and had a crash rate of 48.8, which is lower than the statewide average crash rate of 88.5 for its functional peer group. Despite having three fatal crashes, the KAB rate of 10 was below the statewide average of 17.75. Figure 6 shows the intersection crash totals for Segment 2. The intersections at County X and County U (Sauk County) each had five crashes, resulting in crash rates of 0.44 and 0.38, respectively.

Figure 6 Segment 2 intersection and sub-segment (non-intersection) crashes



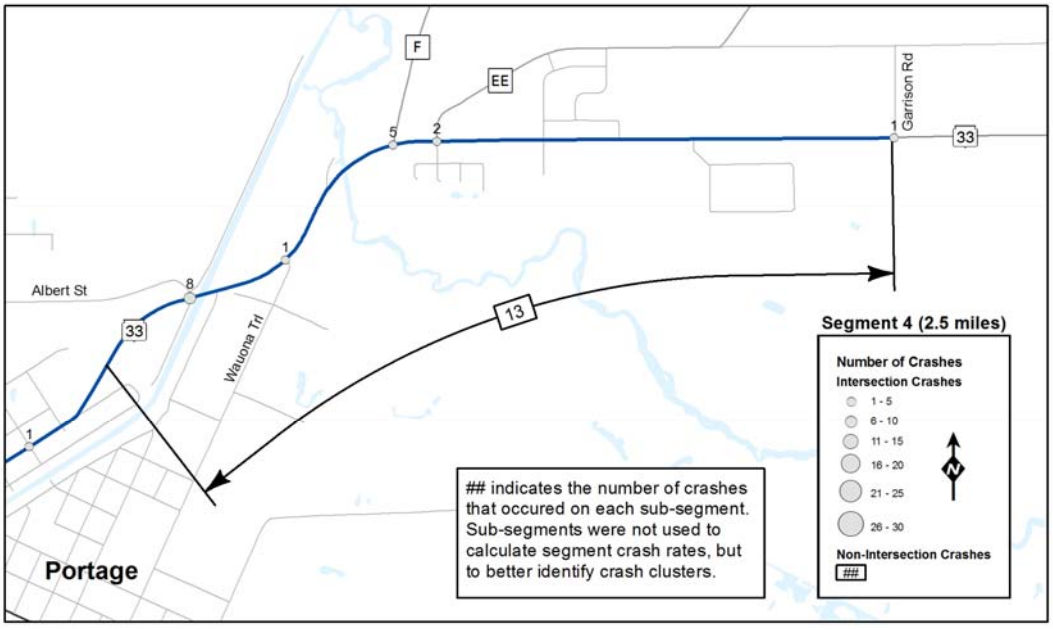
Segment 3 (Wisconsin River to RR overpass), which can be seen in Figure 7, is categorized as a low speed two-lane highway with a speed 40 mph or less. It experienced 76 non-deer crashes and a crash rate of 396.9, which is above the statewide average rate of 283. The segment did not experience any fatal crashes during the study period, and had 10 KAB injury crashes and a KAB crash rate of 52.2, which is above the statewide average rate of 35.7. Two pedestrian crashes occurred on this segment, both in the block between Lock Street and Wisconsin Street.

Figure 7 Segment 3 intersection and non-intersection crashes



Segment 4 (Railroad Overpass to Garrison Road), which can be seen in Figure 8, is categorized as a rural two-lane highway with an Average Daily Traffic (ADT) greater than 7,000. It experienced 31 non-deer crashes and a crash rate of 91.2, which is above the statewide average rate of 88.5. The segment did not experience any fatal crashes during the study period and had six KAB injury crashes and a KAB injury crash rate of 17.65, which is lower than the statewide average rate of 17.75.

Figure 8 Segment 4 intersection and non-intersection crashes



Intersection Crash Statistics

Intersection: STH 33 & Mulberry Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 14, 2015

Intersection Characteristics

Traffic Control: Stop Control on Mulberry Posted Speed: 25 mph on STH 33, 25 mph on Mulberry Street

Intersection AADT* 13925

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	0	0	1	1	0	2
2011	0	0	0	0	0	0
2012	2	0	0	0	0	2
2013	2	0	1	0	0	3
2014	4	0	1	2	0	7
Total	8	0	3	3	0	14
Percent	57.1%	42.9%			0.0%	100.0%
Year Avg.	1.6	1.2			0	2.8

Road Conditions

		%
Dry	12	85.7%
Wet	1	7.1%
Snow	0	0.0%
Ice	0	0.0%
Other	1	7.1%
Total	14	100.0%

Crash Rates

	per MEV
Crash Rate	0.55
Injury Crash Rate	0.24
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	24	89%
Truck	3	11%
Other	0	0%
Total	27	100%

Crash Type

		%
Angle	10	71.4%
Rear-End	2	14.3%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	1	7.1%
Other	1	7.1%
Total	14	100.0%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [12500+12950+1200+1200]/2 = 13925
[avg AADT of STH 33 WB/EB, Mulberry NB/SB]

Intersection Crash Statistics

Intersection: STH 33 & Connie Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 14, 2015

Intersection Characteristics

Traffic Control: Stop Control on Connie Posted Speed: 25 mph on STH 33, 25 mph on Connie Street

Intersection AADT* 13775

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	0	0	2
2011	0	0	0	0	0	0
2012	1	0	0	2	0	3
2013	0	0	0	0	0	0
2014	1	0	0	0	0	1
Total	4	0	0	2	0	6
Percent	66.7%	33.3%			0.0%	100.0%
Year Avg.	0.8	0.4			0	1.2

Road Conditions		**%**
Dry	6	100.0%
Wet	0	0.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Type		**%**
Angle	2	33.3%
Rear-End	4	66.7%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Rates	**per MEV**
Crash Rate	0.24
Injury Crash Rate	0.08
Fatal Crash Rate	0.00

Vehicle Types		**%**
Car	11	92%
Truck	1	8%
Other	0	0%
Total	12	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [12500+12950+2100]/2 = 13775

[avg AADT of STH 33 WB/EB, Connie SB]

Intersection Crash Statistics

Intersection: STH 33 & Willow Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 14, 2015

Intersection Characteristics

Traffic Control: Stop Control on Willow Posted Speed: 25 mph on STH 33, 25 mph on Willow Street

Intersection AADT* 13900

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	0	0	2
2011	1	0	0	0	0	1
2012	1	0	0	0	0	1
2013	3	0	0	0	0	3
2014	1	0	0	0	0	1
Total	8	0	0	0	0	8
Percent	100.0%	0.0%			0.0%	100.0%
Year Avg.	1.6	0			0	1.6

Road Conditions

		%
Dry	6	75.0%
Wet	1	12.5%
Snow	1	12.5%
Ice	0	0.0%
Other	0	0.0%
Total	8	100.0%

Crash Type

		%
Angle	2	25.0%
Rear-End	5	62.5%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	1	12.5%
Total	8	100.0%

Crash Rates

	per MEV
Crash Rate	0.32
Injury Crash Rate	0.00
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	10	71%
Truck	4	29%
Other	0	0%
Total	14	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [12950+13450+1400]/2 = 13900
[avg AADT of STH 33 WB/EB, Willow SB]

Intersection Crash Statistics

Intersection: STH 33 & Draper Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Traffic Signal Posted Speed: 25 mph on STH 33, 25 mph on Draper Street

Intersection AADT* 15000

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	1	0	3
2011	3	0	0	2	0	5
2012	0	0	0	0	0	0
2013	1	0	0	0	0	1
2014	2	0	1	0	0	3
Total	8	0	1	3	0	12
Percent	66.7%	33.3%			0.0%	100.0%
Year Avg.	1.6	0.8			0	2.4

Road Conditions		%
Dry	4	33.3%
Wet	3	25.0%
Snow	4	33.3%
Ice	0	0.0%
Other	1	8.3%
Total	12	100.0%

Crash Type		%
Angle	4	33.3%
Rear-End	3	25.0%
Turning	0	0.0%
Side Swipe	3	25.0%
Fixed Object	1	8.3%
Other (Ped)	1	8.3%
Total	12	100.0%

Crash Rates	per MEV
Crash Rate	0.44
Injury Crash Rate	0.15
Fatal Crash Rate	0.00

Vehicle Types		%
Car	18	82%
Truck	3	14%
Other	1	5%
Total	22	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [13450+13350+3200]/2 = 15000
[avg AADT of STH 33 WB, STH 33 EB, Draper ST SB]

Intersection Crash Statistics

Intersection: STH 33 & Park Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Park Posted Speed: 25 mph on STH 33, 25 mph on Park Street

Intersection AADT* 13200

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	0	1	0	0	0	1
2011	0	0	0	2	0	2
2012	1	0	0	0	0	1
2013	1	0	0	0	0	1
2014	2	0	0	1	0	3
Total	4	1	0	3	0	8
Percent	50.0%	50.0%			0.0%	100.0%
Year Avg.	0.8	0.8			0	1.6

Road Conditions		%
Dry	3	37.5%
Wet	3	37.5%
Snow	2	25.0%
Ice	0	0.0%
Other	0	0.0%
Total	8	100.0%

Crash Type		%
Angle	4	50.0%
Rear-End	2	25.0%
Turning	0	0.0%
Side Swipe	2	25.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	8	100.0%

Crash Rates	per MEV
Crash Rate	0.33
Injury Crash Rate	0.17
Fatal Crash Rate	0.00

Vehicle Types		%
Car	14	88%
Truck	0	0%
Other	2	13%
Total	16	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [13350+11150+1400+500]/2 = 13200
[avg AADT of STH 33 WB & EB, Park ST NB & SB]

Intersection Crash Statistics

Intersection: STH 33 & Summit Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Summit Posted Speed: 25 mph on STH 33, 25 mph on Summit Street

Intersection AADT* 13650

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	2	0	3
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	1	0	0	0	0	1
2014	2	0	0	0	0	2
Total	4	0	0	2	0	6
Percent	66.7%	33.3%			0.0%	100.0%
Year Avg.	0.8	0.4			0	1.2

Road Conditions		%
Dry	2	33.3%
Wet	3	50.0%
Snow	1	16.7%
Ice	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Type		%
Angle	4	66.7%
Rear-End	1	16.7%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	1	16.7%
Total	6	100.0%

Crash Rates	per MEV
Crash Rate	0.24
Injury Crash Rate	0.08
Fatal Crash Rate	0.00

Vehicle Types		%
Car	9	82%
Truck	2	18%
Other	0	0%
Total	11	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [13350+11150+1400+1400]/2 = 13650
[avg AADT of STH 33 WB & EB, Summit ST NB & SB]

Intersection Crash Statistics

Intersection: STH 33 & Birch Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Birch Posted Speed: 25 mph on STH 33, 25 mph on Birch Street

Intersection AADT* 13150

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	0	0	1
2011	1	0	0	1	0	2
2012	1	0	0	1	0	2
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
Total	3	0	0	2	0	5
Percent	60.0%	40.0%			0.0%	100.0%
Year Avg.	0.6	0.4			0	1

Road Conditions

		%
Dry	3	60.0%
Wet	0	0.0%
Snow	2	40.0%
Ice	0	0.0%
Other	0	0.0%
Total	5	100.0%

Crash Type

		%
Angle	5	100.0%
Rear-End	0	0.0%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	5	100.0%

Crash Rates

	per MEV
Crash Rate	0.21
Injury Crash Rate	0.08
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	8	80%
Truck	2	20%
Other	0	0%
Total	10	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [11150+12750+1200+1200]/2 = 13150
[avg AADT of STH 33 WB & EB, Birch ST NB & SB]

Intersection Crash Statistics

Intersection: STH 33 & Broadway Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Traffic Signal Posted Speed: 25 mph on STH 33, 25 mph on Broadway Street

Intersection AADT* 16000

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	2	0	4
2011	1	0	0	0	0	1
2012	1	0	0	0	0	1
2013	1	0	0	0	0	1
2014	0	0	0	0	0	0
Total	5	0	0	2	0	7
Percent	71.4%	28.6%			0.0%	100.0%
Year Avg.	1	0.4			0	1.4

Road Conditions

		%
Dry	4	57.1%
Wet	3	42.9%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	7	100.0%

Crash Rates

	per MEV
Crash Rate	0.24
Injury Crash Rate	0.07
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	10	71%
Truck	4	29%
Other	0	0%
Total	14	100%

Crash Type

		%
Angle	0	0.0%
Rear-End	5	71.4%
Turning	0	0.0%
Side Swipe	1	14.3%
Fixed Object	0	0.0%
Other	1	14.3%
Total	7	100.0%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [11150+12750+8100]/2 = 16000
[avg AADT of STH 33 WB, STH 33 EB, Broadway ST NB]

Intersection Crash Statistics

Intersection: STH 33 & Oak Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Oak Posted Speed: 25 mph on STH 33, 25 mph on Oak Street

Intersection AADT* 14175

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	1	0	0	2
2011	0	0	0	0	0	0
2012	2	0	0	1	0	3
2013	0	0	0	0	0	0
2014	1	0	0	1	0	2
Total	4	0	1	2	0	7
Percent	57.1%	42.9%			0.0%	100.0%
Year Avg.	0.8	0.6			0	1.4

Road Conditions

		%
Dry	5	71.4%
Wet	2	28.6%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	7	100.0%

Crash Type

		%
Angle	3	42.9%
Rear-End	3	42.9%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	1	14.3%
Total	7	100.0%

Crash Rates

	per MEV
Crash Rate	0.27
Injury Crash Rate	0.12
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	12	86%
Truck	1	7%
Other	1	7%
Total	14	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [12750+13000+1400+1200]/2 = 14175
[avg AADT of STH 33 WB& EB, Oak ST NB & SB]

Intersection Crash Statistics

Intersection: STH 33 & Ash Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Ash Posted Speed: 25 mph on STH 33, 25 mph on Ash Street

Intersection AADT* 14675

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	0	0	2
2011	4	0	0	0	0	4
2012	4	0	0	1	0	5
2013	0	0	0	2	0	2
2014	0	0	0	1	0	1
Total	10	0	0	4	0	14
Percent	71.4%	28.6%			0.0%	100.0%
Year Avg.	2	0.8			0	2.8

Road Conditions		%
Dry	11	78.6%
Wet	3	21.4%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	14	100.0%

Crash Type		%
Angle	7	50.0%
Rear-End	3	21.4%
Turning	0	0.0%
Side Swipe	3	21.4%
Fixed Object	1	7.1%
Other	0	0.0%
Total	14	100.0%

Crash Rates	per MEV
Crash Rate	0.52
Injury Crash Rate	0.15
Fatal Crash Rate	0.00

Vehicle Types		%
Car	21	78%
Truck	5	19%
Other	1	4%
Total	27	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [12750+13000+2400+1200]/2 = 14675
[avg AADT of STH 33 WB & EB, Ash ST NB & SB]

Intersection Crash Statistics

Intersection: STH 33 & East Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Traffic Signal Posted Speed: 25 mph on STH 33, 25 mph on East Street

Intersection AADT* 17650

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	6	0	0	1	0	7
2011	5	0	0	1	0	6
2012	2	0	2	0	0	4
2013	1	0	1	0	0	2
2014	6	0	1	0	0	7
Total	20	0	4	2	0	26
Percent	76.9%	23.1%			0.0%	100.0%
Year Avg.	4	1.2			0	5.2

Road Conditions		%
Dry	16	61.5%
Wet	6	23.1%
Snow	4	15.4%
Ice	0	0.0%
Other	0	0.0%
Total	26	100.0%

Crash Type		%
Angle	8	30.8%
Rear-End	8	30.8%
Turning	0	0.0%
Side Swipe	8	30.8%
Fixed Object	2	7.7%
Other	0	0.0%
Total	26	100.0%

Crash Rates	per MEV
Crash Rate	0.81
Injury Crash Rate	0.19
Fatal Crash Rate	0.00

Vehicle Types		%
Car	40	80%
Truck	8	16%
Other	2	4%
Total	50	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [13000+15000+4300+3000]/2 = 17650
[avg AADT of STH 33 WB/EB, East NB/SB]

Intersection Crash Statistics

Intersection: STH 33 & Elizabeth Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Elizabeth Posted Speed: 25 mph on STH 33, 25 mph on Elizabeth Street

Intersection AADT* 15850

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	1	0	0	3
2011	0	0	0	0	0	0
2012	0	1	0	0	0	1
2013	0	0	0	0	0	0
2014	2	0	0	0	0	2
Total	4	1	1	0	0	6
Percent	66.7%	33.3%			0.0%	100.0%
Year Avg.	0.8	0.4			0	1.2

Road Conditions		%
Dry	4	66.7%
Wet	1	16.7%
Snow	1	16.7%
Ice	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Type		%
Angle	2	33.3%
Rear-End	2	33.3%
Turning	0	0.0%
Side Swipe	1	16.7%
Fixed Object	0	0.0%
Other	1	16.7%
Total	6	100.0%

Crash Rates	per MEV
Crash Rate	0.21
Injury Crash Rate	0.07
Fatal Crash Rate	0.00

Vehicle Types		%
Car	4	36%
Truck	7	64%
Other	0	0%
Total	11	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [15000+12300+1700+2700]/2 = 15850
[avg AADT of STH 33 WB/EB, Elizabeth NB/SB]

Intersection Crash Statistics

Intersection: STH 33 & Tuttle Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Tuttle Posted Speed: 25 mph on STH 33, 25 mph on Tuttle Street

Intersection AADT* 11225

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	1	0	2
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	1	0	0	0	0	1
2014	0	0	1	0	0	1
Total	2	0	1	1	0	4
Percent	50.0%	50.0%			0.0%	100.0%
Year Avg.	0.4	0.4			0	0.8

Road Conditions		%
Dry	3	75.0%
Wet	1	25.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	4	100.0%

Crash Type		%
Angle	3	75.0%
Rear-End	0	0.0%
Turning	0	0.0%
Side Swipe	1	25.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	4	100.0%

Crash Rates	per MEV
Crash Rate	0.20
Injury Crash Rate	0.10
Fatal Crash Rate	0.00

Vehicle Types		%
Car	5	71%
Truck	1	14%
Other	1	14%
Total	7	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [12300+8950+1200]/2 = 11225

[avg AADT of STH 33 WB/EB, Tuttle SB]

Intersection Crash Statistics

Intersection: STH 33 & Jefferson Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Jefferson Posted Speed: 25 mph on STH 33, 25 mph on Jefferson Street

Intersection AADT* 12425

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	0	0	1
2011	1	0	0	0	0	1
2012	0	0	0	0	0	0
2013	2	0	0	0	0	2
2014	1	0	0	1	0	2
Total	5	0	0	1	0	6
Percent	83.3%	16.7%			0.0%	100.0%
Year Avg.	1	0.2			0	1.2

Road Conditions		%
Dry	4	66.7%
Wet	2	33.3%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Type		%
Angle	3	50.0%
Rear-End	1	16.7%
Turning	0	0.0%
Side Swipe	2	33.3%
Fixed Object	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Rates	per MEV
Crash Rate	0.26
Injury Crash Rate	0.04
Fatal Crash Rate	0.00

Vehicle Types		%
Car	11	92%
Truck	1	8%
Other	0	0%
Total	12	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [12300+8950+2400+1200]/2 = 12425
[avg AADT of STH 33 WB/EB, Jefferson SB&NB]

Intersection Crash Statistics

Intersection: STH 33 & Washington Street

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 10, 2015

Intersection Characteristics

Traffic Control: Stop Control on Washington Posted Speed: 25 mph on STH 33, 25 mph on Washington Street

Intersection AADT* 10275

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	0	0	1
2011	0	0	0	0	0	0
2012	3	0	0	0	0	3
2013	1	0	0	1	0	2
2014	0	0	0	0	0	0
Total	5	0	0	1	0	6
Percent	83.3%	16.7%			0.0%	100.0%
Year Avg.	1	0.2			0	1.2

Road Conditions		%
Dry	6	100.0%
Wet	0	0.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Type		%
Angle	3	50.0%
Rear-End	2	33.3%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	1	16.7%
Other	0	0.0%
Total	6	100.0%

Crash Rates	per MEV
Crash Rate	0.32
Injury Crash Rate	0.05
Fatal Crash Rate	0.00

Vehicle Types		%
Car	10	91%
Truck	1	9%
Other	0	0%
Total	11	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [8950+7900+2300+1400]/2 = 10275
[avg AADT of STH 33 WB/EB, Washington NB & SB]

Intersection Crash Statistics

Intersection: STH 33 & Taft/CTH T

Municipality: Baraboo, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: SL	Date: January 13, 2016

Intersection Characteristics

Traffic Control: Stop Control on Washington Posted Speed: 25 mph on STH 33, 25 mph on CTH T

Intersection AADT* 7850

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	0	0	0	1	0	1
2011	0	0	0	0	0	0
2012	1	0	0	0	0	1
2013	0	0	0	0	0	0
2014	0	0	1	0	0	1
Total	1	0	1	1	0	3
Percent	33.3%	66.7%			0.0%	100.0%
Year Avg.	0.2	0.4			0	0.6

Road Conditions		%
Dry	2	66.7%
Wet	1	33.3%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	3	100.0%

Crash Type		%
Angle	1	33.3%
Rear-End	2	66.7%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	3	100.0%

Crash Rates	per MEV
Crash Rate	0.21
Injury Crash Rate	0.14
Fatal Crash Rate	0.00

Vehicle Types		%
Car	4	67%
Truck	2	33%
Other	0	0%
Total	6	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [7900+6200+1600]/2 = 7850
[avg AADT of STH 33 WB/EB, Taft/CTH T SB]

Intersection Crash Statistics

Intersection: STH 33 & CTH X

Municipality: Greenfield, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 14, 2015

Intersection Characteristics

Traffic Control: Stop Control on CTH X Posted Speed: 55 mph on STH 33, 55 mph on CTH X

Intersection AADT* 6275

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	0	0	1
2011	1	0	0	0	0	1
2012	0	0	0	0	0	0
2013	0	1	0	0	0	1
2014	0	0	0	2	0	2
Total	2	1	0	2	0	5
Percent	40.0%	60.0%			0.0%	100.0%
Year Avg.	0.4	0.6			0	1

Road Conditions		%
Dry	1	20.0%
Wet	2	40.0%
Snow	2	40.0%
Ice	0	0.0%
Other	0	0.0%
Total	5	100.0%

Crash Type		%
Angle	0	0.0%
Rear-End	0	0.0%
Turning	0	0.0%
Side Swipe	1	20.0%
Fixed Object	2	40.0%
Other	2	40.0%
Total	5	100.0%

Crash Rates	per MEV
Crash Rate	0.44
Injury Crash Rate	0.26
Fatal Crash Rate	0.00

Vehicle Types		%
Car	5	83%
Truck	0	0%
Other	1	17%
Total	6	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [6200+5700+650]/2 = 6275
[avg AADT of STH 33 WB/EB, CTH X WB]

Intersection Crash Statistics

Intersection: STH 33 & CTH U

Municipality: Fairfield, WI County: Sauk State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on CTH U Posted Speed: 55 mph on STH 33, 55 mph on CTH U

Intersection AADT* 7245

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	1	0	3
2011	0	0	0	0	0	0
2012	1	0	0	1	0	2
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
Total	3	0	0	2	0	5
Percent	60.0%	40.0%			0.0%	100.0%
Year Avg.	0.6	0.4			0	1

Road Conditions		%
Dry	4	80.0%
Wet	1	20.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	5	100.0%

Crash Type		%
Angle	2	40.0%
Rear-End	0	0.0%
Turning	0	0.0%
Side Swipe	1	20.0%
Fixed Object	0	0.0%
Other	2	40.0%
Total	5	100.0%

Crash Rates	per MEV
Crash Rate	0.38
Injury Crash Rate	0.15
Fatal Crash Rate	0.00

Vehicle Types		%
Car	6	75%
Truck	2	25%
Other	0	0%
Total	8	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [5950+8100+440]/2 = 7245
[avg AADT of STH 33 WB/EB, CTH U SB]

Intersection Crash Statistics

Intersection: STH 33 & Cascade Mtn Rd

Municipality: Caledonia County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on Cascade Posted Speed: 55 mph on STH 33, 25 mph on Cascade

Intersection AADT* 9150

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	0	0	2
2011	0	0	0	0	0	0
2012	0	1	0	0	0	1
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
Total	2	1	0	0	0	3
Percent	66.7%	33.3%			0.0%	100.0%
Year Avg.	0.4	0.2			0	0.6

Road Conditions

		%
Dry	2	66.7%
Wet	1	33.3%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	3	100.0%

Crash Type

		%
Angle	0	0.0%
Rear-End	1	33.3%
Turning	0	0.0%
Side Swipe	1	33.3%
Fixed Object	1	33.3%
Other	0	0.0%
Total	3	100.0%

Crash Rates

	per MEV
Crash Rate	0.18
Injury Crash Rate	0.06
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	5	83%
Truck	1	17%
Other	0	0%
Total	6	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [8100+8800+1400]/2 = 9150
[avg AADT of STH 33 WB/EB, Cascade WB]

Intersection Crash Statistics

Intersection: STH 33 & Tritz Rd (east end)

Municipality: Caledonia County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: January 11, 2016

Intersection Characteristics

Traffic Control: Stop Control on Tritz Posted Speed: 55 mph on STH 33, 45 mph on Tritz

Intersection AADT* 9150

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	0	0	0	0	0	0
2011	0	0	1	0	0	1
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	2	0	1	0	0	3
Total	2	0	2	0	0	4
Percent	50.0%	50.0%			0.0%	100.0%
Year Avg.	0.4	0.4			0	0.8

