COMPASS 2009 DATA ANALYSIS AND REPORTING

Project 04-01
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National Center for Freight & Infrastructure Research & Education
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16. Abstract

The Compass Reports created in this project are issued annually to provide information on the maintenance condition of Wisconsin's highways. The information in these reports is being used to help understand trends and conditions, prioritize resources, and set targets for future condition levels of our highway system. As more information is gathered, the reports will also be used to illustrate and understand the consequences of funding and policy shifts, and to demonstrate accountability to decision-makers at Wisconsin DOT and in the legislature.

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FINAL

Compass Report

Wisconsin State Highway
2009
Maintenance, Traffic, and Operations Conditions

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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 2009 Compass Annual Report has been completed based on the yearly field review process and current data from the WisDOT Pavement Maintenance Management System, Sign Inventory Management System, winter storm reports 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:

- *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 safety get back onto the paved surface. More aggressive maintenance targets have been set over the last five years to deal with this problem. The actual amount of drop-off for unpaved shoulders decreased ten percentage points between 2008 and 2009 and there will be a continued focus on improving safety by reducing shoulder drop-off. Drop-off/build-up on paved shoulders was added to the field review process this year. Four percent of paved shoulders were deficient, resulting in a B level of service grade.
- *Removing hazardous debris on shoulders*: For several years the department has emphasized removing hazardous debris from roadways. This year the backlog for hazardous debris is 8%, which is a decrease of one percentage point compared to the 9% level in 2008, again hitting the lowest level recorded during the previous five-year period.
- *More visible, longer lasting traffic signs*: More than 20,000 new high-intensity signs were installed along the state highway system between 2008 and 2009. Sixty five percent of the 294,000 signs on the state system now have high-intensity face material, providing better illumination to drivers during low light conditions and evenings. An added benefit is that the new signs last 71% longer than the older generation "engineering" grade signs.
- *Targeted replacement of regulatory and warning signs*: Over 103,000 signs around the state are older than their suggested useful life. This is a reduction of 2,000 signs from the 2008 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, 23% of the regulatory and warning signs are beyond their recommended service life, which remains the same as the 2008 level. Fifty-one percent of detour/object marker/recreation/guide signs are older than their suggested useful life. This is a four percentage point drop 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 (WTC) at University of Wisconsin – Madison. Starting in September of each year, WTC 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 finalized and officially published in the summer 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 2009 and May 2010.

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 2008-09 and includes Time to Bare Wet, Winter Severity Index, Winter VMT, and crash data. Figures and tables are taken directly from the 2008-09 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 B 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 D provides the maintenance targets for 2009.

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 are curved to account for the importance of the feature to the motorist and roadway system. The contribution categories include "Critical Safety", "Safety", "Ride/Comfort", "Stewardship", and "Aesthetics". 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. 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.

System Overview

Below is a summary of the 2009 condition grades for the 29 features that are evaluated in the field each year for the Compass program. The individual grades for the 29 features translate to an overall system condition grade point average of 2.6 or grade level C. The two failing grades are for drop-off/build-up on unpaved shoulders and cracking on paved shoulders.

- A grade: 10 features (34%)
- B grade: 3 features (10%)
- C grade: 11 features (38%)
- D grade: 3 features (10%)
- F grade: 2 features (7%)

The condition grade for most features stayed constant between 2008 and 2009. Of the 29 features surveyed, the condition grade remained unchanged for 20 roadway components (69%). The grade for two features (7%) improved since 2008: both delineators and noxious weeds went from a D in 2008 to a C grade in 2009. The condition grade for six features (21%) declined during the past year. Features that received a lower grade in 2009 include centerline markings (B to a C), edgeline markings (A to a C), mowing for vision (A to a B), cross-slope of unpaved shoulders (B to a C), cracking on paved shoulders (D to an F), and storm sewer system (B to a C).

Twenty-one features (72%) met their targeted condition level in 2009, which is defined as within five percentage points of the actual target. Five features (17%) exceeded the maintenance target, including two Safety features (special pavement markings and fences), one Ride/Comfort feature (routine replacement of other signs), one Stewardship feature (noxious weeds) and the one Aesthetics feature (litter). Two features (7%) had a condition below the targeted level, including one Critical Safety feature (drop-off/build-up on unpaved shoulders) and one Stewardship feature (flumes).

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 that require immediate action, with overtime pay if necessary, to remedy a problem situation.

Feature	2009	2008	2007	2006	2005	Element
Hazardous debris	C	C	C	D	D	Shoulders
Centerline markings	C	B	B	B	B	Traffic and safety devices
Regulatory/warning signs (emergency repair)	A	A	A	A	A	Traffic and safety devices
Drop-off/build-up (paved)	B	N/A	N/A	N/A	N/A	Shoulders
Drop-off/build-up (unpaved)	F	F	F	F	F	Shoulders

- Drop-off or build-up on paved shoulders was added to the 2009 field review process. Using the same grading curve as Drop-off/build-up of unpaved shoulders, it received a grade of B.
- Removal of hazardous debris on the shoulders and the emergency repair of regulatory/warning signs received grades of C and A, respectively. These grades are consistent with the targets.

