



FINAL

Compass Report

Wisconsin State Highway 2013 Maintenance, Traffic, and Operations Conditions

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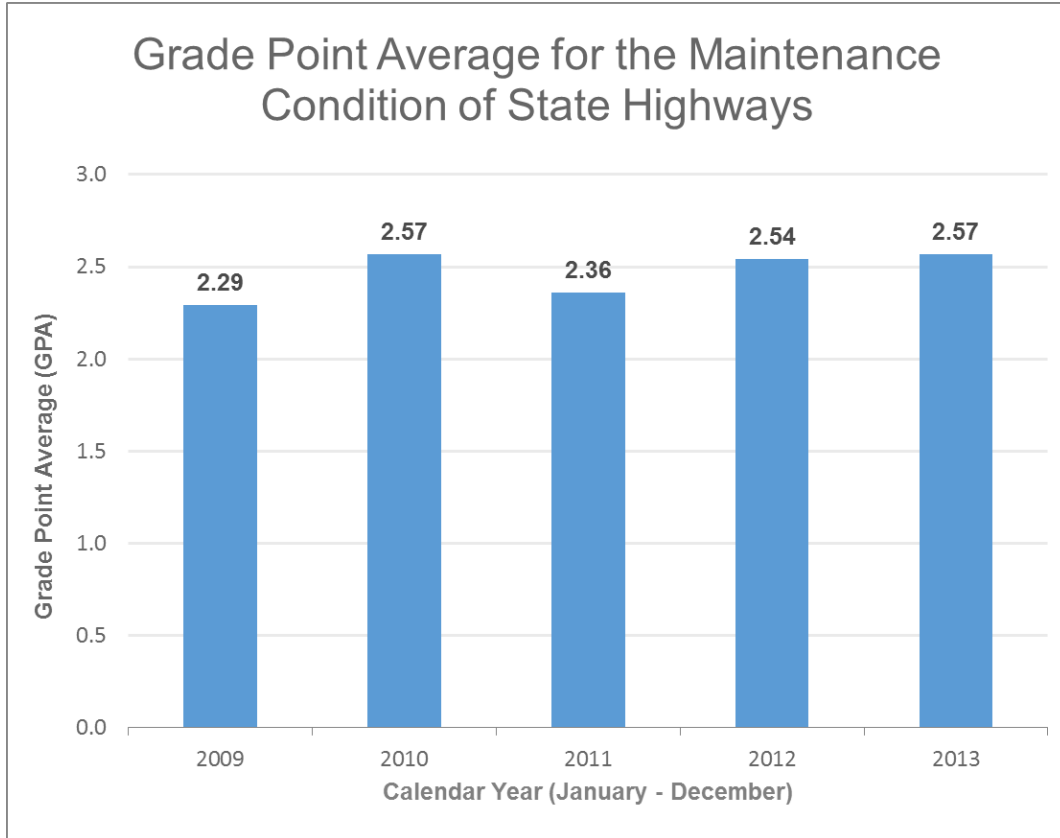
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Executive Summary

The “Compass” program collects rating data each year to help the department understand current infrastructure conditions and trends. The data also helps WisDOT managers set reasonable maintenance targets that reflect department priorities and respond to limited resources. To ensure that maintenance targets are consistently reflected in work programs around the state, these priorities are shared with the WisDOT regions to help structure the Routine Maintenance Agreements with counties. And to evaluate the maintenance target setting process, existing conditions are compared to their target levels to see if the annual goals were met or exceeded.

The 2013 Compass Annual Report has been completed based on the yearly field review process and current data from the WisDOT Sign Inventory Management System, WisDOT Annual Winter Maintenance Report and Highway Structures Information System. Below are the significant messages on the current condition of the state highway system and specific examples of how the Bureau of Highway Operations uses the information to manage the system:

- *MAPSS performance data:* The 2013 grade point average (GPA) for state highway maintenance is 2.57. This is a slight increase over the 2.54 grade point average received in 2012 (refer to chart on next page). The Compass grade point average is the highway maintenance performance measure for the MAPSS (Mobility, Accountability, Preservation, Safety, and Service) performance monitoring system. The department’s maintenance goal is a 3.0 GPA
- *Continued focus on reducing shoulder drop-off:* There has been continued emphasis on fixing drop-off along unpaved shoulders so that drivers who veer off the traveled way can safely get back onto the paved surface. More aggressive maintenance targets have been set over the past several years to deal with this problem. The actual amount of drop-off for unpaved shoulders in 2013 stayed constant at 36% after decreasing one percent between 2011 and 2012. There will be a continued focus on improving safety by reducing shoulder drop-off.
- *Removing hazardous debris on shoulders:* For several years the department has emphasized the safety benefits of removing hazardous debris from roadways. This year the backlog for hazardous debris is 7%, which matches the backlog level in 2012, the lowest level recorded during the previous five-year period.
- *More visible, longer lasting traffic signs:* About 15,000 new high-intensity signs were installed along the state highway system between 2012 and 2013. More than eighty five percent of the 299,418 signs on the state system now have high-intensity face material, providing better illumination to drivers during low light conditions and evenings.
- *Targeted replacement of regulatory and warning signs:* About 56,000 signs around the state are older than their suggested useful life. This is a reduction of about 8,000 signs from the 2012 backlog level. With limited sign replacement funds, the routine replacement of regulatory and warning signs (such as stop signs and speed limit signs) has been prioritized over the replacement of other types of signs. Based on this policy, 9.48% of the regulatory and warning signs are beyond their recommended service life, a two percent improvement from the 2012 level (11.54%). Thirty-three percent of other signs (e.g. detour/object marker/recreation/guide signs) are older than their suggested useful life. This is a four percentage point improvement from last year.



Compass Annual Report

About this report

The *Compass Annual Report* is issued each year to communicate the condition of Wisconsin’s state highway network and to demonstrate accountability for maintenance expenditures. The primary audience for this report includes Maintenance Supervisors and Operations Managers at the Wisconsin Department of Transportation (WisDOT) and partner organizations including the 72 counties. Compass reports are used to understand trends and conditions, prioritize resources, and set future target condition levels for the state highway system. The condition data is also used to estimate the costs to reduce maintenance backlogs to varying levels of service.

This report *includes* data on traveled ways (paved traffic lanes), shoulders, drainage, roadsides, selected traffic devices, specific aspects of winter maintenance activities, and bridges. The report *does not include* measures for preventive maintenance, operational services (like traveler information and incident management), or electrified traffic assets (like signals and lighting). It is important to consider what is not in the report when using this information to discuss comprehensive investment choices and needs.

The first section of this report provides a program overview and scorecard based on current conditions. Subsequent sections of the report provide detailed information on each roadway feature. The document is available on the Compass website (http://dotnet/dtid_bho/extranet/compass/reports/index.shtm) from within WisDOT or https://trust.dot.state.wi.us/extntgtwy/dtid_bho/extranet/compass/reports/index.shtm from outside WisDOT.

Feedback on format, content, and other aspects of the report is welcome and should be sent to Scott Bush, Compass Program Manager, at Scott.Bush@dot.wi.gov or (608) 266-8666.

Background

Compass was implemented statewide in 2002 as WisDOT's maintenance quality assurance and asset management program for highway operations. The Compass report is intended to provide a comprehensive overview of highway operations by integrating information from field reviews with inventory data and other information sources.

Process

The Compass report is issued annually in cooperation with the research team from the Wisconsin Transportation Center (WisTrans) at University of Wisconsin – Madison. Starting in January of each year, WisTrans and the Compass Program Manager work on the analysis of each element. The project team presents the draft report at the Compass Advisory Team meeting and the WisDOT Operations Managers meeting in the spring. The report is revised based on feedback from these meetings. The report is then finalized and officially published by the end of each year.

This report uses inventory data for bridges, pavement, routine maintenance of signs, and winter storms. It uses sample data for highway maintenance features. The project team collected data from the WisDOT business areas between December 2012 and May 2013.

The highway maintenance data includes data sampled from the field. Two hundred and forty 1/10-mile segments are randomly selected in each of the five WisDOT regions. A WisDOT Maintenance Coordinator and a County Patrol Superintendent collect the field data in each county between August 15 and October 15 every year. The field survey includes a condition analysis of shoulders, drainage features, roadside attributes, pavement markings and signs.

Winter maintenance data is gathered from the winter season 2012-13 and includes Time to Bare Wet, Winter Severity Index, Winter VMT, and crash data. Figures and tables are taken directly from the 2012-13 WisDOT *Annual Winter Maintenance Report* prepared by WisDOT's Winter Operations unit, including the "Winter by the Numbers" table and the statewide snowfalls and Winter Severity Index figures.

Starting with the 2009 Compass Annual Report, pavement data was obtained directly from WisDOT's Pavement Maintenance Management System (PMMS). This completes the transition from the previous method. The transition started with the 2008 Compass Annual Report by reporting condition based on the deficiency thresholds and condition categories in the PMMS while still getting the pavement data from the Program Information Files (PIF).

The routine replacement needs for signs comes from the Sign Inventory Management System (SIMS) and the bridge data comes from the Highway Structure Information System (HSIS).

Compass identifies backlog percentages for each feature at the county, region and statewide level. Backlog percentages indicate what percent of that feature is in a condition where maintenance work is required, assuming available budget. Therefore, an increasing backlog percentage reflects fiscal constraints rather than inadequate work in the field.

Appendix C identifies when assets are considered backlogged for highway maintenance features. For pavement features, the backlog is determined based on logic in the PMMS. In the PMMS, each segment of road receives a rating for each distress type. The ratings include “excellent”, “fair”, “moderate”, or “bad”, depending on the extent and severity of distress. For the Compass report, a pavement segment that receives a rating other than “excellent” requires maintenance and is considered backlogged. Traffic signs are considered backlogged for maintenance if it is in use past its expected service life.

WisDOT Maintenance Supervisors and Operations Managers annually set the targets for backlog percentage levels for each feature. These targets are intended to reflect priorities and goals for the year in light of fiscal constraints. Appendix E provides the maintenance targets for 2013.

Maintenance Report Card

Compass uses predefined backlog percentage thresholds to assign a letter grade to the overall maintenance condition of each feature (from “A” to “F”). A feature grade declines as more of a feature is backlogged. These grading scales vary to account for the importance of the feature to the motorist and roadway system. For example, a feature that contributes to critical safety would see its grade decline more rapidly than a feature that is primarily aesthetic in nature. The contribution categories include “Critical Safety”, “Safety/Mobility”, “Stewardship”, “Ride/Comfort”, and “Aesthetics”. A feature grade of “A” means that all basic routine maintenance needs have been met within the maintenance season and there is not a significant backlog. Appendix B lists the grading curve for each Compass feature and Appendix C identifies the contribution category for each feature. The features are listed in the report card in order of priority within their contribution category.

System Overview

Below is a summary of the 2013 condition grades for the 28 features that are evaluated in the field each year for the Compass program. The individual grades for the 28 features translate to an overall system condition grade point average of 2.57, or grade level C.

- A grade: 11 features (39%)
- B grade: 3 features (11%)
- C grade: 7 features (25%)
- D grade: 5 features (18%)
- F grade: 2 features (7%)

The two features which received a failing grade last year, Drop-off/Build-up on Unpaved Shoulders and Cracking on Paved Shoulders, were again the only two features to receive an F in 2013. The condition grade for most features stayed constant between 2012 and 2013. Out of 28 features surveyed, the condition grade remained unchanged for 21 roadway components (75%). Of the seven features that did receive different grades (25%), four, Protective Barriers,

Reg./Warning Signs (routine replacement), Other Signs (routine replacement), and Under-drains/Edge-drains, had improved grades. All three of those roadway features in worse condition were Critical Safety features.

A feature is considered to have met its target condition if it is within five percentage points of the target level. Twenty-one features (75%) met the target condition in 2013. Five features (18%) exceeded their maintenance targets (Curb and Gutter, Reg./Warning Signs (routine replacement), Other Signs (routine replacement), Fences, and Cracking on Paved Shoulders), while two features (7%) (Drop-off/Build-up on Unpaved Shoulders and Flumes) did not meet their maintenance targets. The following tables identify the five-year trend in Compass feature grades by contribution category. Key observations are also provided for each contribution category.

Critical Safety Features

The roadway features considered critical for safety are those which would necessitate immediate action to remedy if not properly functioning.

Feature	2013	2012	2011	2010	2009	Element
Reg./Warning Signs (emergency repair)	A	A	B	A	A	Traffic and Safety
Hazardous Debris	C	C	C	C	C	Shoulders
Protective Barriers	A	B	B	A	B	Traffic and Safety
Centerline Markings	C	B	C	C	C	Traffic and Safety
Edgeline Markings	C	B	C	C	D	Traffic and Safety
Drop-off/Build-up (unpaved shoulder)	F	F	F	F	F	Shoulders
Drop-off/Build-up (paved shoulder)	B	A	B	A	B	Shoulders

- One Critical Safety feature, Protective Barriers, improved to a new grade. This is the second consecutive year of improvement for the underlying backlog rate of this feature.
- Three Critical Safety features (Centerline Markings, Edgeline Markings, and Drop-off/Build-up on Paved Shoulders) received a lower grade in 2013 than in 2012, all dropping one letter grade.
- Regulatory/Warning Signs (emergency repair), Hazardous Debris, and Drop-off/Build-up on Unpaved Shoulders all received the same grade as in the previous year.
- All Critical Safety features except Drop-off/Build-up on Unpaved Shoulders met their condition targets. This feature missed the target backlog rate by 6%, as it did last year, marking the fourth year since 2009 in which the target has not been met.

Safety/Mobility Features

Safety/Mobility features are highway features and characteristics that protect users against - and provide them with a clear sense of freedom from - danger, injury or damage.

Feature	2013	2012	2011	2010	2009	Element
Woody Veg. Control for Vision	A	A	A	A	A	Roadside

Feature	2013	2012	2011	2010	2009	Element
Mowing for Vision	A	A	A	A	B	Roadside
Special Pavement Markings	B	B	C	C	C	Traffic and Safety
Woody Vegetation	A	A	A	A	A	Roadside
Culverts	D	D	D	D	D	Drainage
Storm Sewer System	C	C	C	C	D	Drainage
Cross-Slope (unpaved shoulder)	D	D	D	C	D	Shoulders
Delineators	D	D	D	C	D	Traffic and Safety
Reg./Warning Signs (routine replace)	B	C	C	C	D	Traffic and Safety
Fences	A	A	A	A	A	Roadside

- All features in the Safety/Mobility category except Reg./Warning Signs (routine replacement), maintained the grades they received in the previous year.
- The backlog rate for Reg./Warning Signs (routine replacement) continued its decline from a high of 23% in 2009 to 9% in 2013. The backlog rate for Mowing for Vision has also been on a downward trend since 2009.
- Woody Vegetation Control, Woody Vegetation Control for Vision, Fences, and Mowing for Vision all maintained A grades. Mowing for Vision had the lowest backlog rate of all features, with only one deficient segment in the 2013 sample.
- All Safety/Mobility features except Fences and Reg./Warning Signs (routine replacement) met their condition targets. Fences, with a 2% backlog rate, performed much better than its target of 14%.

Stewardship Features

Stewardship captures performance on routine and preventive maintenance actions taken to help a highway element obtain its full potential service life.

Feature	2013	2012	2011	2010	2009	Element
Ditches	A	A	A	A	A	Drainage
Curb & Gutter	A	A	A	A	A	Drainage
Flumes	D	D	D	D	D	Drainage
Cracking (paved shoulder)	F	F	F	F	F	Shoulders
Erosion (unpaved shoulder)	A	A	A	A	A	Shoulders
Under-drains/Edge-drains	C	D	D	C	C	Drainage

- All Stewardship features except Under-drains/Edge-drains maintained the grades they received last year.
- Ditches, Curb and Gutter, and Erosion on Unpaved Shoulders all continued to receive feature grades of A.
- Flumes maintained the D grade received in 2012, but a closer look at the underlying backlog rate indicates an upward trend (worsening condition).

- Cracking on Paved Shoulders continued to receive the F grade it has received for the past five years. However, the feature backlog rate has been improving since 2009.
- Half of the Stewardship features achieved their target maintenance backlog levels (Ditches, Erosion on Unpaved Shoulders, and Under-drains/Edge-drains).
- Curb and Gutter and Cracking on Unpaved Shoulders both had backlog rates below their targets, while maintenance conditions for Flumes were worse than the target level.

Ride/Comfort Features

The ride quality and comfort features provide a state of ease and quiet enjoyment for highway users. These features include proper signing and lack of pavement obstructions.

Feature	2013	2012	2011	2010	2009	Element
Potholes/Raveling (paved shoulder)	A	A	A	A	A	Shoulders
Other Signs (emergency repair)	A	A	A	A	A	Traffic and Safety
Other Signs (routine replacement)	C	D	D	D	D	Traffic and Safety

- The Ride/Comfort features have been relatively consistent, with both Potholes/Raveling on Paved Shoulders and Other Signs (emergency repair) maintaining A grades for the entire five year window. Other Signs (routine replacement) provided the only deviation from past norms, improving from a grade of D to a grade of C.
- Potholes/Raveling on Paved Shoulders and Other Signs (emergency repair) both met their condition targets in 2013, while Other Signs (routine replacement) exceeded its target.

Aesthetics Feature

Aesthetics concerns the display of natural beauty, such as landscaping, located along a highway corridor. Also, the absence of things like litter, which detracts from the sightlines of the road.

Feature	2013	2012	2011	2010	2009	Element
Mowing	C	C	C	C	C	Roadside
Litter	D	D	D	D	D	Roadside

- The 2013 grade for Mowing is a C, consistent with grades over the past five years. Despite the constant grade, the feature backlog rate has increased consistently since 2010, including a 2% increase between 2012 and 2013.
- The grade for litter in 2013 is a D, as it has been for the previous five years.
- Both features met their maintenance backlog targets.

Winter:

- In contrast to the mild winter of 2011-12, 2012-13 was the most costly winter on record. The total billed cost of statewide winter operations this winter was \$94.98 million, making it 69

percent more costly than 2011-2012. Salt expenditures increased 78 percent, equipment expenditures by 78 percent, labor expenditures by 49 percent, and expenditures for materials other than salt decreased by 7 percent relative to the previous year.

- Statewide, the average snowfall was approximately 93 inches, well above the 30 year average of 52.4 inches and nearly double the average of the previous winter. The highest snowfall recorded in 2013-13 winter season was in Iron County, at 249 inches; the lowest was in Milwaukee County, at 43 inches. Both figures were well above those of the previous winter.
- The statewide average number of winter storms was 36 in 2012-2013, significantly more than in the 2011-2012 average of 26. Iron County experienced the most storms, 65, while Green County had the least, at 22. The number of storms has a more significant impact on resources expended than snowfall totals, since staff and equipment may be mobilized even if only 0.1 inches of snow or freezing rain falls.
- The Percentage of roads to bare/wet pavement within WisDOT target times was 73 percent, down from 79 percent in the previous winter. From storm to storm, most of the variability in a county's ability to achieve bare/wet pavement within the target times is due to weather effects (type, duration and severity of storms throughout the winter season).
- In the winter of 2012-2013, there were 7,767 reported winter weather crashes (those that occurred on pavements covered with snow, slush or ice. The crash rate (number of crashes per 100 million vehicle miles traveled) increased drastically (45 percent) this winter to a statewide average of 29, up from last winter's crash rate of 20. However, this is less than the 2010-11 crash rate of 35, which was a relatively comparable year in terms of severity.