Road Conditions		**%**
Dry	2	50.0%
Wet	1	25.0%
Snow	1	25.0%
Ice	0	0.0%
Other	0	0.0%
Total	4	100.0%

Crash Rates	**per MEV**
Crash Rate	0.24
Injury Crash Rate	0.12
Fatal Crash Rate	0.00

Vehicle Types		**%**
Car	5	71%
Truck	2	29%
Other	0	0%
Total	7	100%

Crash Type		**%**
Angle	2	50.0%
Rear-End	0	0.0%
Turning	0	0.0%
Side Swipe	1	25.0%
Fixed Object	0	0.0%
Other	1	25.0%
Total	4	100.0%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [8100+8800+1400]/2 = 9150

[avg AADT of STH 33 WB/EB, Tritz SB/Wayside]

Intersection Crash Statistics

Intersection: STH 33 & CTH U

Municipality: Caledonia County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on CTH U Posted Speed: 45 mph on STH 33, 45 mph on CTH U

Intersection AADT* 8950

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	0	0	1
2011	1	0	0	0	0	1
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	1	0	0	0	0	1
Total	3	0	0	0	0	3
Percent	100.0%	0.0%			0.0%	100.0%
Year Avg.	0.6	0			0	0.6

Road Conditions

		%
Dry	2	66.7%
Wet	0	0.0%
Snow	1	33.3%
Ice	0	0.0%
Other	0	0.0%
Total	3	100.0%

Crash Rates

	per MEV
Crash Rate	0.18
Injury Crash Rate	0.00
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	4	80%
Truck	1	20%
Other	0	0%
Total	5	100%

Crash Type

		%
Angle	0	0.0%
Rear-End	2	66.7%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	1	33.3%
Total	3	100.0%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [8200+8300+1400]/2 = 8950
[avg AADT of STH 33 WB/EB, CTH U NB]

Intersection Crash Statistics

Intersection: STH 33 & Caledonia/Fairfield

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on Caledonia & Fairfield Posted Speed: 55 mph on STH 33, 45 mph on Caledonia/Fairfield

Intersection AADT* 8650

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	0	0	1	0	0	1
2011	1	0	0	0	0	1
2012	1	0	0	0	0	1
2013	2	0	0	0	0	2
2014	0	0	1	0	0	1
Total	4	0	2	0	0	6
Percent	66.7%	33.3%			0.0%	100.0%
Year Avg.	0.8	0.4			0	1.2

Road Conditions

		%
Dry	6	100.0%
Wet	0	0.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Type

		%
Angle	0	0.0%
Rear-End	3	50.0%
Turning	0	0.0%
Side Swipe	3	50.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	6	100.0%

Crash Rates

	per MEV
Crash Rate	0.38
Injury Crash Rate	0.13
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	8	67%
Truck	4	33%
Other	0	0%
Total	12	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [8300+7000+1000+1000]/2 = 8650
[avg AADT of STH 33 WB/EB, Caledonia NB, SB]

Intersection Crash Statistics

Intersection: STH 33 & Pierce

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on Pierce Posted Speed: 25 mph on STH 33, 25 mph on Pierce

Intersection AADT* 7680

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	0	0	2
2011	0	0	0	0	0	0
2012	0	0	1	0	0	1
2013	0	0	0	0	0	0
2014	1	0	0	1	0	2
Total	3	0	1	1	0	5
Percent	60.0%	40.0%			0.0%	100.0%
Year Avg.	0.6	0.4			0	1

Road Conditions		%
Dry	1	20.0%
Wet	1	20.0%
Snow	3	60.0%
Ice	0	0.0%
Other	0	0.0%
Total	5	100.0%

Crash Type		%
Angle	0	0.0%
Rear-End	1	20.0%
Turning	0	0.0%
Side Swipe	1	20.0%
Fixed Object	1	20.0%
Other	2	40.0%
Total	5	100.0%

Crash Rates	per MEV
Crash Rate	0.36
Injury Crash Rate	0.14
Fatal Crash Rate	0.00

Vehicle Types		%
Car	6	67%
Truck	3	33%
Other	0	0%
Total	9	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [7000+7800+560]/2 = 7680

[avg AADT of STH 33 WB/EB, Pierce SB]

Intersection Crash Statistics

Intersection: STH 33 & MacFarlane

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on MacFarlane Posted Speed: 25 mph on STH 33, 25 mph on MacFarlane

Intersection AADT* 8600

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	0	0	1
2011	3	0	0	0	0	3
2012	0	0	0	0	0	0
2013	1	0	0	0	0	1
2014	0	0	0	0	0	0
Total	5	0	0	0	0	5
Percent	100.0%	0.0%			0.0%	100.0%
Year Avg.	1	0			0	1

Road Conditions		%
Dry	3	60.0%
Wet	1	20.0%
Snow	0	0.0%
Ice	0	0.0%
Other	1	20.0%
Total	5	100.0%

Crash Type		%
Angle	3	60.0%
Rear-End	0	0.0%
Turning	0	0.0%
Side Swipe	1	20.0%
Fixed Object	1	20.0%
Other	0	0.0%
Total	5	100.0%

Crash Rates	per MEV
Crash Rate	0.32
Injury Crash Rate	0.00
Fatal Crash Rate	0.00

Vehicle Types		%
Car	7	78%
Truck	2	22%
Other	0	0%
Total	9	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [7800+7000+1900+500]/2 = 8600
[avg AADT of STH 33 WB/EB, MacFarlane NB/SB]

Intersection Crash Statistics

Intersection: STH 33 & Lock

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on Lock Posted Speed: 25 mph on STH 33, 25 mph on Lock

Intersection AADT* 7650

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	1	1	0	3
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
Total	1	0	1	1	0	3
Percent	33.3%	66.7%			0.0%	100.0%
Year Avg.	0.2	0.4			0	0.6

Road Conditions

		%
Dry	3	100.0%
Wet	0	0.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	3	100.0%

Crash Type

		%
Angle	1	33.3%
Rear-End	1	33.3%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	1	33.3%
Total	3	100.0%

Crash Rates

	per MEV
Crash Rate	0.21
Injury Crash Rate	0.14
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	3	50%
Truck	2	33%
Ped	1	17%
Total	6	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [7800+7000+500]/2 = 7650

[avg AADT of STH 33 WB/EB, Lock NB]

Intersection Crash Statistics

Intersection: STH 33 & W. Wisconsin

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Traffic Signal Posted Speed: 25 mph on STH 33, 25 mph on Wisconsin

Intersection AADT* 16275

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	1	0	2
2011	1	0	0	0	0	1
2012	2	0	0	0	0	2
2013	1	0	0	0	0	1
2014	1	0	1	0	0	2
Total	6	0	1	1	0	8
Percent	75.0%	25.0%			0.0%	100.0%
Year Avg.	1.2	0.4			0	1.6

Road Conditions		**%**
Dry	6	75.0%
Wet	1	12.5%
Snow	1	12.5%
Ice	0	0.0%
Other	0	0.0%
Total	8	100.0%

Crash Rates	**per MEV**
Crash Rate	0.27
Injury Crash Rate	0.07
Fatal Crash Rate	0.00

Vehicle Types		**%**
Car	12	80%
Truck	3	20%
Other	0	0%
Total	15	100%

Crash Type		**%**
Angle	2	25.0%
Rear-End	4	50.0%
Turning	0	0.0%
Side Swipe	1	12.5%
Fixed Object	1	12.5%
Other	0	0.0%
Total	8	100.0%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [7000+4950+8300+12300]/2 = 16275
[avg AADT of STH 33 WB/EB, Wisconsin NB/SB]

Intersection Crash Statistics

Intersection: STH 33 & DeWitt

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Traffic Signal Posted Speed: 25 mph on STH 33, 25 mph on DeWitt

Intersection AADT* 10400

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	1	0	0	0	0	1
2011	1	0	0	0	0	1
2012	2	0	0	0	0	2
2013	0	0	0	0	0	0
2014	3	0	0	0	0	3
Total	7	0	0	0	0	7
Percent	100.0%	0.0%			0.0%	100.0%
Year Avg.	1.4	0			0	1.4

Road Conditions

		%
Dry	4	57.1%
Wet	1	14.3%
Snow	2	28.6%
Ice	0	0.0%
Other	0	0.0%
Total	7	100.0%

Crash Rates

	per MEV
Crash Rate	0.37
Injury Crash Rate	0.00
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	7	58%
Truck	4	33%
Other	1	8%
Total	12	100%

Crash Type

		%
Angle	3	42.9%
Rear-End	2	28.6%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	2	28.6%
Other	0	0.0%
Total	7	100.0%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [4950+6450+5400+4000]/2 = 10400
[avg AADT of STH 33 WB/EB, DeWitt NB/SB]

Intersection Crash Statistics

Intersection: STH 33 & Adams

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on Adams Posted Speed: 25 mph on STH 33, 25 mph on Adams

Intersection AADT* 8450

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	3	0	1	0	0	4
Total	3	0	1	0	0	4
Percent	75.0%	25.0%			0.0%	100.0%
Year Avg.	0.6	0.2			0	0.8

Road Conditions		%
Dry	3	75.0%
Wet	0	0.0%
Snow	1	25.0%
Ice	0	0.0%
Other	0	0.0%
Total	4	100.0%

Crash Type		%
Angle	4	100.0%
Rear-End	0	0.0%
Turning	0	0.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	4	100.0%

Crash Rates	per MEV
Crash Rate	0.26
Injury Crash Rate	0.06
Fatal Crash Rate	0.00

Vehicle Types		%
Car	7	88%
Truck	1	13%
Other	0	0%
Total	8	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [6450+6150+1900+2400]/2 = 8450
[avg AADT of STH 33 WB/EB, Adams NB/SB]

Intersection Crash Statistics

Intersection: STH 33 & Albert

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on Albert Posted Speed: 45 mph on STH 33, 25 mph on Albert

Intersection AADT* 8900

Number of Legs: 4

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	3	0	0	0	0	3
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	1	0	1	0	0	2
2014	2	0	0	1	0	3
Total	6	0	1	1	0	8
Percent	75.0%	25.0%			0.0%	100.0%
Year Avg.	1.2	0.4			0	1.6

Road Conditions		%
Dry	6	75.0%
Wet	2	25.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	8	100.0%

Crash Type		%
Angle	3	37.5%
Rear-End	2	25.0%
Turning	0	0.0%
Side Swipe	1	12.5%
Fixed Object	1	12.5%
Other	1	12.5%
Total	8	100.0%

Crash Rates	per MEV
Crash Rate	0.49
Injury Crash Rate	0.12
Fatal Crash Rate	0.00

Vehicle Types		%
Car	12	80%
Truck	3	20%
Other	0	0%
Total	15	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [5600+8300+3900]/2 = 8900
[avg AADT of STH 33 WB/EB, Albert SB]

Intersection Crash Statistics

Intersection: STH 33 & CTH F

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: JW	Date: December 15, 2015

Intersection Characteristics

Traffic Control: Stop Control on CTH F Posted Speed: 45 mph on STH 33, 45 mph on CTH F

Intersection AADT* 8550

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	2	0	0	0	0	2
2011	0	1	0	1	0	2
2012	1	0	0	0	0	1
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
Total	3	1	0	1	0	5
Percent	60.0%	40.0%			0.0%	100.0%
Year Avg.	0.6	0.4			0	1

Road Conditions		%
Dry	3	60.0%
Wet	1	20.0%
Snow	0	0.0%
Ice	1	20.0%
Other	0	0.0%
Total	5	100.0%

Crash Type		%
Angle	1	20.0%
Rear-End	1	20.0%
Turning	0	0.0%
Side Swipe	1	20.0%
Fixed Object	1	20.0%
Other	1	20.0%
Total	5	100.0%

Crash Rates	per MEV
Crash Rate	0.32
Injury Crash Rate	0.13
Fatal Crash Rate	0.00

Vehicle Types		%
Car	5	63%
Truck	3	38%
Other	0	0%
Total	8	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [8750+7150+1200]/2 = 8550

[avg AADT of STH 33 WB/EB, CTH F SB]

Intersection Crash Statistics

Intersection: STH 33 & CTH EE

Municipality: Portage County: Columbia State: WI

Period: 5 Years (2010 - 2014)

Project ID: 5090-04-09	Prepared by: SL	Date: January 13, 2016

Intersection Characteristics

Traffic Control: Stop Control on CTH EE Posted Speed: 45 mph on STH 33, 55 mph on CTH EE

Intersection AADT* 7650

Number of Legs: 3

Crash Statistics

Crash Frequency and Severity

Year	PDO	Injury			Fatal	Total
		A	B	C		
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	1	1	0	2
2014	0	0	0	0	0	0
Total	0	0	1	1	0	2
Percent	0.0%	100.0%			0.0%	100.0%
Year Avg.	0	0.4			0	0.4

Road Conditions

		%
Dry	2	100.0%
Wet	0	0.0%
Snow	0	0.0%
Ice	0	0.0%
Other	0	0.0%
Total	2	100.0%

Crash Type

		%
Angle	0	0.0%
Rear-End	1	50.0%
Head on	1	50.0%
Side Swipe	0	0.0%
Fixed Object	0	0.0%
Other	0	0.0%
Total	2	100.0%

Crash Rates

	per MEV
Crash Rate	0.14
Injury Crash Rate	0.14
Fatal Crash Rate	0.00

Vehicle Types

		%
Car	4	100%
Truck	0	0%
Other	0	0%
Total	4	100%

Injury Crash Sub-Categories as defined by the Law Enforcement Officers's Instruction Manual.

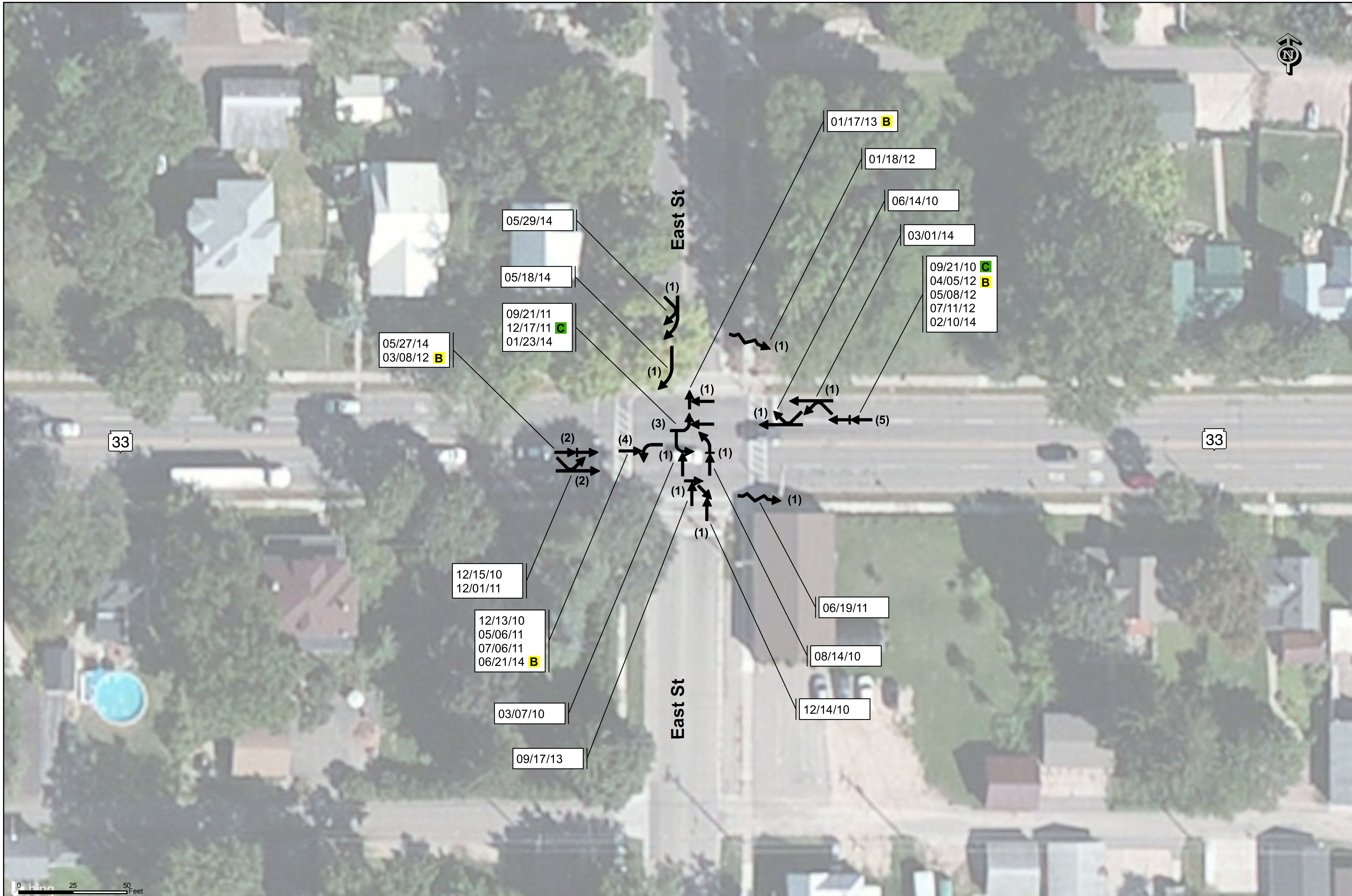
Type A: Incapacitating Injury—Any injury other than a fatal injury, which prevents the injured person from walking, driving, or from performing other activities, which he/she performed before the accident.

Type B: Non-incapacitating Injury—Any injury, other than fatal or incapacitating, which is evident at the scene. Evidence of injury may include known symptoms of an injury, which are not directly observable.

Type C: Possible Injury—Any injury which is not observable or evident at the scene but is claimed by the individual or suspected by the law enforcement officer.

Type K: Fatality—Any fatality that occurs as the result of the crash.

* AADT = [7150+7150+1000]/2 = 7650
[avg AADT of STH 33 WB/EB, CTH EE SB]



Map 1
Exhibit 00

East St Collision Diagram

WIS 33 Corridor Preservation Study

Scale 1" = 40'

TranSmart Technologies

Mulberry St

33

10/04/12

11/18/14 C

07/02/13 B

07/11/14 C
07/26/14
08/22/14
09/18/14 B

02/13/10 C

09/12/14

05/01/13

06/08/13
04/25/10 B

11/14/14

07/14/12

(1)
(1)
(1)
(2)
(1)
(4)
(1)
(1)
(1)

Mulberry St

33

bing 0 25 50 Feet

Map 2
Exhibit 00

Mulberry St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

Ash St

8th St

33

33

04/30/10

05/30/12
10/31/12

09/02/11
09/08/12

10/11/10
08/15/13 C

(1)

(2)

(2)

(1)

(1)

(1)

(1)

(2)

(2)

(1)

08/12/11

04/05/13 C

05/13/11

07/14/12 C
10/12/12

10/04/11

Ash St

0 25 50 Feet

bing

Map 3
Exhibit 00

Ash St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

East Albert St

Agency House Rd

33

33

12/12/14

12/09/10
11/15/13

06/12/14

12/16/14 C

06/04/10

(1)

(1)

(1)

(2)

(1)

(1)

(1)

(1)

10/05/14

11/09/11

12/15/13 B

07/21/10

0 25 50 Feet

bing

Map 4
Exhibit 00

Albert St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

Draper St

02/04/14 B

04/15/10

12/24/10
01/02/14

02/05/14

12/17/11 C

11/11/13

02/03/11
10/24/14

09/30/10 C
08/15/11

12/14/11 C

06/07/11

33

33

(1)

(1)

(1)

(2)

(2)

(2)

(1)

(1)

(1)

0 25 50 Feet

bing

Map 5
Exhibit 00

Draper St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

33

01/11/11

(1)

11/11/14 C

(1)

03/31/13 A

(1)

X

(1)

(1)

02/15/10

07/08/14 C

33

0 25 50 Feet

bing

Map 6
Exhibit 00

CTH X Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

06/06/14 A

(1)

(1)

(1)

06/18/13

01/22/14 C

33

U

01/25/10 C
09/14/12 C

(2)

(1)

(1)

(1)

04/12/10

07/03/10 (U-turn attempt)

11/13/12

08/19/11 B

(1)

12/20/12

(1)

33

0 40 80 Feet

bing

Map 7
Exhibit 00

CTH U Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 80'

TranSmart TECHNOLOGIES

Fairfield St

05/13/12 C
06/07/14 B

03/01/13

07/30/11
07/19/12

(2)

(1)

(1)

(2)

(2)

33

33

07/16/13

11/13/14 B
10/19/10 B

Caledonia St

0 20 40 Feet

Map 8
Exhibit 00

Caledonia St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

DeWitt St

East Cook St

West Cook St

33

01/13/10

03/12/14

09/15/11

02/06/14

08/09/12

12/18/14

09/13/11

11/01/12
11/27/14

(1)

(1)

(1)

(1)

(1)

(2)

0 20 40 Feet

bing

Map 9
Exhibit 00

DeWitt St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

Pierce St

West Cook St

33

(1)

03/12/14 C

(1)

(1)

01/20/12 B

(1)

01/07/10

04/21/14

01/12/10

Pierce St

33

12/05/11
10/20/14

West Edgewater St

West Edgewater St

(2)

0 20 40 Feet

bing

Map 10
Exhibit 00

Pierce St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

Park St

09/23/14 C

08/23/13

12/05/11 C

01/02/14

(1)

(1)

(1)

(1)

(1)

(2)

33

33

12/20/12

09/10/10 A
01/02/14

03/23/11 C

Park St

0 20 40 Feet

bing

Map 11
Exhibit 00

Park St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

Hill St

33

33

01/07/10 (overturned)

(1)

11/16/11
06/15/13

(2)

(1)

(1)

(2)

(1)

01/28/13

07/24/13

07/18/12
05/07/14

Willow St

07/23/10 (backing)

0 20 40 Feet

bing

Map 12
Exhibit 00

Willow St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

Map 13
Exhibit 00

Washington St Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

04/08/13

(1)

03/02/10

07/26/13

(1)

(1)

(2)

03/15/11

33

33

(1)

(1)

08/10/12
11/08/13 C

(1)

10/02/12

01/17/10 C

07/05/12

Washington Ave

0 20 40 Feet

bing

MacFarlane Rd

West Cook St

33

01/31/10

07/18/13

(1)

(1)

(1)

(1)

02/18/11

08/12/11

0 20 40 Feet

bing

Map 14
Exhibit 00

MacFarlane Rd Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 40'

TranSmart TECHNOLOGIES

F

EE

33

08/17/12 C
06/21/12

(2)

(1)

(1)

12/15/10

04/04/11 A

(2)

08/13/11 C
07/10/10

(1)

10/13/13 B

(1)

09/06/13 C

02/19/13

(1)

33

(1)

04/19/13

0 50 100 Feet

bing

Map 15
Exhibit 00

CTH F Collision Diagram

WIS 33 Corridor
Preservation Study

Scale
1" = 100'

TranSmart TECHNOLOGIES

Rumble Strip Before/After Comparison Report

For

WIS 33 Safety Corridor Study

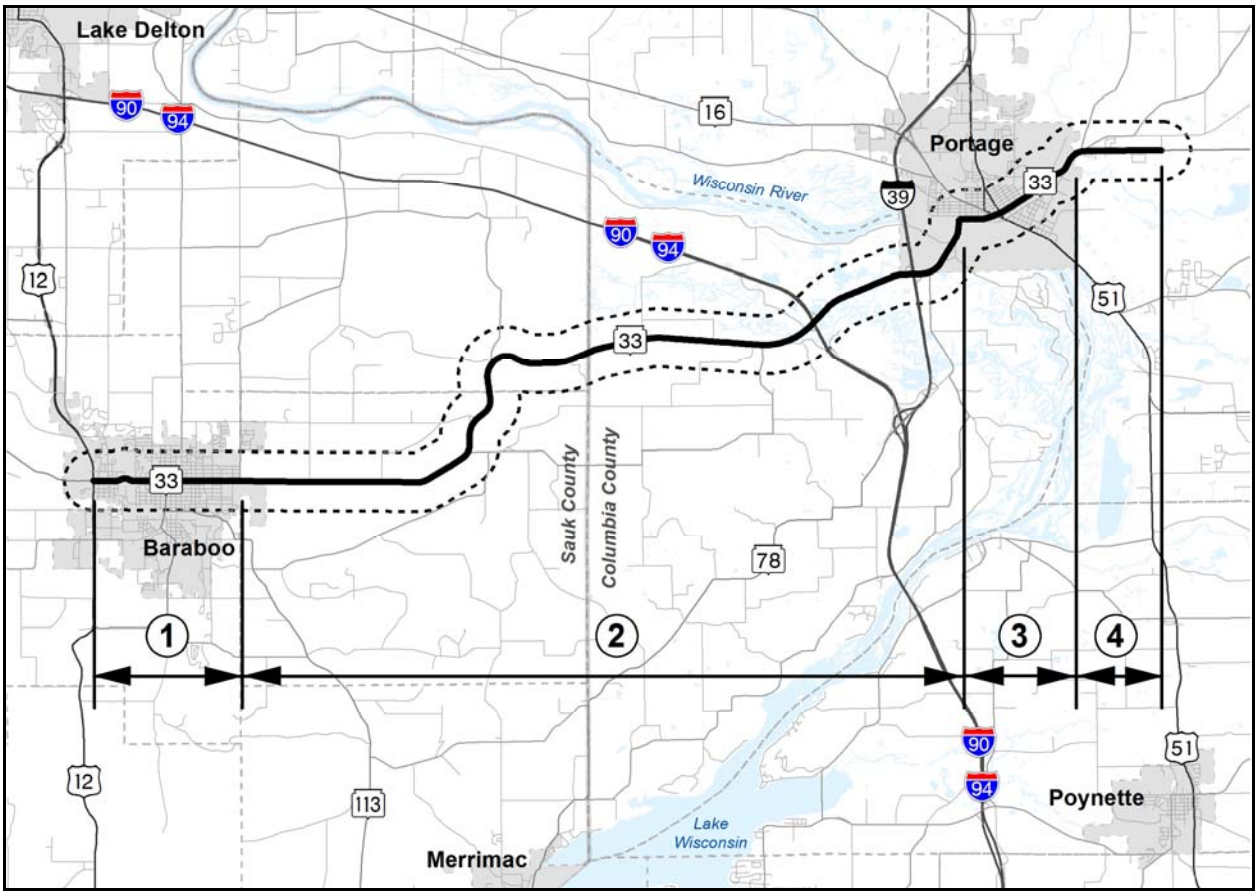
Project ID
US 12 to Garrison Road
Baraboo to Portage
Sauk and Columbia Counties, WI

Introduction

TranSmart Technologies, Inc. conducted a rumble strip analysis as part of the *WIS 33 Corridor Study*. The study area is located along the WIS 33 corridor between County T (Taft Street) and Cascade Mountain Road. Within the study area, WIS 33 is a two-lane rural highway with both straight and curved segments. The overall goal of the analysis was to compare crash trends before and after the rumble strips were installed in 2012.