- Centerline markings received a grade of C, lower than the targeted B, and also the first time it declined from a B grade in the past five years.
- Drop-off or build-up of unpaved shoulders continued to receive a grade of F. This is consistent with this year's target for this feature.

Safety Features

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

Feature	2009	2008	2007	2006	2005	Element
Delineators	C	D	C	C	D	Traffic and safety devices
Regulatory/warning signs (routine replacement)	C	C	D	D	F	Traffic and safety devices
Mowing	C	C	C	C	C	Roadsides
Edgeline markings	C	A	A	B	B	Traffic and safety devices
Special pavement markings	B	B	B	A	A	Traffic and safety devices
Protective barriers	A	A	B	A	A	Traffic and safety devices
Fences	A	A	A	A	A	Roadsides
Mowing for vision	B	A	A	A	--	Roadsides
Woody vegetation control	A	A	A	A	A	Roadsides
Woody vegetation control for vision	A	A	A	A	A	Roadsides

- The condition grade for all safety features met or exceeded their targets in 2009.
- Protective barriers, fences, woody vegetation, and control of woody vegetation for vision all maintained the A grade they received in 2008. The targets for these features were A, C, B, and A, respectively.
- Edgeline markings declined from A to C and Mowing for vision declined from A to B. However, these grades are consistent with their targets for this year.
- The grade for delineators climbed back up to a C in 2009 from the grade D it received in 2008.
- Special pavement markings maintained a grade of B while the target was a D grade.
- Routine replacement of regulatory/warning signs maintained the grade of C it received last year.

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 obstructions.

Feature	2009	2008	2007	2006	2005	Element
Detour/object marker/recreation/guide signs (routine replacement)	D	D	D	D	D	Traffic and safety devices
Potholes/raveling (paved)	A	A	A	A	B	Shoulders
Cross-slope (unpaved)	C	B	B	C	B	Shoulders
Detour/object markers/ recreation/ guide/signs (emergency repair)	A	A	A	A	A	Traffic and safety devices

- Removal of potholes/raveling on paved shoulders and emergency repair of detour/object markers/recreation guide signs maintained the grade A they have been getting for the past four years. The targets for these features are B and A, respectively
- Cross-slope of unpaved shoulders received a grade C, lower than the B it received last year. This is, however, consistent with the 2009 target.
- Routine replacement of detour/object marker/recreation/guide signs received a grade of D.

Stewardship Features

Stewardship captures performance on routine and preventive maintenance activities that preserve investments and ensure facilities function for their full expected service life or longer.

Feature	2009	2008	2007	2006	2005	Element
Cracking (paved)	F	D	D	D	D	Shoulders
Culverts	C	C	C	B	B	Drainage
Flumes	D	D	C	C	C	Drainage
Noxious weeds	C	D	C	C	C	Roadsides
Storm sewer system	C	B	B	B	B	Drainage
Under-drains/edge-drains	C	C	B	B	B	Drainage
Erosion (unpaved)	A	A	A	A	A	Shoulders
Curb & gutter	A	A	A	A	A	Drainage
Ditches	A	A	A	A	A	Drainage

- Cracking on paved shoulders received a feature grade of F. The target for this feature is D.
- Culverts received a feature grade of C, consistent with the target.
- Flumes received a feature grade of D compared to the targeted grade of C.
- Noxious weeds climbed back up in 2009 to a grade of C. This grade is much better than the targeted grade of F.
- Storm sewer system declined to a C from the B it received last year. This is lower than the targeted grade of B.
- Under-drains/edge-drains, erosion on unpaved shoulders, curb & gutter and ditches, received feature grades of C, A, A, and A, respectively. These grades are the same as the grades they received last year, and all of them met or exceeded the targets.

Aesthetics Feature

Aesthetics concerns the display of natural or fabricated beauty along highway corridors including landscaping and architectural features.

Compass measures the presence of litter, which detracts from roadway sightlines. The grade for litter in 2009 is a D, similar to the past few years.

Feature	2009	2008	2007	2006	2005	Element
Litter	D	D	D	D	D	Roadsides

The Compass report also includes measures for winter maintenance and bridges. Target levels and grade curves have not been established for winter maintenance and bridges. Some key observations on winter maintenance and bridges include:

Winter maintenance:

- Coming off of the record-setting winter of 2007-08, the 2008-09 winter was also one of the snowiest on record. The counties again faced challenges in dealing with rising salt costs and a continued nationwide salt shortage that led to two Wisconsin counties not receiving any salt directly from vendors.
- The statewide average Winter Severity Index (WSI) in 2008-09 was 36.2 versus 37.2 in the previous year.
- In keeping with WisDOT guidelines, during similar storm events, drivers on major urban freeways and highways had less time to wait until they saw bare/wet pavement than did drivers on secondary roads. From storm to storm, however, variability in this time was due to specific local weather effects (type, duration and severity of storms throughout the winter season).
- The average time to bare/wet pavement during winter 2008-09 was 2 hours and 32 minutes, which is 44 minutes less than the previous winter.