Bridges:

- Statewide, 31% of decks are in Fair condition, receiving an NBI rating of 5 or 6, and need reactive maintenance. These include 25% of concrete bridges and 43% of steel bridges.
- The NW region has the lowest percent of decks in good condition, at 52%. The SE and SW regions both have the highest percentage of decks in poor condition, at 3%, as well as the most deck area to maintain (14,874,847 ft² and 13,059,412 ft², respectively).
- The NE region (875 bridges) has the best bridge ratings in the state with 89% of decks in Good condition and an impressive 0% in Poor and Critical condition.

Wisconsin 2013: Compass Report on Highway Maintenance Conditions

Element	What are we spending?					Feature	How much of the system still needs work at the end of the maintenance season?					How well maintained is the system?							
	Dollars spent (in millions) ¹						Condition change: 2012 to 2013 ²	% of system backlogged					2013 Feature grades						
	FY 09	FY 10	FY 11	FY 12	FY 13			2009	2010	2011	2012	2013	A	B	C	D	F		
Shoulders	8.99 9.77 0.27 0.29	13.28 14.19 0.40 0.42	11.05 11.44 0.33 0.34	11.08 11.24 0.33 0.33	8.16 8.16 0.24 0.24	Hazardous Debris	-	8	8	7	7	7			C				
						Drop-off/Build-up (paved)	↓	4	2	3	1	4		B					
						Cracking (paved)	↑	62	60	60	55	54						F	
						Potholes/Raveling (paved)	↓	6	5	6	6	7	A						
						Drop-off/Build-up (unpaved)	-	34	37	37	36	36							F
						Cross-Slope (unpaved)	↑	22	18	27	26	22							D
						Erosion (unpaved)	-	3	1	2	1	1	A						
Drainage	9.84 10.68 0.29 0.32	9.13 9.75 0.27 0.29	8.54 8.85 0.25 0.26	7.90 8.01 0.23 0.24	7.10 7.10 0.21 0.21	Ditches	-	2	2	3	1	1	A						
						Culverts	-	23	28	22	25	25					D		
						Under-drains/Edge-drains	↑	24	21	33	30	29				C			
						Flumes	↓	36	36	39	45	47						D	
						Curb & Gutter	↑	5	6	4	5	4	A						
						Storm Sewer System	↓	19	17	17	13	14					C		
Roadsides	20.29 22.03 0.61 0.66	16.48 17.61 0.49 0.53	16.60 17.19 0.49 0.51	23.10 23.44 0.68 0.69	18.65 18.65 0.55 0.55	Litter	↓	66	62	63	62	64					D		
						Mowing	↓	35	36	38	39	41					C		
						Mowing for Vision	↑	5	3	1	1	0.3	A						
						Woody Vegetation	-	4	4	2	3	3	A						
						Woody Veg. Control for Vision	-	0.4	1	1	1	1	A						
						Fences	↑	3	2	1	3	2	A						

¹ The dollar values listed in each column show the nominal dollars, constant dollars (base year 2013), nominal dollars per thousand lane miles, and constant dollars per thousand lane miles, respectively.

² Arrows indicate a condition change from 2012 to 2013 (↑ = improved condition/lower backlog, ↓ = worse condition/higher backlog). Double arrows indicate the backlog changed 8 or more percentage points.

Element	What are we spending?					Feature	How much of the system still needs work at the end of the maintenance season?					How well maintained is the system?					
	Dollars spent (in millions) ¹						Condition change: 2012 to 2013 ²	% of system backlogged					2013 Feature grades				
	FY 09	FY 10	FY 11	FY 12	FY 13			2009	2010	2011	2012	2013	A	B	C	D	F
Traffic & safety (selected)	17.90	17.61	20.13	21.93	21.81	Centerline Markings	↓	7	7	6	4	6			C		
	19.44	18.81	20.84	22.26	21.81	Edgeline Markings	↓	12	8	7	3	7			C		
	0.53	0.53	0.60	0.65	0.64	Special Pavement Markings	↓	10	11	10	6	9		B			
	0.58	0.56	0.62	0.66	0.64	Reg./Warning Signs (emerg.)	↓	1	1	3	1	2	A				
						Reg./Warning Signs (routine)	↑	23	17	15	12	9		B			
						Other Signs (emerg. repair)	↑	0.3	1	4	3	2	A				
						Other Signs (routine replacement)	↑	51	44	39	37	33			C		
						Delineators	↓	20	14	25	21	22				D	
						Protective Barriers	↑	3	1	5	3	1	A				

Contribution Category	Feature	Element	Statewide						Regions					
			Actual % backlog 2013	Target % backlog 2013	On target ³	Gap if target missed						Worse condition	On Target	Better condition
						Worse condition			Better condition					
						20	10	0	0	10	20			
	Culverts	Drainage	25	30	⊙								SE, SW	NC, NE, NW
	Storm Sewer System	Drainage	14	15	⊙							NW, SW	NE, SE	NC
	Cross-Slope (unpaved)	Shoulders	22	20	⊙							NE, SE, SW	NC	NW
	Delineators	Traffic and Safety Devices	22	25	⊙							SE	NW, SW	NC, NE
	Reg./Warning Signs (routine replacement)	Traffic and Safety Devices	9	15					6				NE, SE	NC, NW, SW
	Fences	Roadsides	2	14						12			NW	NC, NE, SE, SW
Stewardship	Ditches	Drainage	1	5	⊙								ALL	
	Curb & Gutter	Drainage	4	10					6			NW	SW	NC, NE, SE
	Flumes	Drainage	47	35			12					SE, SW	NW	NC, NE
	Cracking (paved)	Shoulders	54	60					6			SE	NE	NC, NW, SW
	Erosion (unpaved)	Shoulders	1	5	⊙								ALL	
	Under/Edge-drains	Drainage	29	30	⊙							NW, SW	NE	NC, SE
Ride/Comfort	Potholes/Raveling (paved)	Shoulders	7	10	⊙								NE, NW, SE, SW	NC
	Other Signs (emerg. repair)	Traffic and Safety Devices	2	1	⊙								ALL	
	Other Signs (routine replacement)	Traffic and Safety Devices	33	39					6				NW, SE	NC, NE, SW
Aesthetics	Mowing	Roadsides	41	40	⊙							NE, SE, SW	NC	NW
	Litter	Roadsides	64	63	⊙							NE, SE	NW, SW	NC

2013 Highway Maintenance Conditions: Report on Traffic, Shoulders, Drainage, Roadsides

Data in this section comes from the field review of random road segments performed by WisDOT region Maintenance Coordinators and county Patrol Superintendents. No statistical analysis has been completed on the county level data in Appendix G. Readers should take the number of observations into account when reviewing the information. Extreme caution should be exercised when analyzing data with fewer than 30 observations.

Below is a summary of the change between 2012 and 2013 in the percentage of roadways that are backlogged for maintenance. These changes didn't necessarily result in a new level of service grade. Refer to the "Maintenance Report Card" in the front part of the report for a complete summary of condition grade level changes between 2012 and 2013.

- Ten features (35.7%) had a reduction in the percentage of roadways that are backlogged for maintenance.
- Seven features (25%) did not have a change in the amount of roadways that are backlogged for maintenance.
- Eleven features (39.3%) had an increase in the percentage of roadways that are backlogged for maintenance.
- All of the changes in backlog levels were four percentage points or less.

Shoulders:

- The individual grades for the seven Shoulder features translate to an overall condition grade point average of 2.0 or grade level C.
- Two Shoulder features had a reduction in the percentage of roadways that are backlogged for maintenance. They are cracking on paved shoulders (-1%) and cross-slope on unpaved shoulders (-4%).
- Three of the seven Shoulder features (hazardous debris, drop-off on unpaved shoulders, and erosion on unpaved shoulders) did not have a change in the amount of roadways that are backlogged for maintenance.
- Two of the Shoulder features had an increase in the percentage of roadways that are backlogged for maintenance. They are drop-off on paved shoulders (+3%) and potholes on paved shoulders (+1%).
- Drop-off/buildup on unpaved shoulders received a feature grade of F for the ninth consecutive year. The percentage of roadways that are backlogged for maintenance is remained at 36%.

Drainage:

- The individual grades for the six Drainage features translate to an overall condition grade point average of 2.3 or grade level C.
- Two of the six Drainage features had a reduction in the percentage of roadways that are backlogged for maintenance. These features include under-drains/edge-drains (-1%) and curb and gutter (-1%).

- Storm sewer system (+1%) and flumes (+2%) both had an increase in the percentage of roadways that are backlogged for maintenance.
- Two of the Drainage features (ditches and culverts) did not have a change in the amount of roadways that are backlogged for maintenance.

Roadsides:

- The individual grades for the six Roadside features translate to an overall condition grade point average of 3.2 or grade level B.
- Fences (-1%) and mowing for vision (-1%) had a reduction in the percentage of roadways that are backlogged for maintenance.
- Two features had an increase in the percentage of roadways that are backlogged for maintenance. These were mowing (+2%), and litter (+2%).
- Woody vegetation control for vision and woody vegetation are the two features that did not have a change in the amount of roadways that are backlogged for maintenance.
- None of the change was significant enough to change the level of service grade from 2012.

Traffic Control and Safety Devices:

- The individual grades for the nine Traffic Control and Safety Devices translate to an overall condition grade point average of 2.8 or grade level C.
- Five Traffic Control and Safety Devices had an increase in the percentage of roadways that are backlogged for maintenance. They include centerline markings (+2%), edgeline markings (+4%), special pavement markings (+3%), emergency repair of regulatory/warning signs (+1%), and delineators (+1%).
- Routine replacement of regulatory/warning signs (-3%), emergency repair of detour/object marker/recreation/guide signs (-1%), routine replacement of detour/object marker/recreation/guide signs (-4%), and protective barriers (-2%) had a reduction in the percentage of roadways that are backlogged for maintenance.
- Two of the backlog rate increases were significant enough to change the level of service grades of the features (centerline markings and edgeline markings), each by one letter grade. Three of the backlog rate decreases (protective barriers, routine replacement of detour/object marker/recreation/guide signs, and routine replacement of regulatory/warning signs) resulted in single condition grade improvements.

Regions 2013: Compass Report on Highway Maintenance Conditions

Shoulders

- **Hazardous Debris:** The backlog rates for hazardous debris found along state roadways varied from a low of 3% in the Northwest Region to a high of 12% in the Southeast Region.
- **Paved Shoulders:** The North Central Region had the lowest backlog levels for the three paved shoulder features while the Southeast Region had the highest backlog levels along paved shoulders.
- **Unpaved Shoulders:** The Northwest Region had the best unpaved shoulder conditions and the Southeast Region had the highest backlog levels. Drop-off/build-up conditions varied widely across the state. The Northwest Region had much lower Cross-slope backlogs than the other four regions, while all regions reported low backlog levels for Erosion.

Drainage

- **Ditches:** Low backlog levels were found across the state, with three regions reporting no deficiencies.
- **Culverts:** Culvert conditions varied throughout Wisconsin, ranging from a low backlog level of 17% in the North Central Region to a high of 33% in the Southwest Region.
- **Drains:** The Southeast Region had the lowest backlog level for drains at 11%, while the Northwest Region had the largest volume of work with 53% of drains requiring maintenance.
- **Flumes:** Backlog rates varied widely around the state, from a 26% backlog in the Northeast Region to a 73% deficiency in the Southwest Region.
- **Curb and Gutter:** The region backlog rates were low (0% to 5%) in all regions except the Northwest, where 16% of curbs and gutters need maintenance attention.
- **Storm Sewer Systems:** Storm sewer conditions differed around Wisconsin, with a 3% backlog in the North Central Region to 24% of storm systems needing work in the Northwest Region.

Roadsides

- **Litter:** There was more litter found in the Northeast Region (75%) and the Southeast Region (74%) than in the other three regions (54% to 67%).
- **Mowing:** The Northeast Region (54%) had the highest region backlog while the Northwest Region (29%) had the lowest need for additional mowing.
- **Mowing for Vision:** The Southwest Region was the only region to identify a mowing vision issue, with one segment requiring grass to be cut at an intersection.
- **Woody Vegetation:** Low backlog levels between 1% and 4% were registered around the state.
- **Woody Vegetation for Vision:** All regions identified backlog rates of 2% or less, with the Northwest Region and the Southeast Region reporting no deficient road segments.
- **Fences:** The Northwest Region was the only region to report fence maintenance needs, with 12% requiring attention.

Traffic Control and Safety Devices

- **Pavement Markings:** Centerline marking conditions were comparable across the regions, ranging from 4% to 8%. All regions had Edgeline marking backlogs between 4% and 6%, except the Southwest Region with a 12% level. Special Pavement Markings had the most variation of the marking categories, ranging from 0% in the Northeast Region to 18% in the Southwest Region.
- **Emergency Repair of Regulatory/Warning Signs and Other Signs:** The backlog levels for Regulatory/Warning Signs were between 0% and 4% across the state. Similarly, Other Signs had backlog levels between 1% and 3%.
- **Routine Replacement of Regulatory/Warning Signs and Other Signs:** The amount of old Regulatory/Warning signs still in service beyond their useful life ranged from 6% in the North Central Region and the Southwest Region to 14% of signs in the Southeast Region. Other Signs had significantly higher backlog rates, ranging from 20% in the North Central Region to 44% in the Southeast Region.
- **Delineators:** The condition of delineators varied widely across the regions, ranging from 6% in the Northeast Region to 40% in the Southeast Region.
- **Protective Barriers:** All regions identified low maintenance needs for protective barriers, ranging from 1% to 2% backlog rates.

Regions 2013: Compass Report on Highway Maintenance Conditions

Element	Feature	How much of the system needs work at the end of the season? What did it cost to achieve this condition?					
		Region Percent of System Backlogged					
		NC	NE	NW	SE	SW	Statewide
Shoulders	Hazardous Debris	5%	9%	3%	12%	11%	7%
	Drop-off/Build-up (paved)	1%	6%	3%	10%	3%	4%
	Cracking (paved)	48%	65%	51%	67%	53%	54%
	Potholes/Raveling (paved)	3%	5%	8%	10%	10%	7%
	Drop-off/Build-up (unpaved)	29%	44%	28%	48%	44%	36%
	Cross-Slope (unpaved)	24%	28%	9%	29%	27%	22%
	Erosion (unpaved)	0%	1%	0%	2%	2%	1%
	Dollars spent on shoulders (millions)	2.05	0.80	1.92	1.44	1.95	8.16
Drainage	Ditches	1%	0%	0%	3%	0%	1%
	Culverts	17%	19%	23%	29%	33%	25%
	Under-drains/Edge-drains	21%	25%	53%	11%	39%	29%
	Flumes	29%	26%	36%	56%	73%	47%
	Curb & Gutter	2%	3%	16%	0%	5%	4%
	Storm Sewer System	3%	10%	24%	12%	21%	14%
	Dollars spent on drainage (millions)	0.64	0.88	1.14	2.74	1.70	7.10
Roadsides	Litter	54%	75%	60%	74%	67%	64%
	Mowing	35%	54%	29%	55%	46%	41%
	Mowing for Vision	0%	0%	0%	0%	1%	0%
	Woody Vegetation	3%	2%	3%	1%	4%	3%
	Woody Veg. Control for Vision	1%	2%	0%	0%	2%	1%
	Fences	0%	0%	12%	0%	0%	2%
	Dollars spent on roadsides (millions)	3.00	2.46	4.04	4.58	4.57	18.65
Traffic and safety (selected devices)	Centerline Markings	5%	7%	8%	4%	4%	6%
	Edgeline Markings	4%	6%	5%	4%	12%	7%
	Special Pavement Markings	16%	0%	6%	4%	18%	9%
	Reg./Warning Signs (emerg.)	1%	0%	4%	1%	2%	2%
	Reg./Warning Signs (routine)	6%	13%	8%	14%	6%	9%
	Other Signs (emerg. repair)	1%	1%	3%	2%	2%	2%
	Other Signs (routine replacement)	20%	28%	38%	44%	30%	33%
	Delineators	19%	6%	25%	40%	23%	22%
Protective Barriers	2%	1%	2%	1%	2%	1%	
	Dollars spent on traffic and safety (selected devices) (millions)	2.92	2.91	3.71	3.87	4.47	17.89

Regions 2013: Regional Trend

Element	Feature	Region	Year				
			2009	2010	2011	2012	2013
Shoulders	Hazardous Debris	NC	5%	8%	5%	7%	5%
		NE	14%	6%	12%	10%	9%
		NW	2%	2%	1%	2%	3%
		SE	15%	12%	18%	17%	12%
		SW	9%	12%	9%	7%	11%
	Drop-off/Build-up (paved)	NC	2%	2%	4%	1%	1%
		NE	5%	3%	3%	1%	6%
		NW	4%	2%	1%	1%	3%
		SE	6%	2%	7%	3%	10%
		SW	6%	3%	4%	2%	3%
	Cracking (paved)	NC	57%	59%	55%	48%	48%
		NE	63%	56%	68%	70%	65%
		NW	66%	59%	59%	47%	51%
		SE	66%	73%	64%	70%	67%
		SW	59%	58%	60%	54%	53%
	Potholes/Raveling (paved)	NC	5%	5%	6%	8%	3%
		NE	6%	3%	6%	5%	5%
		NW	3%	5%	8%	4%	8%
		SE	12%	10%	6%	11%	10%
		SW	9%	6%	5%	4%	10%
Drop-off/Build-up (unpaved)	NC	33%	38%	43%	37%	29%	
	NE	38%	30%	37%	53%	44%	
	NW	24%	32%	35%	26%	28%	
	SE	30%	33%	48%	43%	48%	
	SW	45%	44%	31%	35%	44%	
Cross-slope (unpaved)	NC	24%	26%	39%	35%	24%	
	NE	27%	14%	34%	42%	28%	
	NW	18%	18%	19%	15%	9%	
	SE	10%	10%	34%	28%	29%	
	SW	24%	16%	21%	21%	27%	
Erosion (unpaved)	NC	2%	2%	2%	0%	0%	
	NE	2%	1%	1%	2%	1%	
	NW	3%	1%	1%	0%	0%	
	SE	1%	1%	6%	1%	2%	
	SW	3%	1%	1%	1%	2%	
Drainage	Ditches	NC	1%	2%	7%	2%	1%
		NE	1%	2%	1%	0%	0%

		NW	2%	1%	1%	1%	0%
		SE	3%	8%	6%	1%	3%
		SW	2%	1%	1%	0%	0%
	Culverts	NC	14%	22%	23%	25%	17%
		NE	24%	33%	11%	26%	19%
		NW	30%	33%	19%	28%	23%
		SE	25%	29%	39%	5%	29%
		SW	22%	26%	26%	26%	33%
		Under-drains/Edge-drains	NC	15%	15%	27%	13%
	NE		9%	5%	5%	19%	25%
	NW		33%	25%	37%	58%	53%
	SE		43%	22%	42%	13%	11%
	SW		32%	42%	49%	50%	39%
	Flumes	NC	56%	25%	42%	46%	29%
		NE	22%	43%	28%	34%	26%
		NW	53%	25%	44%	31%	36%
		SE	36%	14%	37%	35%	56%
		SW	30%	53%	46%	65%	73%
	Curb & Gutter	NC	6%	3%	3%	4%	2%
		NE	2%	3%	1%	5%	3%
		NW	10%	25%	11%	14%	16%
		SE	2%	4%	0%	1%	0%
		SW	8%	4%	8%	9%	5%
	Storm Sewer System	NC	7%	15%	10%	19%	3%
		NE	17%	15%	10%	5%	10%
		NW	15%	20%	6%	3%	24%
		SE	22%	18%	21%	11%	12%
		SW	22%	16%	30%	28%	21%
Roadsides	Litter	NC	59%	53%	54%	52%	54%
		NE	71%	58%	78%	72%	75%
		NW	58%	58%	50%	56%	60%
		SE	77%	72%	83%	74%	74%
		SW	74%	71%	66%	65%	67%
	Mowing	NC	32%	36%	31%	34%	35%
		NE	44%	50%	51%	49%	54%
		NW	26%	34%	31%	34%	29%
		SE	58%	56%	47%	43%	55%
		SW	34%	24%	41%	42%	46%
	Mowing for Vision	NC	2%	0%	0%	2%	0%
		NE	2%	1%	0%	0%	0%
		NW	6%	3%	0%	1%	0%

