Speed Limits, Safety, & Safety Funding Opportunities

Prepared For:
Dane County Towns Meeting

May 18th, 2022

TRAFFIC ANALYSIS & DESIGN, INC.

www.tadi-us.com

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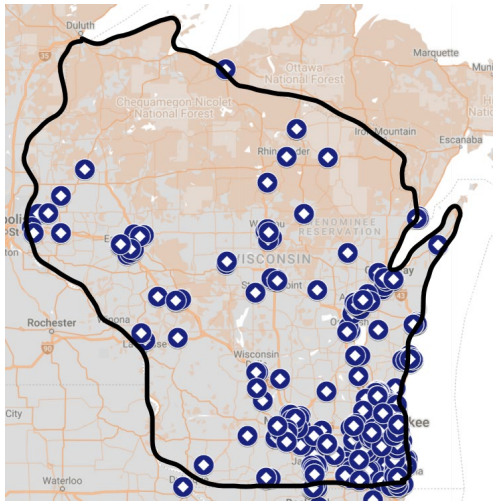
414-350-3256

Firm Description

- Traffic Engineering Specialty Firm founded in 2002
- Wisconsin, Illinois, Michigan, & Iowa
- Clients: DOTs, Municipalities, School Districts, Developers, etc.
- Highly Experienced Team of 30 Employees
  - 10 Registered Professional Engineers
  - 5 PTOE's
  - 3 RSP's
  - Field Staff & Interns



We are a team with **high integrity**. We do our work right the first time and believe the success of our clients is our biggest reward. **Ninety-five percent** of our clients are **repeat clients**, a true indication of the quality of workmanship and service we provide.

TOP WORK PLACES
MILWAUKEE · WISCONSIN JOURNAL SENTINEL
PART OF THE USA TODAY NETWORK

TADI

Safety Experts

Certified Road Safety Professionals (RSP)

Amy Pomeroy, P.E., RSP_1 Christian Sternke, P.E., RSP_1 John Campbell, P.E., RSP_2

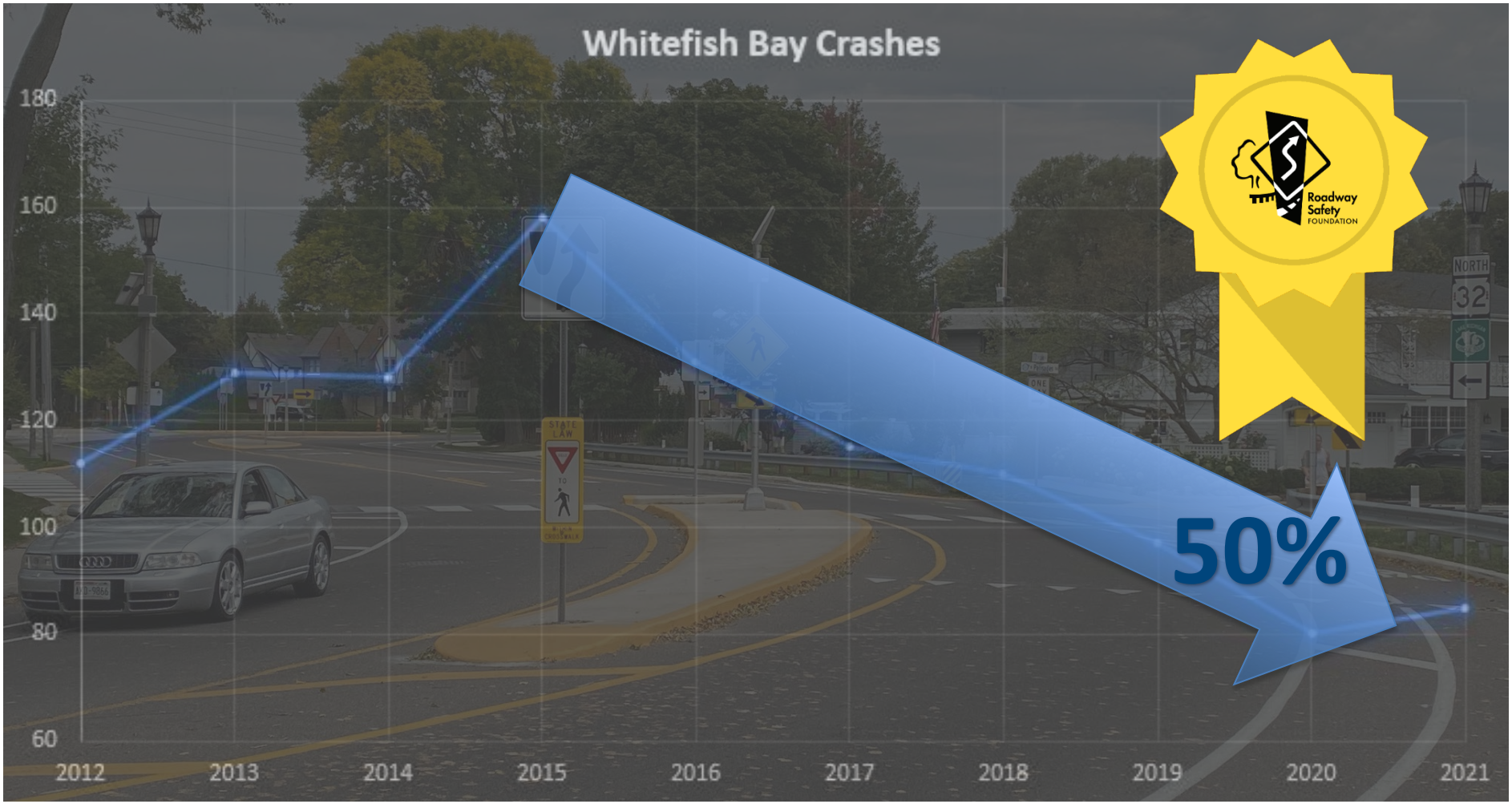
ite
A Community of Transportation Professionals