Bridges:

- Thirty-one percent of bridge decks statewide are in "Fair" condition and in need of reactive maintenance, based on their NBI ratings of 5 or 6. This is a 1% improvement from the 32% level in 2008.
- Twenty-eight percent of bridge superstructures are in "Fair" condition and in need of reactive maintenance, based on their NBI ratings of 5 or 6. The percentage of bridge superstructures in "Fair" condition stayed the same between 2008 and 2009.
- Twenty-eight percent of bridge substructures are in "Fair" condition and in need of reactive maintenance, based on their NBI ratings of 5 or 6. This is a two percentage increase compared to the condition in 2008.

Wisconsin 2009: Compass Report on Highway Maintenance Conditions

Element	What are we spending? Dollars spent (in millions)[1] FY 05	FY 06	FY 07	FY 08	FY 09	Feature	How much of the system still needs work at the end of the maintenance season? Condition change: 2008 to 2009[2]	% of system backlogged 2005	2006	2007	2008	2009	How well maintained is the system? 2009 Feature grades A	B	C	D	F
Shoulders	7.50 8.24 0.24 0.26	8.20 8.73 0.26 0.28	9.80 10.14 0.31 0.32	8.20 8.17 0.26 0.26	8.99 8.99 0.28 0.28	Hazardous debris	↑	12	13	9	9	**8**					
						Cracking (paved)	↓↓	52	50	53	53	**62**					
						Drop-off/build-up (paved)	N/A	N/A	N/A	N/A	N/A	**4**					
						Potholes/raveling (paved)	-	7	5	6	6	**6**					
						Cross-slope (unpaved)	↓	14	25	18	18	**22**					
						Drop-off/build-up (unpaved)	↑↑	36	40	40	44	**34**					
						Erosion (unpaved)	↓	3	3	1	2	**3**					
Drainage	5.70 6.26 0.18 0.20	5.10 5.43 0.16 0.17	7.20 7.45 0.23 0.23	8.00 7.97 0.25 0.25	9.84 9.84 0.31 0.31	Culverts	↑	18	15	20	28	**23**					
						Curb & gutter	-	7	8	8	5	**5**					
						Ditches	-	2	3	2	2	**2**					
						Flumes	↑	19	27	25	39	**36**					
						Storm sewer system	↓	9	9	11	16	**19**					
						Under-drains/edge-drains	↑	20	13	20	30	**24**					
Roadsides	20.20 22.19 0.64 0.70	21.90 23.31 0.69 0.74	24.00 24.83 0.76 0.78	19.40 19.33 0.61 0.61	20.29 20.29 0.63 0.63	Fences	↓	2	3	2	1	**3**					
						Litter	↓	62	64	60	61	**66**					
						Mowing	↑	35	39	36	42	**35**					
						Mowing for vision	↓	n/a	2	2	3	**5**					
						Noxious weeds	↑	29	34	29	38	**33**					
						Woody vegetation	↓	3	3	3	2	**4**					

[1] The dollar values listed in each column show the nominal dollars, constant dollars (base year 2009), nominal dollars per thousand lane miles, and constant dollars per thousand lane miles, respectively.

[2] Arrows indicate a condition change from 2008 to 2009 (↑= 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: 2008 to 2009[2]	% of system backlogged					2009 Feature grades				
	FY 05	FY 06	FY 07	FY 08	FY 09			**2005**	**2006**	**2007**	**2008**	**2009**	A	B	C	D	F
						Woody veg. control for vision	↑	1	1	2	1	**0.4**					
Traffic & safety (selected)	15.80 17.36 0.50 0.55	16.40 17.45 0.52 0.55	17.30 17.90 0.55 0.56	17.30 17.24 0.54 0.54	17.90 17.90 0.56 0.56	Centerline markings	↓	5	4	3	3	**7**					
						Delineators	↑	24	21	21	26	**20**					
						Edgeline markings	↓↓	5	6	4	4	**12**					
						Detour/object marker/recreation/guide signs (emergency repair)	-	1	1	0.3	0.4	**0.3**					
						Detour/object marker/recreation/guide signs (routine replacement)	↑	59	55	56	55	**51**					
						Protective barriers	-	4	4	5	3	**3**					
						Reg./warning signs (emergency repair)	-	1	1	1	1	**1**					
						Reg./warning signs (routine replacement)	-	41	31	25	23	**23**					
						Special pavement markings	↓	5	3	10	7	**10**					