		SE	0%	6%	5%	3%	0%	
		SW	11%	7%	0%	1%	1%	
	Woody Vegetation Control	NC	3%	3%	2%	4%	3%	
		NE	2%	1%	3%	1%	2%	
		NW	2%	5%	2%	1%	3%	
		SE	7%	3%	2%	2%	1%	
		SW	5%	4%	3%	7%	4%	
		NC	0%	2%	1%	0%	1%	
	Woody vegetation control for vision	NE	0%	1%	2%	1%	2%	
		NW	0%	1%	0%	0%	0%	
		SE	3%	0%	1%	3%	0%	
		SW	0%	1%	1%	0%	2%	
		NC	2%	1%	5%	3%	0%	
	Fences	NE	0%	0%	0%	0%	0%	
		NW	10%	2%	5%	12%	12%	
		SE	0%	4%	0%	0%	0%	
		SW	5%	2%	0%	3%	0%	
		NC	7%	4%	7%	3%	5%	
	Traffic and safety (selected devices)	Centerline Markings	NE	3%	6%	2%	6%	7%
			NW	8%	8%	7%	8%	8%
SE			13%	18%	6%	6%	4%	
SW			6%	4%	6%	1%	4%	
NC			4%	5%	7%	4%	4%	
Edgeline Markings	NE	4%	6%	1%	6%	6%		
	NW	8%	8%	5%	3%	5%		
	SE	20%	21%	11%	4%	4%		
	SW	22%	8%	11%	1%	12%		
	NC	0%	10%	2%	11%	16%		
Special Pavement Markings	NE	5%	3%	7%	3%	0%		
	NW	12%	6%	12%	8%	6%		
	SE	17%	18%	15%	3%	4%		
	SW	8%	7%	8%	7%	18%		
	NC	0%	2%	3%	2%	1%		
Regulatory/warning signs (emergency repair)	NE	0%	0%	1%	0%	0%		
	NW	2%	1%	1%	2%	4%		
	SE	2%	1%	1%	1%	1%		
	SW	1%	0%	7%	2%	2%		
	NC	18%	16%	15%	7%	6%		
Regulatory/Warning Signs (routine replacement)	NE	36%	29%	23%	20%	13%		
	NW	14%	12%	11%	8%	8%		
	SE	28%	22%	20%	16%	14%		
	SW	11%	7%	0%	1%	1%		

	SW	19%	12%	9%	8%	6%
Detour/Object Marker/Recreation/Guide Signs (emergency repair)	NC	0%	2%	3%	7%	1%
	NE	0%	1%	0%	0%	1%
	NW	0%	1%	2%	3%	3%
	SE	0%	2%	3%	0%	2%
	SW	1%	2%	7%	5%	2%
Detour/Object Marker/Recreation/Guide Signs (routine replacement)	NC	40%	36%	34%	29%	20%
	NE	59%	51%	39%	34%	28%
	NW	48%	39%	38%	40%	38%
	SE	53%	48%	45%	45%	44%
	SW	51%	46%	39%	35%	30%
Delineators	NC	6%	6%	12%	5%	19%
	NE	18%	12%	13%	10%	6%
	NW	16%	15%	21%	22%	25%
	SE	39%	11%	46%	27%	40%
	SW	23%	18%	26%	30%	23%
Protective Barriers	NC	4%	0%	15%	7%	2%
	NE	8%	0%	1%	0%	1%
	NW	4%	1%	8%	1%	2%
	SE	3%	0%	6%	10%	1%
	SW	2%	1%	3%	1%	2%

Mowing

The following table shows the number of segments that are backlogged for Mowing and the statewide distribution of the deficiencies: ‘how’ (shown as columns) and ‘why’ (shown as rows). For the report, all of the segments shown are considered backlogged and contributed to the backlog percentage reported for Mowing. Note that multiple reasons for mowing deficiency are allowed; therefore the sum of percentages for each deficiency type can be more than 100%.

How roadway segments are backlogged for mowing is based on WisDOT policy for grass height and width. The following are the general components of the WisDOT mowing policy:

- Height: Grass should be between six inches and twelve inches.
- Outside shoulder width: Grass should be cut a maximum of fifteen feet in width or to the bottom of the ditch, whichever is less.
- Inside shoulder width (medians): Grass should be cut a maximum of five feet in width or one pass with a single unit mower. If the remaining vegetation width is ten feet or less, the entire median should be mowed.
- No-Mow Zones: Grass should not be cut in areas that have been designated and signed as “No-Mow” zones.

		How is it deficient?				
		# of segments with observed deficiency				
		% of segment				
		Too Wide	Too Short	Too High	In the No Mow Zone	
Why is it deficient?	Safety/Equipment	12	4	0	0	
		4%	1%	0%	-	
	Mowed by Property Owner	239	433	134	0	
		86%	96%	28%	-	
	Woody Vegetation Control	3	0	0	0	
		1%	0%	0%	-	
	Maintenance Decision	85	145	477	0	
		31%	32%	99%	-	
	Total		278	451	484	0

2013 Signs: Compass Report on Routine Replacement and Age Distribution

Data in this section comes from the WisDOT Sign Inventory Management System (SIMS). This section covers only the routine replacement of signs based on their age and replacement standards. The analysis looks at the age distribution and service life of highway signs. The expected service life is determined relative to the date signs are manufactured rather than the date they are installed. Data on the emergency repair of damaged and knocked-down signs is collected and reported in the section on the Compass field review section of this report.

Regulatory and warning signs on Wisconsin highways are critically important for the safety of Wisconsin's motorists. As such, WisDOT prioritizes the routine replacement of regulatory and warning signs over the routine replacement of other signs, including detour, object marker, recreation and guide signs.

Key Observations in 2013:

- The backlog for routine replacement of regulatory and warning signs decreased from 12% in 2012 to 9% in 2013. Among regions, the percentage of regulatory and warning signs backlogged for replacement varies from a low of 6% in the North Central Region and the Southwest Region to a high of 14% in the Southeast Region.
- The backlog for routine replacement of other signs (i.e. detour/object marker/recreation/guide signs) decreased from 37% in 2012 to 33% in 2013. By region, the percentage of other signs backlogged for routine replacement varies from 20% in the North Central Region to 44% in the Southeast Region.
- Regulatory and warning signs that are not replaced at the end of their recommended service life remain in use, on average, an additional 6.8 years. Similarly, other signs that are not replaced at the end of their recommended service life remain in use for an additional 9.1 years.
- There are 11,236 regulatory/warning signs and 31,079 other signs in service five years or more beyond their recommended service life. This represents 6% and 26% respectively of the state highway signs in each category. The backlog percentage for regulatory and warning signs is 2% less than what it was last year, while other signs saw a 5% drop from the prior year.
- WisDOT is migrating from engineering grade sign face material (grade 1) to more visible high intensity sign face material (grade 2). The percentage of high intensity signs on the state trunk highway system increased from 81% in 2012 to 85% in 2013. About 15,000 high intensity signs were added to the state system in the last year. Over 94% of regulatory/warning signs are now high intensity signs, while 72% of other signs have high intensity face material.
- There are 22,165 Type – F Fluorescent signs in service, up significantly from 12,364 last year. Among those, only 565 (3%) are beyond their service life, with only 73 (0.3%) at 5 years or more beyond their service life.
- Of the 56,278 signs beyond their recommended service lives, 71% are engineering grade signs, while 88% of the 42,315 signs that are at least five years beyond their recommended service life have engineering grade face material.

Wisconsin: Trend of Sign Condition

	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life ⁴	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life ⁴
2006	157,742	31%	49,457	5.0	126,362	55%	69,051	5.9
2007	160,206	25%	40,548	4.8	125,891	56%	70,099	6.3
2008	163,215	23%	37,060	4.7	124,333	55%	68,430	6.3
2009	166,741	23%	37,839	4.9	128,953	51%	65,350	7.3
2010	168,653	17%	29,313	5.3	121,743	44%	53,561	7.7
2011	171,202	15%	25,930	5.3	120,486	39%	47,568	8.5
2012	176,712	12%	20,399	5.3	118,509	37%	44,225	8.1
2013	181,763	9%	17,237	6.8	117,655	33%	39,041	9.1

Regions 2013: Sign Condition

Region	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life ⁴	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life ⁴
NC	29,353	6%	1,678	4.7	17,197	20%	3,469	6.9
NE	26,597	13%	3,548	7.2	15,816	28%	4,424	9.1
NW	34,492	8%	2,683	5.4	25,649	38%	9,711	8.4
SE	45,174	14%	6,390	8.0	28,260	44%	12,327	8.7
SW	46,147	6%	2,938	6.6	30,733	30%	9,110	11.3

Regions 2013: Trend of Routine Replacement of Signs

Region	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs				
	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	
NC	2006	26,117	35%	9,097	5.4	20,152	61%	12,342	6.5
	2007	26,663	25%	6,660	4.5	19,226	60%	11,494	6.5
	2008	28,917	18%	5,272	4.5	18,477	51%	9,456	6.7
	2009	28,531	18%	5,243	4.5	19,733	40%	7,843	7.0
	2010	28,851	16%	4,506	4.4	18,802	36%	6,746	6.5
	2011	28,938	15%	4,485	3.8	18,679	34%	6,379	7.0
	2012	29,179	7%	2,007	3.5	17,654	29%	5,066	4.9
	2013	29,353	6%	1,678	4.7	17,197	20%	3,469	6.9
NE	2006	21,520	39%	8,463	5	21,517	60%	12,953	5.5
	2007	21,887	39%	8,459	5.3	21,776	64%	13,831	6.1
	2008	22,375	38%	8,426	5.4	22,138	65%	14,314	6.5
	2009	24,932	36%	8,939	6.8	23,959	59%	14,244	8.8
	2010	25,191	29%	7,217	7.3	20,063	51%	10,185	8.9
	2011	25,629	23%	5,821	7.8	18,055	39%	7,105	9.6
	2012	26,294	20%	5,221	7.3	16,328	34%	5,580	9.3
	2013	26,597	13%	3,548	7.2	15,816	28%	4,424	9.1
NW	2006	34,087	26%	8,883	4.7	31,874	52%	16,544	5.1
	2007	33,786	19%	6,372	4.4	31,566	54%	16,962	5.3
	2008	32,837	16%	5,321	4.3	29,798	55%	16,337	5.2
	2009	33,400	14%	4,795	4.6	28,522	48%	13,786	6.3
	2010	33,988	12%	4,046	5.0	27,007	39%	10,637	6.9
	2011	33,909	11%	3,648	4.8	26,867	38%	10,117	7.6
	2012	33,958	8%	2,560	5.1	26,293	40%	10,502	7.7
	2013	34,492	8%	2,683	5.4	25,649	38%	9,711	8.4
SE	2006	35,226	30%	10,426	4.7	26,987	48%	12,835	5.7
	2007	36,390	28%	10,234	5	27,341	49%	13,386	6.2

Region	Regulatory/Warning/School Signs					Detour/object marker/recreation/guide Signs			
	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	
	2008	37,249	28%	10,461	4.7	27,477	51%	14,133	6.2
	2009	38,563	28%	10,807	5.3	27,203	53%	14,341	6.9
	2010	39,451	22%	8,510	6.0	26,287	48%	12,491	7.6
	2011	40,870	20%	8,244	6.7	26,875	45%	12,205	8.3
	2012	43,216	16%	7,085	7.4	27,567	45%	12,286	8.6
	2013	45,174	14%	6,390	8.0	28,260	44%	12,327	8.7
SW	2006	40,792	31%	12,588	5.1	25,832	56%	14,377	6.9
	2007	41,480	21%	8,823	4.7	25,982	56%	14,426	7.4
	2008	41,837	18%	7,580	3.9	26,443	54%	14,190	7.4
	2009	41,315	19%	8,055	4.4	29,536	51%	15,136	8.2
	2010	41,172	12%	5,034	5.1	29,584	46%	13,502	9.5
	2011	41,856	9%	3,732	5.2	30,010	39%	11,762	10.5
	2012	44,065	8%	3,526	5.4	30,667	35%	10,791	11.1
2013	46,147	6%	2,938	6.6	30,733	30%	9,110	11.3	

Wisconsin and Regions 2013: Sign Face Material Distribution

Face		Region – Number of Signs					Statewide – Number of Signs	
Grade	Type	NC	NE	NW	SE	SW	Total	Percentage
1	Non-Reflective	4	15	287	76	22	404	0.1%
	Other or Varies	78	1	194	17	313	603	0.2%
	Reflective - Engineering Grade	4,968	4,724	9,719	13,323	10,874	43,608	14.6%
2	Type D - Diamond Grade	-	-	-	-	-	-	-
	Type F - Fluorescent	4,074	6,139	3,762	2,400	5,790	22,165	7.4%
	Type H - High Intensity	9,202	5,545	14,640	14,274	20,105	63,766	21.3%
	Type HP - Prismatic High Intensity	28,038	25,309	31,320	42,817	39,171	166,655	55.7%
	Type SH - Super High Intensity	186	680	219	527	605	2,217	0.7%
Total		46,550	42,413	60,141	73,434	76,880	299,418	100%

Wisconsin and Regions: Sign Face Material Trends

Region	2010		2011		2012		2013	
	Engineering Grade	High Intensity	Engineering Grade	High Intensity	Engineering Grade	High Intensity	Engineering Grade	High Intensity
NC	10,256	36,827	8,928	38,014	6,966	39,867	5,050	41,500
NE	15,890	29,255	11,125	32,240	7,460	35,162	4,740	37,673
NW	15,190	45,782	13,704	46,833	11,677	48,574	10,200	49,941
SE	19,230	46,508	17,641	49,951	15,400	55,383	13,416	60,018
SW	19,608	51,044	16,149	55,348	13,856	60,876	11,209	65,671
Statewide	80,174	209,416	67,547	222,386	55,359	239,862	44,615	254,803
	28%	72%	23%	77%	19%	81%	14.9%	85.1%

Regions 2013: Sign Face Material by Group

	Region	Engineering Grade	High Intensity	Total
Reg/Warning Signs	NC	1,635	27,718	29,353
	NE	1,820	24,777	26,597
	NW	1,971	32,521	34,492
	SE	4,363	40,811	45,174
	SW	1,904	44,243	46,147
	Statewide	11,693	170,070	181,763
		6%	94%	
Other Signs	NC	3,415	13,782	17,197
	NE	2,920	12,896	15,816
	NW	8,229	17,420	25,649
	SE	9,053	19,207	28,260
	SW	9,305	21,428	30,733
	Statewide	32,922	84,733	117,655
		28%	72%	

Wisconsin and Regions 2013: Sign Age Distribution by Group

Regulatory/warning/school Signs

	Years prior to the end of service life							Years beyond service life						Total
	6-10	5	4	3	2	1	0	1	2	3	4	5-10	>10	
NC	13,641	3,099	3,323	2,011	1,840	2,660	1,064	201	358	157	205	686	71	29,353
	46%	11%	11%	7%	6%	9%	4%	1%	1%	1%	1%	2%	0%	100%
NE	15,168	1,929	2,251	967	535	1,493	703	458	371	267	187	1,520	745	26,597
	57%	7%	8%	4%	2%	6%	3%	2%	1%	1%	1%	6%	3%	100%
NW	14,587	2,925	4,849	3,299	2,499	2,361	1,276	472	316	287	175	1,202	231	34,492
	42%	8%	14%	10%	7%	7%	4%	1%	1%	1%	1%	3%	1%	100%
SE	23,120	3,484	3,170	2,719	2,414	2,358	1,315	505	372	308	127	3,553	1,525	45,174
	51%	8%	7%	6%	5%	5%	3%	1%	1%	1%	0%	8%	3%	100%
SW	19,159	3,566	6,033	4,180	4,811	3,178	1,961	602	233	266	134	1,079	624	46,147
	42%	8%	13%	9%	10%	7%	4%	1%	1%	1%	0%	2%	1%	100%
State	85,675	15,003	19,626	13,176	12,099	12,050	6,319	2,238	1,650	1,285	828	8,040	3,196	181,763
	47%	8%	11%	7%	7%	7%	3%	1%	1%	1%	0%	4%	2%	100%

Detour/object marker/recreation/guide Signs

	Years prior to the end of service life							Years beyond service life						Total
	6-10	5	4	3	2	1	0	1	2	3	4	5-10	>10	
NC	7,710	1,643	660	1,049	629	1,276	511	149	494	184	187	1,962	493	17,197
	45%	10%	4%	6%	4%	7%	3%	1%	3%	1%	1%	11%	3%	100%
NE	7,521	1,353	821	498	286	542	362	289	376	146	231	1,894	1,488	15,816
	48%	9%	5%	3%	2%	3%	2%	2%	2%	1%	1%	12%	9%	100%
NW	7,958	1,647	1,647	1,913	988	959	793	227	1,132	317	245	5,331	2,459	25,649
	31%	6%	6%	7%	4%	4%	3%	1%	4%	1%	1%	21%	10%	100%
SE	9,165	1,540	1,056	1,061	924	1,343	748	1,157	1,080	319	409	5,179	4,183	28,260
	32%	5%	4%	4%	3%	5%	3%	4%	4%	1%	1%	18%	15%	100%
SW	11,716	1,665	1,277	1,194	1,016	1,288	1,302	427	376	121	96	3,534	4,556	30,733
	38%	5%	4%	4%	3%	4%	4%	1%	1%	0%	0%	11%	15%	100%
State	44,070	7,848	5,461	5,715	3,843	5,408	3,716	2,249	3,458	1,087	1,168	17,900	13,179	117,655
	37%	7%	5%	5%	3%	5%	3%	2%	3%	1%	1%	15%	11%	100%

Wisconsin and Regions 2013: Sign Age Distribution of High Intensity Signs

Type F - Fluorescent

	Years prior to the end of service life							Years beyond service life						Total
	6-10	5	4	3	2	1	0	1	2	3	4	5-10	>10	
NC	3,698	52	68	43	35	92	49	23	11	3	0	0	0	4,074
	91%	1%	2%	1%	1%	2%	1%	1%	0%	0%	0%	0%	0%	100%
NE	5,798	35	42	11	16	52	54	19	49	27	0	20	15	6,139
	94%	1%	1%	0%	0%	1%	1%	0%	1%	0%	0%	0%	0%	100%
NW	3,398	73	81	34	55	35	33	25	15	10	0	0	0	3,762
	90%	2%	2%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	100%
SE	1,838	90	60	35	44	110	57	15	52	65	2	8	2	2,400
	77%	4%	3%	1%	2%	5%	2%	1%	2%	3%	0%	0%	0%	100%
SW	5,032	68	58	65	130	106	45	22	58	86	10	17	11	5,790
	87%	1%	1%	1%	2%	2%	1%	0%	1%	1%	0%	0%	0%	100%
State	19,764	318	309	188	280	395	238	104	185	191	12	45	28	22,165
	89%	1%	1%	1%	1%	2%	1%	0%	1%	1%	0%	0%	0%	100%