John serves on the Executive Council of the Vision Zero Standing Committee at ITE

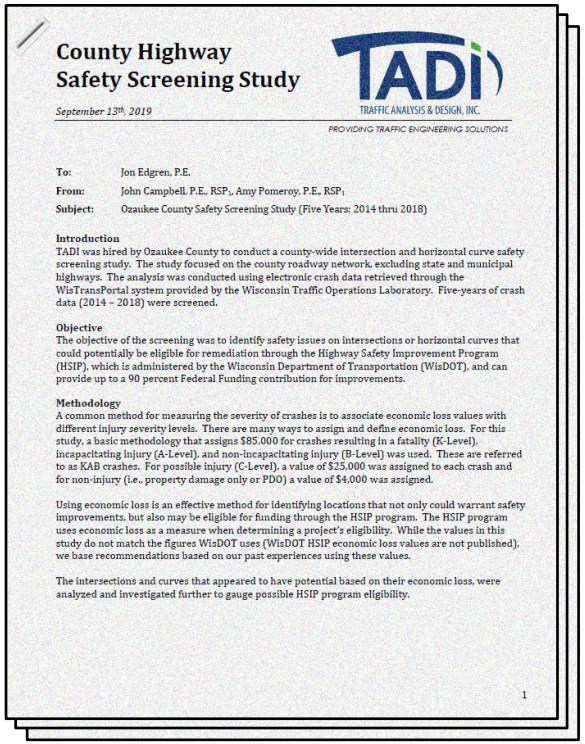
Angela Rinaldi
Summer Intern
2020, 2021, 2022

TADI

Award Winning



Local Safety Services



County Highway
Safety Screening Study

TADI
TRAFFIC ANALYSIS & DESIGN, INC.
PROVIDING TRAFFIC ENGINEERING SOLUTIONS

September 13th, 2019

To: Jon Edgren, P.E.
From: John Campbell, P.E., RSP1, Amy Pomeroy, P.E., RSP1
Subject: Ozaukee County Safety Screening Study (Five Years: 2014 thru 2018)

Introduction
TADI was hired by Ozaukee County to conduct a county-wide intersection and horizontal curve safety screening study. The study focused on the county roadway network, excluding state and municipal highways. The analysis was conducted using electronic crash data retrieved through the WisTransPortal system provided by the Wisconsin Traffic Operations Laboratory. Five-years of crash data (2014 – 2018) were screened.

Objective
The objective of the screening was to identify safety issues on intersections or horizontal curves that could potentially be eligible for remediation through the Highway Safety Improvement Program (HSIP), which is administered by the Wisconsin Department of Transportation (WisDOT), and can provide up to a 90 percent Federal Funding contribution for improvements.