In 2012, the section of WIS 33 between County T (Taft Street) and Cascade Mountain Road (most of segment 2 as shown in Figure 1) was part of a statewide initiative to install centerline and fog line rumble strips as a crash mitigation measure. The analysis compares the three years of historical crash data before installation of the rumble strips (2009-2011) to the three years of historical crash data after installation of the rumble strips (2013-2015).

Figure 1 WIS 33 Corridor Study Segments



Methodology

As part of the analysis, 2009-2011 non-deer crashes (49) were compiled, then the crashes occurring outside of the County T to Cascade Mountain Road segment were eliminated (17), as were two incidents that were car fires (not related to a crash or road conditions). The remaining 30 crashes were categorized into their "manner of collision" groups: angle (1), head-on (1), no-collision/run-off-road (20), rear-end (3), sideswipe-opposite (1), and sideswipe-same (4). A determination was made as to which crashes were pertinent to the rumble strip study[1]. All of the no-collision/ run-off-road crashes were included, as well as the head-on crash and the sideswipe-opposite crash. The results are listed below:

			TOTAL	SAUK CO	COLUMBIA CO
2009-2011	**BEFORE**	RUMBLE STRIP PERTINENT	**22**	**15**	**7**
		OTHER	8	4	4
			30	19	11

Similarly, the 2013-2015 non-deer crashes (56) were compiled, then the crashes occurring outside the County T to Cascade Mountain Road segment were eliminated (22), as was a crash that was listed as "other-animal". The remaining 33 crashes were categorized into their "manner of collision" groups: angle (2), no-collision/run-off-road (17), rear end (5), sideswipe-opposite (4), and sideswipe-same (5). Crash circumstances were reviewed to sort the crashes into those that were likely to be affected by rumble strips and those that would likely not be affected by the rumble strips. The results are listed below:

			TOTAL	SAUK CO	COLUMBIA CO
2013-2015	**AFTER**	RUMBLE STRIP PERTINENT	**17**	**15**	**2**
		OTHER	16	6	10
			33	21	12

Findings

The total "rumble strip pertinent" crashes went from 22 to 17 (a 23% reduction). All of those reductions occurred in Columbia County, which saw a reduction from seven to two crashes (71% reduction). Sauk County experienced no change in the number of crashes.

This statistical analysis is a simple before/after comparison within the segment of study. For a more robust study, an empirical Bayes study would be performed, which would include at least one control

[1] The determination eliminated any crashes involving two cars traveling in the same direction, or if at least one car was making a left, right or u-turn, or if the crash report noted driver "lost control" due to road conditions. These crashes are considered to be non-preventable by rumble strips.

group outside of the study area. A study of that nature would assist in determining if the number of similar crashes in general had risen or declined over the same period.

Data compiled by the FHWA on the Crash Modification Factors (CMF) clearinghouse website (cmfclearinghouse.org) includes dozens of high quality studies throughout the United States that found crashes of all types and severities were reduced by as much as 2.5 to 34.7 percent (CMF[2]s 0.653-0.975) by adding centerline and shoulder rumble strips. Specific to run-off-road (ROR) crashes of all severities, the reductions were between 8-24.2 percent (CMFs 0.758-0.92) when centerline and shoulder rumble strips were added.

[2] CMF = Crash Modification Factor, the expected crashes with countermeasure applied divided by the expected crashes without countermeasure applied. CRF = Crash Reduction Factor. CMF + CRF = 1

Appendix D: Public Involvement

Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Public Involvement Kick-off Meeting

WisDOT Project ID 5090-04-09
November 9, 2016
5:00 p.m. to 7:00 p.m.
Baraboo High School, Baraboo, WI

Attendees:

- WisDOT—Tom Kratt, Tom Koprowski, Francis Schelfhout
- TranSmart—Charles Wade, Sue LeBrun, Megan Knutson
- AECOM—Nick Becker
- Local—Approximately six residents

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Purpose of Meeting:

The purpose of the meeting was to present the study's draft findings and recommendations to the public and to agencies and local officials with an interest in WIS 33.

Meeting Information:

1. *Presentation*
   - Chuck Wade and Sue LeBrun from TranSmart presented the project background information.

2. *Open House Session*
   - Al, who lives on Albert in Portage also has an office located on Wisconsin St. near Pauquette St., agreed the Albert/WIS 33 intersection has visibility/safety issues and waits/queues.
     i. He liked the idea of a roundabout there.
     ii. He had suggestions for putting a roundabout at Dewitt & Wisconsin (over the canal) and said there would be a need for a lot of parking spaces in that area with the new County facilities coming soon.
     iii. He also noted there would be benefits to enhancing circulation to/from that area by extending Jefferson, Hamilton or Superior across the canal.
     iv. Noted the trucks coming into/exiting the industrial park go through very residential streets.

- One person, who lives on CTH W south of WIS 33 liked our recommendations at CTH W, said she doesn't have safety concerns there presently, and considers sightlines/visibility adequate.
    i. She liked the idea of passing lanes on WIS 33.
    ii. She recalled crashes at Cascade Mountain Rd. and CTH U (to north), CTH X and Man Mound Rd. and appreciated there could be future improvements there.
- One person, who spends a lot of time in Baraboo working and volunteering, had concerns about the offset intersections and safety there.
    i. Liked the idea of aligning them or mitigating another way (closing/median).
    ii. Also, she approaches Baraboo from the south, takes highway 113 to Washington. The intersection of Washington & WIS 33 backs up. In the NB approach, she waits for quite a while to cross WIS 33 in the afternoon (she volunteers in the United Health building).
    iii. She noted WB traffic is still going very fast. They haven't slowed down much from the 55 mph zone into the 25 mph zone, and it's hard to find a gap.
    iv. Also, cars waiting behind her to turn right usually don't have room to pull up beside her.
    v. Another maneuver she makes frequently is going EB on WIS 33 and turning left into the Log Cabin restaurant lot (between Lincoln & Taft). Noted there are too many driveways there and it is difficult to find gaps there for same reasons noted earlier: traffic is still going fast and it's hard to find gaps.
    vi. Some of these issues would improve with a TWLTL: she could escape the through lane by using a TWLTL and wait in relative safety to make her left turn, and for crossing WIS 33 she'd only have to monitor 3 lanes instead of 4 lanes for crossing WIS 33. Minor widening of Washington and other selected intersections would permit a right turn only lane, if only for one car length.
    vii. We could suggest enforcement, adding "your speed is ___" signs for WB traffic as it enters Baraboo, or other traffic calming measures?
- A resident located south of CTH X indicated that the hill to the west on WIS 33 blocks the residential driveways from the sightline of drivers making it difficult to pull onto WIS 33.
    i. We discussed if signage such as "blind driveways" were applicable to the state highway and would conduct further research. The improvement at CTH X may help with southbound vehicles in the area.

Public Information Meeting Comment Form

Project ID 5090-04-09
WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Baraboo to Portage)
Sauk and Columbia Counties

Wednesday, November 9, 2016

Please place this form in the comment box or mail by November 25, 2016 to the address on the back of this sheet. Comments can also be e-mailed to thomas.kratt@dot.wi.gov. Your comments assist us in developing study recommendations that will serve the needs of the traveling public as well as the needs of the local community. Your input is welcome and appreciated throughout the study process.

Name (optional): Jeanne S. Pribbenow

Address (optional): E13636 State Rd 33

Daytime Phone Number (optional): 608-356-4621

Email Address (optional): jspribbenow2@yahoo.com.

Please Print Comments (attach additional sheets if necessary)

I live 5 miles east of Baraboo (from City T to my home) & wondered if it would be possible to install a sign stating blind driveways or whatever would be necessary as there is a hill (going east) and 4 driveways - 5 including my barn driveway and also going west there is a curve and these same driveways are involved.

After the presentation I felt that was a good idea with the longer passing lanes and the involvement with City Trek X.

The information in this document including names, addresses, phone numbers, e-mail addresses, and signatures is not confidential, and may be subject to disclosure upon request, pursuant to the requirements of the Wisconsin open records law, sections 19.31 - 19.39 of the Wisconsin Statutes.

Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Public Involvement Kick-off Meeting

WisDOT Project ID 5090-04-09
November 7, 2016
5:00 p.m. to 7:00 p.m.
Portage High School, Portage, WI

Attendees:

- WisDOT—Tom Kratt, Francis Schelfhout
- TranSmart—Charles Wade, Sue LeBrun, Megan Knutson
- AECOM—Nick Becker
- Local—Approximately six residents

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Purpose of Meeting:

The purpose of the meeting was to present the study's draft findings and recommendations to the public and agencies and local officials with an interest in WIS 33.

Meeting Information:

1. *Presentation*
   - Chuck Wade and Sue LeBrun from TranSmart presented the project background information.

2. *Open House Session*
   - Rob Walz (Owner) from Cascade Mountain thought a traffic count/study may be needed to assess the peak seasonal traffic to/from the ski hill.
     i. He said 1,200-1,400 vehicle/day come and go on a typical Saturday.
     ii. There is a ski equipment rental place on Tritz Road (across from the wayside), so there are additional trips to/from there.
     iii. He said most people use the intersection at Highway 33 (as opposed to the other end of Cascade Mountain Rd. where there is another interchange w/ I-39.) Most weekend skiers generally stay at hotels in the dells.

    iv. They currently only have two mountain bike races a summer so they are generally a seasonal business still. They may at some point consider making Cascade a year round destination and if they do, this could have major impacts on the intersection.
- One person said the driveway across from the Adesa driveway is being used as a staging area for electrical cables and gets about a dozen trucks a day.
    i. This is the current ATC staging area for the major transmission line that is running parallel to the freeway.
    ii. The Adesa site operates as a car auction only one day a week and had some crashes in the past, but seems to be better since the speed limit went to 45 mph.
- Lyn Jerde (a reporter) was inquiring about the future one way pairs in Portage.
- One of the attendees was interested in hearing about the potential passing lane locations.
- Discussed the Ice Age Trail with the NPS representatives (Mary Tano and John Madden). Identified location of the crossings.
    i. USFS / NPS will provide a formal response to the project.
- The discussion of impacts to parking from relocation of the county buildings was discussed.
    i. It was mentioned that pedestrian crossings on WIS 33 between the old and new courthouse locations will increase.
    ii. One of the parking lots currently reserved for courthouse staff will become a public lot which could change vehicular and pedestrian circulation patterns.

Public Information Meeting Comment Form

Project ID 5090-04-09
WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Baraboo to Portage)
Sauk and Columbia Counties

Monday, November 7, 2016

Please place this form in the comment box or mail by November 25, 2016 to the address on the back of this sheet. Comments can also be e-mailed to thomas.kratt@dot.wi.gov. Your comments assist us in developing study recommendations that will serve the needs of the traveling public as well as the needs of the local community. Your input is welcome and appreciated throughout the study process.

Name (optional): ROB WALZ % CASCADE MOUNTAIN

Address (optional): W10441 CASCADE MOUNTAIN ROAD - PORTAGE

Daytime Phone Number (optional): 608 742 5588 x 1248

Email Address (optional): ROBWALZ@CASCADEMOUNTAIN.COM

Please Print Comments (attach additional sheets if necessary)

FROM THE THIRD WEEK IN DECEMBER THROUGH THE LAST WEEK IN FEBRUARY I CAN SEE 1200 TO 1400 CARS PER DAY IN MY PARKING LOT. MY CONCERN IS THAT ENOUGH ATTENTION IS PAID TO THE INTERSECTION OF HWY 33 & CASCADE MOUNTAIN RD. IT IS MY UNDERSTANDING THAT THE TRAFFIC STUDY WAS DONE IN EARLY MARCH. IF THAT IS THE CASE. I WOULD ESTIMATE YOUR COUNT TO BE AS HIGH AS 600 CARS. THUS BEING INACCURATE.

LIVING IN PORTAGE, I WOULD ALSO SUPPORT THE ONE WAY DOWNTOWN TRAFFIC IDEA AS WELL AS THE ROUND ABOUT PROPOSED FOR EAST ALBERT/HEARTLE STREETS & HWY 33

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Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Local Officials/Agency Meeting

WisDOT Project ID 5090-04-09
October 20, 2016
5:00 p.m. to 7:00 p.m.
Civic Center, Baraboo, WI

Attendees:

- WisDOT—Tom Kratt, Tom Koprowski
- TranSmart—Charles Wade, Sue LeBrun, Megan Knutson
- AECOM—Nick Becker
- Local Officials—Approximately five officials attended representing the following communities: Sauk County, City of Baraboo, Town of West Baraboo, Town of Fairfield
    - Stephen Muchow, Gregg Borucki, Tim Stone

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Action Items:

- Add a slide for the PIM with a typical section for the Baraboo road diet concept
- Request for PDF copies of displays

Purpose of Meeting:

The purpose of the meeting was to present the study's draft findings and recommendations to agencies and local officials with an interest in WIS 33.

Meeting Information:

1. *Presentation*

- Chuck Wade and Sue LeBrun from TranSmart presented the projects draft concepts and recommendations.

2. *General comments from discussion*
    - What is the timeline for Portage to adopt the one way pair concept?
        - The capacity of WIS 33 is suitable beyond 2046, so a timeline for when they would be needed would be past 2046.
    - Comment was made that there are a lot of trucks between Baraboo and Portage.
    - Positive response and interest received for the CTH U concept in the Town of Fairfield.

- It was noted that there are higher than average number of crashes at this intersection by Town of Fairfield representative.
- He acknowledged problems with little to no right turn lane for WB traffic due to the proximity of the bridge.
- He liked the idea of lighting the intersection.

- For the County U intersection, would it be more suitable to change the intersection or to add a passing lane first?
  - The intersection is more important than adding a passing lane.
- It was noted that County U is being used as a bypass to Ho Chunk Casino.
- What would be required to move up County U for a state funded project?
  - It was suggested to apply for HSIP funding. Problem intersections can receive funds to specifically address safety issues if they qualify.
  - It was noted that the fire department is called to the area frequently, but that some crashes may be non-intersection related due to the curves, but in the vicinity of the intersection.

3. *Comments from Open House Session*
   - Interest/questions regarding passing lanes, where would they be, how long, etc. TranSmart will compare LOS with/without passing lanes for the Baraboo to Portage segment.

Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Local Officials/Agency Meeting

WisDOT Project ID 5090-04-09
October 18, 2016
5:00 p.m. to 7:00 p.m.
City Hall Basement, Portage, WI

Attendees:

- WisDOT—Tom Kratt
- TranSmart—Charles Wade, Sue LeBrun, Megan Knutson
- AECOM—Nick Becker
- Agency – Wisconsin DNR: Andy Barta
- Local Officials—Approximately ten officials attended representing the following communities: Columbia County Sheriff's Office, Columbia County, City of Potage, Portage Police Department, and Town of Fort Winnebago
    - Aaron Jahncke, Rick Dodd, William Schroeder, Mark Hahn, Brian Pulvermacher, Ken Manthey, William Kutzke

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Action Items:

Purpose of Meeting:

The purpose of the meeting was to present the study's draft findings and recommendations to agencies and local officials with an interest in WIS 33.

Meeting Information:

1. Presentation

- Chuck Wade and Sue LeBrun from TranSmart presented the study draft concepts and recommendations.

2. *General comments from discussion*

- Are the interstate studies included in this study?
    - No, this project is stand alone.
- Will the traffic data from the highway 33 project match with the Interstate projects?
    - Yes the data should be the same.

- Question regarding the traffic volumes in downtown Portage vs. those east of Portage. Why are the downtown counts 1,000-2,000 lower than those located east of Portage.
  - We are theorizing that Albert ~3,400 and Wauona ~1,900 are being used as alternative routes to WIS 33.
- Are signals warranted on the edge of town if the traffic counts are higher than down town Portage?
  - There would need to be new counts to study whether or not signals would be helpful. The counts would need to be conducted over sixteen hours.
- County F and EE concept would not work because of the farm land and the slope. Would it be possible to merge the roads north of WIS 33?
  - The study team is open to any concept at this time. The concepts as they are shown now are the "desirable" condition and do not consider detailed design issues such as slopes and access. If a project were funded, at that time, further options to minimize impacts would be determined. The team will look at additional options for that location as part of the study.
- One person noted he requested a speed study in the segment between CTH U and the Wisconsin River and pointed out people are not slowing down from 55 to 25 mph as signed.
  - Aaron Jahncke suggested extending the urban cross section with curb and gutter to the west (south) of the bridge to slow down incoming traffic.
  - This concern has been voiced for 20 years and nothing has been done, one person observed.
    - A roundabout at Fairfield Road would be another option to consider in order to slow traffic over the Wisconsin River Bridge
    - Speed studies will be included as part of the study requests.
  - How much input will we get. If the DOT wanted they could change the speed.
    - The Urban section could be further studied for extension to make a speed change.
    - If Federal funds are involved the 85% has to be used to change the speed limit.
  - Can the 45 mph continue from Interstate 90 to Interstate 39?
    - Most likely a speed study would not warrant that change.

3. *Comments from Open House Session*
   - Question regarding the one block of MacFarlane that is not marked as one way for future concept. Would it make sense to just make that one way too?
   - On Albert, there are complaints of traffic going too fast.
   - It's expected that Hamilton will, in time, get extended to the north, probably driven by when a developer proposes some type of development.
   - A Portage representative noted that they had discussed making Wauona Trail a boulevard in the future.
   - Portage has complaints from people in the Veterans Memorial Field neighborhood that too many trucks are going through the local streets making their way to industrial sites. The overall plan for truck traffic is to direct trucks to use the northern end of Wauona Trail to get to loading docks at the north end of AMPI.
   - Some of the generators of truck traffic noted included the power plant (coal), AMPI, and a recycling company.

- A maintenance concern was raised concerning the additional costs associated with adding curb and gutter at intersections planned for dedicated left-turn lanes, as well as any roundabout location.
- The two immediate issues that should be addressed from the study include the speeds on WIS 33 between County U and the city of Portage and the Albert Street intersection. The other items in the study, would be lower priorities.

Agency/Local Official Meeting Comment Form

Project ID 5090-04-09
WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Baraboo to Portage)
Sauk and Columbia Counties

Tuesday, October 18, 2016

Please place this form in the comment box or mail by September 4, 2016 to the address on the back of this sheet. Comments can also be e-mailed to thomas.kratt@dot.wi.gov. Your comments assist us in developing study recommendations that will serve the needs of the traveling public as well as the needs of the local community. Your input is welcome and appreciated throughout the study process.

Name (optional): RICK DODD

Address (optional): _____

Daytime Phone Number (optional): 742-2176

Email Address (optional): rick.dodd@portagewi.gov

Please Print Comments (attach additional sheets if necessary)

PLEASE INVESTIGATE LOWER SPEED LIMIT FROM WISC. RIVER BRIDGE TO I-39 INTERCHANGE IN BOTH DIRECTIONS.

The information in this document including names, addresses, phone numbers, e-mail addresses, and signatures is not confidential, and may be subject to disclosure upon request, pursuant to the requirements of the Wisconsin open records law, sections 19.31 - 19.39 of the Wisconsin Statutes.

Agency/Local Official Meeting Comment Form

Project ID 5090-04-09
WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Baraboo to Portage)
Sauk and Columbia Counties

Tuesday, October 18, 2016

Please place this form in the comment box or mail by September 4, 2016 to the address on the back of this sheet. Comments can also be e-mailed to thomas.kratt@dot.wi.gov. Your comments assist us in developing study recommendations that will serve the needs of the traveling public as well as the needs of the local community. Your input is welcome and appreciated throughout the study process.

Name (optional): AARON JAHNCKE

Address (optional): 115 W. PLEASANT PORTAGE, WI 53901

Daytime Phone Number (optional): 608 742 2176

Email Address (optional): aaron.jahncke@portagewi.gov

Please Print Comments (attach additional sheets if necessary)

SPEED STUDY IS NEEDED FROM I39 HEADING EAST ON ON HWY 33 TO WI RIVER BRIDGE ON HWY 33 ON THE W. SIDE OF PORTAGE.

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Meeting Action Items

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Baraboo Officials Stakeholder Meeting

WisDOT Project ID 5090-04-09
September 27, 2016
10:00 a.m. to 12:00 p.m.
City Council Chambers, Baraboo, WI

Attendees:

- WisDOT—Francis Schelfhout, Tom Koprowski
- TranSmart—Charles Wade, Sue LeBrun
- AECOM—Nathan Guequierre
- Village of West Baraboo—Bob DeMars
- City of Baraboo—Mike Palm, Ed Geick, Tom Pinion

Meeting Purpose:

The purpose of the meeting was to review draft study access and geometric concepts with the Village of West Baraboo and city of Baraboo ahead of future meetings.

Action Items and Notes:

The following Action Items were discussed at the meeting:

- TranSmart to ensure Access Concepts and timing are clearly explained during the meetings.
- A study of the US 12 (Pine Street)/WIS 33 intersection will determine if a roundabout is a feasible option as part of the County BT designation once the US 12 Bypass corridor is opened. The study also examines removing portions of the existing median along US 12 north of the WIS 33 intersection. There is also a concern over right-of-way impacts of a roundabout at this intersection. WIS 33 displays will include a note to support further study of the intersection as a roundabout in conjunction with Mulberry Street.
- WIS 33 displays will indicate further study of Mulberry Street as a roundabout pending the findings of the US 12/WIS 33 intersection study findings.
- TranSmart will secure a copy of the Village of West Baraboo Comprehensive Plan Update when it is released in the near future.
- TranSmart will secure a copy of the city of Baraboo Redevelopment Plan document when it is available.
- TranSmart will update the concept for the former Culver's lot to limit through traffic.
- Crossing guards at the Draper/Berkley intersection stop traffic and cause queuing into the 8th Street signalized intersection.
- WisDOT suggested the city encourage the connecting sidewalk be publicly located rather than on private property as part of the Dominos Site Plan. WisDOT should share the proposed site plan internally and provide any comments to the city.
- A discussion of the ability of Elizabeth Street to meet warrants for a signal was discussed. A thirteen hour count and warrant analysis would be needed to determine this. At this time, it would not meet a warrant based on safety. A study could be conducted closer to an actual project to consider the existing conditions present at that time.

- A discussion of Tuttle Street as a dangerous pedestrian crossing was discussed. The city focuses pedestrian traffic east to Jefferson Street and west to Camp Street as there are no sidewalks along Tuttle. A discussion of addressing pedestrian needs at the intersection in combination with sight-line issues, or the potential for a median or closure of the southern leg of the intersection was discussed.
- A WIS 113 bypass corridor was identified as a north/south corridor to be located east of County T in the late 1990's and is identified in the City's comprehensive plan. TranSmart will follow up with Tom Kratt to determine the status of the corridor.
- TranSmart to follow up with the Baraboo Mayor to add the East Elementary School Principal and other district administrators to our mailing list.

Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Public Involvement Kick-off Meeting

WisDOT Project ID 5090-04-09
February 10, 2016
5:00 p.m. to 7:00 p.m.
Jack Young Middle School, Baraboo, WI

Attendees:

- WisDOT—Tom Kratt, Tom Koprowski, Francis Schelfhout
- TranSmart—Charles Wade, Megan Knutson
- AECOM—Nick Becker
- Local—Approximately twenty five residents attended

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Purpose of Meeting:

The purpose of this meeting was to introduce the study scope and background and to gather input on issues that should be considered from residents' perspective.

Meeting Information:

1. *Presentation*
   - Chuck Wade from TranSmart presented the project background information.

2. *General comments from discussion*
   - Does the crash rate include accidents with deer because deer could significantly change those numbers?
     - Our data only shows non-deer related accidents.

3. ***Open House Session***
   - See attached spreadsheet and map for written comments received during the open house portion of the meeting.

Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Public Involvement Kick-off Meeting

WisDOT Project ID 5090-04-09
February 8, 2016
5:00 p.m. to 7:00 p.m.
Portage High School, Portage, WI

Attendees:

- WisDOT—Tom Kratt, Francis Schelfhout
- TranSmart—Manfred Enburg, Charles Wade, Megan Knutson
- AECOM—Nick Becker
- Local—Approximately seven residents

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Purpose of Meeting:

The purpose of this meeting was to introduce the study scope and background and to gather input on issues that should be considered from residents' perspective.

Meeting Information:

1. *Presentation*
   - Chuck Wade from TranSmart presented the project background information.

2. *General comments from discussion*
   - What is the time frame until construction occurs and what triggered this study?
     - The time frame for this project is dependent on funding. The reasoning for the project is to extend the life of the highway without having major expenditures. The end project will be a report that will be used if a construction project is funded for highway 33 between Baraboo and Portage
   - Truck issue and problem causing damage to the pavement
     - The truck problem in this area may lead to a new bypass. A bypass is not included for study under this project. More information will need to be collected on where the trucks are coming from and going to. The number of semi-trucks opposed to dump trucks will also need to be studied.
   - Speed issue and speeding where the speed changes from 55 to 25 mph. A resident living in this area had a driver crash in his front yard.

- An idea for this area would be adding urban design elements so the driver realizes they are approaching a city corridor. An example could include lighting on the bridge, signs, etc. Also, the speed in this area will be studied to see if changes need to be made.

3. ***Open House Session***

- See attached spreadsheet and map for written comments received during the open house portion of the meeting.

WIS 33 Public Involvement Meeting Comments

Meeting	Number	Sheet	Comment
PIM1		General Comment	It is safer for me to travel up to City Views Man Mound Rd - East of Baraboo to get home onto Rocky Point Rd than on Hwy 33 in the summer because of added traffic due to vacationers
PIM1		General Comment	Need to improve aesthesis around West Baraboo on Hwy 33
PIM1		General Comment	Too many drivers speed between Baraboo and Portage. People pass going 60-65 mph. They do not realize how many deer are on this road day and night. I have hit two deer this year. 55 mph at night seems too fast. People even pass in no passing zones. This is a beautiful corridor people should slow down and enjoy it.
PIM1		General Comment	Safety issue: we need bypass alternatives for trucking through downtown portage
PIM1		General Comment	Heavy use by farm equipment and grain trucks, etc. be nice to get them off WIS 33 shoulders but they're tearing down the roads too
PIM1		General Comment	Need to limit semi traffic in Portage
PIM1		General Comment	Need bike lanes on Hwy 33 Urban Baraboo and turn lanes at major cross roads
PIM1		General Comment	Baraboo is currently doing an east side redevelopment plan. We would like to welcome inclusion into the study project
PIM1		General Comment	Albert Street is a safety issue
PIM1		General Comment	Need to limit agriculture vehicles on Hwy 33 between Baraboo and Portage
PIM1		General Comment	Shoulder on WIS 33 are too narrow
PIM1		General Comment	That UW-Baraboo Sauk Co. Campus on I-90/94 south has no excite besides Dells or Portage. It should be at the Kalahari exit (not the Portage exit) this bugs me every time I pass it
PIM1		General Comment	Much property on 33 (downtown) has become rental
PIM1		General Comment	Eastbound traffic leaving Portage is the bigger problem, as some vehicles are only travelling 35 mph in the 45 mph zone resulting in aggressive driving behavior in the area. He also, wondered if a radar sign to show under speed may be helpful.
PIM1		General Comment	We have lived on Hwy 33 in the Town of Caledonia for 38 years. Few drivers observe the speed limit the go 10-15-20 mph over and sometimes pass on double yellow. Anytime there is a straight part in the road people speed. People speed everywhere.
PIM1		General Comment	We live next to the Williams Quarry, those trucks are rough on the road
PIM1		General Comment	Deer are a big problem on the road we hit two in the last year

Meeting	Number	Sheet	Comment
PIM1		General Comment	Albert St is a problem hard to see cars coming and hard to know if cars are coming
PIM1		General Comment	Westbound traffic is driving too fast. Vehicle speeds are 60 mph in the 55 mph area and they are still travelling 55 mph in the 45 mph zone near Foot Road. Wonder if a radar sign would help.
PIM1		General Comment	Many of these trucks have no connection to our area just use as a driveway
PIM1	257	1	Hwy 33 through Baraboo is rough and deteriorated
PIM1	131	1	Need car parking near River Walk path near Weber Realty in Baraboo (lower Oschner Park)
PIM1	162	1	Combination of truck loads on Hwy 33 to I- 90 about 100 / day and tourism CTH / US 12
PIM1	123	1	Need more room to turn; tractors clime curb on inside
PIM1	164	1	Ash St to the east is narrow
PIM1	23	1	Facing south from Ash street it is hard to see traffic coming from east because of the elevation change in the road
PIM1	278	1	Traffic going west are hard to see from cars going east because of the hill on 8th east of Ash St
PIM1	163	1	East St westbound to South bound needs left turn lane CTH a to the north - short cut to Wisconsin Dells
PIM1	152	1	Stop light on East and 8th St. should have turn arrows
PIM1	188	1	Left turn arrows on East and 8th St stripe left lane for left turns only. I have witnessed crashes here.
PIM1	124	1	Road is not wide enough to allow safe four lanes. Also, east of CTH A intersection needs a turn lane north and south
PIM1	215	1	Offset intersection crossing: issue with school to the south and Hospital to North
PIM1	169	1	Very busy intersection, complicated with the Kwik Trip traffic. Hard to turn left from Elizabeth onto 8th St. The resident in the northeast corner needs to cut down the bush on the corner
PIM1	186	1	Consider a stop light for the intersection of Elizabeth and 8th St because of high traffic to hospital and clinic and entering and exciting Kwik Trip. I have witnessed crashes here.
PIM1	216	1	Bike lane would be nice
PIM1	109	1	Tough left turn onto Tuttle; can it be widened
PIM1	237	1	School crossing - Safety
PIM1	187	1	Remove jog at Jefferson and 8th St unsafe intersection for children crossing to School busy intersection with unusual and awkward turns to go south and north
PIM1	150	1	Align Jefferson St the offset intersection is dangerous
PIM1	106	1	Need a crosswalk and stop light here for kids going to school. Too much traffic. One cant turn left on to Hwy 33 from Jefferson and Ringling Blvd. during the summer.
PIM1	214	1	Offset intersection crossing: issue with school to the south and Hospital to North

Meeting	Number	Sheet	Comment
PIM1	230	1	The road is too narrow for two lanes in both direction especially when meeting a semi in both directions
PIM1	22	1	All of 8th Ave. in Baraboo should be concrete and not asphalt
PIM1	125	1	8th St needs to be wider to allow two lanes of traffic
PIM1	258	1	Intersection accident incident rate used to justify putting rumble strips in but is not in rumble stripped segment of Wis 33
PIM1	236	1	Aesthetically pleasing entrance
PIM1	107	1	Traffic is too fast
PIM1	229	1	I do not care for rumble strips I my area. There is not enough space between center and side. I am not sure when the rumble strips were added but the residents don't like them.
PIM1	238	1	Passing lane periodically
PIM1	122	1	(No comment given)
PIM1	259	1	Accident frequency rate of this section of 33 did not achieve threshold established for putting in rumble strips yet they were put in anyway without any opportunity for resident feedback
PIM1	260	1	Consider wider shoulders that allow for moving rumble strips off the fog line and/or shallower strips to reduce noise to residents along 33
PIM1	112	2	Visibility and confusion with both rumble strips
PIM1	166	2	Right turning traffic onto Hwy 33 from CTH X has poor visibility due to angle of intersection and coming over high side of super elevation
PIM1	240	2	Turn visibility is bad
PIM1	111	2	Left turn pocket at CTH X is too Short
PIM1	113	2	Passing and hydroplaning between CTH X and CTH U
PIM1	135	2	Bike lane between CTH X and CTH U would be nice. The county roads are great but no way to get between them
PIM1	167	2	Left turning traffic onto Man Mound Rd has insufficient sight distance to the north given high traffic speeds
PIM1	239	2	turn onto Man Mound Road has insufficient sight
PIM1	114	2	Bridge to the west is not as good of shape as bridge to the east - base course is not consistent
PIM1	249	3	A deer came down the slope at noon in summer 2015; damage was $950
PIM1	198	3	Cascade Mountain Rd is a terrible intersection during ski season
PIM1	197	3	Yield sign at top of I-90/94 ramps should be stop sign. I have to hit my breaks because someone ignores the yield signs at least twice a week.
PIM1	265	3	Should have stop signs coming off intersection
PIM1	110	3	Southbound Ramp from WIS 33 to 90 is a quick right turn
PIM1	211	3	Speed reduction from 55 to 45

Meeting	Number	Sheet	Comment
PIM1	273	3	Road speed limit is too fast should be reduced to 45 mph
PIM1	248	3	A deer jumped on my Honda in a snow storm Jan. 2015 damage was $6000
PIM1	282	3	Add bike path? That would be great
PIM1	8	3	Speed limit needs to be reduced when entering Portage (west side) where the speed limit changes from 55 to 25 mph there is not enough time for transition. Trucks and other traffic come into town too fast.
PIM1	207	4	Heavy truck traffic coming off of MacFarlane Rd to Wis 33. Curb constantly being run over and now needs to be replaced.
PIM1	210	4	Truck traffic through another location to bypass downtown
PIM1	208	4	Heavy truck traffic though downtown (day and night). Safety concerns for people getting in and out of cars downtown.
PIM1	24	4	Get trucks out of down town Portage. Make left turn prohibited at 16/33 and 33/51
PIM1	274	4	Trucks are a major issue
PIM1	223	4	De Witt St: opportunity for new pedestrian crossing. Pedestrians and other crossing between Columbia County's current campus and the county's new development
PIM1	263	4	The intersection of WIS 33 and East Albert Street in Portage needs traffic control because traffic can not entering WIS 33 from East Albert Street because oncoming traffic is too fast.
PIM1	222	4	Albert St intersection: opportunity for new traffic control to accommodate future residential growth and business retail expansion
PIM1	255	4	E Albert St access to Hwy 33 is dangerous. Canal bridge hides the small cars coming from the east cause cars to pull out into oncoming traffic.
PIM1	272	4	Southbound HWY 51 to east WIS 33 there is vision restriction looking west on WIS 33
PIM1	143	4	Very hard to see traffic on 33 or if on 33 hard to tell if those on Albert St. see you
PIM1	209	4	Wis 33 "Truck Route" bypass downtown
PIM1	275	4	Bypass trucks away from downtown and not through downtown
PIM1	262	4	Problems with passing zone on the eastside of Portage and with traffic from the east speeding.
PIM1	256	4	Cars pass on the right when a car is turning left coming from downtown Portage
PIM1	224	4	Opportunity to better educate the presents of Amish horses on the eastern part of the corridor near Hwy 33 and Hwy 22

Map 1

Public Meeting Comments
(2/8/2016 & 2/10/2016)

WIS 33 Corridor
Preservation Study

1 In = 1000ft

TranSmart TECHNOLOGIES

Village of West Baraboo

City of Baraboo

Town of Greenfield

12

33

257 131 162 278 23 164 123 163 152 188 124 215 216 169 186 109 237 150 106 214 230 22 187 125 258 236

125 258 107 236 229 238 259 122 260

Public Comments

- 2/8/16
- 2/10/16

Map 2

Public Meeting Comments
(2/8/2016 & 2/10/2016)

WIS 33 Corridor
Preservation Study

1 In = 1000ft

TranSmart TECHNOLOGIES

Town of Greenfield

Town of Fairfield

Town of Fairfield

Town of Caledonia

33

112
166
240
111
113
135
239
167
114

Public Comments

- 2/8/16
- 2/10/16

Map 3

Public Meeting Comments
(2/8/2016 & 2/10/2016)

WIS 33 Corridor
Preservation Study

1 In =
1000ft

TranSmart TECHNOLOGIES

Town of Caledonia

City of Portage

249

198

197

110

265

8

282

248

211

273

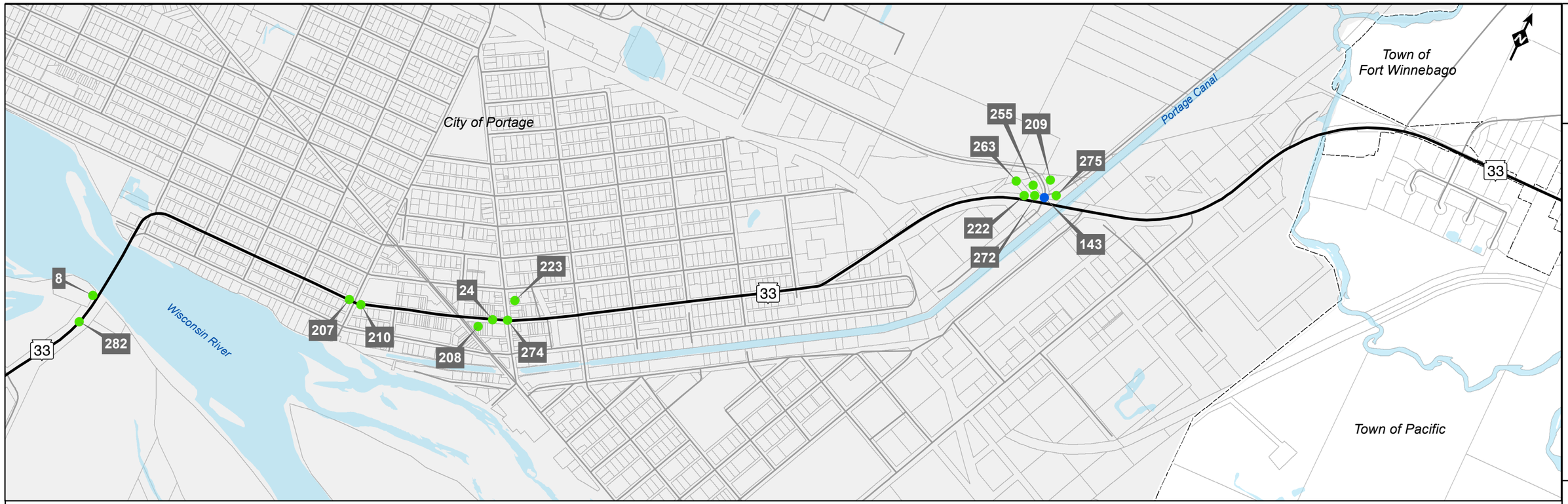
33

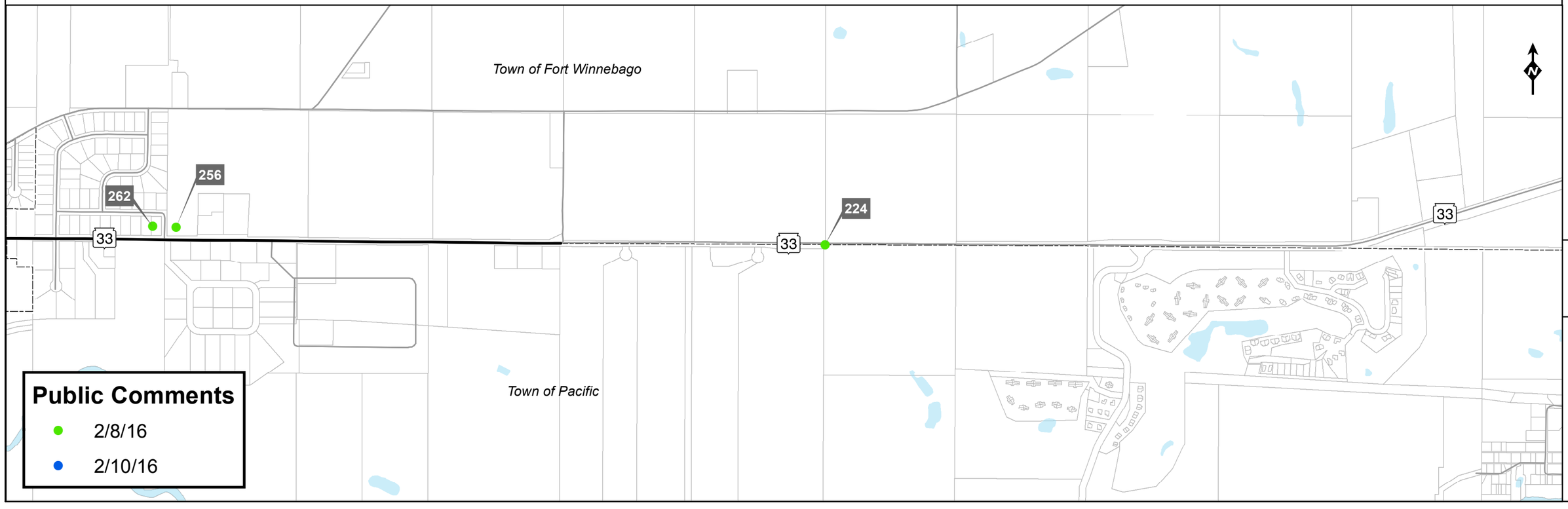
90

39

Public Comments

- 2/8/16
- 2/10/16





Map 4

Public Meeting Comments
(2/8/2016 & 2/10/2016)

WIS 33 Corridor
Preservation Study

1 In =
1000ft

TranSmart TECHNOLOGIES

Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Local Officials/Agency Kick-off Meeting

WisDOT Project ID 5090-04-09
February 3, 2016
5:00 p.m. to 7:00 p.m.
City Hall Basement, Portage, WI

Attendees:

- WisDOT—Tom Kratt, Tom Koprowski, Brain Taylor
- TranSmart—Manfred Enburg, Charles Wade, Megan Knutson
- AECOM—Nick Becker
- Local Officials—Approximately fifteen officials attended representing the following communities: Columbia County Sheriff's Office, City of Potage, Portage School District, Portage Police Department, and Town of Fort Winnebago

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Action Items:

Find out truck volumes coming from the quarry

Purpose of Meeting:

The purpose of this meeting was to introduce the study scope and background and to gather input on issues that should be considered from the local officials' perspective.

Meeting Information:

1. *Presentation*
   - Chuck Wade from TranSmart presented the project background information.

2. *General comments from discussion*
   - The sheriff commented that the increase in truck volume could be due to the two ethanol plants located east of the study area: United Wisconsin Grain Producers LLC in Friesland and Didion Milling Inc in Cambria. With one of the large farms being Luther Farm between Rocky Point and CTH T sending materials to both plants.
     - He asked if the roads weight limit for construction needed to be adjusted so the road could handle the truck volume more efficiently so less damage to the road would occur.

    - He noted that road is starting to "Rutt" due to truck traffic. He was also concerned as the last resurface was only a few years ago. He wanted to know if this study would look at the weights of trucks.
- Increased truck volumes also are affected by the expansion of the quarry. Truck volumes fluctuate based on area construction projects.
- Doug Klapper suggested that a lower speed limit may be needed along WIS 33 on both the east and west sides of Portage.
    - The west side of Portage should be lowered because of pedestrians trying to access the historical sites that include Fort Winnebago, Surgeons Quarters and the Wauona Trail.
    - The east side of Portage the speed goes from 70 to 55 to 25 mph. Once you cross the Wisconsin River Bridge and a 90 degree curve is needed, there are multiple crashes per year due to traffic not slowing down enough.
    - Chuck noted that a speed study would need to be conducted to do this and most likely would show that the limit should not change. It has also been noted that crashes increase when the speed limit is lowered due to traffic still traveling the speed they use too.
- He also, wants the passing zone on the west side of Portage to be eliminated
- Intersections that were noted as problem areas were:
    - W Wisconsin Street because of the added volume of traffic going to the BP and visibility. It is also, an intersection that has pedestrian crossing issues.
    - De Witt Street for pedestrian crossing
    - Pierce Street due to speed limit and pedestrian crossing
    - Access to Adesa due to viability and the sort approach. Also a dip in the road after the interchange.
    - County Roads A and T because they are used as alternate routes to Wisconsin Dells and have seasonal tourism traffic.
    - Cascade Mountain Road
- Other areas that were noted as unsafe for pedestrians included WIS 33 between the railroad bridge and Albert Street (east side of Portage) because the shoulder width is not large enough to accommodate runners or bikers (Richard). General comments were also, made that there are geometry issues in rural parts of the study area as well as poor pavement that causes areas to be unsafe.
- The city of portage has already eliminated street parking on the north side of town so that fewer accidents with parked cars occur. During the winter semis would clip mirrors off parked cars because there was not enough room for them to drive down the road.
- Aaron Jahncke suggested making cross walk markings throughout the corridor consistent so drivers know when to expect to see pedestrians. The current markings vary from none, to different patterns.

3. *Comments from Open House Session*
    - There have been rear end crashes at Carimaunee Drive due to inattentive driving or passing vehicles waiting to turn into the intersection.
    - Problems with hydroplaning due to ruts in the road.

Meeting Minutes

WIS 33 Corridor Preservation Study
US 12 to Garrison Road (Sauk and Columbia Counties)
Local Officials/Agency Kick-off Meeting

WisDOT Project ID 5090-04-09
February 3, 2016
1:00 p.m. to 3:00 p.m.
City Services Center, Baraboo, WI

Attendees:

- WisDOT—Tom Kratt, Tom Koprowski
- TranSmart—Manfred Enburg, Charles Wade, Megan Knutson
- AECOM—Nick Becker
- Local Officials—Approximately ten officials attended representing the following communities: City of Baraboo, Village of West Baraboo, Town of Fairfield, and Columbia County
- Other Agencies—Kerrie Hauser (USACE)

Materials Distributed:

- Study FAQ
- Comment Form
- Preservation study map

Action Items:

- Add Bike club, Downtown Baraboo inc., and Chamber of Commerce to mailing list
- Traffic on highway 12 will need to be looked at for how construction will impact the area (Tom Kratt)
- Find truck volume information
- Maps are needed to reflect limits of West Baraboo

Purpose of Meeting:

The purpose of this meeting was to introduce the study scope and background and to gather input on issues that should be considered from the local officials' perspective.

Meeting Information:

1. *Presentation*
   - Chuck Wade from TranSmart presented the project background information.

2. *General comments from discussion*
   - Tom Pinion had concern about pedestrian crossing and the need for improvement so that pedestrians and crossing gauds are safe. There are currently five (5) locations within Baraboo. There is also a concern that vehicles have a tendency to not stop for crossing guard and/or pedestrians.

- Tom also, had concerned with the excessive speed people were driving, the conflict with access, and competing left turn.
    - A Suggestion to convert the existing four-lane section of WIS 33 into a three-lane section with continuous left-turn lane was made. The road diet would be a traffic calming measure.
    - Other suggestion were to add a pedestrian red light like they have in Lake Delton and La Crosse, adding more technology to make people more aware of their speed like portable speed readers and signs, and increase enforcement of the speed limit
- Bob De Mars of the Village of West Baraboo noted that the access to Kwik Trip located in the north-east quadrant of the US 12/WIS 33 intersection is causing additional turns at Mulberry Street. Since, Kwik Trip is only assessable when going westbound on WIS 33; drivers use Mulberry Street as a turn around. This is making Mulberry Street a dangerous intersection because of added traffic and increased turns.
- Bob also, notes problems with offset streets throughout the area, speed concerns, and added truck traffic in the summer
    - Roundabouts, conversion to right-in/right-out, and local road closers could be possible strategies to be investigated as part of the study to address the offset public street connections.
    - It was also noted that West Baraboo will be doing some improvements to roads in the study area.
- Truck traffic
    - During summer construction, the increase of dump trucks on WI 33 going east-west is increased significantly with the quarry that is just east of Baraboo off WIS 33. It was suggested that a traffic count should be done in the summer to determine the increase of truck traffic. Also contacting the quarry to see if they would say how many trucks they average. A comment was made that the dump trucks equal the number of cars on WIS 33
    - Chris Hardy made a comment of the added truck traffic eastbound being related to Walmart in Beaver Dam.
    - A comment was made that there is a major difference in the truck type/destinations along the corridor. These types range from semi's to dump trucks to very large farm equipment. Some of the farm equipment is about 20'.
- Chris Hardy also, said the one way pair was a 30 year old design.
- Bob also noted that they have water main under the road that was built in 1935 and 1940 that is about four feet deep. With the amount of trucks on WIS 33, they have a concern with the age and depth of the water main.
- Wade Peterson noted that oversize farm equipment use of WIS 33 is not uncommon along the length of the corridor and some equipment will take up both lanes of the four-lane section in Baraboo so improvements need to accommodate for them.
- Intersections that were noted as problem areas were:
    - County road U due to visibility (Tim Stone)
        - Town of Fairfield noted this was where the Fire department responded to the most in the township. Any improvement would be better then what is currently there.
    - Highway 12 due to speed issues (Tom Pinion)

    - Elizabeth due to access to Kwik Trip (Tom Pinion)
    - Birch Street from the north due to visibility to the east (Tom Pinion)
    - Mulberry due to access to Kwik Trip (Bob De Mars)
    - Offset intersection near the schools and hospital due to added traffic volume
- One suggestion made was for the towns and city to look into grants that could aid in pedestrian safety.
- The City of Baraboo also, has a RFP to look at economic redevelopment along HWY 33.
- It was also, noted that the City of Baraboo is discussing changes and possible redevelopment on and around the fairgrounds.