Wisconsin 2009: Targets for Highway Maintenance Conditions

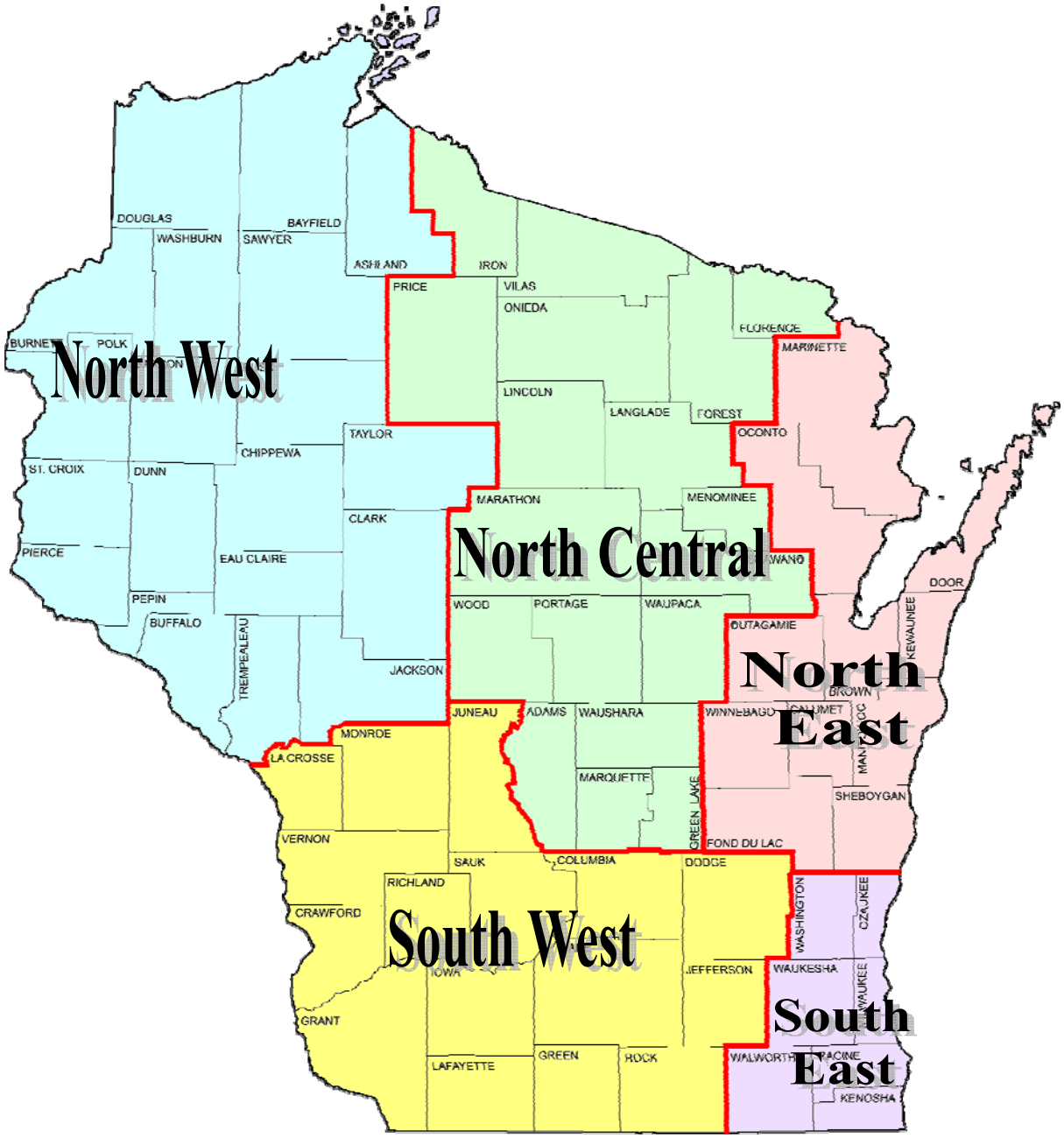
Targets are set annually, and are intended to reflect priorities for that year, given fiscal constraints. They are a measure of effective management, not system condition.

			Statewide									Regions		
						Gap if target missed								
						Worse condition			Better condition					
Contribution Category	**Feature**	**Element**	**Actual % backlog 2009**	**Target % backlog 2009**	**On target[3]**	**20**	**10**	**0**	**0**	**10**	**20**	**Worse condition**	**On Target**	**Better condition**
Critical Safety	Centerline markings	Traffic and safety devices	7	5	◎							SE	NC, NE, NW, SW	
	Regulatory/warning signs (emergency repair)	Traffic and safety devices	1	0	◎								All	
	Hazardous debris	Shoulders	8	6	◎							NE, SE	NC, NW, SW	
	Drop-off/build-up (paved)	Shoulders	4	N/A	N/A							**N/A**		
	Drop-off/build-up (unpaved)	Shoulders	34	20			**14**					NC, NE, SE, SW	NW	
Safety	Delineators	Traffic and safety devices	20	25	◎							SE	SW	NC, NE, NW
	Edgeline markings	Traffic and safety devices	12	8	◎							SE, SW	NC, NE, NW	
	Protective barriers	Traffic and safety devices	3	3	◎								All	
	Regulatory/warning signs (routine replacement)	Traffic and safety devices	23	25	◎							NE	SE	NC, NW, SW
	Special pavement markings	Traffic and safety devices	10	25						**15**				All
	Fences	Roadsides	3	14						**11**			NW	NC, NE, SE, SW

[3] ◎ This symbol indicates that the percent backlogged for that feature is the same as the target, or within 5 percentage points.