Methodology
A common method for measuring the severity of crashes is to associate economic loss values with different injury severity levels. There are many ways to assign and define economic loss. For this study, a basic methodology that assigns $85,000 for crashes resulting in a fatality (K-Level), incapacitating injury (A-Level), and non-incapacitating injury (B-Level) was used. These are referred to as KAB crashes. For possible injury (C-Level), a value of $25,000 was assigned to each crash and for non-injury (i.e., property damage only or PDO) a value of $4,000 was assigned.

Using economic loss is an effective method for identifying locations that not only could warrant safety improvements, but also may be eligible for funding through the HSIP program. The HSIP program uses economic loss as a measure when determining a project's eligibility. While the values in this study do not match the figures WisDOT uses (WisDOT HSIP economic loss values are not published), we base recommendations based on our past experiences using these values.

The intersections and curves that appeared to have potential based on their economic loss, were analyzed and investigated further to gauge possible HSIP program eligibility.

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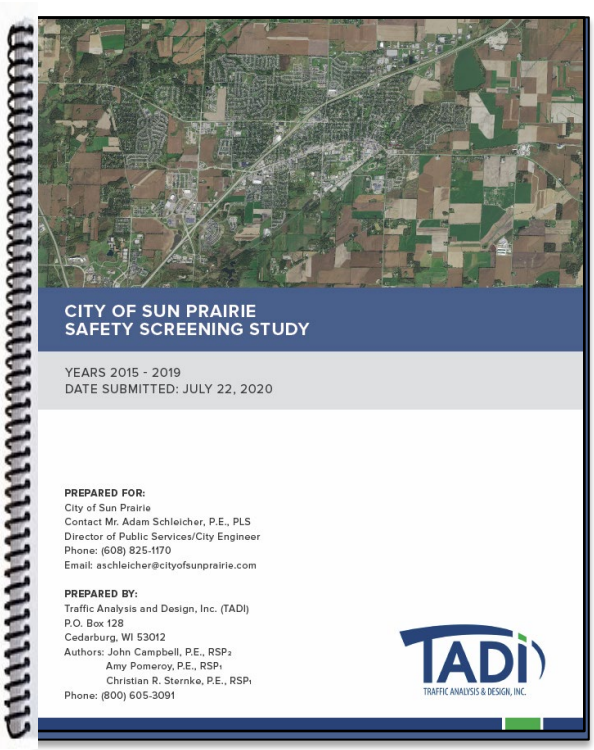

CITY OF SUN PRAIRIE
SAFETY SCREENING STUDY

YEARS 2015 - 2019
DATE SUBMITTED: JULY 22, 2020

PREPARED FOR:
City of Sun Prairie
Contact Mr. Adam Schleicher, P.E., PLS
Director of Public Services/City Engineer
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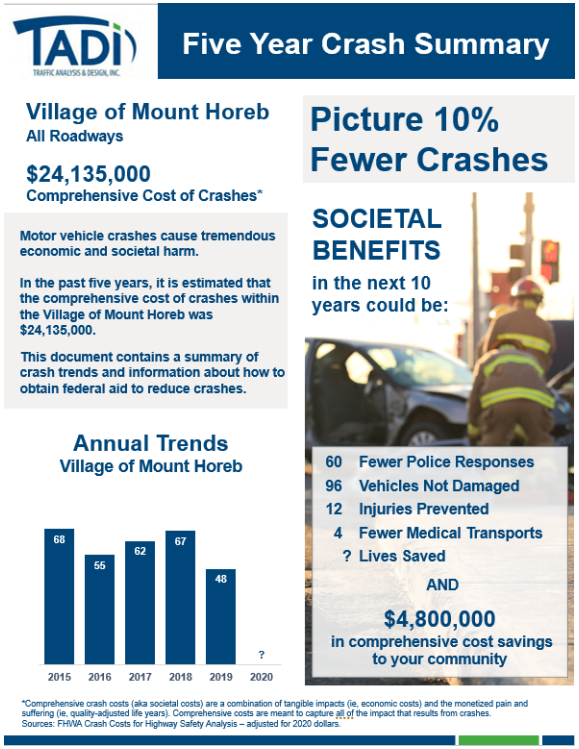

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Five Year Crash Summary

Village of Mount Horeb
All Roadways

$24,135,000
Comprehensive Cost of Crashes*

Motor vehicle crashes cause tremendous economic and societal harm.