Type H - High Intensity

	Years prior to the end of service life							Years beyond service life						Total
	6-10	5	4	3	2	1	0	1	2	3	4	5-10	>10	
NC	686	134	441	1,397	1,955	2,599	1,144	176	281	77	88	80	42	9,202
	7%	1%	5%	15%	21%	28%	12%	2%	3%	1%	1%	1%	0%	100%
NE	361	114	442	370	500	1,516	669	284	340	162	78	524	185	5,545
	7%	2%	8%	7%	9%	27%	12%	5%	6%	3%	1%	9%	3%	100%
NW	702	579	813	2,605	3,024	3,024	1,823	458	948	244	83	279	55	14,640
	5%	4%	6%	18%	21%	21%	12%	3%	6%	2%	1%	2%	0%	100%
SE	327	129	180	1,385	2,938	3,317	1,819	1,400	855	386	241	909	372	14,274
	2%	1%	1%	10%	21%	23%	13%	10%	6%	3%	2%	6%	3%	100%
SW	600	21	262	4,146	5,508	4,176	3,052	823	380	104	78	304	308	20,105
	3%	0%	1%	21%	27%	21%	15%	4%	2%	1%	0%	2%	2%	100%
State	2,676	977	2,138	9,903	13,925	14,632	8,507	3,141	2,804	973	568	2,096	962	63,766
	4%	2%	3%	16%	22%	23%	13%	5%	4%	2%	1%	3%	2%	100%

Type HP - Prismatic High Intensity

	Years prior to the end of service life							Years beyond service life						Total
	6-10	5	4	3	2	1	0	1	2	3	4	5-10	>10	
NC	16,723	4,496	3,461	1,464	434	291	313	124	186	118	130	190	26	28,038
	60%	16%	12%	5%	2%	1%	1%	0%	1%	0%	0%	1%	0%	100%
NE	16,000	3,095	2,505	1,013	206	411	211	309	291	166	142	685	268	25,309
	63%	12%	10%	4%	1%	2%	1%	1%	1%	1%	1%	3%	1%	100%
NW	18,379	3,850	5,356	2,341	307	171	108	105	294	136	55	152	41	31,320
	59%	12%	17%	7%	1%	1%	0%	0%	1%	0%	0%	0%	0%	100%
SE	29,669	4,776	3,956	2,340	340	260	176	226	168	91	139	271	156	42,817
	69%	11%	9%	5%	1%	1%	0%	1%	0%	0%	0%	1%	0%	100%
SW	24,654	4,916	6,805	1,064	117	124	138	163	139	61	40	143	108	39,171
	63%	13%	17%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
State	105,425	21,133	22,083	8,222	1,404	1,257	946	927	1,078	572	506	1,441	599	166,655
	63%	13%	13%	5%	1%	1%	1%	1%	1%	0%	0%	1%	0%	100%

Type SH - Super High Intensity

	Years prior to the end of service life							Years beyond service life						Total
	6-10	5	4	3	2	1	0	1	2	3	4	5-10	>10	
NC	154	6	2	2	0	1	1	2	5	0	1	2	3	186
	83%	3%	1%	1%	0%	1%	1%	1%	3%	0%	1%	1%	2%	100%
NE	519	29	13	17	0	31	5	7	19	9	7	16	8	680
	76%	4%	2%	3%	0%	5%	1%	1%	3%	1%	1%	2%	1%	100%
NW	48	14	72	66	2	0	1	0	5	4	0	7	0	219
	22%	6%	33%	30%	1%	0%	0%	0%	2%	2%	0%	3%	0%	100%
SE	445	11	7	8	3	1	6	7	14	2	4	10	2	527
	84%	2%	1%	2%	1%	0%	1%	1%	3%	0%	1%	2%	0%	100%
SW	445	7	0	14	0	3	4	0	3	7	0	14	30	605
	74%	1%	0%	2%	0%	0%	1%	0%	0%	1%	0%	2%	5%	100%
State	1,611	67	94	107	5	36	17	16	46	22	12	49	43	2,217
	73%	3%	4%	5%	0%	2%	1%	1%	2%	1%	1%	2%	2%	100%

2013 Winter: Compass Report on Winter Operations

This section of the report looks at winter operations on state highways from November 1, 2012 to April 30, 2013.

The Bureau of Highway Operations issues two reports on winter. This Compass report presents measures for winter maintenance focused on a few key winter operations outcomes critical to drivers and taxpayers, and is directed toward a general audience. The Annual Winter Maintenance Report focuses on operational measures and analysis, and is directed toward front-line operations managers.

In order to facilitate comparisons from one winter to the next, as well as between counties within the same season, WisDOT uses several tools and methodologies to analyze individual storms and the winter as a whole. The Winter Severity Index (WSI) is one such tool, combining information such as the number of snow and freezing rain events, snow amount, storm duration, and number of incidents. Because such information is crucial to understanding operations outcomes, many tables throughout this report will include relevant WSI values.

The 2012-13 winter season featured a reversal of the trends seen in the previous several winters. The season started out mild with little snow, then turned cold and snowy after about February 1 and remained that way into April. Snowfall amounts for February ranged from 125 to 300 percent above normal. The statewide average WSI in 2012-13 was 37.2, significantly higher than the previous year, at 24.3, and well above the average over the previous ten winters, 32.6.

Statewide Measures for Winter

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Roads to bare/wet pavement within WisDOT targets	N/A	58%	67%	79%	79%	73%
Cost per lane mile	\$2,591	\$2,365	\$2,222	\$2,696	\$1,656	\$2,778
Winter severity index	37.2	36.2	26.6	38.5	24.3	37.2
Winter related crash	43 per 100 million vehicle miles traveled	40 per 100 million vehicle miles traveled	22 per 100 million vehicle miles traveled	35 per 100 million vehicle miles traveled	20 per 100 million vehicle miles traveled	29 per 100 million vehicle miles traveled

Key Observations:

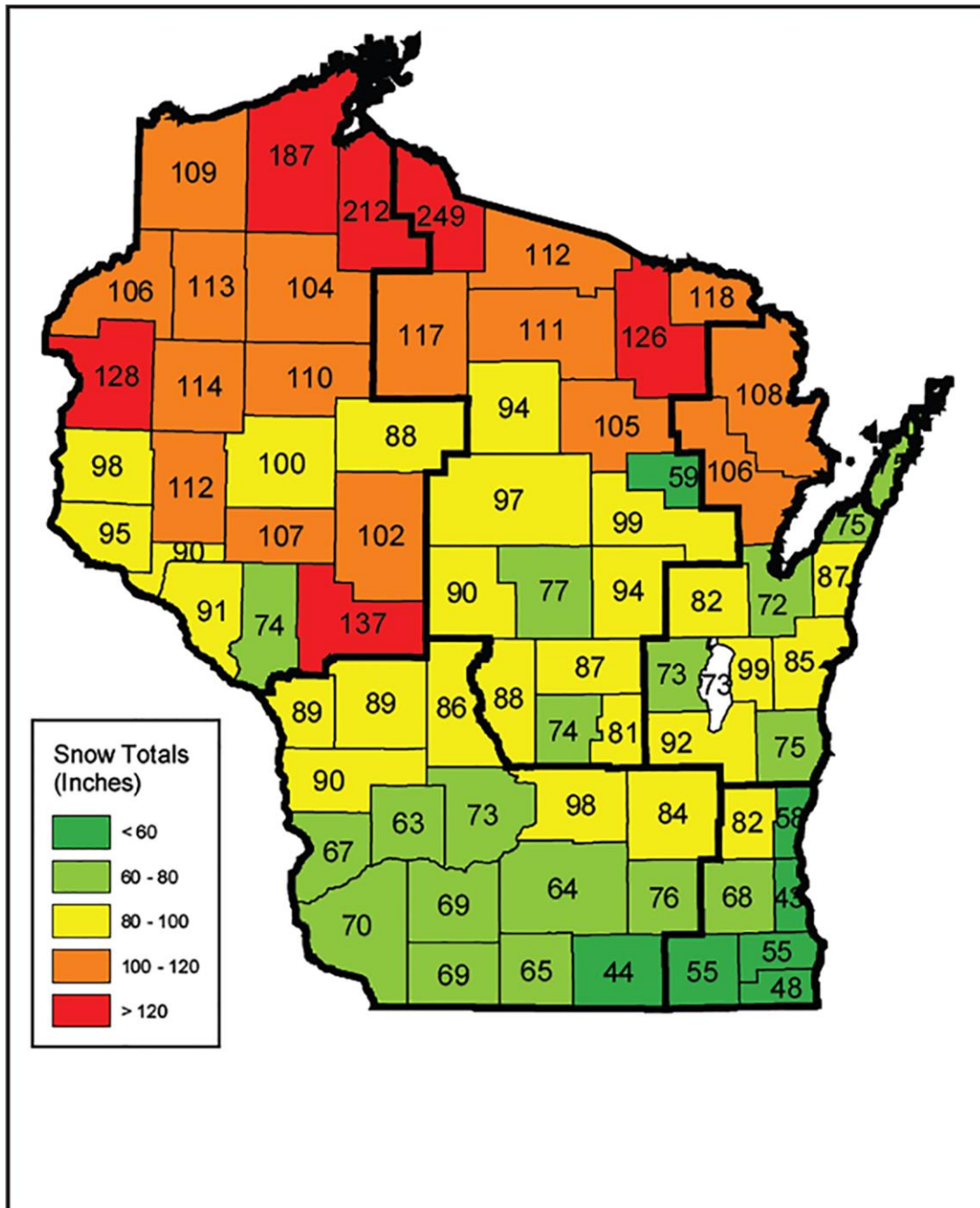
- In contrast to the mild winter of 2011-12, 2012-13 was the most costly winter on record. The total billed cost of statewide winter operations this winter was \$94.98 million, making it 69 percent more costly than 2011-2012. Salt expenditures increased 78 percent, equipment expenditures by 78 percent, labor expenditures by 49 percent, and expenditures for materials other than salt decreased by 7 percent relative to the previous year.

- Statewide, the average snowfall was approximately 93 inches, well above the 30 year average of 52.4 inches and nearly double the average of the previous winter. The highest snowfall recorded in 2013-13 winter season was in Iron County, at 249 inches; the lowest was in Milwaukee County, at 43 inches. Both figures were well above those of the previous winter.
- The statewide average number of winter storms was 36 in 2012-2013, significantly more than in the 2011-2012 average of 26. Iron County experienced the most storms, 65, while Green County had the least, at 22. The number of storms has a more significant impact on resources expended than snowfall totals, since staff and equipment may be mobilized even if only 0.1 inches of snow or freezing rain falls.
- The Percentage of roads to bare/wet pavement within WisDOT target times was 73 percent, down from 79 percent in the previous winter. From storm to storm, most of the variability in a county's ability to achieve bare/wet pavement within the target times is due to weather effects (type, duration and severity of storms throughout the winter season).
- In the winter of 2012-2013, there were 7,767 reported winter weather crashes (those that occurred on pavements covered with snow, slush or ice. The crash rate (number of crashes per 100 million vehicle miles traveled) increased drastically (45 percent) this winter to a statewide average of 29, up from last winter's crash rate of 20. However, this is less than the 2010-11 crash rate of 35, which was a relatively comparable year in terms of severity.

2012-2013 Winter Season Snowfall for Wisconsin

Note: The below map is in color. If you are not viewing a color copy, please contact the Compass Program Manager at the Bureau of Highway Operations for a color version to be mailed or emailed to you.

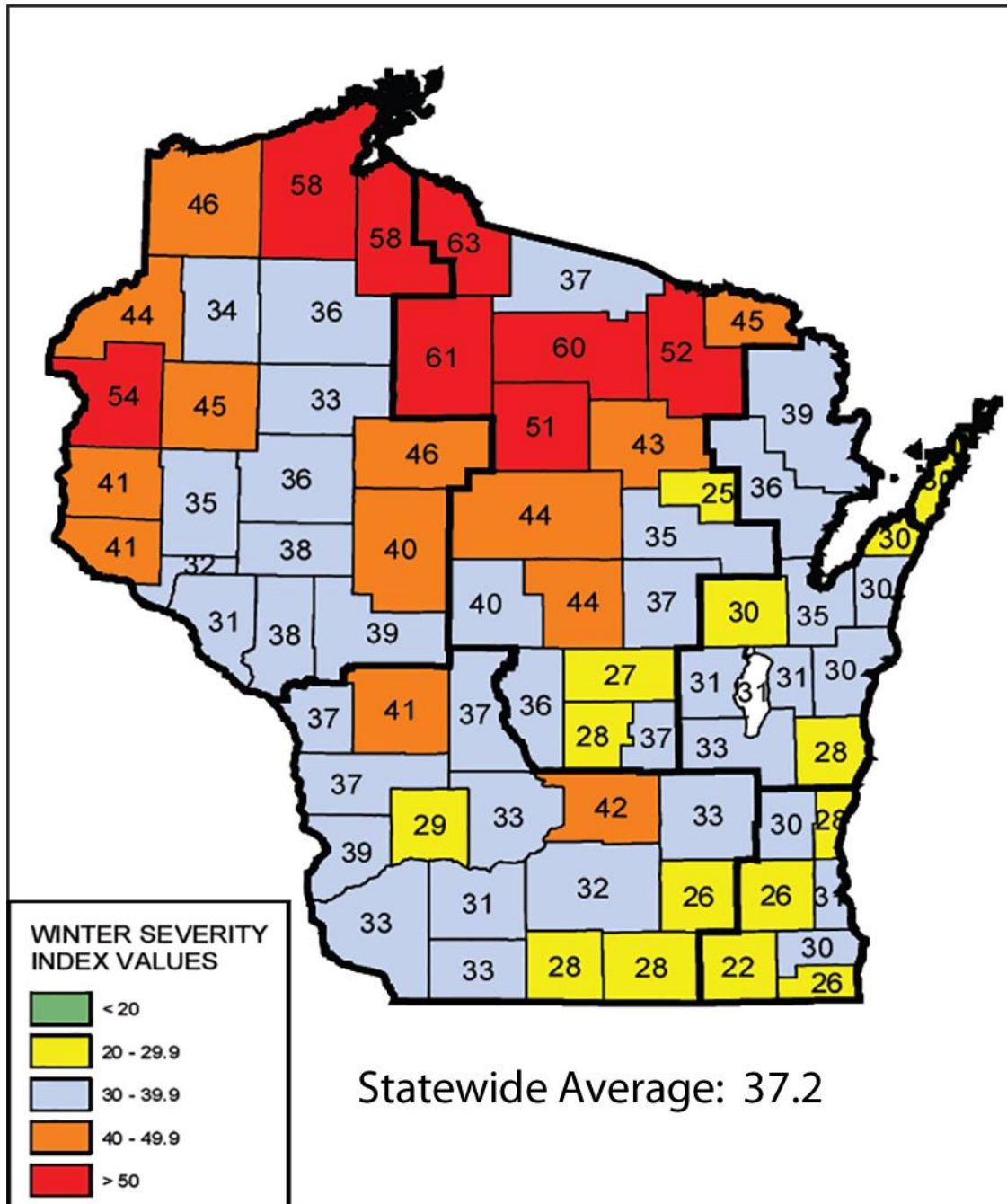
The National Weather Service (NWS) map below shows the snowfall for Wisconsin during the period July 1, 2012 to June 30, 2013.



2012-2013 Wisconsin Winter Severity Index

Note: The below map is in color. If you are not viewing a color copy, please contact the Compass Program Manager at the Bureau of Highway Operations for a color version to be mailed or emailed to you.

Wisconsin's Winter Severity Index (WSI) is highly correlated with snowfall. Looking at the statewide winter severity numbers, the statewide average for winter 2012-2013 was 37.2. The average for the previous ten-years (winter 2002-2003 to winter 2011-2012) is 32.6.



Winter by the Numbers

		2008-09	2009-10	2010-11	2011-12	2012-2013
Infrastructure	Lane miles	33,531 miles	33,532 miles	33,776 miles	33,944 miles	34,192 miles
	Road Weather Information System (RWIS) stations	58	58	60	60	60
Material usage⁵	Salt	569,985 tons 17.0 tons per lane mile	408,523 tons 12.2 tons per lane mile	573,253 tons 17.0 tons per lane mile	355,519 tons 10.5 tons per lane mile	621,207 tons 18.1 tons per lane mile
	Average cost of salt	\$47.19 per ton	\$60.92 per ton	\$58.55 per ton	\$59.18 per ton	\$58.34 per ton
	Pre-wetting liquid used	1,321,290 gal.	1,099,971 gal	1,529,230 gal	1,082,163 gal	2,124,834 gal
	Anti-icing agent	500,673 gal.	683,144 gal	714,860 gal	1,164,394 gal	1,110,886 gal
	Sand	44,179 cu. yd.	19,081 cu. yd.	18,941 cu. yd.	7,513 cu. yd.	18,589 cu. yd.
Services	Regular county hours on winter ⁶	148,655 hrs.	133,715 hrs.	176,842 hrs.	103,332 hrs.	212,090 hrs.
	Overtime county hours on winter	176,636 hrs.	106,578 hrs.	175,373 hrs.	82,657 hrs.	137,225 hrs.
	Public service announcements aired	5,948 total 5,340 radio; 608 TV	6,754 total 6,122 radio; 632 TV	6,597 total 6,010 radio; 587 TV	6,668 total 6,016 radio 652 TV	7,154 total 5,919 radio 1,235 TV

⁵ All material usage quantities are from the county storm reports except for salt. The salt quantities are from the Salt Inventory Reporting System.

⁶ Costs and hours come from county storm reports, and reflect sanding, salting, plowing and anti-icing efforts.

		2008-09	2009-10	2010-11	2011-12	2012-2013
	Cost of public service announcements	\$46,500 (\$288,895 market value)	\$36,000 (\$259,062 market value)	\$36,000 (\$209,144 market value)	\$36,000 (\$268,399 market value)	\$36,000 (\$241,380 market value)
Management and Technology	Patrol sections	762	767	759	770	769
	Average patrol section length	45.54 miles	43.72 miles	44.03 miles	44.08 miles	44.46 miles
	Counties with salt spreaders equipped with on-board pre-wetting unit	55 of 72 (76%)	55 of 72 (76%)	58 of 72 (80%)	58 of 72 (80%)	58 of 72 (80%)
	Counties with salt spreaders equipped with ground-speed controller unit	67 of 72 (93%)	67 of 72 (93%)	65 of 72 (90%)	68 of 72 (94%)	67 of 72 (93%)
	Underbody plows	572	572	589	619	658
	Counties with underbody plows	55 of 72 (76%)	55 of 72 (76%)	55 of 72 (76%)	57 of 72 (79%)	55 of 72 (76%)
	Counties equipped to use anti-icing agents	65 of 72 (90%)	65 of 72 (90%)	65 of 72 (90%)	66 of 72 (92%)	66 of 72 (92%)
	Counties that used anti-icing agents during 2007-08 winter season	54 of 72 (75%)	62 of 72 (86%)	61 of 72 (85%)	60 of 72 (83%)	65 of 72 (90%)

Compass Winter Operations Measures

Time to Bare/wet Pavement

In order to gain the most benefit from limited resources, counties provide different levels of service on highways according to the amount of daily traffic they receive. High-volume roads typically receive 24-hour coverage, while lower-volume roads receive 18-hour coverage. The Winter Highway Classifications table included at the end of this report shows guidelines for determining coverage type.