			Statewide									Regions		
						Gap if target missed								
						Worse condition			Better condition					
Contribution Category	**Feature**	**Element**	**Actual % backlog 2009**	**Target % backlog 2009**	**On target[3]**	**20**	**10**	**0**	**0**	**10**	**20**	**Worse condition**	**On Target**	**Better condition**
	Mowing	Roadsides	35	40	◎							SE	NE	NC, NW, SW
	Mowing for vision	Roadsides	5	5	◎							SW	NC, NE, NW, SE	
	Woody vegetation control	Roadsides	4	5	◎								All	
	Woody vegetation control for vision	Roadsides	0.4	3	◎								All	
Ride/Comfort	Detour/object marker/recreation/guide signs (routine replacement)	Traffic and safety devices	51	70						**19**				All
	Potholes/raveling (paved)	Shoulders	6	10	◎								NC, NE, SE, SW	NW
	Cross-slope (unpaved)	Shoulders	22	20	◎							NE	NC, NW, SW	SE
	Detour/object markers/recreation/guide signs (emergency repair)	Traffic and safety devices	0.3	1	◎								All	
Stewardship	Cracking (paved)	Shoulders	62	60	◎							NW, SE	NC, NE, SW	
	Erosion (unpaved)	Shoulders	3	5	◎								All	
	Culverts	Drainage	23	20	◎							NW	NE, SE, SW	NC
	Curb & gutter	Drainage	5	10	◎								NC, NW, SW	NE, SE
	Ditches	Drainage	2	5	◎								All	
	Flumes	Drainage	36	30				**6**				NC, NW, SE	SW	NE
	Storm sewer system	Drainage	19	15	◎							SE, SW	NE, NW	NC
	Under-drains/edge-drains	Drainage	24	25	◎							NW, SE, SW		NC, NE
	Noxious weeds	Roadsides	33	61							**28**			All
Aesthetics	Litter	Roadsides	66	75					**9**				NE, SE, SW	NC, NW

WisDOT Regional Boundaries



2009 Traveled Way: Compass Report on Maintenance Condition

Data for this section comes from the PMMS data file on June 15th 2010 received from Paulette Hanna.

Wisconsin 2009: Traveled Way Condition Distribution

Asphalt traveled way distress	% of miles[4] in condition[5]			
	Excellent	Fair	Moderate	Poor
Alligator Cracking[6]	98%	1%	1%	0%
Block Cracking[6]	96%	2%	2%	1%
Edge Raveling	93%	6%	0%	1%
Flushing	100%	0%	0%	0%
Longitudinal Cracking[6]	30%	53%	16%	2%
Longitudinal Distortion	100%	0%	0%	0%
Patch Deterioration	91%	2%	2%	4%
Rutting	88%	11%	0%	1%
Surface Raveling	100%	0%	0%	0%
Transverse Cracking[6]	33%	50%	16%	1%
Transverse Distortion	100%	0%	0%	0%

Concrete traveled way distress	% of miles in condition			
	Excellent	Fair	Moderate	Poor
Distressed Joint/Cracks	78%	15%	6%	1%
Longitudinal Joint Distress	93%	4%	2%	2%
Patch Deterioration	82%	13%	4%	1%
Surface Distress	95%	2%	3%	0%
Transverse Faulting	55%	44%	0%	0%

Key Observations:

- Starting with the 2009 Compass Annual Report, the pavement data was obtained directly from WisDOT Pavement Maintenance Management System (PMMS).
- Eighty eight percent of roads are in excellent condition for rutting, a critical safety feature. Approximately 11% of the roads are in fair condition for rutting, which is defined in PMMS as ruts between ¼" and ½" in depth. And 1% of roads are in poor condition for rutting, with ruts over ½" in depth.

[4] Rows may not sum to 100% due to rounding.
[5] Condition comes from WisDOT Pavement Maintenance Management System and reflects extent and severity of distress.
[6] Cracks in asphalt pavement may be sealed or unsealed. Only miles with unsealed cracks are included in the % backlogged.

- Just like last year, a large amount of asphalt roads have longitudinal cracking and transverse cracking. Almost two-thirds of roads are in fair or moderate condition for these cracking distresses while only about one-third of the roads are in excellent condition.
- All asphalt roads are in excellent condition with regard to flushing, longitudinal distortion, surface raveling and transverse distortion. This is also identical with last year's result.
- Over 90% of all asphalt roads are in excellent condition with regard to alligator cracking (98%), block cracking (96%), edge raveling (93%) and patch deterioration (91%). Four percent of asphalt roads, though, are in poor condition for patch deterioration.
- There are varied results for the five pavement distresses on concrete traveled ways. Over 90% of all concrete roads are in excellent condition with regard to longitudinal joint distress (93%) and surface distress (95%).
- The amount of concrete roads in excellent condition for other pavement distresses is lower, including distressed joints/cracks (78%) and patch deterioration (82%).
- More than half of the concrete roads are in excellent condition for transverse faulting (55%) and the balance of concrete roads (44%) are in fair condition for this pavement distress.