In the past five years, it is estimated that the comprehensive cost of crashes within the Village of Mount Horeb was $24,135,000.

This document contains a summary of crash trends and information about how to obtain federal aid to reduce crashes.

Annual Trends
Village of Mount Horeb

Picture 10% Fewer Crashes

SOCIETAL BENEFITS
in the next 10 years could be:

60 Fewer Police Responses
96 Vehicles Not Damaged
12 Injuries Prevented
4 Fewer Medical Transports
? Lives Saved

AND

$4,800,000
in comprehensive cost savings to your community

*Comprehensive crash costs (aka societal costs) are a combination of tangible impacts (ie, economic costs) and the monetized pain and suffering (ie, quality-adjusted life years). Comprehensive costs are meant to capture all of the impact that results from crashes.
Sources: FHWA Crash Costs for Highway Safety Analysis – adjusted for 2020 dollars.

Tech Memo

- ✓ Identify potential HSIP projects in your community

Screening Report

Most popular

- ✓ Identify potential HSIP projects
- ✓ Find low-cost local improvements
- ✓ GIS map of collision diagrams
- ✓ Serves as a planning document for future improvements

Road Safety Plan

Trending

- ✓ Crash risk analysis (ped/bike)
- ✓ Prioritization of low-cost improvements

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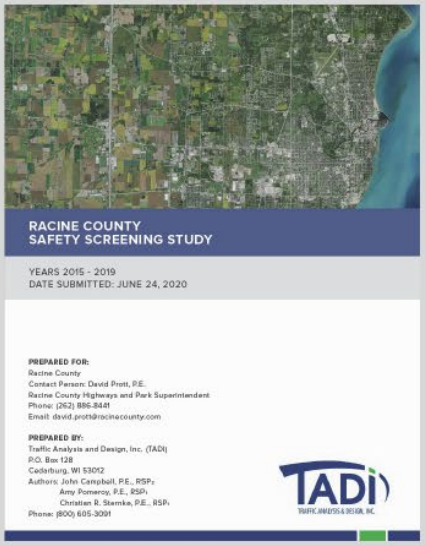
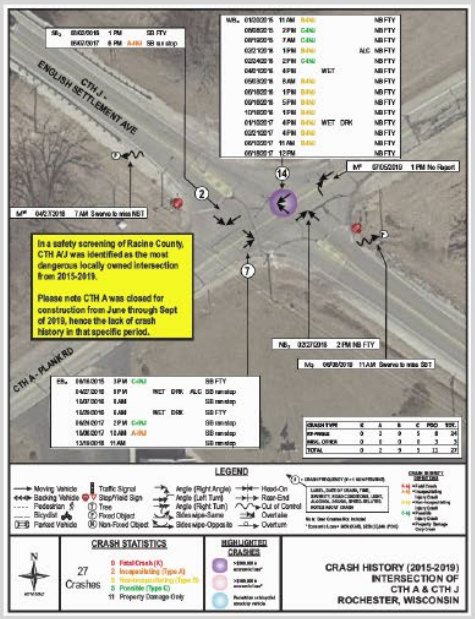
HSIP Application Preparation



Most Applications
Stem from
Safety Screening Study
(locally funded)



Collision Diagrams
Vetted by Road Safety Professional (RSP)

RECOMMENDED IMPROVEMENT
CMF values

CONVERT TWO-WAY STOP CONTROLLED INTERSECTION TO ROUNDABOUT (CMF = 0.50 KABC = 1.16 PDO)