After a county experiences a storm event it reports the time to bare/wet pavement for either all 24-hour coverage roads or all 18-hour coverage roads, depending on which is predominant in the county. In some cases, “Never bare/wet” is reported, meaning that it took more than 24 hours to achieve bare/wet condition, or the next storm began before the bare/wet condition was achieved. A county reports “Always Bare/wet” if the roadways were bare/wet the entire time crews were out.

WisDOT has set targets for “Time to Bare/wet Pavement” for the different coverage types. For roads that receive 24-hour coverage the target is 4 hours, while for roads with 18-hour coverage the target is 6 hours. After a storm event, a county either meets this goal or does not. The following table shows the percent of reported events for which the counties met these targets, organized by the coverage type. In 2012-2013, targets were met statewide for 73 percent of the reported storm events, down from 79 percent in the previous year, an exceptionally mild winter.

Further analysis suggests that variability of time to bare/wet pavement within a category is due more to weather effects (type, duration and severity of storms throughout the winter season) than to differences in the level of effort or relative resources.

Highway Coverage Category	Roads to Bare/wet Pavement within WisDOT Targets				
	2008-09	2009-10	2010-11	2011-12	2012-13
24-Hour	61%	70%	83%	83%	75%
18-Hour	56%	65%	75%	76%	70%
Statewide	58%	67%	79%	79%	73%

Costs per Lane Mile Versus Winter Severity Index

The following table lists the WSI and total cost per lane mile for winter operations in each Region. The costs were obtained from the WisDOT's FOS (Financial Operating System). The statewide average cost per lane mile was \$2,778 with average severity index of 37.2. Total costs include material, labor, equipment, and administrative costs.

Region	Average WSI				Cost/LM				Relative cost per WSI point			
	2009-10	2010-11	2011-12	2012-13	2009-10	2010-11	2011-12	2012-13	2009-10	2010-11	2011-12	2012-13
NC	28.7	43.4	28.5	42.5	\$1,965	\$2,448	\$1,755	\$2,688	\$69	\$56	\$61	\$63.32
NE	24.6	33.4	22.1	32.2	\$2,234	\$2,592	\$1,548	\$2,788	\$91	\$78	\$70	\$86.27
NW	28.0	42.2	25.6	41.4	\$1,747	\$2,397	\$1,446	\$2,714	\$63	\$57	\$56	\$65.60
SE	22.3	30.7	17.9	27.6	\$2,906	\$3,434	\$2,055	\$2,816	\$130	\$112	\$115	\$103.69
SW	25.7	35.0	22.3	33.6	\$2,370	\$2,716	\$1,572	\$2,865	\$92	\$78	\$70	\$85.37
Statewide	26.6	38.5	23.3	37.2	\$2,052	\$2,696	\$1,656	\$2,778	\$81	\$70	\$71	\$74.74

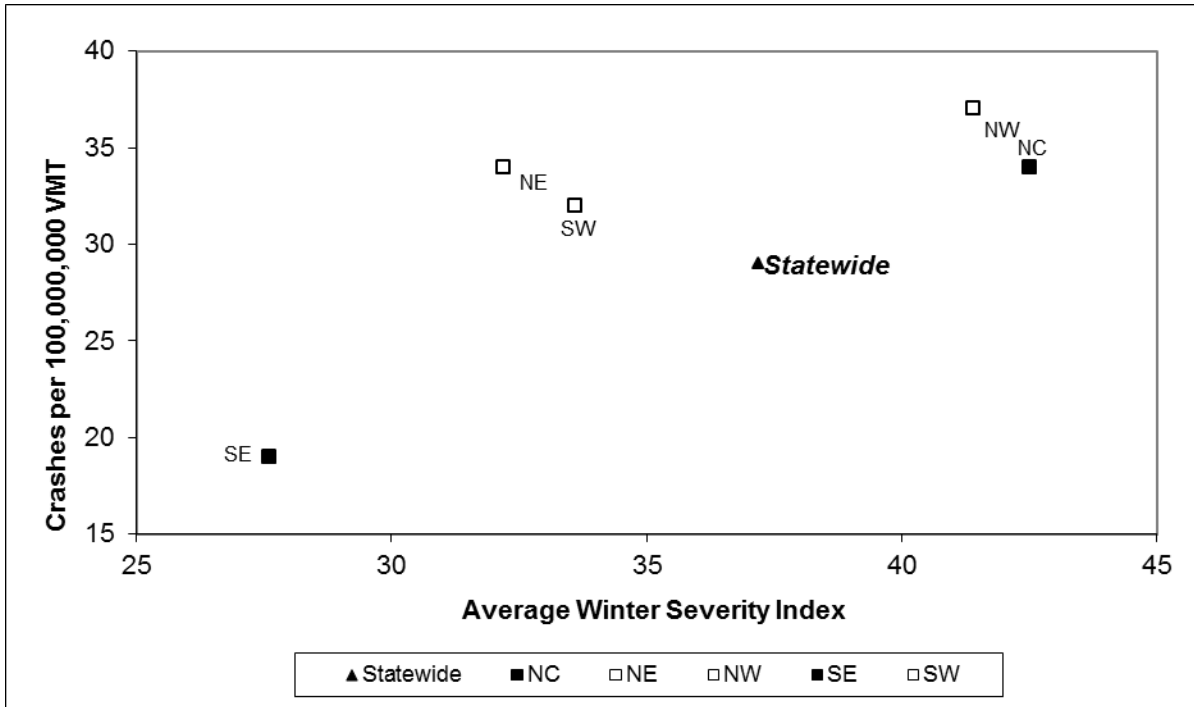
Winter Weather Crashes per Vehicle Miles Traveled (VMT)

The following table shows the four-year trend of crashes per 100 million VMT statewide and in each Region. The state average is 29 winter crashes per 100 million VMT. In 2012-13 the NW has the largest number of crashes per VMT at 37 winter crashes per 100 million VMT.

Scope	VMT ⁷ (100 million)	Crashes	Crashes per 100 million VMT				Average Winter Severity Index			
			2009-10	2010-11	2011-12	2012-13	2009-10	2010-11	2011-12	2012-13
NC	33.49	1,137	23	39	23	34	28.7	43.4	28.5	42.5
NE	46.59	1,577	25	38	23	34	24.6	33.4	22.1	32.2
NW	38.81	1,422	22	39	22	37	28.0	42.2	25.6	41.4
SE	80.34	1,546	16	27	16	19	22.3	30.7	17.9	27.6
SW	65.88	2,085	26	37	22	32	25.7	35.0	22.3	33.6
Statewide	265.12	7,767	22	35	20	29	26.6	38.5	23.3	37.2

Based on the information from the table above, the following figure shows the relationship between the severity of the winter and the number of crashes per VMT in the regions and statewide.

⁷ 100 million vehicle miles traveled (VMT) for November 1, 2012 through April 30, 2013 determined from annual average daily traffic (AADT) counts, gallons of gas sold, fuel tax collected, and average vehicle miles per gallon.



Winter Data, Definitions, and Categories

Data

Unless otherwise noted, all material and labor figures come from the winter storm reports that are submitted by each county for every event or anti-icing procedure throughout the winter season. The data quality is unknown. Weather, road conditions, and materials usages are based upon the observations of county patrol superintendents and sometimes on their expert judgment and, as such, contain more variability than direct measurements.

Definitions

Dollars: Cost data are from the fiscal year, July 1, 2012 to June 30, 2013.

Winter: November 1 through April 30, unless otherwise noted.

Winter Activities: Actual cost data incorporates all winter activities, including putting up snow fence, transporting salt, filling salt sheds, thawing out frozen culverts, calibrating salt spreaders, producing and storing salt brine, and anti-icing applications, as well as plowing and salting. Costs from storm reports, however, cover only plowing, sanding, salting, and anti-icing.

Roads: The roads referred to in this report are state maintained highways, including Interstate and US highways. See the following tables for groupings.

Categories & Groupings

Winter Service Group Assignments

Winter Service Group	Definition	County Names	Number of Counties	% of Counties
A	<ul style="list-style-type: none"> • 1,000 or more lane miles and all counties have some roads with six or more lanes • 900,000 or more square feet of bridge deck • 20 or more plow routes; most routes are 24 hour routes 	Dane, Milwaukee, Waukesha	3	4%
B	<ul style="list-style-type: none"> • 600 to 1,000 lane miles; some counties have roads with six or more lanes; all counties have high mileage on four-lane roads • 400,000 to 900,000 square feet of bridge deck • 14 to 20 plow routes; most routes are 24 hour routes 	Brown, Chippewa, Columbia, Dodge, Eau Claire, Fond du Lac, Grant, Jefferson, Kenosha, Marathon, Monroe, Outagamie, Portage, Racine, Rock, Sauk, St. Croix, Walworth, Washington, Waupaca, Winnebago	21	29%
C	<ul style="list-style-type: none"> • 450 to 600 lane miles; some counties have roads with six or more lanes; all counties medium mileage on four-lane roads • 170,000 to 450,000 square feet of bridge deck • 7 to 14 plow routes; mix of 18 and 24 hour routes 	Barron, Clark, Crawford, Douglas, Dunn, Iowa, Jackson, Juneau, La Crosse, Lincoln, Manitowoc, Oconto, Pierce, Shawano, Sheboygan, Vernon, Wood	17	24%
D	<ul style="list-style-type: none"> • 325 to 450 lane miles; no counties have roads with six or more lanes; all counties have low to medium mileage on four-lane roads; highest mileage is in two-lane roads • 140,000 to 170,000 square feet of bridge deck • 4 to 7 plow routes; mix of 18 and 24 hour routes 	Bayfield, Buffalo, Door, Green, Green Lake, Lafayette, Marinette, Marquette, Oneida, Ozaukee, Polk, Richland, Trempealeau, Washburn, Waushara	15	21%
E	<ul style="list-style-type: none"> • 175 to 325 lane miles; no counties have roads with six or more lanes; few counties have four-lane roads; medium to high mileage on two-lane roads • 50,000 to 140,000 square feet of bridge deck 	Ashland, Burnett, Calumet, Forest, Iron, Langlade, Pepin, Price, Rusk, Sawyer, Taylor, Vilas	12	17%

Winter Service Group	Definition	County Names	Number of Counties	% of Counties
	<ul style="list-style-type: none"> • 2 to 4 plow routes; nearly all with 18 hour routes 			
F	<ul style="list-style-type: none"> • 90 to 175 lane miles; no counties have roads with six or more lanes; counties have 0 to 5 lane miles of four-lane roads; two-lane roads have low to medium mileage • Less than 50,000 square feet of bridge deck • Fewer than 2 plow routes; all 18 hour routes 	Adams, Florence, Kewaunee, Menominee	4	6%

Passable Roadway Expectation Categories

Category	Definition	Lane miles	% of total
1	Major urban freeways and most highways with six lanes and greater	3,001	9%
2	High volume four-lane highways (ADT \geq 25,000) and some four-lane highways (ADT < 25,000), and some 6-lane highways.	3,179	9%
3	All other four-lane highways (ADT < 25,000)	8,945	26%
4	Most high volume two-lane highways (ADT \geq 5,000) and some 2-lanes (ADT < 5000)	4,688	14%
5	All other two-lane highways	14,379	42%
Total		34,192	

Winter Highway Classification Table⁸

Typical Types of Highways	Winter Highway Class	Coverage Type
<ul style="list-style-type: none"> • Major Urban Freeways • Most 6 Lanes and Greater 	High Volume	24-hr service as conditions require
<ul style="list-style-type: none"> • Some 6-Lanes • High Volume 4 Lanes with AADT >25,000 and Some 4- Lanes with AADT <25,000 • Most 2-lane with AADT >5000 and Some 2-Lanes with AADT <5000 • Includes Interstates 	High Volume	24-hr service as conditions require
<ul style="list-style-type: none"> • Some 4 Lanes with ADT <25,000 • Most 2-Lanes With AADT <5000 and Some 2-Lanes with AADT >5000 	All Other	18-hr coverage as conditions require Some minimal ability to respond to emergencies should be provided during hours that full coverage is not provided

⁸ The above highway classifications and coverage times are intended as a guide in winter maintenance operations and changes may be deemed appropriate based on local conditions

2013 Bridges: Compass Report on Condition, Maintenance, and Inspection Backlog

The Compass bridge report uses data from the Highway Structures Information System (HSI) online report. Data was taken during the period of April 1st to April 16th, 2014.

Key observations:

Bridge Deck Condition Distribution

- Statewide, 31% of decks are in Fair condition, receiving an NBI rating of 5 or 6, and need reactive maintenance. These include 25% of concrete bridges and 43% of steel bridges.
- The NW region has the lowest percent of decks in good condition, at 52%. The SE and SW regions both have the highest percentage of decks in poor condition, at 3%, as well as the most deck area to maintain (14,874,847 ft² and 13,059,412 ft², respectively).
- The NE region (875 bridges) has the best bridge ratings in the state with 89% of decks in Good condition and an impressive 0% in Poor and Critical condition.

Bridge Maintenance Needs

- Maintenance actions are those recommended by bridge inspectors for each bridge at the time of inspection.
- The following maintenance actions are recommended as needed. As approaches settle, brush continually grows, decks eventually crack and drainage issues arise at wings, these actions become necessary:
 - Decks - Seal Surface Cracks
 - Approaches - Seal Approach to Paving Block
 - Expansion Joints – Clean
 - IMP - Concrete Overlay
 - Miscellaneous - Cut Brush
 - Decks – Clean and Sweep Deck/Drains
 - Drainage - Repair Washouts / Erosion
 - Expansion Joints – Seal
 - Deck-Patching

Wisconsin 2013: Bridge Condition Distribution

	Bridges ⁹	Deck Area (ft ²) ⁹	Component	% of bridges in condition			
				Good ¹⁰	Fair ¹¹	Poor ¹²	Critical ¹²
All	5,217	52,207,559	Decks	67%	31%	2%	0%
			Superstructures	72%	27%	1%	0%
			Substructures	73%	26%	1%	0%
Concrete	3,753	30,227,861	Decks	73%	25%	2%	0%
			Superstructures	81%	18%	1%	0%
			Substructures	82%	18%	0%	0%
Steel	1,463	21,977,577	Decks	54%	43%	3%	0%
			Superstructures	52%	46%	1%	0%
			Substructures	52%	46%	2%	0%

Region 2013: Bridge Condition Distribution

Region	Bridges ⁹	Deck Area (ft ²) ⁹	Component	% of bridges in condition			
				Good ¹⁰	Fair ¹¹	Poor ¹²	Critical ¹²
NC	665	5,168,331	Decks	71%	28%	1%	0%
			Superstructures	83%	16%	0%	0%
			Substructures	79%	19%	1%	0%
NE	875	9,566,931	Decks	89%	11%	0%	0%
			Superstructures	87%	13%	0%	0%
			Substructures	83%	17%	1%	0%
NW	1,067	9,538,038	Decks	52%	46%	2%	0%
			Superstructures	66%	33%	1%	0%
			Substructures	71%	28%	1%	0%
SE	1,056	14,874,847	Decks	59%	38%	3%	0%
			Superstructures	57%	41%	2%	0%
			Substructures	62%	38%	0%	0%
SW	1,554	13,059,412	Decks	70%	27%	3%	0%
			Superstructures	74%	24%	2%	0%
			Substructures	73%	26%	1%	0%

⁹ Concrete and Steel do not sum to All, since one bridge was unclassified

¹⁰ Good: Bridges with NBI rating 7-9 should receive Preventive Maintenance

¹¹ Fair: Bridges with NBI 5-6 should receive Reactive Maintenance. These bridges are considered backlogged for maintenance

¹² Poor and Critical: Bridges with NBI 0-4 should receive Rehabilitation or Replacement

Wisconsin and Regions 2013: Bridge Condition¹³

Region	Year	Percent of Bridges Feature in Fair condition			Number of state-maintained bridges	Dollars spent on bridges (in millions)
		Decks	Superstructures	Substructures		
NC	2007	21%	15%	17%	620	
	2008	21%	17%	18%	637	
	2009	22%	16%	18%	650	
	2010	26%	17%	20%	653	
	2011	27%	17%	21%	663	
	2012	27%	17%	21%	663	
	2013	28%	16%	19%	665	
NE	2007	21%	17%	25%	837	
	2008	19%	18%	24%	859	
	2009	19%	19%	22%	874	
	2010	17%	18%	22%	878	
	2011	15%	16%	20%	884	
	2012	13%	14%	18%	893	
	2013	11%	13%	17%	875	
NW	2007	47%	32%	31%	1067	
	2008	45%	31%	29%	1067	
	2009	47%	33%	29%	1072	
	2010	46%	32%	29%	1061	
	2011	47%	33%	30%	1062	
	2012	46%	33%	29%	1063	
	2013	46%	33%	28%	1067	
SE	2007	48%	50%	50%	1023	
	2008	45%	47%	47%	1055	
	2009	41%	45%	45%	1052	
	2010	41%	45%	43%	1063	
	2011	41%	46%	44%	1068	
	2012	38%	42%	41%	1068	
	2013	38%	41%	38%	1056	
SW	2007	24%	22%	18%	1462	
	2008	24%	23%	22%	1466	
	2009	24%	23%	23%	1470	
	2010	27%	23%	24%	1507	
	2011	27%	23%	25%	1521	
	2012	28%	23%	25%	1534	
	2013	27%	24%	26%	1554	
statewide	2007	33%	28%	29%	5007	\$11.40
	2008	32%	28%	29%	5084	\$11.78
	2009	31%	28%	28%	5118	\$11.87
	2010	32%	28%	28%	5162	\$12.17
	2011	32%	28%	28%	5198	\$11.62
	2012	31%	27%	27%	5221	\$13.25
	2013	31%	27%	26%	5217	\$11.69

¹³ Unlike in previous years, pedestrian bridges were excluded in all 2013 bridge counts and statistics