Regions 2009: Traveled Way Condition Distribution

Asphalt traveled way distress	Condition	% of miles in Region				
		NC	NE	NW	SE	SW
Alligator Cracking	Excellent	98%	97%	99%	96%	97%
	Fair	1%	2%	1%	1%	2%
	Moderate	1%	1%	0%	2%	1%
	Poor	0%	0%	0%	1%	0%
Block Cracking	Excellent	94%	95%	99%	95%	94%
	Fair	2%	1%	1%	1%	2%
	Moderate	3%	3%	0%	2%	2%
	Poor	1%	1%	0%	1%	1%
Edge Raveling	Excellent	99%	99%	93%	96%	83%
	Fair	1%	1%	6%	3%	14%
	Moderate	0%	0%	0%	0%	1%
	Poor	0%	0%	1%	1%	2%
Flushing	Excellent	100%	100%	99%	100%	100%
	Fair	0%	0%	1%	0%	0%
	Poor	0%	0%	1%	0%	0%
Longitudinal Cracking	Excellent	27%	25%	37%	20%	31%
	Fair	62%	57%	51%	49%	46%
	Moderate	10%	17%	10%	31%	19%
	Poor	1%	1%	3%	1%	4%
Longitudinal Distortion	Excellent	100%	100%	100%	100%	100%
	Fair	0%	0%	0%	0%	0%
	Moderate	0%	0%	0%	0%	0%
	Poor	0%	0%	0%	0%	0%
Patch Deterioration	Excellent	95%	94%	95%	80%	89%
	Fair	1%	2%	1%	9%	2%
	Moderate	2%	2%	1%	6%	2%
	Poor	2%	2%	3%	6%	6%
Rutting	Excellent	91%	97%	83%	94%	84%
	Fair	9%	3%	16%	6%	15%
	Poor	0%	0%	1%	0%	1%
Surface Raveling	Excellent	100%	100%	100%	100%	100%
	Fair	0%	0%	0%	0%	0%
	Moderate	0%	0%	0%	0%	0%
	Poor	0%	0%	0%	0%	0%
Transverse Cracking	Excellent	31%	30%	32%	19%	44%
	Fair	56%	57%	54%	49%	37%
	Moderate	13%	13%	12%	31%	17%
	Poor	0%	0%	2%	0%	2%
Transverse Distortion	Excellent	100%	100%	100%	100%	100%
	Fair	0%	0%	0%	0%	0%
	Moderate	0%	0%	0%	0%	0%
	Poor	0%	0%	0%	0%	0%

Concrete traveled way distress	Condition	% of miles Region				
		NC	NE	NW	SE	SW
Distressed Joint/Cracks	Excellent	80%	84%	74%	81%	75%
	Fair	15%	12%	16%	13%	16%
	Moderate	4%	4%	10%	4%	8%
	Poor	0%	0%	1%	2%	0%
Longitudinal Joint Distress	Excellent	89%	87%	100%	78%	100%
	Fair	5%	6%	0%	9%	0%
	Moderate	3%	3%	0%	7%	0%
	Poor	3%	4%	0%	6%	0%
Patch Deterioration	Excellent	83%	82%	81%	82%	81%
	Fair	10%	14%	15%	12%	13%
	Moderate	5%	3%	3%	4%	5%
	Poor	1%	1%	1%	2%	1%
Surface Distress	Excellent	99%	98%	89%	99%	92%
	Fair	0%	0%	1%	0%	6%
	Moderate	1%	1%	10%	1%	2%
Transverse Faulting	Excellent	92%	88%	15%	80%	25%
	Fair	8%	10%	85%	19%	75%
	Moderate	0%	1%	0%	1%	0%
	Poor	0%	0%	0%	0%	0%

2009 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 F. Readers should take the number of observations into account when reviewing the information. Extreme caution should be exercised when analyzing data that has less than 30 observations.

Below is a summary of the change between 2008 and 2009 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 2008 and 2009.

- Nine features (31%) had a reduction in the percentage of roadways that are backlogged for maintenance.
- Eight features (28%) did not have a change in the amount of roadways that are backlogged for maintenance.
- Eleven features (38%) had an increase in the percentage of roadways that are backlogged for maintenance.
- One feature (drop-off on paved shoulders) is just added back into the program this year.
- All of the changes in backlog levels were ten percentage points or less.

Shoulders:

- The individual grades for the seven Shoulder features translate to an overall condition grade point average of 2.1 or grade level C.
- Two Shoulder features had a reduction in the percentage of roadways that are backlogged for maintenance. They are hazardous debris (-1%) and drop-off/buildup on unpaved shoulders (-10%)
- One of the seven features (potholes/raveling on paved shoulders) did not have a change in the amount of roadways that are backlogged for maintenance.
- Three features had an increase in the percentage of roadways that are backlogged for maintenance. These features include cracking on paved shoulders (+9%), cross-slope on unpaved shoulders (+4%), and erosion (+1%). Two of these changes are significant enough to change the level of service grade of cross-slope on unpaved shoulders from a B to a C, and of cracking on paved shoulders from a D to an F.
- Drop-off /buildup on unpaved shoulders received a feature grade of F for the sixth consecutive year. However, the percentage of roadways that are backlogged for maintenance decreased significantly from 44% in 2008 to 34% in 2009.