Crash Summary Table

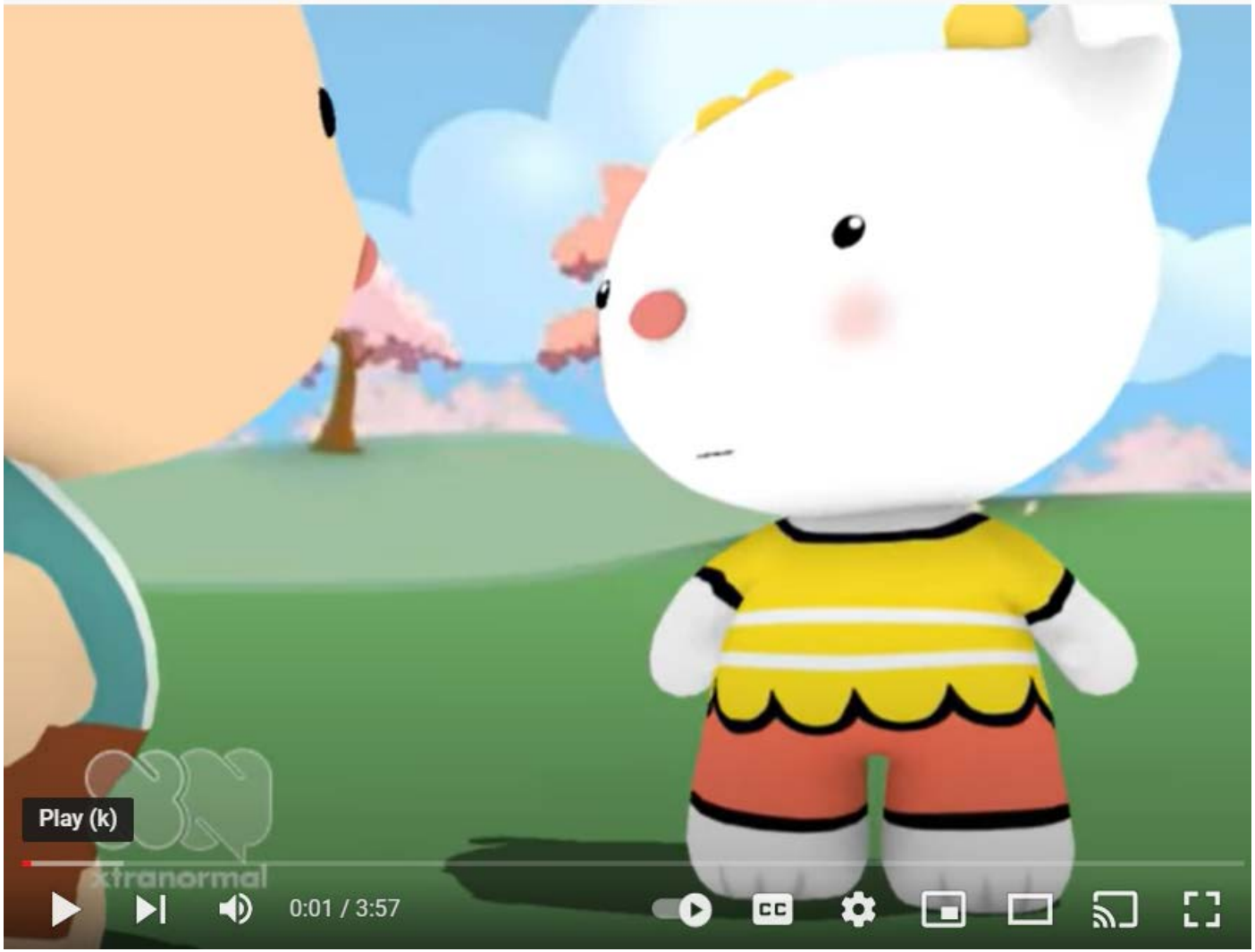
CRASH TYPE	K	A	B	C	PDO	TOT.
RT-ANGLE	0	2	9	5	8	24
MISC. OTHER	0	0	0	0	3	3
TOTAL	0	2	9	5	11	27

- ✓ **Prepare <u>all</u> documentation**
- ✓ **Coordinate with WisDOT**
- ✓ **Present projects to WisDOT**

TADI's assisted with 40+ approved HSIP applications!

Approval status usually known within 2-3 months
Construction begins usually 2-3 years from submittal date

Let’s talk speed limits!