Wisconsin and Regions: Trend of Bridge Maintenance Needs¹³

Region	Year	Percent of Bridges needing maintenance						# of Bridges needing maintenance							
		Maintenance Action													
		Deck – Seal Surface Cracks		Expansion Joints – Seal		Misc. – Cut Brush		Approach – Seal Approach to Paving Block		Deck – Patching		Drainage - Repair Washouts / Erosion		Approach - Wedge Approach	
NC	2008	45%	287	22%	141	7%	42	2%	11	16%	101	8%	48	4%	26
	2009	56%	364	30%	194	11%	71	2%	12	16%	102	9%	58	5%	31
	2010	63%	413	42%	277	14%	93	3%	20	18%	120	14%	89	6%	39
	2011	72%	476	42%	281	16%	109	10%	65	19%	128	14%	92	10%	64
	2012	85%	563	44%	289	19%	127	26%	171	20%	130	15%	101	12%	81
	2013	92%	609	45%	296	20%	136	32%	215	20%	135	16%	108	13%	86
NE	2008	21%	182	28%	238	6%	53	12%	107	12%	103	13%	115	2%	13
	2009	28%	248	31%	268	7%	63	17%	147	15%	135	15%	127	1%	13
	2010	34%	300	33%	293	9%	79	24%	214	17%	150	16%	143	2%	19
	2011	37%	323	35%	306	9%	83	29%	260	19%	164	16%	144	2%	18
	2012	48%	425	37%	325	10%	87	34%	301	19%	166	17%	153	2%	18
	2013	58%	511	40%	349	11%	92	39%	340	19%	169	18%	158	2%	18
NW	2008	2%	22	3%	28	1%	16	5%	51	3%	29	5%	49	1%	14
	2009	3%	35	3%	34	2%	21	9%	97	5%	52	6%	67	3%	28
	2010	4%	41	3%	37	4%	43	11%	121	7%	74	9%	93	3%	35
	2011	4%	45	4%	43	5%	56	14%	153	9%	95	13%	135	4%	38
	2012	4%	46	4%	43	6%	63	17%	178	11%	113	15%	154	4%	41
	2013	5%	51	6%	59	7%	77	19%	205	12%	132	18%	190	5%	56
SE	2008	15%	153	19%	203	21%	226	14%	147	11%	121	13%	140	14%	147
	2009	16%	172	20%	213	23%	238	17%	177	14%	145	16%	164	15%	159
	2010	18%	192	22%	233	25%	268	21%	226	15%	155	19%	201	17%	176
	2011	21%	228	22%	240	26%	277	25%	269	16%	174	22%	230	17%	178
	2012	22%	240	22%	239	28%	301	32%	339	17%	181	25%	265	18%	191
	2013	24%	258	21%	226	28%	294	37%	386	17%	183	29%	301	18%	190
SW	2008	18%	260	4%	61	18%	257	14%	203	6%	94	9%	131	9%	138
	2009	20%	293	4%	66	25%	369	21%	308	8%	112	12%	181	11%	162
	2010	23%	354	5%	69	29%	443	27%	400	9%	134	15%	229	13%	196
	2011	28%	424	5%	71	34%	515	33%	504	10%	150	18%	277	14%	214
	2012	35%	530	5%	74	39%	589	42%	643	11%	165	21%	316	15%	222
	2013	39%	599	5%	74	41%	643	50%	772	12%	185	23%	353	15%	228
statewide	2008	17%	904	12%	671	11%	594	10%	519	8%	448	9%	483	6%	338
	2009	22%	1112	15%	775	15%	762	14%	741	11%	546	12%	597	8%	393
	2010	25%	1300	18%	909	18%	926	19%	981	12%	633	15%	755	9%	465
	2011	29%	1496	18%	941	20%	1040	24%	1251	14%	711	17%	878	10%	512
	2012	35%	1804	19%	970	22%	1167	31%	1632	15%	755	19%	989	11%	553
	2013	39%	2028	19%	1004	24%	1242	37%	1918	15%	804	21%	1110	11%	578

Appendices

- A. Program Contributors**
- B. Feature Contribution Categories**
- C. Feature Thresholds and Grade Ranges**
- D. 2013 Highway Maintenance Target Service Levels Memo**
- E. 2013 Maintenance Targets**
- F. 2013 Compass Rating Sheet**
- G. County Data:**
 - 1. Field Review: Shoulders, Drainage, Roadside and Traffic**
 - 2. Signs (routine replacement needs)**
 - 3. Bridge Maintenance Needs**

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The Wisconsin Department of Transportation appreciates the significant contributions to the Compass program that were made by the following people:

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B. Feature Contribution Categories

		<i>This Feature Contributes Primarily To:</i>				
Element	Feature	Critical Safety	Safety/ Mobility	Stewardship	Ride/ Comfort	Aesthetics
Shoulders	Hazardous Debris	✓				
	Cracking (paved)			✓		
	Drop-off/Build-up (paved)	✓				
	Potholes/Raveling (paved)				✓	
	Cross-Slope (unpaved)		✓			
	Drop-off/Build-up (unpaved)	✓				
	Erosion (unpaved)			✓		
Drainage	Culverts		✓			
	Curb & Gutter			✓		
	Ditches			✓		
	Flumes			✓		
	Storm Sewer System		✓			
	Under-drains/Edge-drains			✓		
Roadside	Fences		✓			
	Litter					✓
	Mowing					✓
	Mowing for Vision		✓			
	Woody Vegetation		✓			
	Woody Veg. Control for Vision		✓			
Traffic and Safety	Centerline Markings	✓				
	Delineators		✓			
	Edgeline Markings	✓				
	Detour/object marker/recreation/guide signs (emerg. repair)				✓	
	Detour/object marker/recreation/guide signs (routine repair)				✓	
	Protective Barriers	✓				
	Reg./Warning Signs (emerg.)	✓				
	Reg./Warning Signs (routine)		✓			
	Special Pavement Markings		✓			

Category Definitions:

Critical safety: Critical safety features that would necessitate immediate action to remedy if not properly functioning.

Safety: Highway features and characteristics that protect users against – and provide them with a clear sense of freedom from – danger, injury or damage.

Ride/comfort: Highway features and characteristics, such as ride quality, proper signing, or lack of obstructions, that provide a state of ease and quiet enjoyment for highway users.

Stewardship: Actions taken to help a highway element obtain its full potential service life.

Aesthetics: The display of natural or fabricated beauty items, such as landscaping located along a highway corridor. Also, the absence of things like litter, that detract from the sightlines of the road.

C. Compass Feature Thresholds and Grade Ranges

Element	Feature	Threshold	Ranges for System Grades				
			Grade determined by percent backlogged shown: top of range				
			A	B	C	D	F
Shoulders	Hazardous debris	Any items large enough to cause a safety hazard (by mile)	2%	5%	9%	15%	>15%
	Cracking on paved shoulder	200 linear feet or more of unsealed cracks > ¼ inch (by mile)	6%	15%	29%	50%	>50%
	Drop-off/build-up on paved shoulder	200 linear feet or more with drop-off or build-up > 1.5 inches (by mile)	2%	5%	9%	15%	>15%
	Potholes/raveling on paved shoulder	Any potholes OR raveling > 1 square foot by 1 inch deep (by mile)	7%	18%	35%	60%	>60%
	Cross-slope on unpaved shoulder	200 linear feet or more of cross-slope at least 2x planned slope with the maximum cross slope of 8% (by mile)	4%	9%	18%	30%	>30%
	Drop-off/build-up on unpaved shoulder	200 linear feet or more with drop-off or build-up > 1.5 inches (by mile)	2%	5%	9%	15%	>15%
	Erosion on unpaved shoulder	200 linear feet or more with erosion >2 inches deep (by mile)	6%	15%	29%	50%	>50%
Drainage	Culverts	Culverts that are >25% obstructed OR where a sharp object - e.g., a shovel-can be pushed through the bottom of the pipe OR pipe is collapsed or separated (by culvert)	4%	9%	18%	30%	>30%
	Curb & gutter	Curb & gutter with severe structural distress OR >1 inch structural misalignment OR >1 inch of debris build-up in the curb line (by linear feet of curb & gutter)	6%	15%	29%	50%	>50%
	Ditches	Ditch with greater than minimal erosion of ditch line OR obstructions to flow of water requiring action (by linear feet of ditch)	6%	15%	29%	50%	>50%
	Flumes	Not functioning as intended	6%	15%	29%	50%	>50%

Element	Feature	Threshold	Ranges for System Grades <i>Grade determined by percent backlogged</i> shown: top of range				
			A	B	C	D	F
		OR deteriorated to the point that they are causing erosion (by flume)					
	Storm sewer system	Inlets, catch basins, and outlet pipes with $\geq 50\%$ capacity obstructed OR $< 80\%$ structurally sound OR > 1 inch vertical displacement or heaving OR not functioning as intended (by inlet, catch basin & outlet pipes)	4%	9%	18%	30%	$> 30\%$
	Under-drains/edge-drains	Under- and edge-drains with outlets, endwalls or end protection closed or crushed OR water flow or end protection is obstructed (by drain)	6%	15%	29%	50%	$> 50\%$
Roadsides	Fences	Fence missing OR not functioning as intended (by LF of fence)	4%	9%	18%	30%	$> 30\%$
	Litter	Any pieces of litter on shoulders and roadside visible at posted speed, but not causing a safety threat. (by mile)	10%	25%	47%	80%	$> 80\%$
	Mowing	Any roadside has mowed grass that is too short, too wide or is mowed in a no-mow zone (by mile)	10%	25%	47%	80%	$> 80\%$
	Mowing for vision	Any instances in which grass is too high or blocks a vision triangle (by mile)	4%	9%	18%	30%	$> 30\%$
	Woody vegetation control	Any instances in which a tree is present in the clear zone OR trees and/or branches overhang the roadway or shoulder creating a clearance problem (by mile)	4%	9%	18%	30%	$> 30\%$
	Woody vegetation control for vision	Any instances in which woody vegetation blocks a vision triangle (by mile)	4%	9%	18%	30%	$> 30\%$
Traffic control & safety devices (selected)	Centerline markings	Line with $> 20\%$ paint missing (by mile)	2%	5%	9%	15%	$> 15\%$
	Edgeline markings	Line with $> 20\%$ paint missing (by mile)	2%	5%	9%	15%	$> 15\%$
	Delineators	Missing OR not visible at	4%	9%	18%	30%	$> 30\%$

Element	Feature	Threshold	Ranges for System Grades				
			Grade determined by percent backlogged shown: top of range				
			A	B	C	D	F
		posted speed OR damaged (by delineator)					
	Detour/object marker/recreation/guide signs (emergency repair)	Missing OR not visible at posted speed (by sign)	7%	18%	35%	60%	>60%
	Detour/object marker/recreation/guide signs (routine)	Beyond recommended service life (by sign)	7%	18%	35%	60%	>60%
	Protective barriers	Not functioning as intended (linear feet of barrier)	2%	5%	9%	15%	>15%
	Regulatory/warning signs (emergency repair)	Missing OR not visible at posted speed (by sign)	2%	5%	9%	15%	>15%
	Regulatory/warning signs (routine)	Beyond recommended service life (by sign)	4%	9%	18%	30%	>30%
	Special pavement markings	Missing OR not functioning as intended (by marking)	4%	9%	18%	30%	>30%

D. 2013 Target Service Levels Memo

WisDOT Highway Maintenance 2013 Target Service Levels

Issued by Todd Matheson, State Highway Maintenance Engineer (September 7, 2012)

Attached are the 2013 target service levels for highway maintenance and operations. Highway maintenance managers set these targets to provide guidance to central office and regional highway maintenance staff in prioritizing activities and expending resources. The 2013 targets are critical for structuring the 2013 Routine Maintenance Agreements (RMA). **The targets are consistent with the 2013 RMA guidance that Tom Goodwyn sent to regions on September 4th.**

Targets are the conditions expected on state highways at the end of the summer maintenance season. They were selected by highway maintenance managers in the regions and BHM to set priorities within the budget and to increase consistency across region and county lines. The condition measure used is the percent of inventory with backlogged maintenance work. A measure greater than 0% backlogged reflects work left undone at the end of the summer season. Under full funding of maintenance needs, we would expect to see features at or close to 0%. The following chart provides historical service levels statewide and by region for 2011. Please remember targets have not yet been set for a portion of highway maintenance expenditures including winter operations, certain traffic control devices, and electrical operations.

Targets do not reflect an optimal maintenance condition for the highways, but instead reflect a continued commitment to fully fund winter operations, other organizational priorities, existing highway conditions, and most importantly, dollars available. Given constrained resources, these organizational priorities include:

- Focusing our resources on keeping the system safe and operating from day to day. Highway maintenance priorities will:
 - Decrease drop-off on unpaved shoulders.
 - Decrease the amount of hazardous debris on shoulders.
 - Repair damaged safety appurtenances and signs.
 - Repair damaged regulatory and warning signs, and continue to routinely replace old regulatory and warning signs.
- Expending far fewer resources because of limited funding.
 - Routine crack sealing and non-emergency concrete repair for preventive maintenance purposes should not be undertaken with routine maintenance funds.
 - Mowing is limited to one shoulder cut per season. The exception is for spot locations where vision is a safety issue for that specific area.
 - No maintenance of lane-line raised pavement markers and other wet reflective markings. Special pavement markings will only be addressed for the most critical safety needs. Some edgeline markings will be deferred.
 - Litter control is limited to once in the spring and Adopt-A-Highway efforts continue to be encouraged.

- Leveraging improvement funding and better coordinating improvement work to decrease maintenance workload and funding demands.
 - Now and going forward, maintenance supervisors and engineers will put greater emphasis on working with the improvement program to reduce the amount of drop-off/build-up on unpaved shoulders, decrease pavement rutting, reduce cracking on paved shoulders, and improve the condition of culverts.

Thank you to the Compass program for coordinating this effort and preparing this report.

E.2013 Highway Maintenance Targets

Element	Feature	2007 Target Percent Backlogged and Feature Grade - Statewide	2008 Target Percent Backlogged and Feature Grade - Statewide	2009 Target Percent Backlogged and Feature Grade - Statewide	2010 Target Percent Backlogged and Feature Grade - Statewide	2011 Target Percent Backlogged and Feature Grade - Statewide	2012 Target Percent Backlogged and Feature Grade - Statewide	2013 Target Percent Backlogged and Feature Grade - Statewide
Shoulders	Hazardous Debris	6=C	6=C	6=C	6=C	6=C	6=C	5=B
	Drop-off/Build-up (paved)	N/A	NA	NA	NA	4=B	4=B	4=B
	Cracking (paved)	60=D	60=D	60=D	70=F	70=F	60=D	60=D
	Potholes/Raveling (paved)	10=B	10=B	10=B	10=B	10=B	10=B	10=B
	Cross-Slope (unpaved)	20=C	20=C	20=C	20=C	30=F	20=C	20=C
	Drop-off/Build-up (unpaved)	25=D	20=F	20=F	35=F	30=F	30=F	30=F
	Erosion (unpaved)	5=A	5=A	5=A	5=A	5=A	5=A	5=A
Drainage	Culverts	15=B	15=B	20=C	30=C	30=C	30=C	30=C
	Curb & Gutter	10=B	10=B	10=B	10=B	10=B	10=B	10=B
	Ditches	2=A	5=A	5=A	5=A	5=A	5=A	5=A
	Flumes	30=C	30=C	30=C	35=C	35=C	35=C	35=C
	Storm Sewer System	10=B	10=B	10=B	15=B	15=B	15=B	15=B
	Under-drains/Edge- drains	25=C	25=C	25=C	30=C	30=C	30=C	30=C
Roadside	Fences	14=C	14=C	14=C	14=C	14=C	14=C	14=C
	Litter	75=D	75=D	75=D	81=F	81=F	81=F	63=D

Element	Feature	2007 Target Percent Backlogged and Feature Grade - Statewide	2008 Target Percent Backlogged and Feature Grade - Statewide	2009 Target Percent Backlogged and Feature Grade - Statewide	2010 Target Percent Backlogged and Feature Grade - Statewide	2011 Target Percent Backlogged and Feature Grade - Statewide	2012 Target Percent Backlogged and Feature Grade - Statewide	2013 Target Percent Backlogged and Feature Grade - Statewide
	Mowing	40=C	40=C	40=C	40=C	40=C	40=C	40=C
	Mowing for Vision	5=B	5=B	5=B	5=B	5=B	5=B	5=B
	Woody Vegetation	5=B	5=B	5=B	5=B	5=B	5=B	5=B
	Woody Veg. Control for Vision	3=A	3=A	3=A	3=A	2=A	2=A	2=A
Traffic and Safety	Centerline Markings	6=C	5=B	5=B	5=B	5=B	5=B	5=B
	Delineators	25=D	25=D	25=D	25=D	25=D	25=D	25=D
	Edgeline Markings	7=B	6=B	8=B	8=B	8=B	8=B	8=B
	Detour/object marker/recreation/guide signs (emerg. repair)	1=A	1=A	1=A	1=A	1=A	1=A	1=A
	Detour/object marker/recreation/guide signs (routine repair)	70=F	70=F	70=F	59=D	59=D	59=D	39=D
	Protective Barriers	3=A	3=A	3=A	3=A	3=A	3=A	3=A
	Reg./Warning Signs (emerg.)	0=A	0=A	0=A	0=A	0=A	0=A	0=A
	Reg./Warning Signs (routine)	30=D	25=D	25=D	25=D	25=D	25=D	15=C
	Special Pavement Markings	25=D	25=D	25=D	23=C	23=C	23=C	10=B

Curb & Gutter (D-5)	<input type="checkbox"/> None	Total linear feet of curb and gutter	<input type="checkbox"/> Repair <input type="checkbox"/> Clean
		Linear feet with severe structural distress OR more than 1" structural misalignment OR more than 1" of debris build up in the curb line	
Storm Sewer (D-6)	<input type="checkbox"/> None	Total number of inlets, catch basins and outlet pipes	<input type="checkbox"/> Repair <input type="checkbox"/> Clean
		Number more than 50% capacity obstructed OR less than 80% structurally sound OR more than 1" vertical displacement OR not functioning as intended	

Roadsides		Value	Comments
<input type="checkbox"/> Litter (R-1)	Number of pieces (up to 15) of litter and non-natural encroachments on shoulders and roadside visible at posted speed, but not causing a safety threat		
Mowing (R-2)	Mowing meets standard	<input type="checkbox"/> yes <input type="checkbox"/> no	
	If NO, grass is mowed: <input type="checkbox"/> too wide <input type="checkbox"/> too short <input type="checkbox"/> too tall <input type="checkbox"/> in a no mow zone		
	If NO, why: <input type="checkbox"/> safety/equipment <input type="checkbox"/> mowed by property owner <input type="checkbox"/> woody vegetation control <input type="checkbox"/> maintenance decision		
<input type="checkbox"/> Mowing Vision (R-2)	<input type="checkbox"/> None Grass blocks a vision triangle or sightlines	<input type="checkbox"/> yes <input type="checkbox"/> no	
Woody Vegetation (R-3)	Number of instances in which a tree > 4" in diameter is present in the clear zone OR trees and/or branches overhang the roadway or shoulder creating a clearance problem.....		
<input type="checkbox"/> Woody Vegetation Vision (R-3)	Woody vegetation causes a vision problem	<input type="checkbox"/> yes <input type="checkbox"/> no	
Fences (R-4)	<input type="checkbox"/> None Total linear feet of right-of-way fence		
	Linear feet missing OR not functioning as intended		

Traffic Control and Safety		Value	Comments
Centerline Markings (T-1)	<input type="checkbox"/> None Over total segment, more than 20% centerline of material is missing	<input type="checkbox"/> yes <input type="checkbox"/> no	
Edgeline Markings (T-1)	<input type="checkbox"/> None Over total segment, more than 20% edgeline of material is missing	<input type="checkbox"/> yes <input type="checkbox"/> no	
Special Pavement Markings (T-2)	<input type="checkbox"/> None Total number of special pavement markings Number missing OR not functioning as intended.		
Regulatory/Warning Signs (T-3)	<input type="checkbox"/> None Total number of regulatory/warning signs Number missing OR damaged		
Other Signs (T-4)	<input type="checkbox"/> None Total number of other signs Number missing OR damaged		
Delineators (T-5)	<input type="checkbox"/> None Total number of delineators Number missing OR damaged		
Protective Barriers (T-6)	<input type="checkbox"/> None Total linear feet of beam guard, concrete barrier, and cable guard	<input type="checkbox"/> Beam Guard <input type="checkbox"/> Damaged Terminal <input type="checkbox"/> Concrete Barrier <input type="checkbox"/> Cable Guard	
	Linear feet of protective barriers not functioning as intended and type(s) of deficient protective barrier		

Rating the feature must be completed in vehicle driving at posted speed.