Appendix E: Bike and Pedestrian Technical Memoranda

AECOM
Memorandum

AECOM
1555 N. Rivercenter Drive
Suite 214
Milwaukee, WI 53212
www.aecom.com

414 944 6080 tel
414 944 6081 fax

To	Chuck Wade, Transmart
CC	
Subject	Project ID 5090-04-09 / WIS 33 Corridor Study **Bicycle and Pedestrian Facilities Evaluation** Technical Memorandum #1: Baraboo Bicycle and Pedestrian Facilities Summary
From	Nathan Guequierre, AECOM
Date	September 12, 2016

I Introduction

The WIS 33 Corridor Study evaluates travel conditions on a 21-mile segment of Wisconsin State Trunk Highway 33 in Sauk and Columbia Counties. Technical memorandum 1 summarizes existing conditions for bicycle and pedestrian travel in Baraboo, at the study corridor's western end. It focuses on issues and opportunities to improve bicycle and pedestrian safety and convenience. The bicycle and pedestrian issues detailed in this memo were identified through stakeholder input, a field review, analysis of crash reports from the Baraboo police department and a spatial analysis to locate key bicycle and pedestrian generators. It includes short- and long-term recommendations to improve conditions for non-motorized travel in Baraboo in conjunction with other corridor improvements.

II General Conditions for Bicycle and Pedestrian Travel

Cyclists and pedestrians are generally well accommodated in the Baraboo segment of the study corridor, between US 12 (W. Pine Street) and County Highway T. Sidewalks with at least minimal terraces are present along most blocks of WIS 33 and on most intersecting streets; traffic speeds are slow enough to allow motorists time to see and react to pedestrians attempting to cross the highway; and higher volume intersections are controlled with signals with pedestrian signalheads. There are many driveways allowing vehicular access to the mainline on WIS 33, but for the most part these are designed to keep the sidewalks level; there are several exceptions to this east of Jefferson Street.

Curb ramp and crosswalk marking treatments vary throughout the segment. One issue of note is the presence of offset intersections. During stakeholder involvement activities, these intersections were called out as presenting safety and convenience challenges for people attempting to cross the highway, particularly in areas near schools.

There are currently no bicycle facilities on WIS 33 in Baraboo.

Four pedestrian and automobile crashes at intersections along WIS 33 were reported in Baraboo in the past five years (2010-2014). The crash data are summarized in Section V at the end of this memo. In all four scenarios, pedestrians were struck by an automobile while crossing the highway in a marked crosswalk.

In order to improve operations and safety along WIS 33, a road diet is being proposed. The road diet would reduce WIS 33 from a four-lane cross section to a three-lane section, with a single vehicle lane in either direction and a shared left turn lane in the center; outside bicycle lanes would be included in both

directions. Road diets are known to significantly slow vehicular traffic, creating environments that are safer overall for pedestrians and cyclists.

Issues and opportunities for non-motorized transportation in the WIS 33 corridor in Baraboo are summarized in Figure 1. This figure shows pedestrian and bicycle travel generators such as schools, parks, commercial districts, multifamily housing and community facilities; conflict zones at intersections as reported by stakeholders; pedestrian crash locations; and blocks that lack sidewalks. The numbered intersections in Figure 1 relate to location-specific recommendations outlined in Section IV.

The following section details general recommendations to improve bicycle and pedestrian travel in the corridor. These actions may be undertaken in coordination with future roadway reconstruction or as opportunities arise.

Figure 1: Issues and Opportunities for Non-Motorized Transportation

III General Recommendations to Improve Bicycle and Pedestrian Travel

The following recommendations apply throughout the Baraboo segment of the WIS 33 study corridor. They may be implemented during reconstruction of the roadway or as opportunity arises.

Driveways and Access Points. When reconstructing WIS 33, ensure consistent treatment of driveways that cross the sidewalks. Access points can be consolidated as practicable to reduce the number of crossings of the sidewalk. Driveways should be constructed to provide a continuous, level walkway for pedestrians and with the minimum turn radii at the street to prevent higher speed turns into and out of driveways. See US DOT publication FHWA-SA-04-003, *Pedsafe: Pedestrian Safety Guide and Countermeasure Selection System*, section 5.11 (Driveway Improvements).

Bicycle Facilities. There are currently no bicycle lanes on WIS 33 or adjacent streets. Prior to reconstruction of the highway, it may be possible to designate a bicycle route on a low speed, low volume parallel street north or south of WIS 33, such as 7th Street or 9th Street.

Terrace Design and Parking Buffers. Consistent terrace widths and landscaping treatment at back of sidewalk would benefit pedestrians by providing separation from moving vehicles, providing space for adequate crosswalk treatments, and providing space for signage, lighting and snow storage. Buffer widths should be six feet wherever practicable. See US DOT publication FHWA-SA-04-003, *Pedsafe: Pedestrian Safety Guide and Countermeasure Selection System*, Appendix C (Sidewalks and Walkways). There is much surface parking in commercial areas along the highway. In many cases, private parking lots are paved right to the back of the sidewalk, creating situations in which there is no demarcation between areas for vehicle and areas for pedestrians. (See Figure 2.) In areas where right-of-way is sufficient, provision of a landscaped buffer between surface parking and sidewalk would alleviate this problem. Alternatively, the City could update landscaping requirements to ensure that property owners provide such a buffer when resurfacing their parking lots. Such buffers can also be designed to provide stormwater management benefits.

Figure 2 - Example of missing sidewalk connectivity along HWY 33

Crosswalks and Curb Ramps. All intersections along WIS 33 in Baraboo could benefit from universal crosswalk designs and perpendicular curb cuts/ramps. Choosing a universal design for all crosswalk markings could help alert drivers when to expect pedestrians. The Federal Highway Administration recommends continental crosswalk markings as it is the most visible to drivers (Knoblauch et al., 1988). According to the Federal Highway Administration, perpendicular curb ramps are preferred as they keep pedestrians within crosswalks, provide a straight path of travel and allow pedestrians to cross at expected positions. See Figure 3. Adding continental crosswalk markings to all crosswalks will help unify the corridor and set uniform expectations for crossing locations (see Figure 4).

The detailed recommendations below add additional safety measures to intersections that have been identified as having difficult conditions. Pedestrian scale lighting specifically designed to illuminate crosswalks has been shown to a have significant crash reduction factor.

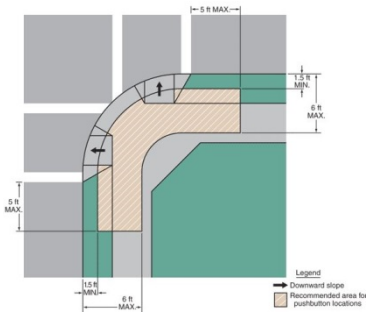


Figure 3 - Perpendicular curb ramps (MUTCD Chapter 4, Pedestrian Control Features)

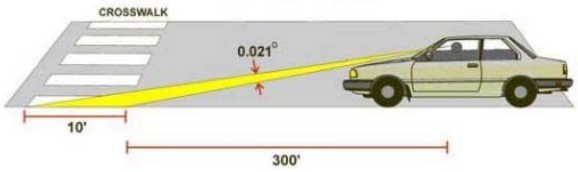


Figure 4 - Continental crosswalk markings (ITE Professional Development Complete Streets)

IV Recommendations for Specific Locations

The detailed recommendations below add additional safety measures to intersections that have been identified as exhibiting challenging conditions for bicycle and pedestrian travel. The locations are arranged from west to east in the Baraboo segment of the WIS 33 study corridor and relate numerically to the intersections highlighted in Figure 1 (above).

1. WIS 33 and Connie Rd / Cedar St. – 80' offset intersection

Issues

Connie Rd sees traffic from both the Baraboo High School and University of Wisconsin campus to the north. Much of the traffic turns left (EB) on to WIS 33. Currently, there is only one marked crosswalk to the west of Connie Rd. Crossing WIS 33 at Cedar St. is difficult because there are no marked crosswalks and there is a large driveway north of Cedar St. which leaves no room for a curb cut to allow for safe pedestrian access.

Opportunities

In order to make this offset intersection easier for pedestrians, an additional crosswalk should be added east of Cedar St. with a curb cut on both sides.

Long Term

The business to the north of Cedar St. should remove the hardscape in front of their business in addition to their extremely wide driveway. This would allow greater visibility and better access for pedestrians crossing WIS 33 and for those using the sidewalk in front of the business.

2. WIS 33 and Draper St. - Signalized T Intersection

Issues

Baraboo High School is located to the north of the intersection generating large bicycle and pedestrian volumes. The sidewalk on the south side of WIS 33 extends only midway through the intersection, with only one marked crosswalk and curb ramp located on the east side of the intersection. Traffic traveling eastbound on WIS 33 may have limited visibility of this school crossing due to the curve of the roadway.

In 2011 a pedestrian was struck in the crosswalk crossing HWY 33.

Opportunities

In order to slow down traffic coming off the bend around the river, a gateway feature could be implemented west of the intersection, alerting motorists that they are entering an area with higher pedestrian activity. Additionally, refuge medians could be incorporated to protect pedestrians crossing WIS 33. Finally, the signal cycle could include an automatic pedestrian phase or leading pedestrian interval during heavy use periods.

Long Term

The sidewalk south of WIS 33 should be extended through the intersection and an additional crosswalk and curb ramps added to the west side of the intersection. The pedestrian path through the park to the south could be reconfigured to align with the intersection of Draper St. and WIS 33, offering better pedestrian access.

3. WIS 33 and Summit St. – 2-way stop

Issues

Businesses on both sides of WIS 33 to the west of Summit St. have large driveways. The business to the southwest does not have sidewalks and is therefore difficult for pedestrians to navigate.

One recent pedestrian crash occurred at this intersection, in which a pedestrian walking a bicycle was struck crossing WIS 33 NB in the east crosswalk.

Opportunities

The sidewalk in the southwest quadrant should be extended to help define pedestrian zones vs. parking zones.

Long Term

Businesses to the north and south of WIS 33 should reduce their driveway widths where possible to help slow traffic and increase pedestrian visibility. Buffers should be added between sidewalks and parking areas to increase pedestrian safety and allow for stormwater management and snow storage.

4. WIS 33 and Wood St. - Center St. – 2-way stop with 90’ offset intersection

Issues

This intersection is a major pedestrian crossing due to the presence of an elementary school to the south of WIS 33. Wood and Center both intersect WIS 33 to the north and south respectively within 90’ of one another, creating a confusing intersection for motorists, bicyclists and pedestrians alike.

Opportunities

Install a median spanning the 90' gap between Center and Wood to allow pedestrians to cross within the median, safe from traffic (see Figure 5 below). Make use of pedestrian crossing signs/beacons as well to raise motorist awareness of the presence of pedestrians.

Long Term

If the opportunity presents itself, the City of Baraboo should consider acquiring property between Wood and Center St. so that they could eventually be realigned to meet without an offset. This would result in a safer intersection for both pedestrians and vehicles.

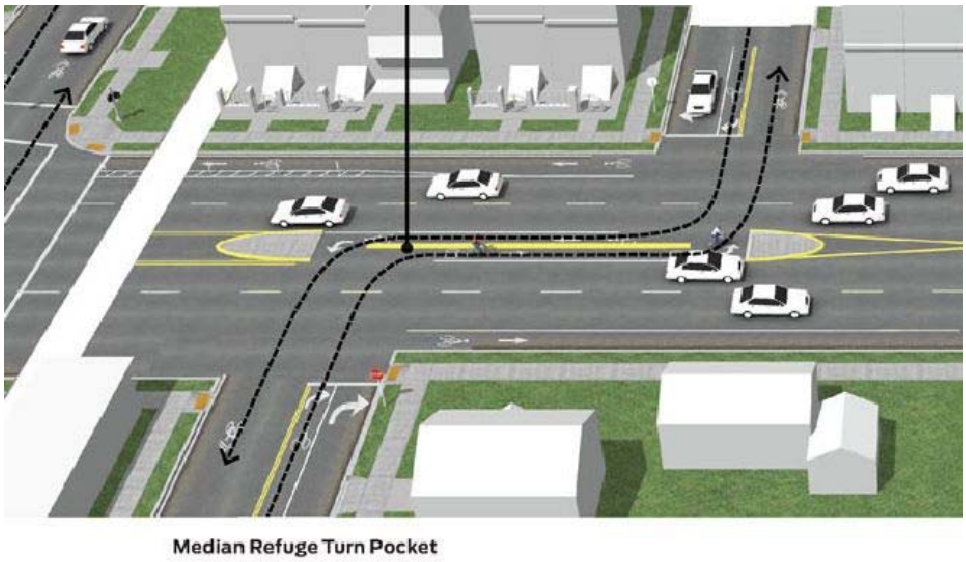


Figure 5 - Median Refuge Pocket (NACTO Urban Bikeway Design)

5. WIS 33 and Broadway – Signalized T Intersection

Issues

Broadway is the connection from WIS 33 to Baraboo's downtown which draws pedestrians and bicyclists. Currently there are no signs directing pedestrians, bicyclists or vehicles of this link to Baraboo's pedestrian friendly central business district.

Opportunities

Add wayfinding signs directing traffic to downtown Baraboo. Add pedestrian phase to signal if one does not currently exist. Add medians to give pedestrians refuge while crossing WIS 33.

Long Term

Consider redesign of right turn splitter island (for traffic northbound on Broadway) to lengthen entrance tail of island to reduce turning radius and improve visibility of pedestrians crossing both WIS 33 and Broadway. See US DOT publication FHWA-SA-04-003, *Pedsafe: Pedestrian Safety Guide and Countermeasure Selection System*, section 5.15 (Improved Right-Turn Slip Lane Design).

6. WIS 33 and Barker St. – 2-way stop / 30' offset intersection

Issues
Offset intersection makes crossing WIS 33 difficult for pedestrians. There is also poor visibility in this location due to an existing retaining wall along WIS 33.

Opportunities
Treat the offset streets like a regular intersection by bringing crosswalks out to meet Barker St. (see figure 6 below).

Long term
If the opportunity presents itself, the City of Baraboo should consider acquiring property between Barker St. to the north and south so that the street could eventually be realigned and meet without an offset. This would result in a safer intersection for both pedestrians and vehicles. Consider removing retaining walls along WIS 33 to improve visibility.

Figure 6 - Offset Intersection Crosswalk Treatment (NACTO Urban Bikeway Design Guide)

7. WIS 33 and Wheeler St. - Tuttle St. – 2-way stop / 50' offset intersection

Issues
The offset intersection makes crossing WIS 33 difficult for pedestrians. There is also poor visibility due to retaining walls along WIS 33.

Two recent pedestrian and vehicle accidents occurred while pedestrians attempted to cross WIS 33.

Opportunities
By treating the offset intersection as a normal intersection and extending crosswalks to meet both Wheeler and Tuttle, pedestrian crossing should be improved (see figure 6 above). Because there have been two recent pedestrian crashes, flashing pedestrian beacons could also be incorporated to improve pedestrian safety. If safety issues persist, add a refuge median as recommended at the intersection of WIS 33 with Wood and Center Streets. Remove the extraneous curb cut in the southwest quadrant of the intersection.

Long term
If the opportunity presents itself; the City of Baraboo should consider obtaining property between Wheeler and Tuttle St. so that they could eventually be realigned and meet without an offset. This would result in a

safer intersection for both pedestrians and vehicles. Consider removing adjacent retaining walls to improve visibility.

8. WIS 33 and Jefferson St. – 2-way stop / 50' offset intersection

Issues
High pedestrian traffic appears at Jefferson St. because of adjacent institutional and commercial uses to the north of WIS 33 and an elementary school to the south. The offset intersection makes crossing WIS 33 difficult for pedestrians.

Opportunities
Install a median spanning the gap between Jefferson St. to allow pedestrians to cross within the median, safe from traffic (see Figure 5 above). Make use of pedestrian crossing signs/beacons as well to raise motorist awareness of the pedestrian crossing.

Long term
If the opportunity presents itself, the City of Baraboo should consider acquiring property between Jefferson St. to the north and south so that they could eventually be realigned and meet without an offset. This would result in a safer intersection for both pedestrians and vehicles.

9. WIS 33 and Lincoln Ave. – 2-way stop

Issues
Sidewalk south of WIS 33 ends to the east of Lincoln Ave. in front of a large shopping complex.

Opportunities
Extend sidewalk east of Lincoln in front of shopping center towards County Highway T.

Long Term
Create a transition for bicycles and pedestrians to the rural section to the east. Consider adding a gateway feature to help slow WB traffic coming into the City of Baraboo.

VI Pedestrian Crash Summaries

Four pedestrian-motor vehicle crashes were reported in the Baraboo segment of the study corridor between 2010 and 2014 inclusive.

1. WIS 33 and Tuttle St – May 24, 2010 (9am) pedestrian struck in crosswalk traveling EB along WIS 33 by vehicle turning right onto WIS 33 from Tuttle St. Possible injury; did not go to hospital.
2. WIS 33 and Summit St. – June 18, 2010 (noon) young girl walking her bike NB across WIS 33 was struck by a vehicle in the northernmost lane. Vehicle knocked pedestrian and bike over but caused minor injuries only; did not go to hospital.
3. WIS 33 and Draper St. – December 14, 2011 (5:30pm) pedestrian crossing WIS 33 SB in crosswalk was hit by vehicle turning left onto WIS 33 from Draper St. Pedestrian was taken to the hospital. Wet and icy conditions were present.
4. WIS 33 and Tuttle St. – September 15, 2014 (3:30pm) pedestrian on bicycle crossed Tuttle St. when she was struck by vehicle that was traveling SB on Tuttle. Motorist claims to have not seen pedestrian due to the retaining wall. No medical treatment sought.

AECOM

DRAFT

To	Chuck Wade, TranSmart	Page 1 of 10
CC		
Subject	Project ID 5090-04-09 / WIS 33 Corridor Study **Bicycle and Pedestrian Facilities Evaluation** Technical Memorandum # 2: Portage Bicycle and Pedestrian Facilities Summary	
From	Nathan Guequierre, AECOM	
Date	December 22, 2016	

I Introduction

The WIS 33 Corridor Study evaluates travel conditions on a 21-mile segment of Wisconsin State Trunk Highway 33 in Sauk and Columbia Counties. Technical memorandum 2 summarizes existing conditions for bicycle and pedestrian travel in Portage, at the study corridor's eastern end. It focuses on issues and opportunities to improve bicycle and pedestrian safety and convenience. The bicycle and pedestrian issues detailed in this memo were identified through stakeholder input, a field review, analysis of crash reports from the Portage police department and a spatial analysis to locate key bicycle and pedestrian generators. It includes short- and long-term recommendations, rooted in national best practices, to improve conditions for non-motorized travel in Portage in conjunction with other corridor improvements.

II General Conditions for Bicycle and Pedestrian Travel

Cyclists and pedestrians are well accommodated in the Portage segment of the study corridor, between Pierce St. and Cook St. Sidewalks are present along all blocks of WIS 33 with few driveways interrupting sidewalk continuity. Curb extensions are used in the downtown area of Portage to enhance pedestrian visibility and shorten crossing distances for walkers. The majority of crosswalks are marked with either colored pavement or white paint, and traffic signals with pedestrian signalheads are used at higher volume intersections.

A key issue for walking and biking in this segment of the corridor is the high volume of truck traffic present. Stakeholders identified trucking traffic as degrading the environment on WIS 33 for non-motorized travel. The large number of trucks moving through the corridor lowers the quality of the pedestrian environment through noise, the need for wide turning radii at intersections, and sometimes spurring car drivers to impatient behavior due to delays in traveling through downtown Portage.

Curb ramp and crosswalk marking treatments vary throughout the segment. One issue is the presence of oblique intersections (i.e. intersections with streets crossing at angles other than 90 degrees). During stakeholder involvement activities, these intersections were called out as presenting safety and convenience challenges for people attempting to cross the highway.

There are currently no bicycle facilities in the right of way on WIS 33 in Portage. A planned trail and on-street bike route system has been substantially constructed or signed in parts of the city, although considerable gaps are present. A segment of the Ice Age Trail is located on a route that parallels WIS 33

in portion of the study area, crossing the a railroad and the highway at a grade separated crossings near the eastern limits of the study. The Ice Age Trail is primarily a hiking route and not necessarily intended for high volumes of pedestrian and bicycle traffic. Consequently, facilities at these crossing locations are minimal: they are narrow pathways along the waterways beneath the structures, with no accommodations to enhance safety, such as railings or level travel surfaces.

Two pedestrian-automobile crashes were reported at intersections along WIS 33 in Portage in the past five years (2010-2014). The crash data are summarized in Section V at the end of this memo. In one incident a pedestrian was struck by an automobile while crossing the highway in a crosswalk. The second crash occurred at a midblock location in the central business district.

Issues and opportunities for pedestrian and bicycle travel in the Portage segment of the study area are shown in Figure 1. This includes locations of non-motorized travel generators such as schools and parks, crash locations, and areas noted as problematic by the public.

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Figure 1: Issues and Opportunities - Portage

III General Recommendations to Improve Bicycle and Pedestrian Travel

The following recommendations apply throughout the Portage segment of the WIS 33 study corridor. They may be implemented immediately, during reconstruction of the roadway or as opportunity arises.

Driveways and Access Points Ensure consistent treatment of driveways that cross sidewalks. Access points can be consolidated as practicable to reduce the number of crossings of the sidewalk. Driveways should be constructed to provide a continuous, level walkway for pedestrians and with minimum turn radii at the street to prevent higher speed turns into and out of driveways. See US DOT publication FHWA-SA-04-003, *Pedsafe: Pedestrian Safety Guide and Countermeasure Selection System*, section 5.11 (Driveway Improvements).

Crosswalks and Curb Ramps All intersections along WIS 33 in Portage would benefit from universal crosswalk designs and perpendicular curb ramps. Choosing a consistent design for all crosswalk markings will alert drivers when to expect pedestrian crossings. The Federal Highway Administration recommends continental crosswalk markings as they are the most visible to drivers (Knoblauch et al., 1988). According to the Federal Highway Administration, perpendicular curb ramps are preferred as they keep pedestrians within crosswalks, provide a straight path of travel and allow pedestrians to cross at predictable locations (see Figure 2). Adding continental crosswalk markings to all crosswalks will help unify the corridor and set uniform expectations for bicycle and pedestrian crossing locations (see Figure 3).

The detailed recommendations below add additional safety measures to intersections that have been identified as having difficult conditions.

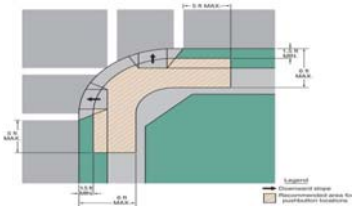


Figure 2 - Perpendicular curb ramps (MUTCD Chapter 4, Pedestrian Control Features)

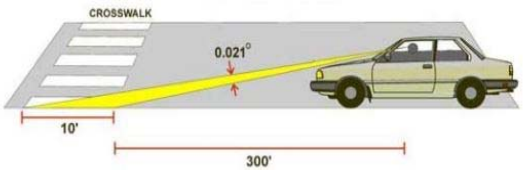


Figure 3 - Continental crosswalk markings (ITE Professional Development Complete Streets)

Bicycle Facilities There are currently no bicycle lanes in the right of way on WIS 33 or adjacent streets. With reconstruction, on-street lanes should be included wherever feasible. In addition to designating a space for cycling (and typically raising biking rates), bicycle lanes have several benefits in a downtown area: they provide an additional buffer between moving motor vehicles and pedestrians on sidewalks; they can be designed to accommodate curb extensions at intersections, they make it easier for motorists to enter and exit cars parked in an adjacent parking lane, and they can lower motor vehicle speeds through the business district by creating the impression of a narrower roadway.

Prior to reconstruction of the highway, it may be possible to designate a bicycle route on a low speed, low volume parallel street north or south of WIS 33, such as W. Edgewater St. or E. Conant St. Called a neighborhood greenway (or bike boulevard), this route could feature traffic calming, bicycle lanes, enhanced crosswalks, curb extensions and improved landscaping such as street trees or green infrastructure to manage stormwater runoff. Such a route could prove an appealing alternative for both walkers and cyclists on a low volume street with little truck traffic.

Outside of the central business district, shoulders should be widened as feasible to better accommodate walkers and cyclists on the rural segments of the highway. This is particularly important on the bridges crossing the railroad, canal and river between downtown Portage and the historical sites located to the east. Currently, the bridges are unsafe for pedestrians with too little space to adequately separate them from high speed motorized traffic.