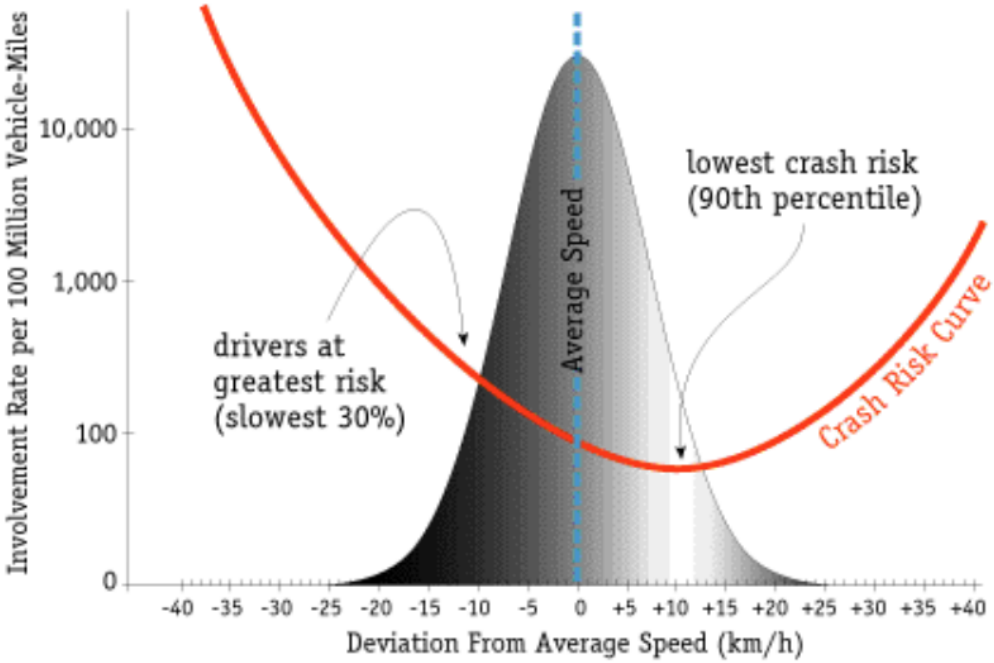


Questions


NEWS
I CAN'T DRIVE 55
never trust an atom.
they make up everything.