1/10-mile	X2	X3	X4
528 feet	1,056 feet	1,584 feet	2,112 feet

Ratings should be entered into the database **by October 15, 2013**. Hardcopy Rating Sheets should be sent to Scott Bush at 4802 Sheboygan Avenue, Room 501. Questions? Please call Scott at 608-266-8666 or email to Scott.Bush@dot.wi.gov

G. County Data

Counties 2013: Shoulders and Drainage

Region	County	Condition % backlogged # of observations												
		Shoulders							Drainage					
		Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
NC	ADAMS	0%	40%	0%	10%	20%	30%	0%	100%	19%	0%	50%	0%	0%
		10	10	10	10	10	10	10	2	1	9	1	0	0
	FLORENCE	0%	50%	0%	0%	57%	14%	0%	0%	0%	2%	0%	0%	0%
		7	6	6	6	7	7	7	1	0	7	0	0	0
	FOREST	0%	69%	0%	0%	69%	25%	0%	0%	100%	1%	0%	0%	0%
		16	13	13	13	16	16	16	5	1	13	0	0	0
	GREEN LAKE	0%	57%	0%	0%	0%	0%	0%	0%	1%	0%	50%	0%	0%
		7	7	7	7	7	7	7	0	2	7	1	0	0
	IRON	0%	13%	0%	0%	25%	33%	0%	33%	0%	0%	0%	0%	0%
		12	8	8	8	12	12	12	5	1	11	0	1	0
	LANGLADE	0%	70%	0%	0%	27%	13%	0%	25%	0%	0%	0%	0%	0%
		15	10	10	10	15	15	15	4	0	13	0	0	0

Region	County	Condition % backlogged # of observations												
		Shoulders							Drainage					
		Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
LINCOLN	0%	93%	0%	0%	31%	25%	0%	20%	100%	0%	0%	0%	0%	
	16	14	14	14	16	16	16	5	1	15	0	1	1	
MARATHON	4%	69%	8%	4%	24%	32%	0%	0%	0%	4%	33%	0%	0%	
	28	26	26	26	25	25	25	10	4	28	3	4	6	
MARQUETTE	0%	67%	0%	0%	44%	22%	0%	20%	0%	0%	0%	0%	0%	
	9	9	9	9	9	9	9	4	0	9	0	0	1	
MENOMINEE	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	
	4	1	1	1	4	4	4	1	0	4	0	0	0	
ONEIDA	0%	59%	0%	0%	47%	24%	0%	0%	0%	2%	0%	0%	0%	
	17	17	17	17	17	17	17	4	1	16	0	1	0	
PORTAGE	31%	14%	0%	0%	0%	13%	0%	0%	0%	0%	25%	0%	0%	
	16	14	14	14	15	15	15	3	2	15	1	3	4	
PRICE	6%	31%	0%	0%	38%	0%	0%	17%	0%	1%	0%	0%	0%	
	16	13	13	13	16	16	16	6	0	16	0	0	0	
SHAWANO	11%	62%	8%	8%	6%	83%	0%	67%	1%	0%	0%	0%	64%	
	19	13	13	13	18	18	18	6	3	18	1	1	2	
VILAS	0%	27%	0%	0%	33%	20%	0%	0%	2%	0%	0%	0%	0%	

		Condition % backlogged # of observations													
		Shoulders							Drainage						
Region	County	Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains	
	WAUPACA	15	15	15	15	15	15	15	3	2	14	1	0	0	
		5%	33%	0%	7%	0%	55%	0%	0%	1%	0%	0%	17%	0%	
	WAUSHARA	21	15	15	15	20	20	20	6	6	21	2	3	0	
		0%	21%	0%	7%	0%	0%	0%	0%	35%	0%	100%	0%	0%	
	WOOD	14	14	14	14	14	14	14	4	3	13	3	1	1	
		17%	25%	0%	8%	13%	31%	0%	0%	0%	0%	0%	0%	14%	
NE	BROWN	18	12	12	12	16	16	16	2	2	16	1	2	3	
		0%	80%	20%	0%	7%	80%	0%	14%	1%	0%	50%	38%	0%	
	CALUMET	16	15	15	15	15	15	15	5	3	15	1	4	4	
		0%	67%	0%	0%	11%	67%	0%	13%	2%	2%	0%	0%	0%	
	DOOR	9	9	9	9	9	9	9	5	1	9	0	0	1	
		36%	91%	0%	9%	0%	36%	9%	50%	0%	1%	0%	0%	0%	
	FOND DU LAC	11	11	11	11	11	11	11	2	0	8	0	3	0	
		5%	75%	10%	20%	32%	32%	0%	0%	2%	0%	0%	15%	9%	
	KEWAUNEE	20	20	20	20	19	19	19	2	4	19	2	4	8	
		0%	100%	0%	0%	0%	0%	0%	0%	3%	0%	0%	20%	0%	
			6	4	4	4	4	4	4	1	3	4	1	2	0

		Condition % backlogged # of observations												
		Shoulders						Drainage						
Region	County	Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
	MANITOWOC	0%	64%	0%	0%	50%	43%	0%	0%	1%	0%	0%	0%	0%
		15	14	14	14	14	14	14	1	4	15	1	4	0
	MARINETTE	6%	44%	0%	0%	19%	25%	0%	60%	0%	1%	0%	0%	0%
		16	16	16	16	16	16	16	5	0	15	0	1	0
	OCONTO	6%	63%	6%	0%	63%	38%	0%	17%	3%	0%	13%	0%	0%
		16	16	16	16	16	16	16	6	3	16	3	2	2
	OUTAGAMIE	26%	63%	6%	13%	71%	65%	0%	13%	6%	0%	100%	0%	0%
		19	16	16	16	17	17	17	5	5	17	2	2	0
SHEBOYGAN	12%	65%	0%	0%	18%	12%	0%	14%	3%	0%	17%	13%	0%	
	17	17	17	17	17	17	17	6	5	17	4	3	1	
WINNEBAGO	0%	40%	13%	0%	0%	63%	0%	20%	2%	1%	0%	0%	71%	
	16	15	15	15	16	16	16	9	2	16	0	4	5	
NW	ASHLAND	0%	50%	0%	10%	33%	50%	0%	38%	8%	2%	0%	0%	0%
		12	10	10	10	12	12	12	8	2	11	1	0	0
	BARRON	0%	36%	0%	0%	7%	21%	0%	0%	11%	0%	50%	0%	0%
		15	14	14	14	14	14	14	7	4	13	2	1	0
BAYFIELD	0%	44%	0%	0%	29%	53%	0%	75%	0%	0%	0%	0%	100%	

Region	County	Condition % backlogged # of observations												
		Shoulders							Drainage					
		Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
		17	16	16	16	17	17	17	4	0	15	0	0	1
	BUFFALO	6%	80%	0%	50%	25%	25%	0%	13%	13%	3%	0%	0%	0%
		16	10	10	10	16	16	16	11	2	15	0	0	0
	BURNETT	8%	50%	10%	10%	0%	33%	0%	50%	0%	0%	0%	0%	0%
		12	10	10	10	12	12	12	2	0	10	0	0	0
	CHIPPEWA	0%	36%	18%	5%	0%	29%	0%	18%	0%	0%	0%	0%	0%
		22	22	22	22	17	17	17	8	5	22	3	0	1
	CLARK	0%	35%	12%	6%	0%	35%	0%	33%	95%	2%	0%	88%	44%
		17	17	17	17	17	17	17	3	4	17	0	3	4
	DOUGLAS	13%	88%	0%	6%	0%	38%	0%	0%	13%	0%	0%	0%	0%
		16	16	16	16	16	16	16	4	2	14	0	1	0
	DUNN	10%	29%	0%	5%	5%	0%	0%	22%	4%	0%	0%	50%	0%
		21	21	21	21	19	19	19	7	6	20	1	1	1
	EAU CLAIRE	0%	81%	0%	19%	25%	19%	0%	20%	0%	0%	0%	0%	100%
		16	16	16	16	16	16	16	4	0	16	0	0	3
	JACKSON	0%	53%	0%	6%	0%	40%	0%	57%	0%	1%	100%	0%	0%
		20	17	17	17	20	20	20	12	0	18	1	0	0

Region	County	Condition % backlogged # of observations												
		Shoulders						Drainage						
		Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
	PEPIN	0%	60%	0%	0%	20%	20%	0%	0%	0%	3%	0%	0%	0%
		5	5	5	5	5	5	5	2	0	5	0	0	0
	PIERCE	6%	63%	0%	6%	0%	40%	0%	33%	21%	0%	100%	0%	0%
		17	16	16	16	15	15	15	4	4	17	1	3	0
	POLK	12%	50%	0%	0%	13%	19%	0%	0%	10%	0%	0%	0%	0%
		17	14	14	14	16	16	16	5	2	15	0	1	1
	RUSK	0%	25%	0%	0%	0%	18%	0%	0%	0%	0%	0%	0%	0%
		11	8	8	8	11	11	11	3	0	11	0	0	0
	SAWYER	0%	13%	0%	13%	0%	29%	0%	0%	0%	0%	0%	0%	0%
		17	16	16	16	17	17	17	3	0	16	0	0	0
	ST. CROIX	5%	52%	0%	5%	0%	9%	0%	25%	8%	0%	0%	20%	0%
		22	21	21	21	22	22	22	7	3	22	1	2	0
	TAYLOR	0%	50%	0%	8%	0%	0%	0%	0%	22%	0%	100%	0%	0%
		12	12	12	12	11	11	11	3	3	11	1	1	0
	TREMPEALEAU	5%	50%	0%	11%	37%	32%	0%	0%	27%	0%	0%	0%	0%
		19	18	18	18	19	19	19	8	1	17	0	0	0
	WASHBURN	0%	87%	7%	7%	0%	43%	7%	75%	0%	0%	0%	0%	0%

		Condition % backlogged # of observations												
		Shoulders							Drainage					
Region	County	Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
		15	15	15	15	14	14	14	4	1	14	0	2	0
SE	KENOSHA	9%	82%	45%	9%	50%	70%	0%	33%	0%	5%	50%	7%	19%
		11	11	11	11	10	10	10	3	2	11	2	7	5
	MILWAUKEE	25%	54%	0%	0%	33%	100%	0%	0%	0%	19%	0%	8%	0%
		16	13	13	13	3	3	3	0	13	9	0	14	0
	OZAUKEE	13%	80%	20%	0%	0%	60%	0%	0%	0%	0%	0%	21%	50%
		8	5	5	5	5	5	5	2	3	4	0	3	1
	RACINE	0%	69%	0%	23%	36%	45%	9%	33%	1%	0%	50%	42%	0%
		15	13	13	13	11	11	11	3	6	12	2	4	3
	WALWORTH	27%	76%	0%	24%	62%	67%	5%	29%	0%	0%	50%	18%	0%
		22	21	21	21	21	21	21	6	4	21	2	3	4
WASHINGTON	6%	73%	0%	7%	7%	43%	0%	0%	1%	2%	50%	11%	0%	
	17	15	15	15	14	14	14	3	5	13	1	5	2	
WAUKESHA	0%	48%	19%	0%	0%	6%	0%	60%	0%	0%	100%	0%	0%	
	23	21	21	21	18	18	18	4	10	20	1	5	0	
SW	COLUMBIA	10%	65%	0%	12%	28%	62%	3%	50%	9%	0%	100%	100%	100%
		29	26	26	26	29	29	29	12	4	27	2	1	2

Region	County	Condition % backlogged # of observations												
		Shoulders							Drainage					
		Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
	CRAWFORD	5%	71%	0%	21%	67%	75%	0%	67%	4%	0%	0%	50%	0%
		19	14	14	14	12	12	12	6	5	17	2	4	0
	DANE	29%	64%	12%	3%	20%	35%	3%	40%	5%	0%	100%	37%	61%
		41	33	33	33	40	40	40	13	5	40	2	8	9
	DODGE	4%	48%	4%	9%	8%	13%	0%	60%	1%	1%	100%	80%	0%
		24	23	23	23	24	24	24	5	5	24	2	2	0
	GRANT	7%	72%	0%	16%	15%	55%	0%	0%	3%	1%	50%	0%	0%
		27	25	25	25	20	20	20	9	7	26	4	4	2
	GREEN	0%	42%	0%	8%	8%	46%	0%	0%	3%	0%	100%	0%	0%
		13	12	12	12	13	13	13	4	1	13	1	2	0
IOWA	17%	67%	0%	0%	50%	67%	6%	0%	0%	0%	50%	0%	0%	
	18	12	12	12	18	18	18	4	3	18	1	0	0	
JEFFERSON	11%	47%	0%	0%	6%	78%	0%	27%	19%	1%	100%	0%	100%	
	19	19	19	19	18	18	18	10	5	18	5	5	1	
JUNEAU	0%	58%	0%	0%	6%	39%	0%	40%	2%	0%	0%	0%	0%	
	20	19	19	19	18	18	18	8	4	18	1	1	0	
LA CROSSE	0%	36%	9%	9%	50%	36%	0%	0%	6%	1%	100%	11%	100%	

Region	County	Condition % backlogged # of observations												
		Shoulders							Drainage					
		Hazardous Debris	Cracking (paved)	Drop-off/Build-up (paved)	Potholes/Raveling (paved)	Cross-Slope (unpaved)	Drop-off/Build-up (unpaved)	Erosion (unpaved)	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer System	Under-drains/Edge-drains
		15	11	11	11	14	14	14	5	3	14	1	4	1
	LAFAYETTE	14%	36%	0%	7%	31%	31%	0%	0%	2%	0%	100%	25%	0%
		14	14	14	14	13	13	13	2	1	13	1	2	1
	MONROE	0%	26%	9%	0%	11%	44%	0%	9%	0%	0%	0%	0%	0%
		25	23	23	23	18	18	18	7	1	18	2	1	1
	RICHLAND	38%	46%	0%	0%	23%	54%	0%	13%	9%	2%	67%	53%	0%
		16	13	13	13	13	13	13	7	6	13	2	2	0
	ROCK	25%	52%	5%	10%	22%	39%	0%	25%	8%	0%	100%	7%	0%
		24	21	21	21	23	23	23	4	6	23	2	4	5
	SAUK	0%	24%	0%	0%	20%	5%	0%	63%	0%	0%	0%	0%	100%
		23	17	17	17	20	20	20	7	6	20	1	2	2
	VERNON	5%	74%	0%	68%	89%	53%	11%	57%	2%	1%	100%	33%	0%
		22	19	19	19	19	19	19	13	5	19	1	4	0

Counties 2013: Roadsides and Traffic

Region	County	Condition % backlogged # of observations													
		Roadsides						Traffic							
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings	
NC	ADAMS	0%	70%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		0	10	10	2	10	10	10	2	10	3	0	4	1	
	FLORENCE	0%	14%	14%	0%	0%	0%	0%	14%	0%	0%	0%	0%	0%	0%
		0	7	7	2	7	7	7	1	7	3	0	2	0	
	FOREST	0%	31%	19%	0%	0%	0%	13%	0%	0%	0%	0%	0%	0%	0%
		0	16	16	0	16	16	16	0	16	6	0	8	0	
	GREEN LAKE	0%	86%	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		0	7	7	3	7	7	7	0	7	4	0	4	2	
	IRON	0%	75%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		0	12	12	1	12	12	12	0	12	3	0	6	0	
	LANGLADE	0%	7%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		0	15	15	1	15	15	15	0	15	2	0	5	1	
	LINCOLN	0%	38%	38%	0%	6%	0%	6%	0%	6%	0%	0%	0%	0%	0%
		1	16	16	4	16	16	16	1	16	3	1	5	0	
	MARATHON	0%	75%	57%	0%	0%	0%	7%	4%	7%	0%	0%	0%	0%	0%
		0	28	28	8	28	28	28	6	28	7	3	15	5	

Region	County	Condition % backlogged # of observations													
		Roadsides						Traffic							
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings	
	MARQUETTE	0%	78%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		3	9	9	0	9	9	9	3	9	3	0	1	0	
	MENOMINEE	0%	75%	0%	0%	100%	50%	25%	0%	25%	0%	0%	29%	0%	
		0	4	4	0	4	4	4	0	4	2	0	4	0	
	ONEIDA	0%	47%	24%	0%	24%	0%	6%	18%	0%	0%	0%	0%	0%	
		0	17	17	5	17	17	16	2	17	7	2	6	0	
	PORTAGE	0%	75%	44%	0%	0%	0%	0%	36%	6%	0%	0%	0%	43%	
		4	16	16	2	16	16	16	5	16	5	2	6	3	
	PRICE	0%	44%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
		0	16	16	4	16	16	16	0	16	3	0	7	0	
	SHAWANO	0%	68%	58%	0%	0%	0%	0%	33%	6%	0%	0%	0%	100%	
		0	19	19	0	19	19	19	4	18	8	0	9	1	
	VILAS	0%	47%	33%	0%	0%	0%	20%	0%	7%	29%	100%	0%	0%	
		0	15	15	4	15	15	15	2	15	4	1	5	1	
	WAUPACA	0%	48%	43%	0%	0%	0%	10%	55%	14%	0%	0%	0%	6%	
		0	21	21	3	21	21	21	4	21	9	2	11	5	
	WAUSHARA	0%	64%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
		2	14	14	2	14	14	14	4	14	3	1	3	2	

		Condition % backlogged # of observations													
Region	County	Roadsides						Traffic							
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings	
	WOOD	0%	44%	39%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%
		3	18	18	3	18	18	18	3	18	8	0	7	6	
NE	BROWN	0%	69%	38%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
		7	16	16	1	16	16	16	9	16	3	3	7	3	
	CALUMET	0%	56%	78%	0%	0%	0%	22%	0%	0%	0%	0%	0%	0%	0%
		0	9	9	5	9	9	9	0	9	2	0	5	2	
	DOOR	0%	91%	55%	0%	36%	36%	0%	17%	0%	0%	0%	0%	0%	0%
		3	11	11	1	11	11	11	3	11	3	0	6	0	
	FOND DU LAC	2%	70%	50%	0%	0%	0%	30%	12%	25%	0%	0%	0%	0%	0%
		3	20	20	4	20	20	20	5	20	4	4	9	4	
	KEWAUNEE	0%	100%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		0	6	6	4	6	6	6	1	5	2	1	3	1	
	MANITOWOC	0%	80%	40%	0%	0%	0%	13%	4%	13%	0%	23%	0%	0%	0%
		5	15	15	7	15	15	15	8	15	4	3	9	2	
	MARINETTE	0%	75%	56%	0%	0%	0%	0%	14%	0%	0%	0%	0%	0%	0%
		0	16	16	10	16	16	16	1	16	8	1	12	0	
	OCONTO	0%	50%	63%	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%
		2	16	16	6	16	16	16	5	16	5	2	8	1	

		Condition % backlogged # of observations												
Region	County	Roadsides						Traffic						
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings
	OUTAGAMIE	0%	68%	68%	0%	0%	0%	11%	5%	11%	5%	0%	0%	0%
		4	19	19	10	19	19	19	4	19	9	4	12	6
	SHEBOYGAN	0%	76%	65%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%
		2	17	17	3	17	17	17	2	17	11	3	12	4
	WINNEBAGO	0%	100%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		6	16	16	2	16	16	16	6	16	7	1	8	3
NW	ASHLAND	0%	58%	25%	0%	8%	0%	33%	0%	8%	0%	0%	0%	0%
		0	12	12	4	12	12	12	0	12	8	0	4	1
	BARRON	0%	67%	20%	0%	0%	0%	0%	17%	7%	0%	0%	0%	0%
		3	15	15	1	15	15	15	4	15	3	0	4	1
	BAYFIELD	0%	53%	29%	0%	6%	0%	12%	0%	6%	0%	0%	0%	100%
		0	17	17	4	17	17	17	0	17	4	0	6	1
	BUFFALO	0%	44%	69%	0%	0%	0%	6%	56%	0%	25%	0%	0%	0%
		0	16	16	2	16	16	16	2	16	3	2	6	0
	BURNETT	0%	67%	25%	0%	0%	0%	17%	0%	8%	0%	0%	0%	0%
		0	12	12	1	12	12	12	2	12	3	1	3	0
	CHIPPEWA	0%	9%	9%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%
		6	22	22	10	22	22	22	8	22	8	2	6	1

