

## Executive Summary

The *La Crosse County Roadway Plan* documents Phase 2 of the Comprehensive Road Maintenance and Replacement Study. Phase 1 addressed pavement management, rehabilitation, and reconstruction of existing roadways. Two of the recommendations from that study were that additional analysis be completed that investigates the impacts of increased traffic volumes as well as residential and commercial growth on the County's roadway network.

This study focuses on these additional analysis areas by developing traffic volume projections, developing a roadway improvement plan, recommending access control strategies, and providing traffic impact study requirements and a traffic engineering toolbox.

The study area included all County roads within the La Crosse Area Planning Committee (LAPC) boundary as well as select roads within La Crosse County but outside the LAPC area. The report that follows includes the following six chapters:

- Chapter 1 – Introduction
- Chapter 2 – Highways, Collectors, and Intersections
- Chapter 3 – Access Management Strategies
- Chapter 4 – Street Design Standards
- Chapter 5 – Traffic Engineering Toolbox
- Chapter 6 – Implementation and Conclusions

The La Crosse County Roadway Plan represents a collaborative effort spearheaded by the County and involved the input of the La Crosse Area Planning Committee (LAPC), and the Wisconsin Department of Transportation.

### Roadway Recommendations

In general, system-wide capacity deficiencies within the County road system are limited – both for existing and the future (2030) planning horizon year conditions. The recommended roadway improvements developed and documented in this plan focus on improving facilities expected to become more congested, improving connectivity in developing areas, and reconstructing substandard road facilities.

The following is a list of the types of projects that are recommended for several County Highways:

- Widening – adding lanes for through traffic, center turn lanes, and/or bicycles

- Reconstruction – constructing 2-foot paved and 2-foot gravel shoulders
- Total Reconstruction – realigning roadway and improving shoulders
- Access Management – implementing a variety of site-specific access management strategies
- New Roadway Location – constructing a new facility on a new alignment

Chapter 6 assigns costs to the roadway projects and prioritizes each project into one of two categories – Short-Term (2 to 7 years) and Long-Term (10 to 20 years). Table ES.1 details the type, extent, length, and description of each project, estimates the cost, and assigns it a priority category.

In addition to the recommended roadway improvements, field investigations were performed to confirm existing conditions, identify design features, and observe driver behavior at several intersections where potential safety concerns exist. Field observations were completed to gain insight as to potential patterns and conditions that could be improved through geometric changes or enhancements to traffic control. The intersections are located throughout the study area and recommended improvements include access control, turn lane additions, improved signage and lighting, and enhanced pavement markings. As before, the cost of these improvements was estimated and each project was prioritized. Table ES.2 provides this information.

**Table ES.1 – Implementation Plan (Roadway Projects)**

Project Type	Project Extents	Project Description	Approx. Length (mi)	Estimated Cost
<b>Short-Term Improvements (2 to 7 years; 2009 to 2014)</b>				
Total Reconstruction	OA from FO to O	Includes realignment of roadway	2.5	\$4,750,000
Total Reconstruction	FO from F to OA	Includes realignment of roadway	1.75	\$3,400,000
Widening	SN from S to OT	Widen to 3 lanes; no bike lanes; sidewalk one side	1.15	TBD
* Widening	S from US 53 to SN	Widen to multilane	1.0	*
Widening	D from DH to William Ct	Widen to 3 lanes with bike lanes	0.35	TBD
Reconstruction	W from D to M	Construct 2-foot paved and 2-foot gravel shoulder	2.0	\$720,000
Reconstruction	M from W to D	Construct 2-foot paved and 2-foot gravel shoulder	4.25	\$1,500,000
^ Access Management	HD from MH to US 53	Access management strategies	2.0	\$1,000,000
			Subtotal	\$11,370,000
<b>Long-Term Improvements (10 to 20 years; 2017 to 2027)</b>				
Reconstruction	XX from Highway 35 to ZN	Construct 2-foot paved and 2-foot gravel shoulder	6.75	\$2,400,000
Reconstruction	C from Hwy 108 to Hwy 108	Construct 2-foot paved and 2-foot gravel shoulder	11.25	\$4,000,000
^ Access Management	MH from US 53 to HD	Access management strategies	1.0	\$500,000
^ Access Management	SN from Pinecrest Ave to S	Access management strategies	2.5	\$1,250,000
^ Access Management	S from SN to US 53	Access management strategies	1.0	\$500,000
New Roadway Location	Connecting Z to XX	New construction	#	#
** New Roadway Location	Connecting Garland St East to Linse Rd	New construction	#	#
			Subtotal	\$8,650,000
			Total	\$20,020,000

Notes: \* Project with committed funding

^ Costs for access management strategies estimated to be \$500,000 per mile; Strategies include a variety of considerations, so costs will vary;

# Extents and costs for these new locations are not available due to variability pending a final alignment

\*\* The new location would be the responsibility of the locality or constructed as part of the land development process

**Table ES.2 –Implementation Plan (Intersection Improvements)**

Project Type	Project Location	Project Description	Estimated Cost
<b>Short-Term Improvements (2 to 7 years; 2009 to 2014)</b>			
Intersection Improvement	HD and Hale Dr	Access control	\$30,000
Intersection Improvement	OT and SN	Turn lanes	\$300,000
Intersection Improvement	T and Hwy 108	Signage	\$2,000
Intersection Improvement	B and O	Turn lanes; lighting	\$160,000
Intersection Improvement	B and U	Turn lanes	\$225,000
Intersection Improvement	M and B	Signage; pavement markings	\$18,000
Intersection Improvement	M and C	Bypass lane	\$200,000
Intersection Improvement	M and O	Access control; signage; pavement markings	\$20,000
Intersection Improvement	D and DH	Bulbouts; curb ramps	\$35,000
			Subtotal
			\$990,000
<b>Long-Term Improvements (10 to 20 years; 2017 to 2027)</b>			
Intersection Improvement	I and Hwy 33	Reconstruction	\$350,000
Intersection Improvement	OT and XX	Reconstruction	\$500,000
			Subtotal
			\$850,000
			Total
			\$1,840,000

## Access Management Strategies

Access management strategies seek to create a transportation corridor that maintains access to adjacent parcels while preserving the mobility of through traffic. Often, these strategies require cooperation between state agencies, local governments, and private land owners. The *La Crosse County Roadway Plan* documents the benefits of access management, provides a toolbox of common access management strategies, and presents illustrative examples of two local corridors that have conditions representative of other areas throughout the County.