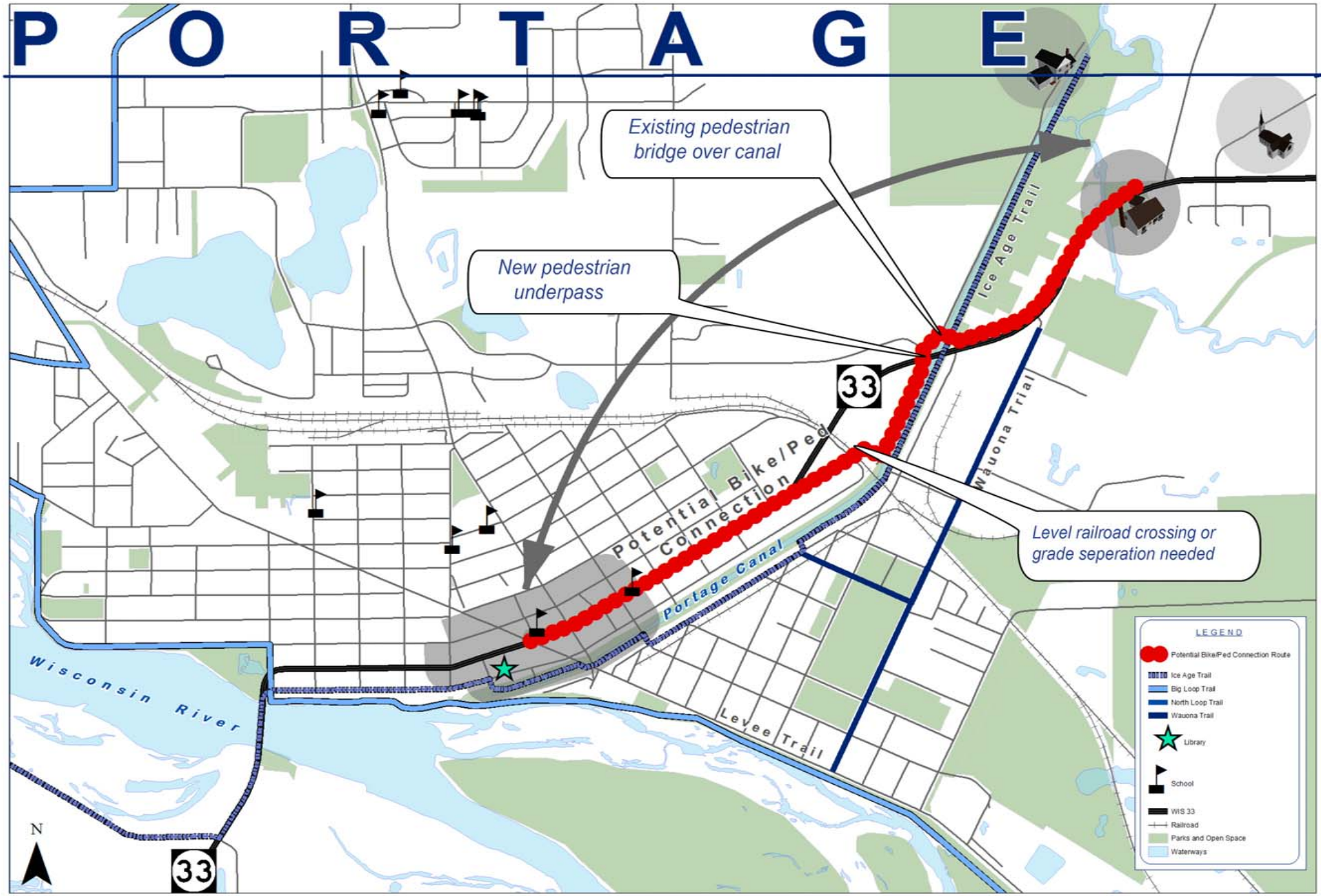
Trail Access and Connectivity Currently, the City of Portage has several planned routes, designated on-street routes and off-street trails comprising an extensive network for bicycle commuting, recreation and leisure travel. When complete, the system will extend throughout the city. As the system develops, priority should be given to enhancing a bicycle and pedestrian friendly trail from downtown Portage to key historic sites (Surgeon's Quarters, Old Fort Winnebago Cemetery and the Indian Agency House) along WIS 33 to the east of downtown. This trail could then serve as a main bicycle and pedestrian corridor through Portage. The idea of a trail connecting historic sites to Portage's downtown is not new, and was brought up by the residents of Portage and has also been addressed in a comprehensive proposal for trail development.

Figure 4 shows a potential route for such a facility. In this scenario, on-street bike lanes would be installed on WI 33 in downtown Portage. Moving eastward, the route would diverge from the state highway at E. Cook Street, across from the Columbia County Jail, and travel on Cook to a crossing of the rail line near the point where E. Cook Street turns southward and loops into E. Edgewater Street. This could be a new level crossing or a grade separated crossing. A new trail would be constructed in the Agency House Road right of way, along the west side of the Portage Canal. At WIS 33, the trail would cross under the highway (as the Ice Age Trail currently does on the east bank of the canal) and connect with the existing pedestrian bridge over the waterway. From the Ice Age Trail parking lot, a new trail would be constructed on the north side of WIS 33 to the parking lot across from the Surgeon's Quarters historic site. This would require a widened should on the WIS 33 bridge over the Fox River to safely accommodate two-way bicycle and pedestrian travel. Furthermore, the crossing of WIS 33 between the parking area and the Surgeon's Quarters site should be enhanced as noted in the following section.

This potential route is one of several that could better connect the central business district with the group of historic sites east of the city. As potential routes are evaluated, it should be kept in mind that the most direct route is nearly always preferred for non-motorized travel as the costs of indirection are perceived as particularly onerous for cyclists and pedestrians. Furthermore, give the high traffic volumes, traffic speeds and proportion of trucks, separation from WIS 33 should be prioritized wherever possible.

AECOM

Figure 2: Potential Trail Connection



IV Recommendations for Specific Locations

The detailed recommendations below add additional safety measures to intersections that have been identified as exhibiting challenging conditions for bicycle and pedestrian travel. The locations are arranged from west to east in the Portage segment of the WIS 33 study corridor.

1. WIS 33 and Pierce Street

Pierce St. intersects WIS 33 at the west end of Portage on a sharp curve, near the point where the highway crosses the Wisconsin River. Poor visibility due to the curve and complex intersection geometry – including one way streets and cul-de-sacs – create challenging conditions for pedestrians and motorists alike. Paquette Park is located in the northwest quadrant of the intersection; the Big Loop bicycle route, which circumnavigates the city, includes a segment on Pierce St. These features, along with adjacent residential neighborhoods, generate considerable non-motorized traffic through this intersection. Sidewalks are present on the east side of Pierce St., but are discontinuous through the intersection; notably, there are no sidewalks leading to the historic park entrance.

Immediate potential actions to improve pedestrian safety include:

- Install warning signage in advance of the curve in both directions, noting that pedestrian traffic should be expected. Signs such as R1-9 (overhead pedestrian crossing) or W11-15 (combination bike and pedestrian crossing). See the *Manual on Uniform Traffic Control Devices, 2012 Supplement.*
- Stripe insets on the curve, narrowing the motor vehicle travel lane. Acting as a striped version of curb extensions, this would slow vehicle traffic by creating a perception of a narrower roadway, alert motorists to expect pedestrian activity, and act as a gateway into the changed travel conditions of the urbanized area.
- Install sidewalks on the west side of the curve, adjacent to the park. Visibility for pedestrians crossing WIS 33 is best from this side of the intersection.

Long Term

The overall design of this intersection should be evaluated with a future reconstruction project. Potential design considerations could include:

- Narrow WIS 33 and substantially decrease the turning radius at the curve to slow motor vehicle traffic.
- Decrease the turning radius of the intersection for WB WIS 33 traffic turning north onto Pierce St.
- Install cul-de-sacs on Pierce St. to the north of WIS 33 and W. Edgewater St. Pierce is currently designed as a cul-de-sac to the south, and Edgewater is functionally one-way to the east (although not signed as such). Prohibiting motor vehicle access to these streets at the intersection would considerably decrease the complexity of movements. Simultaneously, it may decrease cut-through traffic on Edgewater, a low-volume residential street. These closures would cause minimal indirection for local traffic, and would be likely to re-route some north-south traffic from Pierce to Armstrong St., which is a through-street (Pierce currently ends a few blocks north of WIS 33.)
- Create a substantial gateway feature at the foot of the bridge to announce to motorists that they are entering an urbanized area.
- Install a median on the WIS 33 curve to break the crossing into two movements, simplifying the activity for pedestrians, slowing vehicle traffic and improving pedestrian sight lines.

2. WIS 33 and W. Wisconsin Street

W. Wisconsin St. intersects WIS 33 at an oblique angle, resulting in increased crosswalk distances and limited visibility for pedestrians and motorists. Sidewalks are present on all segments, and three of the four corners already have perpendicular curb ramps. However, narrow sidewalks with steep cross slopes make it difficult for pedestrians to navigate the intersection and leave little room for queueing while waiting to cross. Consider widening sidewalks around intersection where possible and maintaining no more than 2% cross slopes per ADA guidance. The sidewalk on the east side of W. Wisconsin Street south of WIS 33 is too narrow for adequate pedestrian accommodations due to encroaching staircases and street lighting fixtures. A consistent pedestrian travelway width of at least five feet should be maintained on the entire sidewalk.

While all crosswalks at the intersection are marked, they lack standardized continental crosswalk markings. Where possible, add perpendicular curb cuts and continental crosswalk markings; finally, small inconsistencies should be addressed, including curb ramp color and style so that a uniform and predictable intersection is created. Signals at this intersection include a pedestrian-activated walk button, but it appears to be disengaged; a pedestrian phase is active with each cycle. The pedestrian push buttons should be removed if they are not active. If the buttons are to be retained, they should be placed in a manner compliant with the PROWAG guidelines: one pushbutton per curb ramp located to the outside of the intersection near the curb ramp, [United States Access Board. “Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way”. 2011]. The pedestrian signalheads should also be placed in line with the crosswalks as much as possible.

Finally, because of the difficult geometries of the intersection, consider eliminating right turn on red at this intersection option to allow greater visibility to pedestrians using the intersection and to help slow traffic. A leading pedestrian interval would improve crossing safety and convenience. An LPI could prove especially effective in the east crosswalk, where NB right turning motorists have difficulty seeing pedestrians in the crosswalk. (See the section on WIS 33 and DeWitt Street for a discussion of LPIs).

Long Term

Intersection geometry creates challenges for both pedestrian and vehicular traffic at this relatively high volume downtown location. Several actions to mitigate these issues have been identified; these could be implemented with reconstruction or in some cases prior to that time:

- Consider adding curb extensions to all four corners of the intersection to increase pedestrian visibility, shorten crossing distances and slow vehicular traffic. This would tighten turning radii, which could cause issues for trucks, but turning traffic was observed to regularly cross the centerline under the existing conditions, so the lane widths are currently inadequate.
- On the south leg of the intersection, consider moving stop bar back on W Wisconsin St. south of WIS 33. This would have multiple benefits, including improving visibility of pedestrians in the crosswalk and reducing conflicts between NB left turning vehicles and EB right turning vehicles (which regularly cross into the oncoming traffic lane. Removing the on-street parking space on the west side of W. Wisconsin Street south of WIS 33 (in front of US Bank) would provide space for turning vehicles and potentially allow for a curb extension. The centerline of W. Wisconsin Street could be moved to the east to improve these turning movements and allow for a curb extension to shorten the pedestrian crossing distance.

3. WIS 33 and DeWitt St

DeWitt St and WIS 33 intersect at nearly a 90 degree angle and despite existing perpendicular curb ramps and well defined crosswalks, the intersection was noted in a public meeting as difficult for pedestrians to cross. Good facilities for pedestrians are already present in this location: curb extensions to shorten crossing distances and promote walker visibility while reducing turn radii, perpendicular curb ramps with detectable warning fields, adequate sidewalk widths with space for street amenities and pedestrian signals. A leading pedestrian interval could be added to the signal cycle to allow pedestrians lead time to cross the street. An LPI authorizes pedestrian crossing a few seconds prior to allowing vehicle movements, in effect giving walkers "head start" across the intersection. They are especially effective in reducing "right hook" and "left hook" crashes, in which turning vehicle strike people in an intersection crosswalk. According to the National Association of City Transportation Officials, LPIs have been shown to reduce pedestrian and vehicle collisions significantly [National Association of City Transportation Officials (NACTO). "Urban Street Design Guide"].

Long Term
When possible, consider adding larger curb extensions to improve pedestrian safety at all four corners to improve pedestrian visibility and slow vehicular traffic by narrowing HWY 33 and creating tighter turn that must be taken at lower speeds. Particularly on the southwest corner – with on-street parking removed a considerable distance from the corner – this extension could be added with likely little impact to turning vehicles.

4. Wayside Across from Surgeons Quarters Historic Site

The group of historic sites east of downtown Portage is a significant asset to the city. Currently, the Surgeons Quarters site is separated from a parking area by WIS 33. The wayside that serves as parking includes a historic marker and paved parking surfaces. Crossing the highway at this location – with a rural cross section -- is particularly difficult due to high traffic speeds, truck volumes, and long crossing distance. The crossing at this location should be enhanced to improve safety and convenience for pedestrians accessing the historic buildings. A median divider would break the crossing into two stages, considerably reducing complexity for walkers while serving to slow traffic. A raised crossing table could slow traffic, especially combined with painted or integral curb extensions narrowing the motor vehicle travel lane. Other options include a rectangular rapid flashing beacon or the installation of gateway features. At a very minimum, high visibility crosswalk markings and signage should be installed to alert motorists to pedestrian traffic in a rural area where such traffic is not necessarily expected.

Alternative Traffic Pattern Scenario

The WIS 33 study has identified an alternative for reconfiguring traffic patterns in the City of Portage to address issues related to traffic flow and accommodating the high volumes of truck traffic on WIS 33. If traffic patterns were adjusted, there would arise opportunities to improve pedestrian and bicycle safety and convenience. A key issue for non-motorized travel through the city is the presence of a large volume of trucks on WIS 33, which require more space to turn, stop and maneuver than do smaller private vehicles and which create high noise levels in the central business district, seriously deteriorating the quality of the walking and cycling environment. The alternative features separating east- and west-bound traffic by creating a pair of one-way streets in downtown Portage. Potential actions to improve walking and cycling with this alternative are described here.

The City of Portage could realign traffic flows on WIS 33 into a one-way pair configuration as presented at the Public Information Meeting in November 2016, with east-bound traffic traveling on Cook Street, and west-bound traffic routed onto Conant Street between MacFarlane Road and DeWitt Streets. This configuration would have the benefit of reducing the volumes on Cook Street, and reducing the turning movements at individual intersections. In order to maintain relatively low traffic speeds on these streets – vital in business district – it may be necessary to improve and standardize the streetscaping elements that act as traffic calming: consistent curb extensions at intersections, a gateway feature at the entrance to the central business district, pedestrian scale street lighting at crosswalks, and the addition of street trees, among others.

The key issue for pedestrian travel on newly one-way Cook and Conant Streets is the potential for conflicts at intersections, particularly with turning vehicles. The reduced turning movements with this alternative should be particularly conducive to improved walking conditions. Still, eastbound traffic on Cook Street turning right onto southbound Wisconsin Street will remain problematic, particularly as trucks making the right turn consistently cross the centerline to navigate this turn under the existing intersection design. This issue will not be alleviated by the alternative; consequently, the actions proposed in the previous section remain valid even with the implementation of the one-way pair system.

VI Pedestrian Crash Summaries

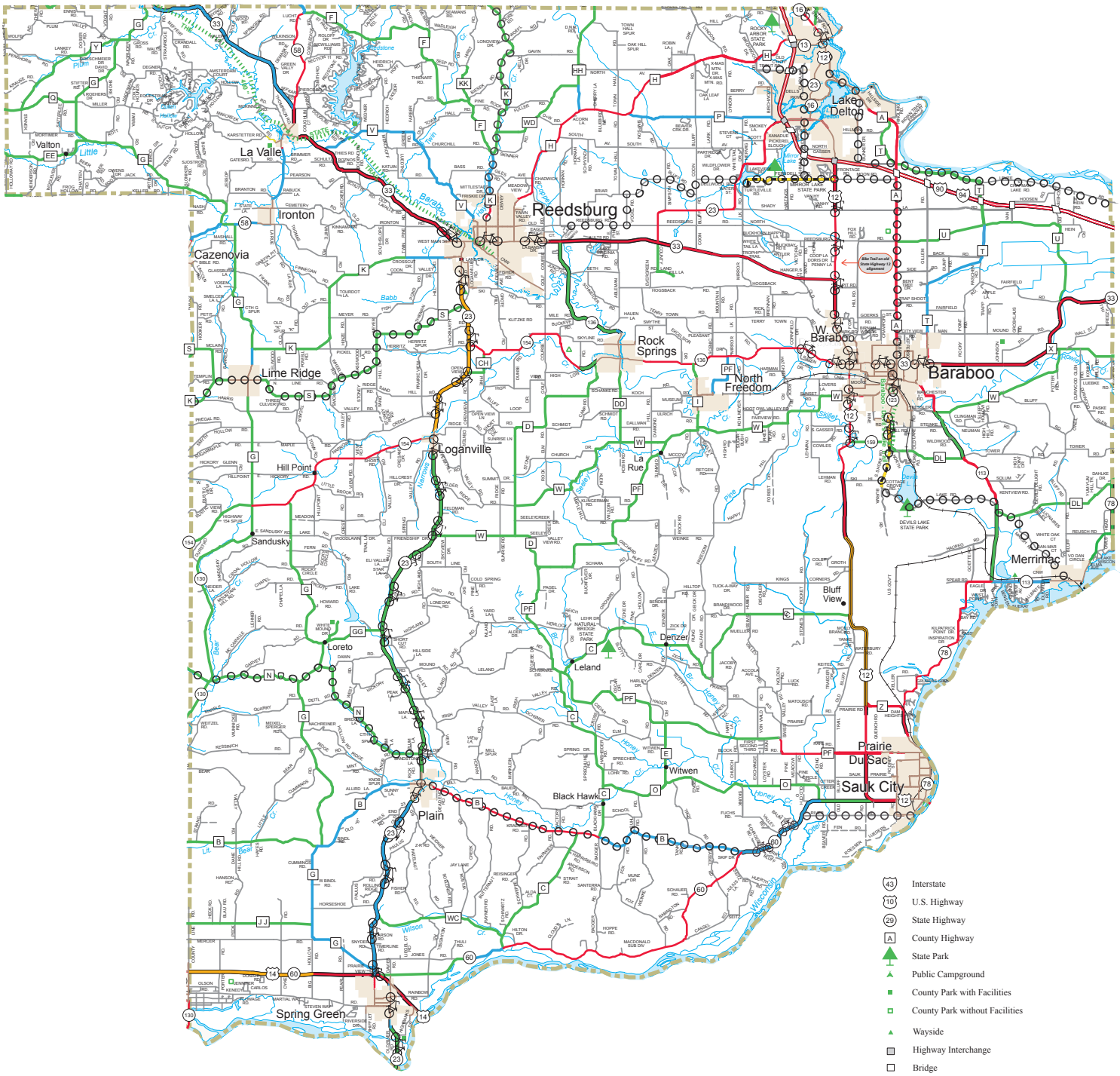
Two pedestrian-motor vehicle crashes were reported in the Portage segment of the study corridor between 2010 and 2014 inclusive.

1. WIS 33 and W Wisconsin St – August 14, 2011 (1:30pm) pedestrian struck outside of crosswalk traveling NB across WIS 33 by vehicle traveling WB on the highway. Pedestrian was reported to have darted out between parked vehicles in attempting to cross the road. Possible injury; received medical transport to hospital.

2. WIS 33 and Lock St. – June 18, 2010 (noon) young girl walking her bike NB across WIS 33 in marked crosswalk was struck by a WB vehicle in the northernmost lane. Vehicle knocked pedestrian and bike over but caused minor injuries only; did not go to hospital.

Appendix F: Suitable Bike Routes and Snowmobile Trails

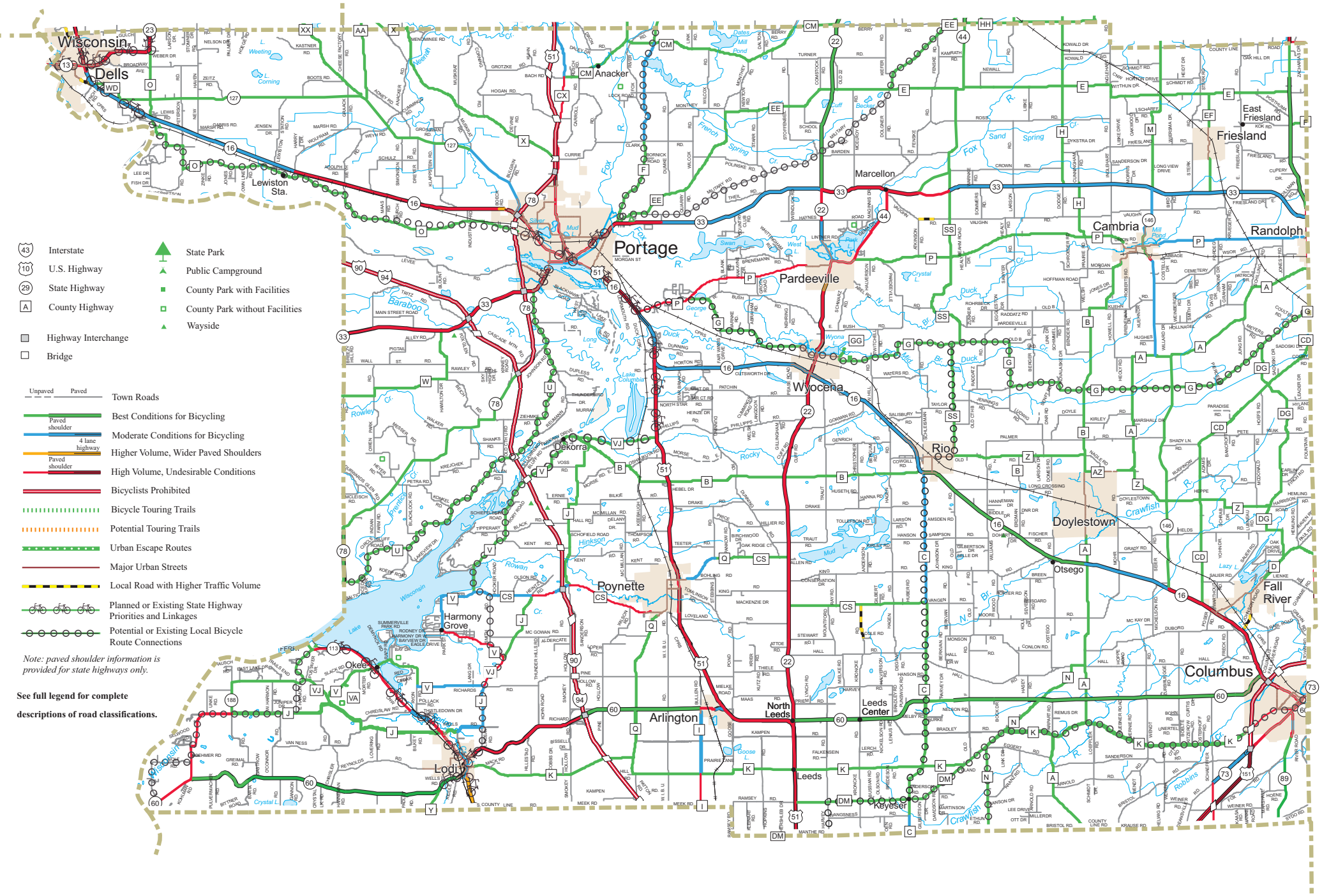
SAUK COUNTY PLANNED AND EXISTING BICYCLING PRIOITIES
KEY LINKAGES WITH CURRENT BICYCLING CONDITIONS



Note: paved shoulder information is provided for state highways only.

See full legend for complete descriptions of road classifications.