Drainage:

- The individual grades for the six Drainage features translate to an overall condition grade point average of 2.5 or grade level C.

- Three of the six Drainage features had a reduction in the percentage of roadways that are backlogged for maintenance. These features include culverts (-5%), flumes (-3%), and under-drains/edge-drains (-6%)
- Two features, curb and gutter and ditches, did not have a change in the amount of roadways that are backlogged for maintenance.
- Storm sewer system was the only feature that had an increase in the percentage of roadways (+3%) that are backlogged for maintenance. This change was significant enough to change the level of service grade for storm sewer system from a B to a C.

Roadsides:

- The individual grades for the seven Roadside features translate to an overall condition grade point average of 2.9 or grade level C+.
- Three of the seven Roadside features had a reduction in the percentage of roadways that are backlogged for maintenance. These features include mowing (-7%), noxious weeds (-5%), and woody vegetation control for vision (-1%).
- Four features had an increase in the percentage of roadways that are backlogged for maintenance. These features include fences (+2%), litter (+5%), mowing for vision (+2%), and woody vegetation (+2%).
- The change was significant enough to change the level of service grade for mowing for vision from an A to a B. It is also significant enough to change the level of service of noxious weeds from a D to a C. However, the maintenance backlog of 28% is much lower than the 2009 target of 61%. Due to budget limitations, current WisDOT policy includes a moratorium on spraying noxious weeds.

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 2.6 or grade level C.
- Delineators was the only feature that had a reduction in the percentage of roadways (-6%) that are backlogged for maintenance. This change was significant enough to change the level of service grade from a D to a C.
- Five of the features did not have a change in the amount of roadways that are backlogged for maintenance. These features include emergency repair of other signs, routine replacement of other signs, protective barriers, emergency repair of regulatory/warning signs, and routine replacement of regulatory/warning signs.
- Three features had an increase in the percentage of roadways that are backlogged for maintenance. These features include centerline markings (+4%), edgeline markings (+8%), and special pavement markings (+3%). These changes were significant enough to change the level of service grade of centerline markings from a B to a C, and for edgeline markings from an A to a C.

Regions 2009: 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%	14%	2%	15%	9%	8%
	Cracking (paved)	57%	63%	66%	66%	59%	62%
	Drop-off/build-up (paved)	2%	5%	4%	6%	6%	4%
	Potholes/raveling (paved)	5%	6%	3%	12%	9%	6%
	Cross-slope (unpaved)	24%	27%	18%	10%	24%	22%
	Drop-off/build-up (unpaved)	33%	38%	24%	30%	45%	34%
	Erosion (unpaved)	2%	2%	3%	1%	3%	3%
	Dollars spent on shoulders (millions)	1.21	1.18	2.21	0.89	3.50	8.99
Drainage	Culverts	14%	24%	30%	25%	22%	23%
	Curb & gutter	6%	2%	10%	2%	8%	5%
	Ditches	1%	1%	2%	3%	2%	2%
	Flumes	56%	22%	53%	36%	30%	36%
	Storm sewer system	7%	17%	15%	22%	22%	19%
	Under-drains/edge-drains	15%	9%	33%	43%	32%	24%
	Dollars spent on drainage (millions)	0.76	0.68	1.72	2.03	4.65	9.84
Roadsides	Fences	2%	0%	10%	0%	5%	3%
	Litter	59%	71%	58%	77%	74%	66%
	Mowing	32%	44%	26%	58%	34%	35%
	Mowing for vision	2%	2%	6%	0%	11%	5%
	Noxious weeds	30%	38%	14%	36%	49%	33%
	Woody vegetation control	3%	2%	2%	7%	5%	4%
	Woody vegetation control for vision	0%	0%	0%	3%	0%	0.4%
	Dollars spent on roadsides (millions)	2.52	2.41	4.56	5.55	5.24	20.29
Traffic and safety (selected devices)	Centerline markings	7%	3%	8%	13%	6%	7%
	Delineators	6%	18%	16%	39%	23%	20%
	Edgeline markings	4%	4%	8%	20%	22%	12%
	Detour/object marker/recreation/guide signs (emergency repair)	0%	0%	0%	0%	1%	0.3%
	Detour/object marker/recreation/guide signs (routine replacement)	40%	59%	48%	53%	51%	51%
	Protective barriers	4%	8%	4%	3%	2%	3%
	Regulatory/warning signs (emergency repair)	0%	0%	2%	2%	1%	1%
	Regulatory/warning signs (routine replacement)	18%	36%	14%	28%	19%	23%
	Special pavement markings	0%	5%	12%	17%	8%	10%
	Dollars spent on traffic and safety (selected devices) (millions)	2.83	2.01	3.14	4.26	5.67	17.9