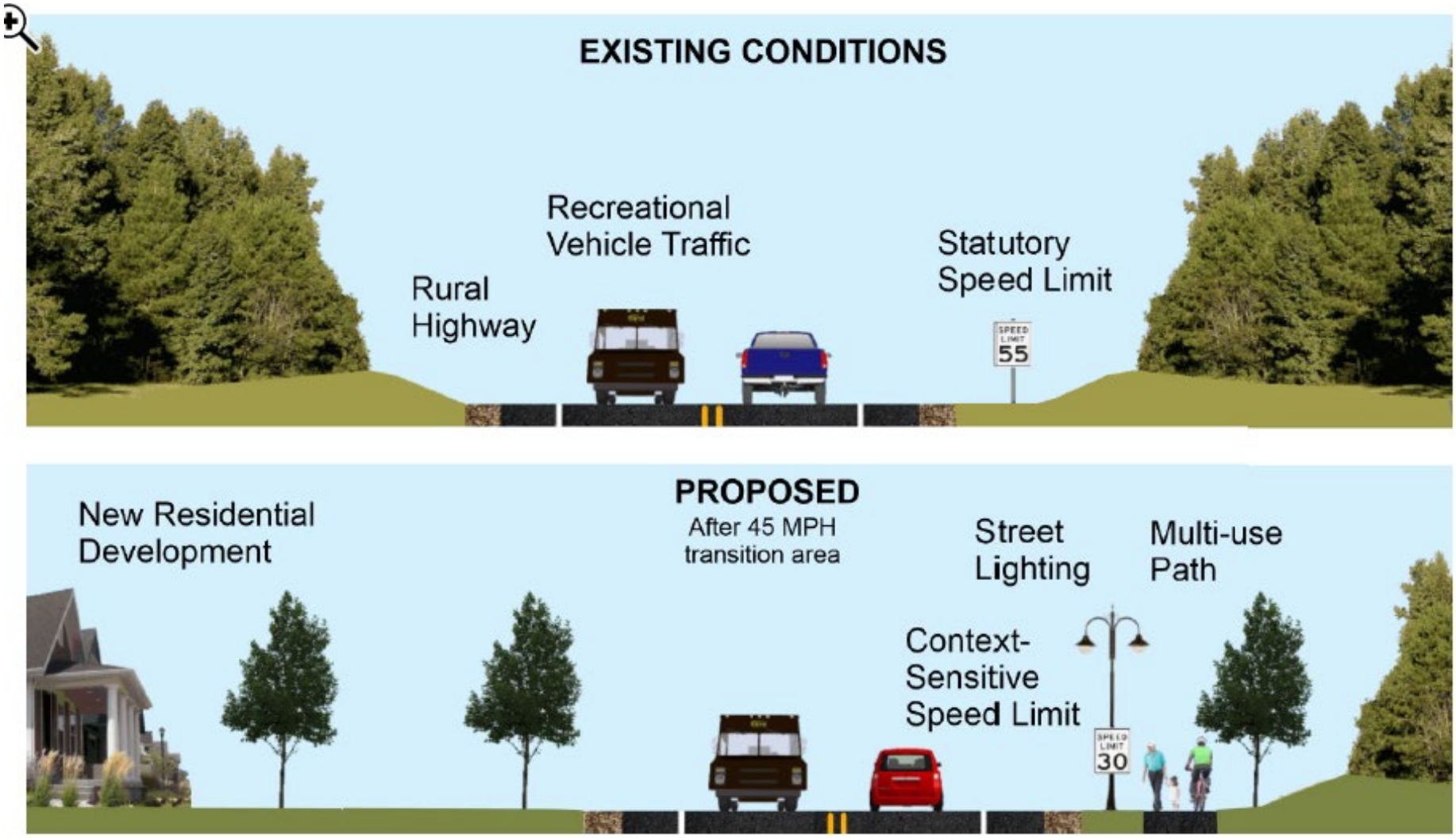
History of the 85th percentile speed

Solomon's Curve



The "Solomon Curve," developed in 1964, states that those driving slowest will be at the greatest risk of crashing. This outdated model, which ignores pedestrian safety entirely, still guides traffic engineering toward higher speeds. Photo: ##http://www.copenhagenize.com/2012/11/the-85th-percentile-folly.html## Copenhagenize##

Roadway Environment Affects Speeds



Reducing Speeds Through Engineering







USLIMITS2

NCHRP 17-76 Speed Limit Setting Tool

National Tool Benefits

Incorporate information about the roadway, crashes and speeds

Typically recommend a speed limit 5 mph greater than what would be considered rational in WI.

Context sensitive.

Summary

National tools may result in a more context-sensitive speed limit recommendation.

Changes to roadway environment can impact speeds.

Any last questions about safety, speed, or safety funding sources?

Contact Info

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Summary

Table 1. Speed Limits and Authority to Change

Statutory (Fixed) Limits per Statute 346.57(4)[a]	What Local Governments[b] Can do Per Statute 349.11(3) and (7)[a]
70 mph– Freeway/Expressway	WisDOT ONLY
65 mph – Freeway/Expressway	WisDOT ONLY
55 mph – State Trunk Highway	WisDOT ONLY
55 mph – County Trunk Highway, Town Roads	Lower the statutory speed limit by 10 mph or less.
45 mph – Rustic Roads	Lower the statutory speed limit by 15 mph or less.
35 mph – Town Road (1,000' min) with 150' driveway spacing	Lower the statutory speed limit by 10 mph or less.
25 mph – Inside corporate limits of a city or village (other than outlying districts)	Raise the speed limit to 55 mph or lower. Lower the statutory speed limit by 10 mph or less.
35 mph – Outlying district[c] within city or village limits	Raise the speed limit to 55 mph or lower. Lower the statutory speed limit by 10 mph or less.
35 mph – Semiurban district[d] outside corporate limits of a city or village	Raise the speed limit to 55 mph or lower. Lower the statutory speed limit by 10 mph or less.
15 mph – School Zone, when conditions are met	Raise the speed limit to that of the roadway. Lower the speed limit by 10 mph or less.
15 mph – School Crossing, when conditions are met	Raise the speed limit to that of the adjacent street. Lower the speed limit by 10 mph or less.
15 mph – Pedestrian Safety Zone, with Public Transit Vehicle Stopped	No changes permitted.
15 mph – Alley	Lower by 10 mph or less.
15 mph – Street or town road adjacent to a Public Park	Lower by 10 mph or less.
Construction or maintenance zones – as appropriate	State and Local have authority to establish lower limit.

(a) Source: Wisconsin State Statutes
(b) All speed limit changes **shall** be based on a traffic engineering study, including modifications allowed under Statute. Local governments can implement speed limit changes on the local road system without WisDOT approval when proposals are within the constraints identified above.
(c) Per Statute 346.57(1)(ar) "outlying district" is an area contiguous to any highway within the corporate limits of a city of village where on each side of the highway within any 1,000 feet, buildings are spaced on average more than 200 feet apart.
(d) Per Statute 346.57(1)(b) "semiurban district" is an area contiguous to any highway where on either or both sides of the highway within any 1,000 feet, buildings are spaced on average less than 200 feet apart.