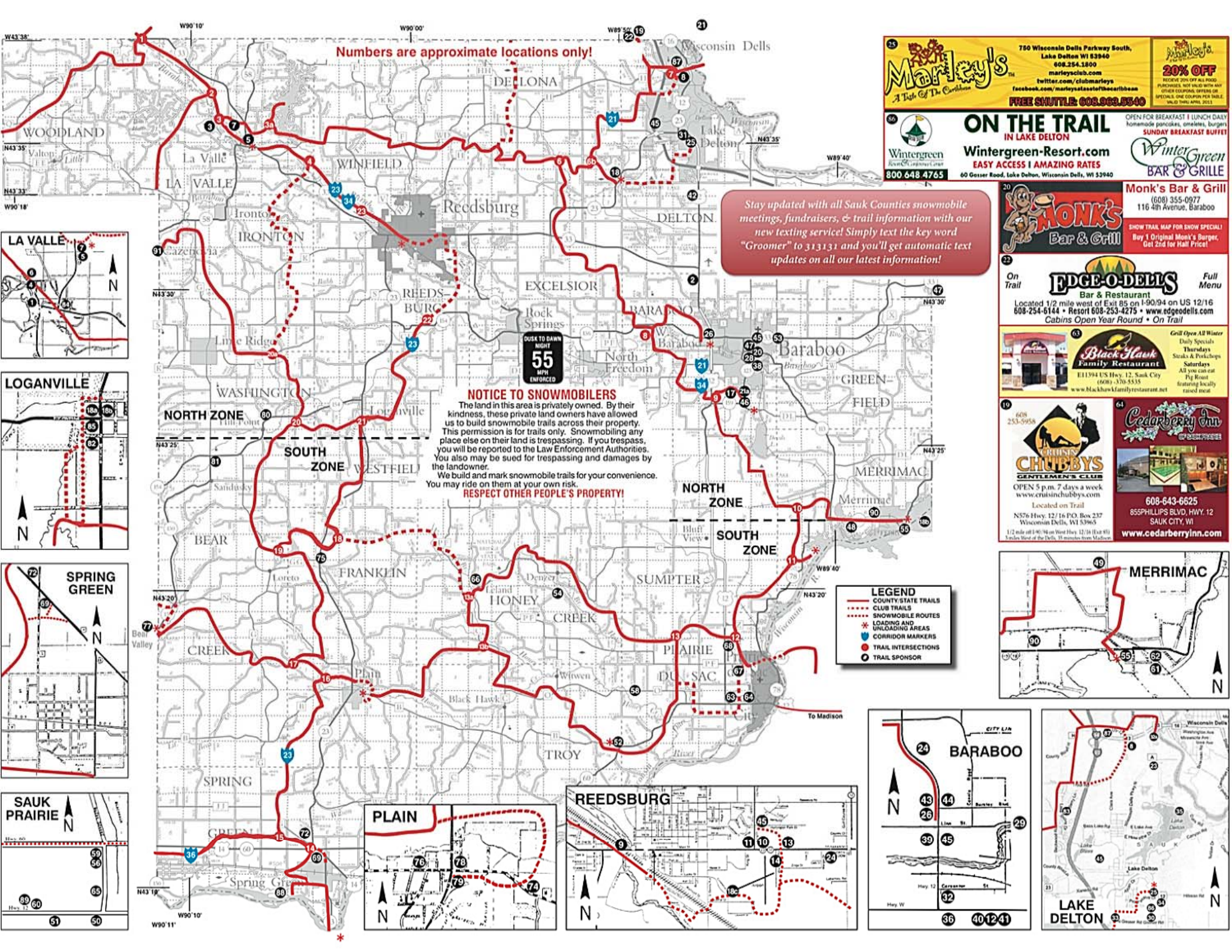
COLUMBIA COUNTY Planned and Existing
Bicycling PRIORITIES + Key Linkages
WITH CURRENT BICYCLING CONDITIONS



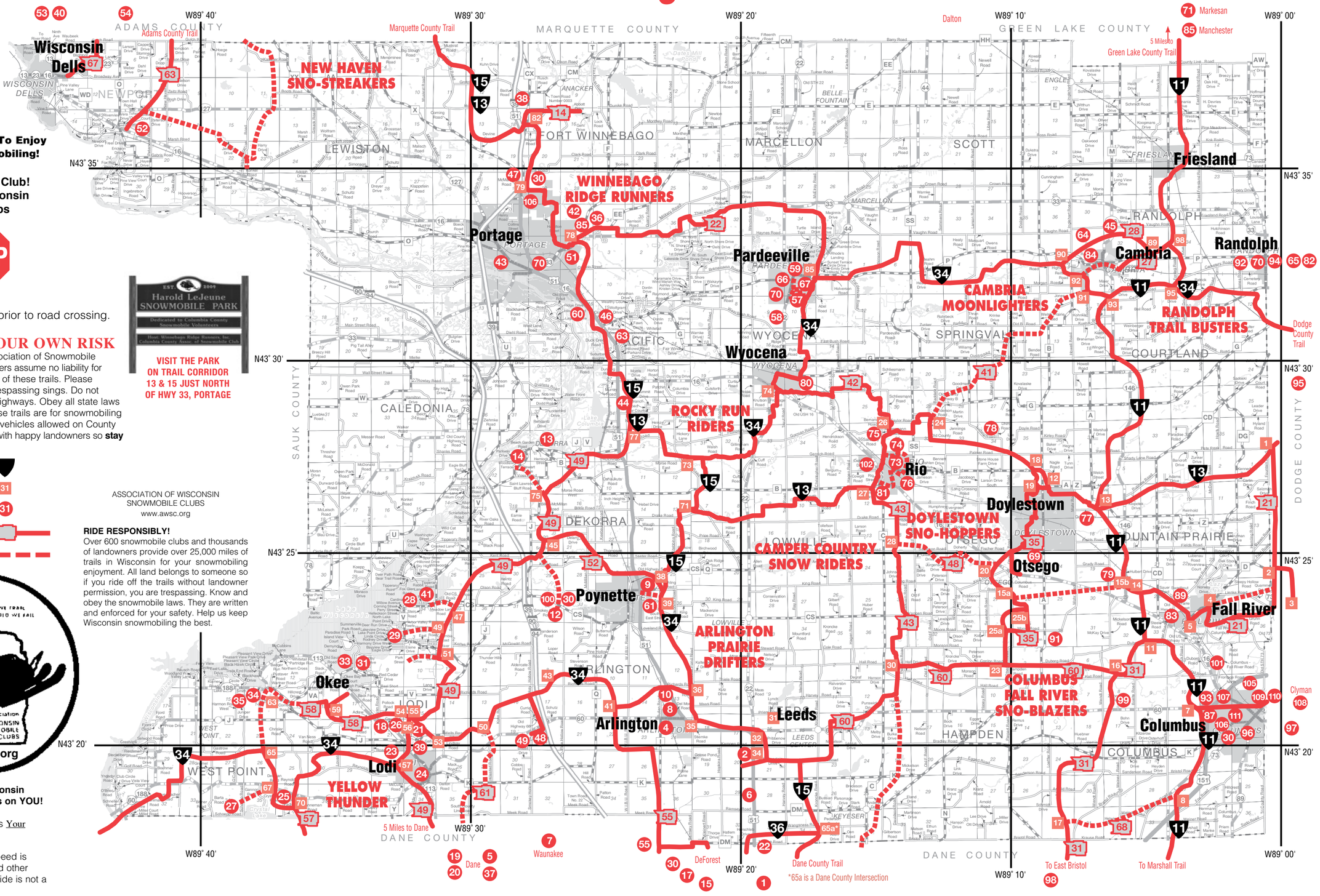
- Interstate
- U.S. Highway
- State Highway
- County Highway
- Highway Interchange
- Bridge
- State Park
- Public Campground
- County Park with Facilities
- County Park without Facilities
- Wayside
- Town Roads (Unpaved / Paved)
- Best Conditions for Bicycling (Paved shoulder)
- Moderate Conditions for Bicycling (4 lane highway)
- Higher Volume, Wider Paved Shoulders (Paved shoulder)
- High Volume, Undesirable Conditions
- Bicyclists Prohibited
- Bicycle Touring Trails
- Potential Touring Trails
- Urban Escape Routes
- Major Urban Streets
- Local Road with Higher Traffic Volume
- Planned or Existing State Highway Priorities and Linkages
- Potential or Existing Local Bicycle Route Connections

Note: paved shoulder information is provided for state highways only.

See full legend for complete descriptions of road classifications.



2014 Columbia County Wisconsin 2015



We Want Everyone To Enjoy Wisconsin Snowmobiling!

Join a Snowmobile Club! Association of Wisconsin Snowmobile Clubs

STOP

STOP SIGN

Purpose: Use on trail prior to road crossing.

TRAVEL AT YOUR OWN RISK

The Columbia County Association of Snowmobile clubs and private land owners assume no liability for snowmobile operators' use of these trails. Please respect Private and No Trespassing sings. Do not operate snowmobiles on highways. Obey all state laws and local ordinances. These trails are for snowmobiling only. No 2-3 or 4-wheeled vehicles allowed on County Trails. Our trails never fail with happy landowners so **stay on marked trails!**

State Corridors

Intersections 31

Businesses 31

County Trails

Club Trails

EST 2009
Harold LeJeune SNOWMOBILE PARK
Dedicated to Columbia County Snowmobile Volunteers
Host: Winnebago Ridge Runners, Inc.
Columbia County Assoc. of Snowmobile Clubs

VISIT THE PARK ON TRAIL CORRIDOR 13 & 15 JUST NORTH OF HWY 33, PORTAGE

ASSOCIATION OF WISCONSIN SNOWMOBILE CLUBS
www.awsc.org

RIDE RESPONSIBLY!

Over 600 snowmobile clubs and thousands of landowners provide over 25,000 miles of trails in Wisconsin for your snowmobiling enjoyment. All land belongs to someone so if you ride off the trails without landowner permission, you are trespassing. Know and obey the snowmobile laws. They are written and enforced for your safety. Help us keep Wisconsin snowmobiling the best.

United We Trail Divided We Fail
Association of Wisconsin Snowmobile Clubs
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The Future of Wisconsin Snowmobiling Depends on YOU!

Safe Snowmobiling is Your Responsibility

Slow Down! Excessive speed is dangerous to both you and other snowmobilers. Every trail ride is not a cross-country race.
Ride Sober! Alcohol or drugs affect your riding ability. Save the party for after the ride.
Stay on Trails! The trails are established for safe riding. Many trails are on private property and will be closed if there are problems.

Business Listings

1 Remax / Randy Alsmo
2 Johnson Sales Inc.
4 Arlington Inn
5 Hanson's
6 Mad City Marine RV
7 Carl F. Statz
8 Arlington BP
9 Owl's Nest
10 Lockwood's Longshot
12 Subway Poynette
13 The Nest
14 Hooker's Resort
15 Mad-City Power Sports
17 The Timber's
18 Lodi Valley Suites
19 Dane Kwik Mart
20 Peg & Doc's
21 KD's Bar & Grill
22 Tamarack II Bar & Grill
23 Don's Marine
24 Weber's Bakery
25 Crystal Lake Campground
26 Ness Auto Sales
27 Schoepp's Resort
28 Lakeside Bar & Grill
29 Harmony Grove BP
30 McDonald's 4 Locations
31 Anchors Away
33 Fitz's on the Lake
34 Sunset Harbor Bar & Grill
35 Fish Tales Food & Spirits
36 Fort BP
37 Mickey D's
38 Wagon Wheel
39 Lodi Kwik Mart
40 Ambers Hideaway
41 Remi's Thirsty Moose
42 Harold LeJeune Mem. Park
43 Polnow Automotive
44 Deb's Northstar Tavern
45 Cambria Cwik Mart
46 Portage One Stop
47 Super 8 Portage
48 Quality Inn
49 All Stop Travel Plaza
51 Davis Constuction
52 Otto's Supper Club
53 Morse Powersports
54 Club 23
55 Diesel Injection Service
57 Saj's On Main
58 On The Way Cafe
59 Pardeeville Water Sports
60 Big Willy's
61 Inncognito
63 Clark's Speedway
64 MOJOz Saloon
65 Dockside Pub & Grille
66 Lakeside Liquor
67 Caddy Shack
69 Otsego Yacht Club
70 Weaver Auto Parts
71 Wayside Auto Repair
73 Po-Boys
75 LR's Place
76 Strauss
77 Back Country Bar & Grille
78 Silver Springs Campsites
79 Casino Supper Club
80 Wyocena Bar
81 MR T'z Motorsports
82 Markesan State Bank
83 Fall River Mobil Mart
84 The Dump
85 Hitching Post
87 Columbus Family Restaurant
89 CJ's Bar & Grill
91 Minick Seeds
92 Randolph Shell
93 Columbus BP West
94 Piggly Wiggly
95 Kelly's Bar
96 Cardinal Ale House
97 The Old Rock
98 Schroud Auction Service
99 Harold & Lori's Club 60
100 Northpoint Plaza
101 Super 8 - Columbus
102 Johnson's Sausage Shoppe
105 Subway - Columbus
106 Culver's
107 The Cage Bar
108 Baehmann's 4 Season
109 Napa Auto Parts - Columbus
110 Wise Guy's
111 Quamme Insurance

PLEASE BE A RESPONSIBLE SNOWMOBILER

All trails are subject to change pending landowner permission.
Safety course required if born after 1/1/1985.

Trail Passes

Effective May 1, 1998, a new Wisconsin law requires that all out-of-state registered snowmobiles display a Wisconsin trail use sticker or pass when being operated on any public locations, such as trails or corridors, lakes and waterways, or other locations where permission is required to operate, such as a farm field not owned by the operator.

Trail passes are available through DNR service centers and many private businesses or locations where arrangements have been made to handle the passes. Cost for a trail pass is $35, and they are valid from April 1st though March 31st.

Funds from these passes are designated for enhancement of the Wisconsin snowmobile program.

We would like to thank all the advertisers for their support of the Columbia County snowmobile map. Please patronize these advertisers.

Happy Snowmobiling!

GPS INFORMATION

Although nearly all of the trail intersections in Columbia County are well marked, snowmobilers who are familiar with or may be using GPS (Global Positioning System) units will note that new trail maps show latitude and longitude coordinates along the margins that may be helpful in pinpointing your location.

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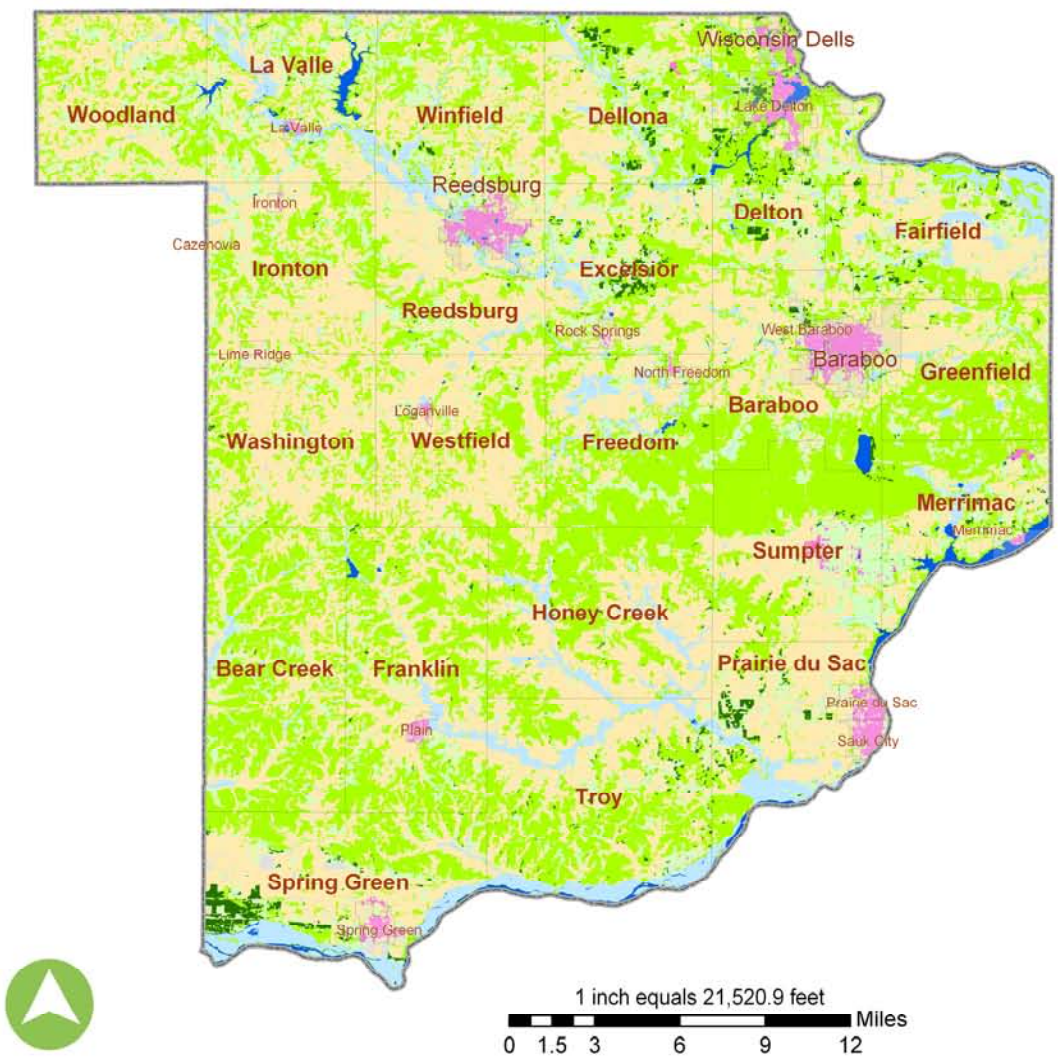
Lodi/Lake WI Area	Arlington/Poynette Area	Wisconsin Dells Area	Pardeeville/Wyocena Area	Portage Area	Rio Area	Cambria Area	Columbus/Fall River Area	Doylestown Area	Randolph Area

Appendix G: Future Land Use Maps

Sauk County Comprehensive Plan



Sauk County Planning & Zoning Department
West Square Building, Room 248,
505 Broadway, Baraboo, WI 53913
PHONE: (608) 355-3285, FAX: (608) 355-4440

- Urban / Developed
- Agriculture
- Grassland
- Coniferous Forest
- Deciduous Forest
- Open Water
- Wetlands
- Barren

11-3

Current Land Use

MAP 8-3

FUTURE LAND USE

Columbia County Wisconsin

ADAMS COUNTY

MARQUETTE COUNTY

GREEN LAKE COUNTY

SAUK COUNTY

DODGE COUNTY

DANE COUNTY

Legend

- City or Village

Land Use Categories

- Agricultural or Other Open Space
- Single Family Residential
- Multi Family Residential
- Commercial
- Industrial
- Institutional/Public
- Recreational
- Transportation
- Environmental Corridors
- Existing Development

This map includes the future land uses from any adopted city or village Comprehensive Plan as required by Wisconsin Statue 59.69(3)(b). The inclusion of these city or village future land uses may result in the County's Future Land Use Map being significantly different from a Town's Future Land Use Map for the same area.

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

Source: Columbia County, 2014

0 1 2 3 4 5 Miles

COLUMBIA COUNTY
Planning & Zoning

N

Created: June 26, 2007
Draft: March 28,2013
Updated: March 3, 2014 by RLP

Town of Baraboo
Comprehensive Plan

Map
1-1

Land Use Plan

Legend

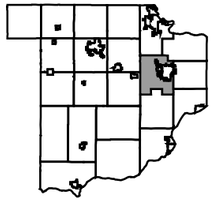
Land Use Districts

- Agricultural Resource Conservation
- Commercial
- Landfill 1200' Setback
- Park / Public Property
- Limited Recreation - Commercial
- Sanitary District Mixed Use
- Residential
- Environmental Conservancy District
- C. Baraboo Extraterritorial Plat Review
- W. Baraboo Extraterritorial Plat Review
- Potential US 12 Realignment

General

- United States Highway
- State Highway
- County Highway
- Town Roads
- Municipal Streets
- Parcel
- Town Border

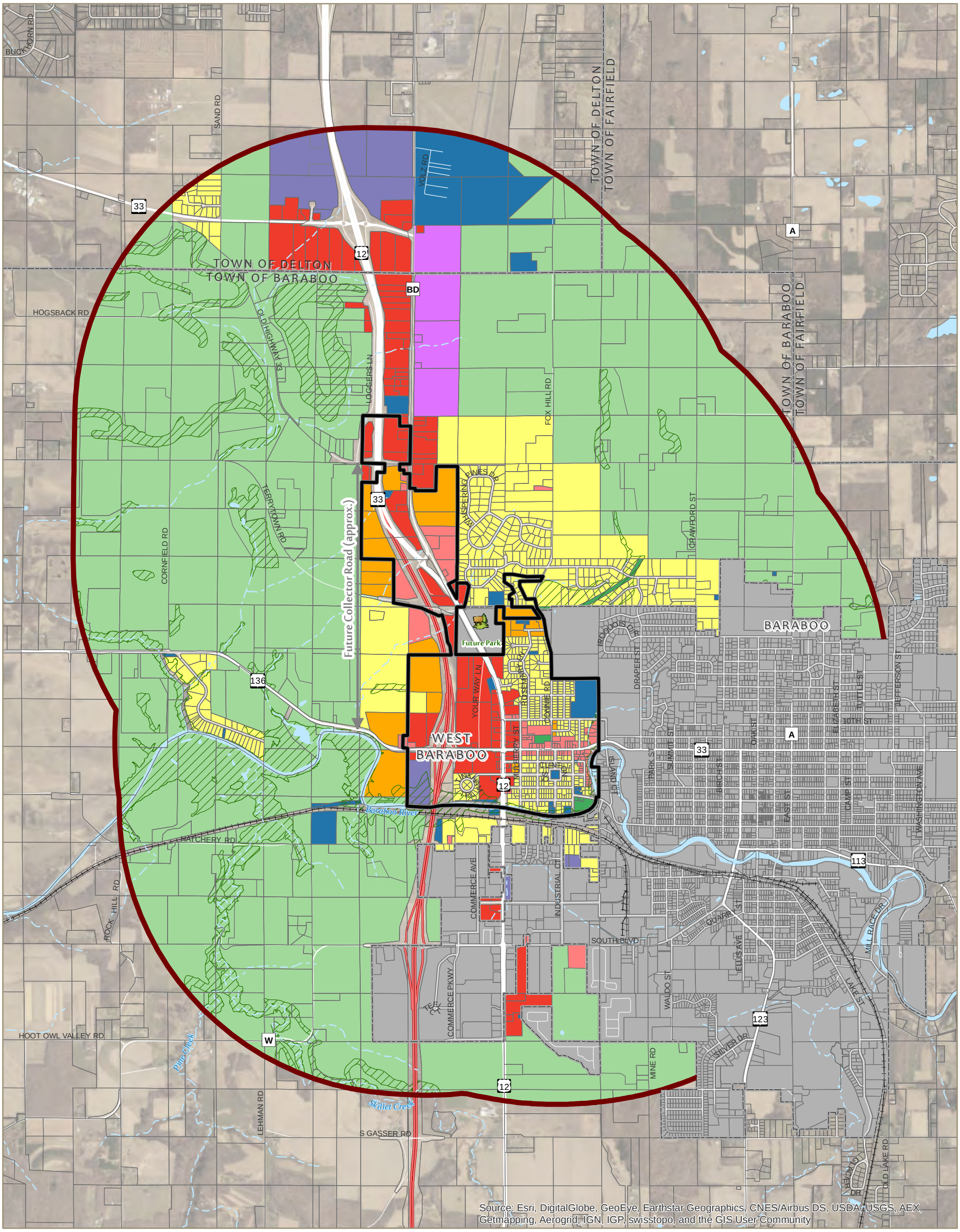
Sources:
Base information including parcels, waterways and roadways courtesy of the Sauk County Mapping Department.



Sauk County Planning & Zoning

N

Miles
0 0.5 1



FUTURE LAND USE

VILLAGE OF WEST BARABOO
SAUK COUNTY, WISCONSIN

- Planning Area
- Village of West Baraboo
- City of Baraboo
- Town Boundary
- Parcel
- Waterbody
- Railroad
- Future Highway 12 Bypass

Future Land Use

- Rural Lands
- Medium Density Residential
- High Density Residential
- Neighborhood Mixed Use
- Highway Commercial
- Mixed Use Business
- Industrial
- Government and Institutional
- Parks, Recreation and Conservancy
- Natural Resource Protection

DATA SOURCES:
MUNICIPAL BOUNDARIES, PARCELS AND ROAD NAMES PROVIDED BY SAUK COUNTY.
WATERBODIES, RIVERS AND STREAMS PROVIDED BY THE USGS (NHD).
RAILROADS PROVIDED BY THE US CENSUS (2015).
AERIAL IMAGERY PROVIDED BY ESRI.