The toolbox includes strategies that should improve on-site traffic circulation, maintain efficient corridors through median treatments, ensure the safety of vehicles traveling through intersections, and utilize proven intelligent transportation system technologies. Strategies to improve segments of County Roads MH and HD are presented to illustrate the toolbox in action. Based upon a review of the *Access Management Manual*, minimum driveway and roadway spacing criteria of 660 feet should be maintain on rural and transitioning roadways. However, it is understood that topographic and ownership constraints in some locations will require a variance from this recommendation, although variances should be evaluated on a case-by-case basis.

## Street Design Standards

“Complete streets” is a term used nationally to transform vehicle-dominated thoroughfares in urban, suburban, and rural areas into community-oriented streets that safely and conveniently accommodate all modes of travel, not just motorists. The *La Crosse County Roadway Plan* places the principles of a complete street into the rural context familiar to the area. While not every road in the County is expected to become a complete street, the concepts and ideas are presented to provide concepts that can be included in the development review process.

A review of existing street design standards was conducted and a series of cross-sections that incorporate the “complete street” concepts are included. While only two corridors are identified where new roadways are recommended, it is understood that as the County grows private developers will construct new roads to provide access to the homes and businesses they construct. At this time, or during total reconstruction of roadways, complete street design features should be introduced to strategic corridors.

## Traffic Engineering Tools and Strategies

Chapter 5 of the plan outlines when different types of intersection control or geometric modifications are considered by traffic engineers. This chapter includes a summary of the multiway stop and traffic signal warrants documented in the *Manual of Uniform Traffic Control Devices*. The chapter also introduces several software tools employed by engineers, information on when exclusive turn lanes should be considered, and some roundabout capacity concepts.

While these guidelines provide direction for traffic control devices at intersections, additional guidance regarding the capacities of typical roadway sections is also helpful. The *Highway Capacity Manual* includes methodology to determine roadway capacity. Table ES.3 from the Traffic Impact Analysis Guidelines for the City of Middleton (Wisconsin) relates approximate street system planning capacities to level of service. A similar table is included in Chapter 5 as a reference for La Crosse County.

It is important to note the Traffic Engineering Toolbox provides relatively general information, and in many situations, the advice of or further analysis by a traffic engineer is justified.

Table ES.3 – Approximate Street System Planning Capacities

Cross-Section	Level of Service Volume (vpd)*	
	LOS C	LOS D
2-Lane Undivided without Turn Lanes	13,000	15,000
2-Lane Undivided with Turn Lanes	15,000	17,000
4-Lane Undivided without Turn Lanes	17,000	19,500
4-Lane Undivided with Turn Lanes	21,000	24,000
4-Lane Divided with Turn Lanes	25,000	29,000
5-Lane with Two-Way Left Turn Lanes	30,000	35,000
6-Lane Divided with Turn Lanes	35,000	40,500

\* Capacity can vary greatly depending on access control, cross-street volumes, and peaking characteristics. All street cross-sections include on-street parking on both sides. The table is based on former WisDOT FDM planning values which have been supplemented by iterative HCS calculations.

## Implementation Plan

A plan's usefulness is tied directly to its ability to be implemented. The *La Crosse County Roadway Plan* concludes with an implementation plan designed to prioritize the previously mentioned roadway and intersection improvement projects, detail policies to guide the development of Traffic Impact Studies, and outline an action plan of next steps.

The implementation and conclusions chapter closes with a list of action items to guide the initial implementation of the *La Crosse County Roadway Plan*. The action items include:

- The County should implement a traffic data collection program that includes tube and turning movement counts at key intersections across the County.
- Copies of accident reports should be obtained regularly from local police and organized by location.
- The County should require the completion of a traffic impact study for significant developments.
- The County should continue to monitor and support changes in legislation that allow the recovery of costs from developers due to the impacts of their developments.
- The County should work with and encourage local governments to create traffic study requirements for proposed developments.

- If local units of government utilize traffic impact fees, the County should work to ensure that necessary improvement to county roadways are considered and the local unit of government gets required mitigation measures installed.
- The County should formally adopt access spacing guidelines to ensure County facilities operate safely and efficiently in the future.
- At locations where increased pedestrian, bicycle, and transit use is anticipated or desired, "Complete Street" concepts should be implemented.
- The County should evaluate and prioritize the roadway projects for implantation as recommended for the next two to seven years.

The last action item is very important. To fully implement the plan, the region must identify stable, timely, and equitable methods of funding. Evolution toward a creative and effective mix of funding from various sources and stakeholders in the economy and transportation system of this region is a worthy goal. Alternative funding strategies and solutions should be explored to supplement the Long Range Capital Improvements Program.

With increasing demand placed on the region's roadways, it is clear that the County cannot wait indefinitely to address these recommendations. Delay in initiating these short-term, high-priority projects will be detrimental to the region's transportation system and valued quality of life. Likewise, any delay in implementing the short-term projects will carry over to the long-term (10 to 20 year) initiatives.