		Condition % backlogged # of observations												
Region	County	Roadsides						Traffic						
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings
	CLARK	0%	100%	0%	0%	6%	0%	12%	43%	12%	0%	73%	13%	25%
		0	17	17	17	17	17	17	4	17	5	2	7	1
	DOUGLAS	0%	19%	38%	0%	0%	0%	13%	0%	13%	0%	0%	0%	0%
		0	16	16	2	16	16	16	5	16	3	1	5	1
	DUNN	0%	81%	43%	0%	0%	0%	0%	27%	0%	10%	3%	0%	0%
		3	21	21	6	21	21	21	10	21	5	8	11	1
EAU CLAIRE	0%	6%	13%	0%	19%	0%	0%	14%	13%	0%	0%	0%	0%	
	4	16	16	10	16	16	16	6	16	7	4	5	0	
JACKSON	46%	95%	5%	0%	10%	0%	10%	90%	0%	20%	0%	0%	0%	
	4	20	20	20	20	20	20	6	20	3	0	7	0	
PEPIN	0%	80%	80%	0%	0%	0%	0%	25%	0%	100%	11%	67%	0%	
	0	5	5	1	5	5	5	3	5	1	2	2	0	
PIERCE	0%	76%	88%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	
	0	17	17	6	17	17	17	4	17	7	4	11	2	
POLK	0%	59%	6%	0%	0%	0%	6%	18%	12%	0%	0%	0%	0%	
	0	17	17	5	17	17	17	2	17	4	1	8	1	
RUSK	0%	82%	9%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	
	0	11	11	3	11	11	11	0	11	6	0	8	0	

		Condition % backlogged # of observations												
Region	County	Roadsides						Traffic						
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings
	SAWYER	0%	47%	6%	0%	0%	0%	12%	0%	12%	0%	0%	0%	0%
		0	17	17	1	17	17	17	0	17	2	1	5	0
	ST. CROIX	0%	86%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		2	22	22	5	22	22	22	6	22	5	4	8	3
	TAYLOR	0%	67%	17%	0%	0%	0%	17%	0%	8%	0%	0%	0%	0%
		0	12	12	12	12	12	12	0	12	4	0	5	2
	TREMPEALEAU	100%	53%	68%	0%	0%	0%	21%	45%	5%	13%	2%	20%	0%
		1	19	19	5	19	19	19	5	19	7	3	11	0
WASHBURN	4%	73%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	1	15	15	1	15	15	15	1	15	3	0	6	1	
SE	KENOSHA	0%	91%	55%	0%	0%	0%	0%	29%	0%	0%	2%	0%	0%
		1	11	11	1	11	11	11	3	11	4	4	9	7
	MILWAUKEE	0%	100%	56%	0%	0%	0%	13%	0%	21%	1%	0%	0%	8%
		4	16	16	9	16	16	16	0	14	12	6	9	14
	OZAUKEE	0%	75%	50%	0%	0%	0%	0%	18%	0%	0%	0%	0%	0%
		2	8	8	6	8	8	8	2	7	4	3	4	2
	RACINE	0%	53%	80%	0%	7%	0%	13%	0%	0%	4%	0%	4%	0%
		0	15	15	5	15	15	15	3	13	10	4	11	5

		Condition % backlogged # of observations												
Region	County	Roadsides						Traffic						
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings
	WALWORTH	0%	100%	45%	0%	0%	0%	0%	54%	0%	9%	2%	7%	0%
		4	22	22	1	22	22	22	7	22	7	4	8	5
	WASHINGTON	0%	76%	65%	0%	0%	0%	0%	56%	0%	0%	0%	0%	13%
		3	17	17	7	17	17	17	6	17	5	2	10	6
	WAUKESHA	0%	35%	43%	0%	0%	0%	4%	14%	4%	0%	0%	1%	0%
		6	23	23	0	23	23	23	5	23	9	4	14	8
SW	COLUMBIA	0%	52%	83%	0%	10%	3%	7%	29%	17%	0%	0%	7%	67%
		6	29	29	8	29	29	29	8	29	11	5	18	4
	CRAWFORD	0%	68%	42%	0%	0%	0%	5%	48%	0%	0%	22%	0%	0%
		0	19	19	11	19	19	19	5	19	6	5	9	1
	DANE	0%	100%	32%	0%	0%	0%	5%	29%	15%	4%	0%	0%	10%
		17	41	41	14	41	41	41	10	41	22	11	11	12
	DODGE	0%	50%	83%	0%	4%	0%	0%	37%	4%	6%	0%	0%	25%
		3	24	24	5	24	24	24	6	24	9	4	11	7
	GRANT	0%	33%	33%	0%	4%	0%	4%	30%	0%	0%	0%	0%	0%
		4	27	27	16	27	27	27	6	27	10	3	9	3
	GREEN	0%	92%	46%	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%
		1	13	13	1	13	13	13	1	13	1	0	3	0

Region	County	Condition % backlogged # of observations												
		Roadsides						Traffic						
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings
IOWA		1%	94%	39%	0%	0%	0%	6%	26%	17%	0%	0%	0%	0%
		2	18	18	7	18	18	18	5	18	5	3	8	1
JEFFERSON		0%	58%	68%	0%	16%	0%	0%	9%	0%	0%	0%	6%	13%
		9	19	19	5	19	19	19	10	19	4	6	10	4
JUNEAU		0%	50%	20%	0%	0%	5%	5%	0%	5%	14%	0%	0%	0%
		3	20	20	2	20	20	20	3	19	4	1	7	1
LA CROSSE		0%	53%	33%	0%	0%	0%	8%	50%	7%	0%	6%	2%	0%
		6	15	15	0	15	15	13	6	15	8	3	8	2
LAFAYETTE		0%	86%	43%	0%	7%	0%	0%	0%	29%	0%	0%	6%	0%
		2	14	14	3	14	14	14	2	14	4	2	5	0
MONROE		0%	40%	24%	0%	8%	0%	4%	0%	12%	0%	0%	2%	0%
		6	25	25	0	25	25	25	10	25	5	4	10	2
RICHLAND		0%	56%	63%	0%	0%	0%	0%	40%	13%	0%	1%	0%	43%
		0	16	16	10	16	16	16	3	16	5	3	10	4
ROCK		0%	96%	38%	9%	8%	8%	4%	6%	25%	0%	0%	0%	10%
		6	24	24	11	24	24	24	8	24	8	5	15	4
SAUK		0%	87%	39%	0%	0%	0%	0%	14%	9%	0%	0%	0%	0%
		2	23	23	8	23	23	23	4	23	10	3	7	6

		Condition % backlogged # of observations												
Region	County	Roadsides						Traffic						
		Fences	Litter	Mowing	Mowing for Vision	Woody Vegetation	Woody Veg. Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Other Signs (emerg. repair)	Protective Barriers	Reg./Warning Signs (emerg.)	Special Pavement Markings
	VERNON	0%	59%	55%	0%	5%	9%	14%	37%	23%	9%	1%	0%	0%
	VERNON	0	22	22	1	22	22	22	7	22	7	8	12	0

Counties 2013: Sign Condition

Region	County	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
		Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life
NC	ADAMS	1,011	3%	26	4.2	533	15%	81	5.7
	FLORENCE	466	7%	33	2.5	350	5%	16	2.2
	FOREST	1,265	4%	53	2.6	818	6%	49	3.1
	GREEN LAKE	864	7%	59	4.0	593	16%	97	8.9
	IRON	1,065	3%	27	3.0	548	6%	32	3.0
	LANGLADE	1,166	4%	49	4.7	654	4%	27	3.5
	LINCOLN	1,424	9%	128	4.9	945	34%	326	8.0
	MARATHON	4,350	4%	192	4.8	2,656	30%	784	7.4
	MARQUETTE	937	2%	21	4.1	582	27%	157	7.3
	MENOMINEE	676	10%	65	1.9	215	14%	30	2.4
	ONEIDA	1,927	7%	134	3.9	1,004	10%	98	2.8
	PORTAGE	2,305	3%	72	4.2	1,548	20%	315	7.8
PRICE	1,028	1%	9	3.1	788	7%	54	2.7	

Region	County	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
		Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life
	SHAWANO	1,948	25%	481	6.4	1,263	24%	298	7.5
	VILAS	1,555	5%	75	4.1	941	15%	139	2.5
	WAUPACA	3,137	3%	89	3.7	1,538	28%	431	7.5
	WAUSHARA	1,929	5%	92	3.9	940	24%	227	7.5
	WOOD	2,300	3%	73	4.0	1,281	24%	308	7.0
NE	BROWN	4,026	22%	892	6.8	2,522	36%	900	9.4
	CALUMET	1,421	7%	101	7.8	684	21%	145	8.6
	DOOR	1,950	23%	450	7.5	751	36%	267	9.4
	FOND DU LAC	2,630	9%	248	5.5	1,737	20%	351	6.9
	KEWAUNEE	645	7%	46	6.3	372	18%	67	20.3
	MANITOWOC	2,213	17%	386	7.0	1,612	49%	784	10.5
	MARINETTE	1,956	16%	315	9.4	1,085	27%	298	8.0
	OCONTO	2,312	16%	375	5.3	1,236	28%	346	7.1
	OUTAGAMIE	3,327	9%	314	8.7	2,038	17%	345	10.1
	SHEBOYGAN	3,088	4%	137	6.9	1,914	27%	509	9.0

Region	County	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
		Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life
	WINNEBAGO	3,029	9%	284	7.7	1,865	22%	412	8.0
NW	ASHLAND	1,224	11%	137	5.5	898	49%	444	7.9
	BARRON	1,800	13%	228	5.0	1,629	42%	678	8.7
	BAYFIELD	1,676	14%	233	6.2	1,164	63%	731	7.5
	BUFFALO	1,666	3%	43	4.4	964	24%	227	12.4
	BURNETT	1,176	11%	125	7.3	745	47%	347	9.1
	CHIPPEWA	2,443	5%	117	5.3	1,905	26%	491	8.1
	CLARK	1,630	8%	137	4.2	1,100	31%	342	7.4
	DOUGLAS	1,949	9%	171	6.7	1,477	47%	688	9.3
	DUNN	2,077	13%	268	4.9	1,891	47%	895	8.3
	EAU CLAIRE	2,629	6%	156	6.0	1,881	20%	377	7.4
	JACKSON	1,600	4%	59	5.4	1,270	20%	248	10.4
	PEPIN	580	5%	28	3.5	445	26%	116	7.4
	PIERCE	1,715	9%	150	4.4	1,407	37%	514	9.4
POLK	2,190	9%	191	5.5	1,354	39%	527	8.5	

Region	County	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
		Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life
	RUSK	1,017	3%	33	4.0	719	36%	261	6.4
	SAWYER	1,424	2%	31	4.3	996	33%	332	7.3
	ST. CROIX	2,749	12%	321	5.4	2,322	47%	1,093	7.5
	TAYLOR	1,032	5%	49	3.8	778	18%	140	8.5
	TREMPEALEAU	1,991	6%	119	5.4	1,512	44%	663	9.9
	WASHBURN	1,924	5%	87	6.1	1,192	50%	597	8.2
SE	KENOSHA	4,949	20%	971	8.4	3,318	50%	1,656	8.5
	MILWAUKEE	13,681	17%	2,318	7.9	9,338	44%	4,099	9.3
	OZAUKEE	2,080	5%	100	7.2	1,296	39%	511	10.4
	RACINE	5,720	14%	787	7.8	3,596	56%	2,007	8.1
	WALWORTH	4,306	11%	491	7.0	2,626	38%	996	9.5
	WASHINGTON	4,177	12%	512	8.5	2,765	43%	1,187	8.7
	WAUKESHA	10,261	12%	1,211	8.1	5,321	35%	1,871	7.4
SW	COLUMBIA	3,496	3%	88	4.7	2,142	24%	505	10.3
	CRAWFORD	2,403	4%	96	2.1	1,454	31%	446	11.1

Region	County	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
		Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life	Total Signs	%Backlog	Deficient Signs	Average Years Beyond Service Life
	DANE	7,708	19%	1,464	8.6	4,810	26%	1,267	10.9
	DODGE	3,118	5%	159	4.3	2,016	38%	767	11.2
	GRANT	3,260	2%	59	4.4	2,166	25%	545	13.6
	GREEN	1,342	4%	51	9.3	760	45%	345	9.9
	IOWA	2,054	2%	37	4.9	1,357	18%	246	11.0
	JEFFERSON	2,196	8%	185	2.6	1,359	35%	477	10.4
	JUNEAU	1,823	3%	49	5.7	1,619	30%	487	11.4
	LA CROSSE	2,963	3%	84	6.0	2,755	35%	977	11.5
	LAFAYETTE	1,450	10%	149	1.9	832	32%	265	13.8
	MONROE	2,696	1%	32	4.5	2,259	28%	638	11.0
	RICHLAND	1,924	2%	47	5.1	1,465	24%	357	11.1
	ROCK	2,804	7%	200	5.0	1,895	41%	780	11.6
	SAUK	3,743	5%	169	6.2	1,942	19%	362	11.1
	VERNON	3,167	2%	69	9.6	1,902	34%	646	11.8

Counties 2013: Bridge Maintenance Needs

Region	County	Number of state bridges	Number of bridges recommended for maintenance								
			Deck - Seal Surface Cracks	Expansion Joints - Clean	Approach - Seal Approach to Deck/Block	Misc - Cut Brush	IMP-Concrete Overlay	Expansion Joints - Seal	Deck - Clean and Sweep	Deck/Drainage - Repair Washouts / Expansion	Deck-Patching
NC	ADAMS	8	4	1	3	0	0	4	0	2	0
	FLORENCE	8	3	0	0	0	0	0	1	0	3
	FOREST	12	4	1	3	1	0	0	0	1	6
	GREEN LAKE	10	8	1	5	4	0	7	2	0	0
	IRON	19	5	0	2	5	0	1	0	1	5
	LANGLADE	11	4	0	2	2	0	0	0	0	2
	LINCOLN	52	36	9	4	10	0	3	0	0	9
	MARATHON	165	154	69	54	43	2	110	26	31	30
	MARQUETTE	36	27	8	26	9	0	33	2	14	6
	MENOMINEE	3	2	0	1	2	0	0	0	0	1
	ONEIDA	14	12	0	4	1	0	0	0	1	6
	PORTAGE	96	100	56	32	26	1	55	12	14	33
	PRICE	21	11	2	2	2	0	0	1	0	3
	SHAWANO	53	80	4	20	14	0	2	6	11	1
	VILAS	13	16	0	2	1	0	0	0	2	4
	WAUPACA	66	50	25	20	2	0	46	2	18	5
WAUSHARA	22	22	16	12	0	0	17	4	8	11	
WOOD	59	71	7	23	14	1	21	14	7	10	
NE	BROWN	245	129	145	97	22	0	72	11	29	62
	CALUMET	12	3	1	0	1	0	8	0	7	3
	DOOR	19	18	7	3	1	0	7	2	0	3
	FOND DU LAC	77	51	39	33	0	0	22	7	13	3
	KEWAUNEE	17	4	3	1	2	0	5	0	2	3
	MANITOWOC	92	42	41	24	7	0	29	0	10	20

Region	County	Number of state bridges	Number of bridges recommended for maintenance								
			Deck - Seal Surface Cracks	Expansion Joints - Clean	Approach - Seal Approach to Decking Block	Misc - Cut Brush	IMP-Concrete Overlay	Expansion Joints - Seal	Deck - Clean and Sweep	Deck/Drainage - Repair Washouts / Expansion	Deck-Patching
	MARINETTE	48	30	15	30	5	0	17	3	0	4
	OCONTO	44	21	4	3	1	0	21	1	8	3
	OUTAGAMIE	78	57	13	37	22	0	69	3	33	15
	SHEBOYGAN	85	53	32	36	13	0	50	0	15	25
	WINNEBAGO	155	103	60	76	18	0	46	3	39	28
NW	ASHLAND	19	1	0	2	0	2	0	0	3	10
	BARRON	68	6	0	13	10	2	4	2	9	38
	BAYFIELD	34	0	0	10	2	0	0	0	8	8
	BUFFALO	71	2	2	7	3	2	1	0	1	0
	BURNETT	15	2	0	3	0	0	0	1	2	4
	CHIPPEWA	135	9	38	22	3	4	22	2	32	6
	CLARK	42	1	3	29	2	1	3	0	3	2
	DOUGLAS	60	1	0	5	5	1	1	0	5	12
	DUNN	92	0	3	7	5	1	0	1	11	6
	EAU CLAIRE	110	8	29	27	3	0	7	1	25	5
	JACKSON	74	1	21	14	5	4	10	0	21	2
	PEPIN	16	0	0	2	0	0	5	0	2	0
	PIERCE	57	0	7	11	10	2	2	0	18	0
	POLK	13	4	1	0	1	0	0	0	5	11
	RUSK	28	2	0	2	8	3	1	0	5	7
	SAWYER	19	2	0	7	5	0	0	0	5	8
	ST. CROIX	99	5	4	13	3	0	3	0	15	2
	TAYLOR	22	3	0	0	2	0	0	0	4	5
TREMPEALEAU	73	2	3	19	1	1	0	0	9	3	
WASHBURN	20	2	0	12	9	0	0	0	7	3	
	KENOSHA	59	12	8	28	2	28	19	25	12	3

Region	County	Number of state bridges	Number of bridges recommended for maintenance								
			Deck - Seal Surface Cracks	Expansion Joints - Clean	Approach - Seal Approach to Decking	Misc - Cut Brush	IMP-Concrete Overlay	Expansion Joints - Seal	Deck - Clean and Sweep	Deck/Drainage - Repair Washouts / Expansion	Deck-Patching
SE	MILWAUKEE	517	137	509	150	172	639	142	127	89	96
	OZAUKEE	51	14	10	27	24	73	5	4	17	18
	RACINE	61	8	11	39	10	61	8	10	13	3
	WALWORTH	118	25	40	38	20	128	23	9	39	8
	WASHINGTON	74	4	39	22	7	134	7	73	7	2
	WAUKESHA	176	58	36	82	59	202	22	11	124	53
SW	COLUMBIA	97	47	30	55	77	2	2	62	31	14
	CRAWFORD	68	50	2	23	14	0	3	6	18	11
	DANE	290	63	149	253	233	3	19	323	115	25
	DODGE	70	39	16	34	32	0	3	34	13	1
	GRANT	70	25	10	18	13	0	1	5	20	10
	GREEN	28	14	8	7	9	2	2	24	4	4
	IOWA	57	31	8	13	22	0	0	23	11	6
	JEFFERSON	110	40	44	31	22	4	4	45	11	8
	JUNEAU	80	29	21	26	3	0	14	5	8	14
	LA CROSSE	107	45	47	60	43	0	5	13	25	22
	LAFAYETTE	40	12	1	20	31	0	0	51	16	7
	MONROE	155	57	8	52	19	0	6	5	13	25
	RICHLAND	78	48	5	19	22	0	3	7	6	20
	ROCK	137	47	85	87	54	3	6	130	26	12
SAUK	93	42	33	63	30	0	2	51	13	3	
VERNON	74	10	1	11	19	0	4	0	23	3	