N

0 625 1,250 2,500 Feet

MSA PROFESSIONAL SERVICES

Printed by: abremer, File: P:\80s\82\00082055\GIS\00082055_FutureLandUse_PlanningArea.mxd

Print Date: 11:00:02 AM 8/29/2016

City of Baraboo Comprehensive Plan

5a

Planned Land Use - City

- Roads
- Highway 12 Bypass
- Proposed Roads
- Railroads
- Village of West Baraboo
- Township Boundary
- Parcels
- Baraboo Municipal Boundary
- 3-Mile ETJ
- 1.5 Mile ETJ
- 1/4-Mile Land Fill Buffer
- Rivers, Streams & Creeks
- Operating Extraction Site

Land Use

- Agriculture/Rural/Vacant
- Septic Residential
- Single Family Residential
- Two Family Residential
- Mixed Residential
- Planned Neighborhood
- Neighborhood Office
- Neighborhood Business
- Planned Business
- General Business
- Central Mixed Use
- Planned Mixed Use
- Planned Industrial
- General Industrial
- Landfill/Extraction
- Surface Water
- Institutional
- Parks/Open Space
- Public Lands
- Environmental Corridor
- Urban Reserve Area

1. Single Family
2. Two-Family
3. Mixed Residential
4. Institutional
5. Neighborhood Office
6. Neighborhood Business
7. Parks & Open Space

1. Planned Business
2. Planned Office
3. Institutional
4. Mixed Residential

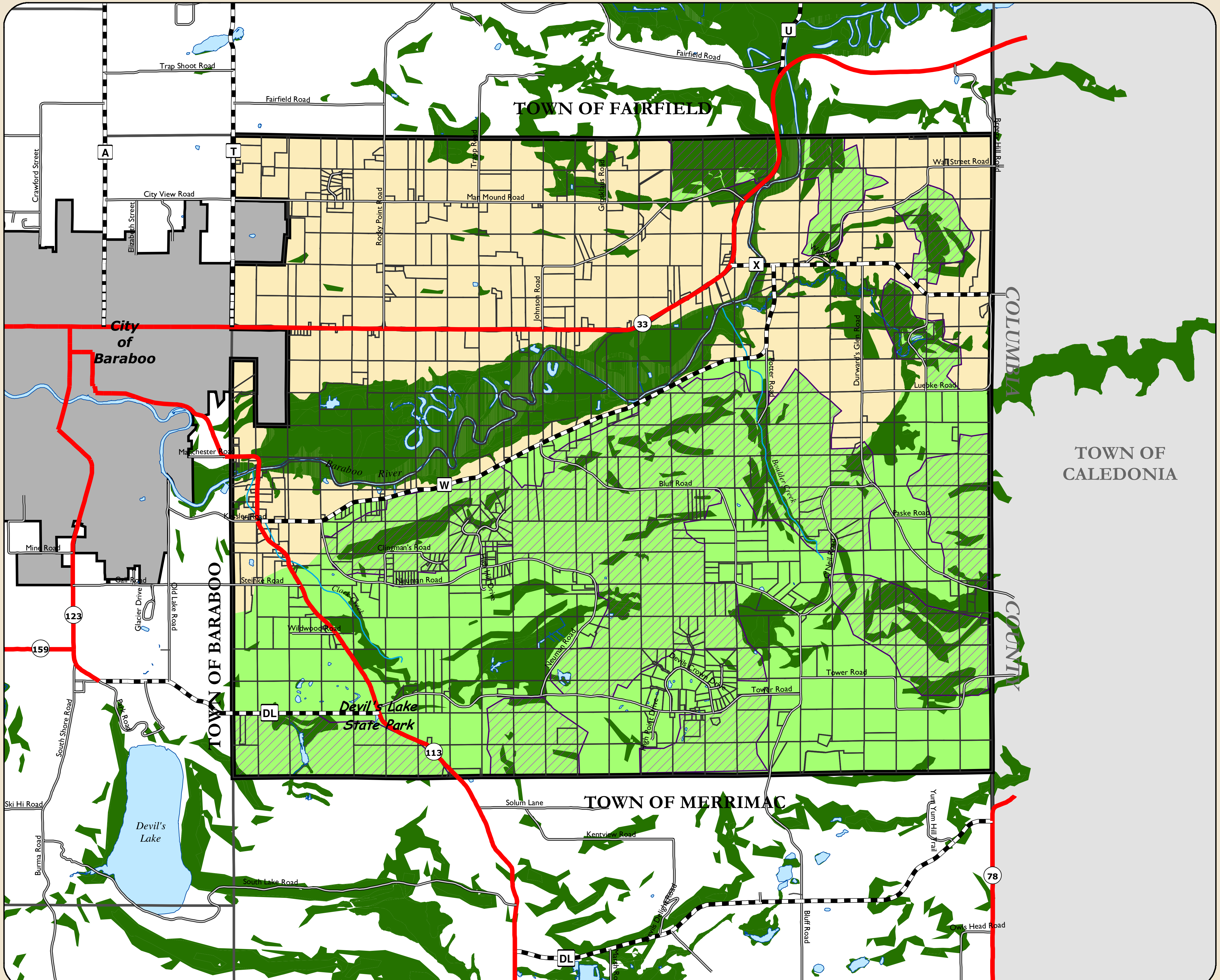
Shapes on map represent general recommendations for future land use. Actual boundaries between different land use types and associated zoning districts may vary somewhat from representations on this map. Not all lands shown in a future developed land use category are immediately appropriate for development, rezoning, or subdivision.

N

0 0.5 1 Miles

Vandewalle & Associates
Planning - Creating - Rebuilding

Date: May, 2005
Source: Land Use Field Survey



Town of Greenfield Comprehensive Plan

Map

Land Use Plan Map

Legend

Generalized Planned Land Use

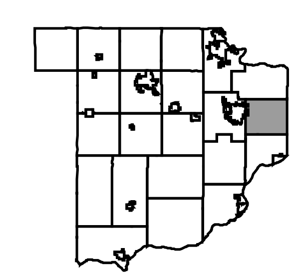
- Agriculture Preservation
- Forest Preservation
- Environmental Conservancy District
- Forest Core

General

- State Highway
- County Highway
- Town Road
- Parcel Boundary
- Town Boundary

Sources:
Base information including parcels, waterways and roadways courtesy of the Sauk County Mapping Department. Natural Areas information and interpretation courtesy of NRCS, USDA, USGS, TNC and Wisconsin DNR.

03/30/06

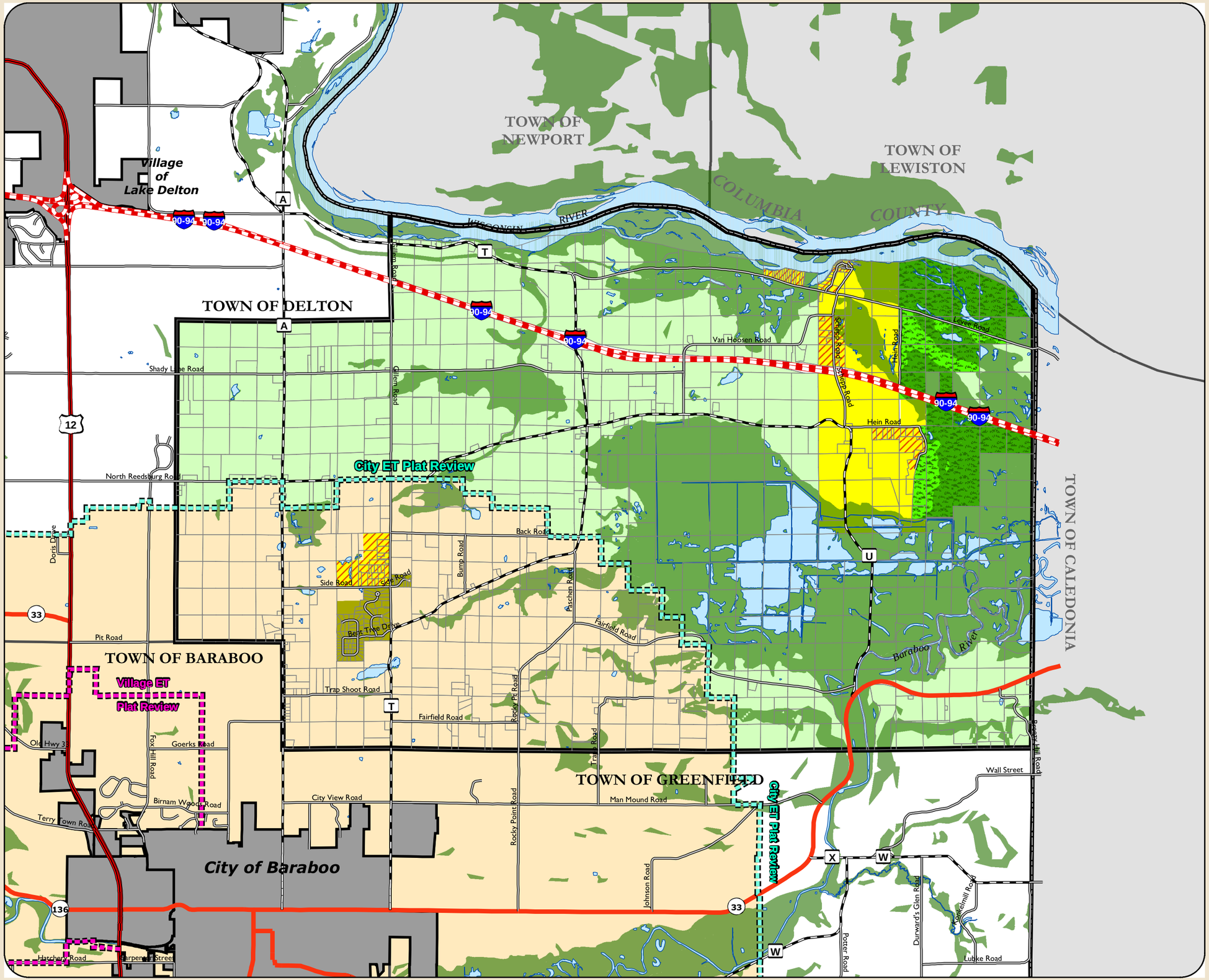


Sauk County Planning & Zoning

Miles
0 0.5 1

Town of Fairfield Comprehensive Plan

Map 1-1



Land Use Plan

Legend

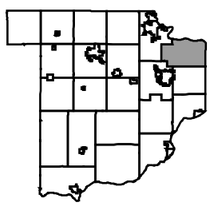
Planned Land Use Districts

- Agricultural Conservancy
- Subdivision Residential
- Conservation Residential
- Existing Properties Zoned Residential
- Environmental Conservancy District
- Public Land (WDNR)
- Extraterritorial Planning District
- C. Baraboo Extraterritorial Plat Review
- W. Baraboo Extraterritorial Plat Review

General

- Interstate Highway
- United States Highway
- State Highway
- County Highway
- Town Roads
- Municipal Streets
- Parcel Boundary
- Town Boundary

Sources:
Base information including parcels, waterways and roadways courtesy of the Sauk County Mapping Department.



Sauk County Planning & Zoning

Miles

0 0.5 1

TOWN OF LEWISTON

City of Portage

TOWN OF PACIFIC

SAUK COUNTY

TOWN OF DEKORRA

Interstate 90

Interstate 90

Main Street Road

State Highway 33

County Highway U

Interstate 39

Diehl Road

Wall Street Road

Owen Park Road

Rowley Road

Kinney Road

Hamilton Drive

County Highway W

Thunderbird Drive

Potter Drive

Interstate 39

Shanks Road

Thresher Road

Petra Road

Blacklock Road

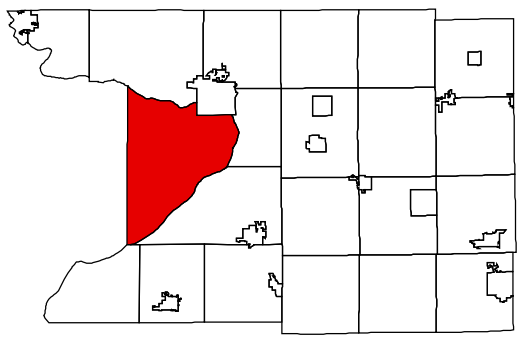
Blair Drive

Indian Farm Road

State Highway 78

Town of Caledonia

Columbia County, Wisconsin



Land Use Categories

- Agricultural or Open Space
- Single Family Residential
- Multi Family Residential
- Commercial
- Industrial
- Institutional/Public
- Recreational
- Transportation
- Environmental Corridors
- Existing Development

This drawing is neither a legally recorded map nor a survey and is not intneded to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

Source: Columbia County Planning, 2007

COLUMBIA COUNTY
Planning & Zoning

Created June 7, 2007 by RNT

N

0 1500 3000 4500 6000 7500 Feet

MAP 8-3
FUTURE LAND USE
2030

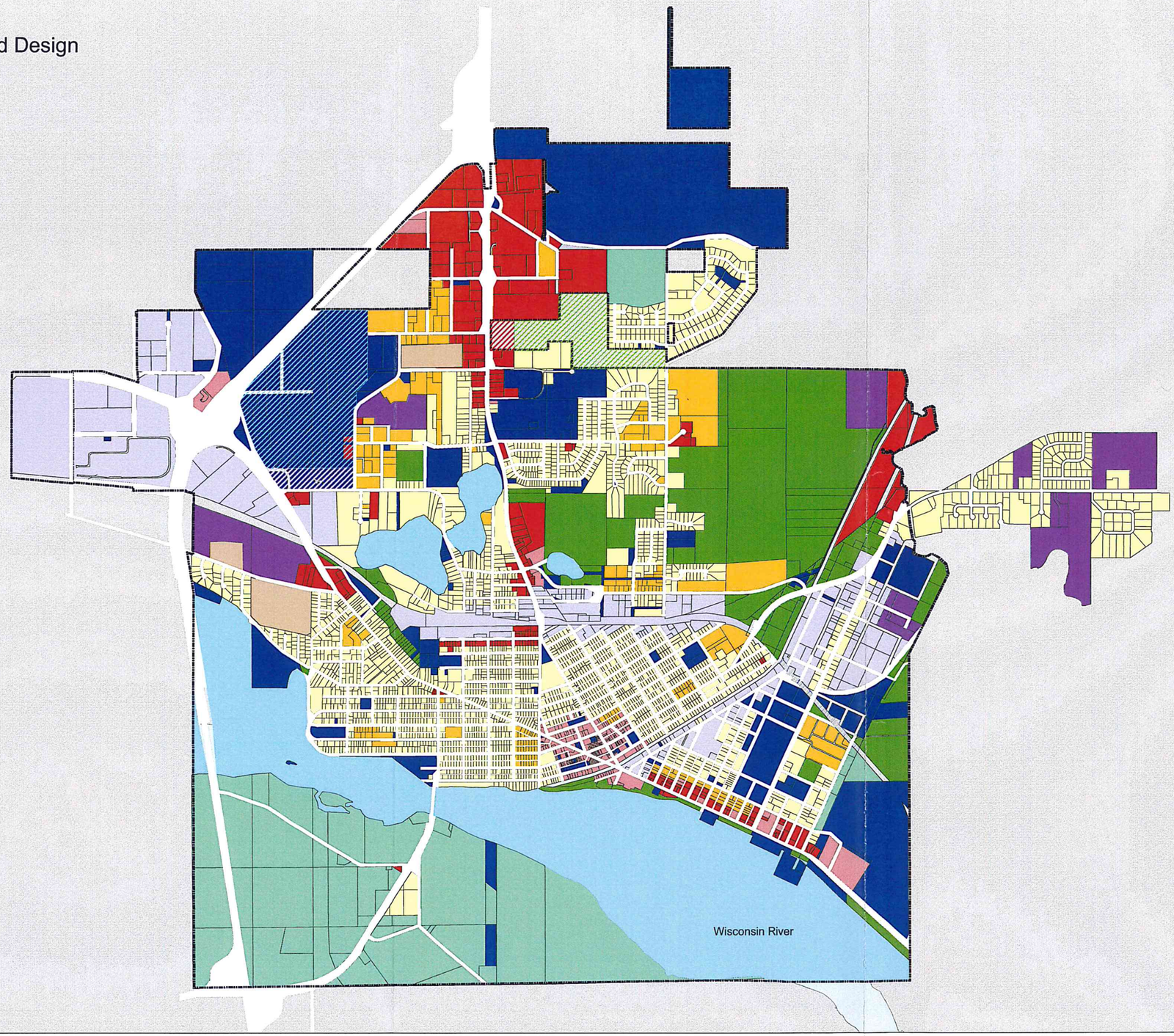
Preferred Scenario - Traditional Neighborhood Design

Residential Density (2005 ave.) = 3.5 units/acre
Additional residential land needed = 105 acres

Legend

Current Landuse
- Agricultural
- Undeveloped Residential
- Neighborhood Business
- Commercial Business
- Regional Floodplain
- Industrial
- Single-Family
- Multi-Family
- Resource Conservation
- Public-Institutional
- Cemetery

Future Landuse 2
- Indusrial
- Mixed Use - Town Center
- Neighborhood Buisness
- TND



N

0 1,000 2,000 4,000 Feet

City of Portage Comprehensive Plan

Future & Existing Landuse

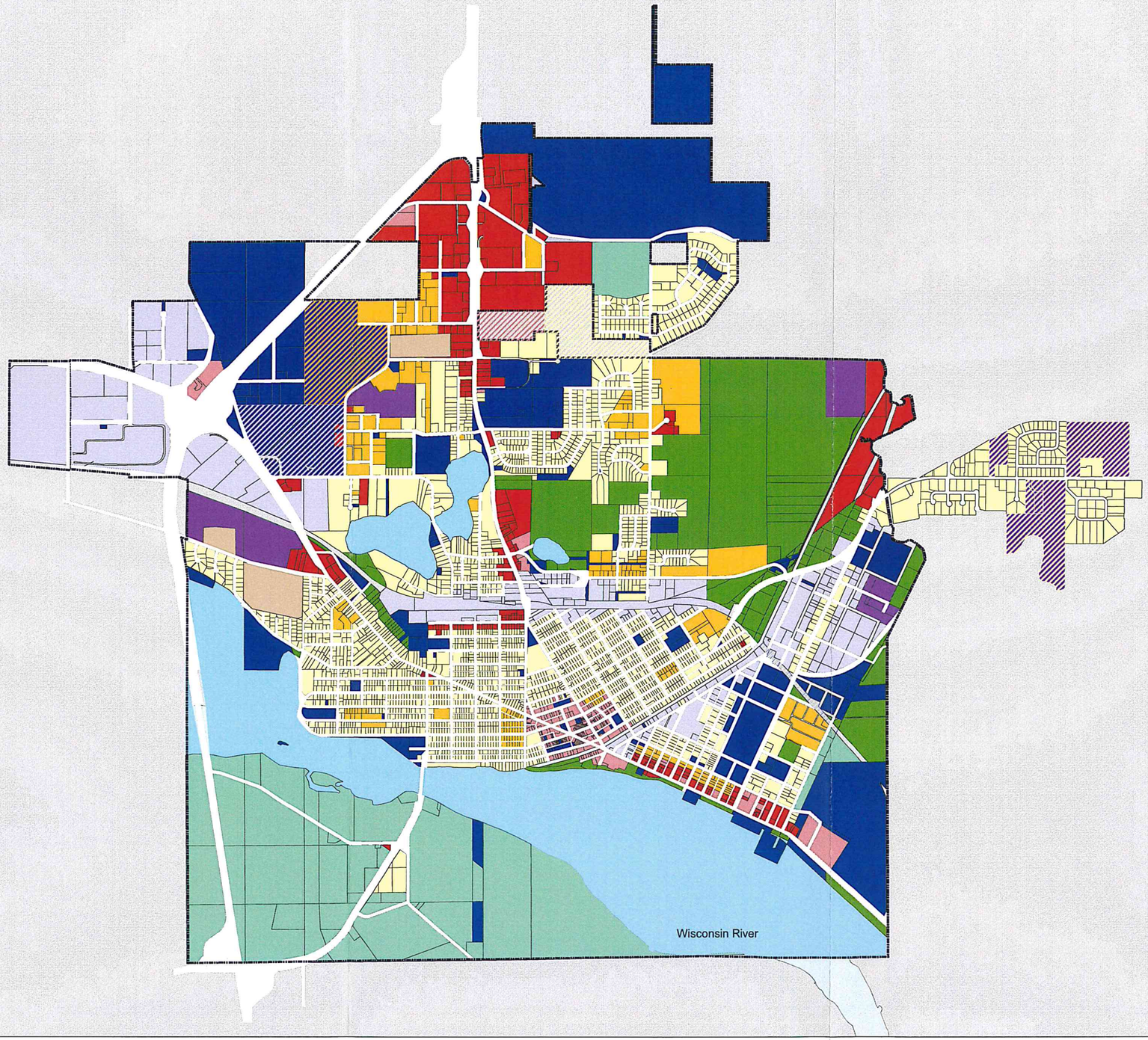
Data Source: MSA. Areas outside municipal boundary digitized from Colombia County parcel maps.

SAA

April 7, 2008
Map 8.2

Alternative Scenario - Conventional Development

Lower Density Residential = 2.5 units/acre
Additional Residential Land:
Needed = ~ 200 acres
Need to annex to the east



Legend

Current Landuse
- Agricultural
- Undeveloped Residential
- Neighborhood Business
- Commercial Business
- Regional Floodplain
- Industrial
- Single-Family
- Multi-Family
- Resource Conservation
- Public-Institutional
- Cemetery

Future Landuse
- Commercial
- Industrial
- Mixed Residential
- Single-Family

N

0 1,000 2,000 4,000 Feet

City of Portage Comprehensive Plan

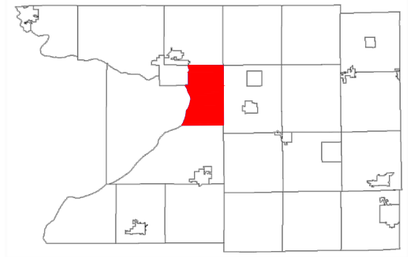
Future & Existing Landuse

Data Source: MSA. Areas outside municipal boundary digitized from Colombia County parcel maps.

SAA

April 7, 2008
Map 8.3

MAP 8-3
FUTURE LAND USE
2030
Town of Pacific
Columbia County
Wisconsin



TOWN OF FORT WINNEBAGO

CITY OF PORTAGE

TOWN OF CALEDONIA

TOWN OF WYOCENA

TOWN OF DEKORRA

St.Hwy

Ontario St.

Patchin Rd.

Heinze Dr.

Legend

- Agricultural or Open Space
- Single Family Residential
- Multi Family Residential
- Commercial
- Industrial
- Institutional/Public
- Recreational
- Transportation
- Environmental Corridors
- Existing Development

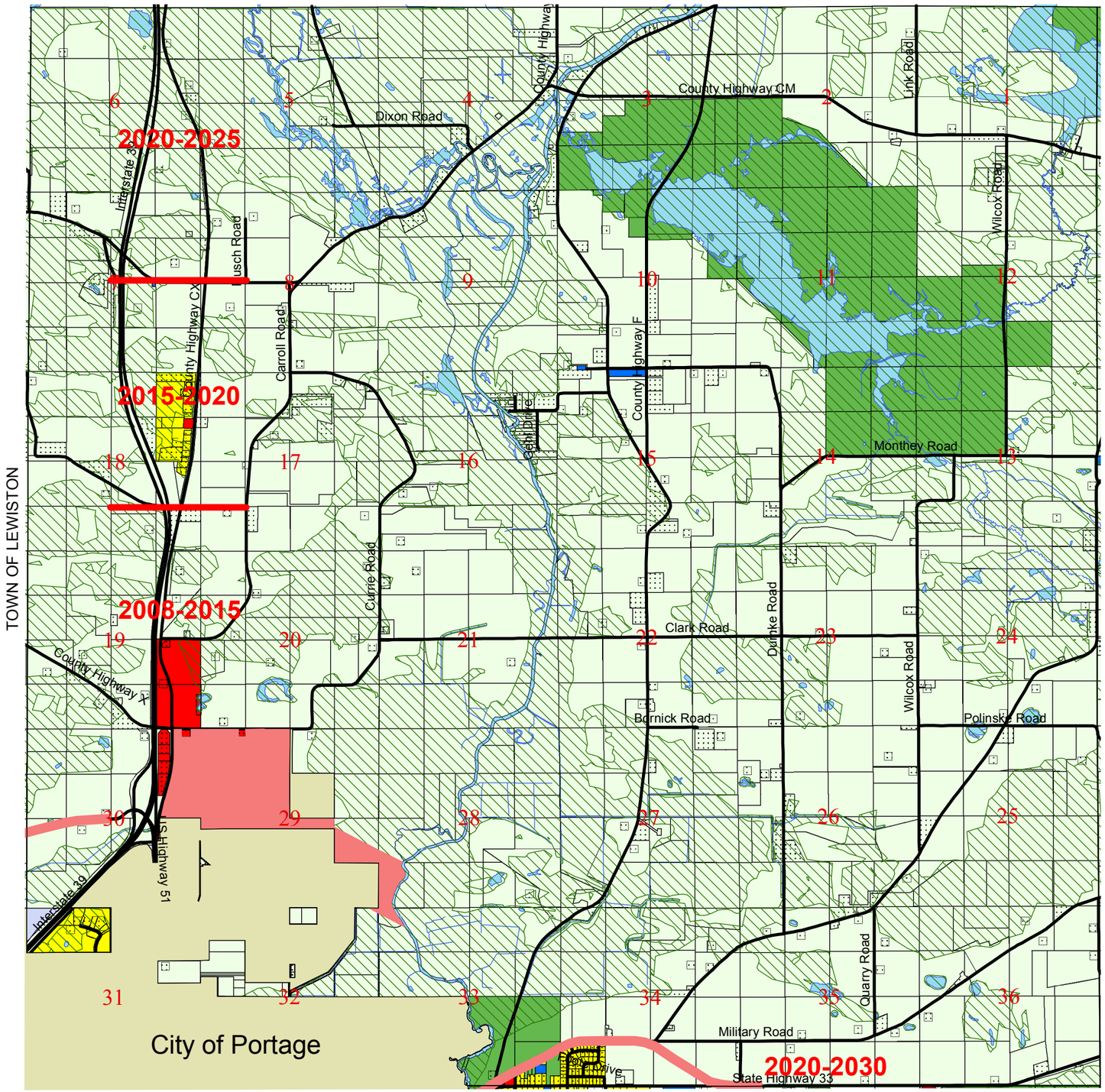
General Engineering Company
P.O. Box 340 • 916 Silver Lake Dr. • Portage, WI 53901
608-742-2169 (Office) • 608-742-2592 (Fax)
www.generalengineering.net

COLUMBIA COUNTY
Planning & Zoning

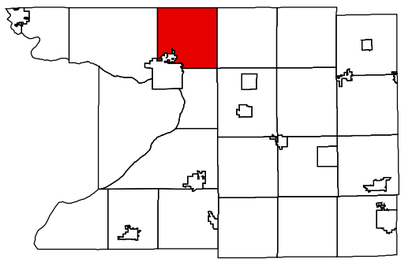
0 1750 5250
875 3500 7000

N

MARQUETTE COUNTY



MAP 8-3
FUTURE LAND USE
2030
Town of Fort Winnebago
Columbia County, Wisconsin



Land Use Categories

- Agricultural or Open Space
- Single Family Residential
- Multi Family Residential
- Commercial
- Industrial
- Institutional/Public
- Recreational
- Transportation
- Environmental Corridors
- Existing Development

Included on this map are four different growth areas showing the date and direction future development should occur in the town. The Town of Fort Winnebago will only consider development if consistent with the Towns Comprehensive Plan and its goals and objectives, such as subdivisions are required to have city sewer and water.

Source: Columbia County Planning, 2007

0 1000 2000 3000 4000 5000 Feet

N

COLUMBIA COUNTY
Planning & Zoning

Created June 19, 2007