Regions: Regional Trend

Element	Feature	Region	Year			
			2006	2007	2008	2009
Shoulders	Hazardous debris	NC	9%	8%	8%	5%
		NE	15%	8%	8%	14%
		NW	8%	5%	5%	2%
		SE	8%	5%	5%	15%
		SW	19%	18%	18%	9%
	Cracking (paved)	NC	42%	47%	47%	57%
		NE	54%	56%	56%	63%
		NW	48%	44%	44%	66%
		SE	69%	63%	63%	66%
		SW	46%	53%	53%	59%
	Drop-off/build-up (paved)	NC	-	-	-	2%
		NE	-	-	-	5%
		NW	-	-	-	4%
		SE	-	-	-	6%
		SW	-	-	-	6%
	Potholes/raveling (paved)	NC	4%	4%	4%	5%
		NE	2%	5%	5%	6%
		NW	6%	6%	6%	3%
		SE	6%	11%	11%	12%
		SW	5%	4%	4%	9%
	Cross-slope (unpaved)	NC	13%	19%	19%	24%
		NE	21%	17%	17%	27%
		NW	31%	24%	24%	18%
		SE	41%	14%	14%	10%
		SW	25%	15%	15%	24%
	Drop-off/build-up (unpaved)	NC	35%	30%	38%	33%
		NE	34%	45%	46%	38%
		NW	43%	47%	35%	24%
		SE	52%	39%	60%	30%
		SW	42%	36%	44%	45%
	Erosion (unpaved)	NC	0%	1%	0%	2%
		NE	1%	1%	1%	2%
		NW	3%	3%	1%	3%
		SE	5%	2%	2%	1%
		SW	6%	0%	4%	3%
Drainage	Culverts	NC	10%	14%	21%	14%
		NE	23%	24%	23%	24%

		NW	21%	25%	25%	30%
		SE	5%	15%	36%	25%
		SW	17%	24%	34%	22%
	Curb & gutter	NC	6%	11%	8%	6%
		NE	3%	5%	3%	2%
		NW	23%	12%	9%	10%
		SE	3%	3%	3%	2%
		SW	2%	10%	16%	8%
	Ditches	NC	1%	1%	1%	1%
		NE	2%	1%	1%	1%
		NW	1%	1%	1%	2%
		SE	8%	6%	5%	3%
		SW	2%	2%	2%	2%
	Flumes	NC	36%	10%	32%	56%
		NE	11%	21%	25%	22%
		NW	45%	50%	33%	53%
		SE	26%	24%	42%	36%
		SW	17%	19%	67%	30%
	Storm sewer system	NC	0%	9%	15%	7%
		NE	13%	7%	13%	17%
		NW	8%	23%	26%	15%
		SE	16%	9%	16%	22%
		SW	10%	7%	21%	22%
	Under-drains/edge-drains	NC	1%	7%	7%	15%
		NE	12%	11%	9%	9%
		NW	6%	21%	0%	33%
		SE	21%	16%	36%	43%
		SW	32%	45%	76%	32%
Roadsides	Fences	NC	0%	2%	4%	2%
		NE	0%	0%	0%	0%
		NW	7%	5%	0%	10%
		SE	0%	1%	1%	0%
		SW	5%	0%	4%	5%
	Litter	NC	68%	49%	49%	59%
		NE	65%	69%	69%	71%
		NW	58%	57%	57%	58%
		SE	60%	57%	57%	77%
		SW	68%	71%	71%	74%
	Mowing	NC	29%	24%	32%	32%
		NE	61%	52%	49%	44%
		NW	32%	34%	41%	26%

		SE	42%	46%	43%	58%
		SW	42%	23%	45%	34%
	Mowing for vision	NC	0%	3%	3%	2%
		NE	0%	1%	2%	2%
		NW	5%	0%	4%	6%
		SE	3%	2%	0%	0%
		SW	3%	7%	6%	11%
	Noxious weeds	NC	29%	19%	38%	30%
		NE	47%	39%	50%	38%
		NW	15%	5%	9%	14%
		SE	52%	38%	49%	36%
		SW	43%	48%	45%	49%
	Woody vegetation control	NC	2%	8%	1%	3%
		NE	2%	2%	1%	2%
		NW	1%	2%	4%	2%
		SE	1%	2%	1%	7%
		SW	6%	3%	4%	5%
	Woody vegetation control for vision	NC	3%	3%	0%	0%
		NE	0%	2%	0%	0%
		NW	2%	0%	2%	0%
		SE	2%	3%	1%	3%
		SW	1%	2%	0%	0%
Traffic and safety (selected devices)	Centerline markings	NC	2%	1%	1%	7%
		NE	5%	2%	2%	3%
		NW	5%	5%	5%	8%
		SE	1%	3%	3%	13%
		SW	3%	3%	3%	6%
	Delineators	NC	12%	6%	15%	6%
		NE	18%	10%	15%	18%
		NW	29%	22%	12%	16%
		SE	26%	14%	41%	39%
		SW	20%	20%	34%	23%
	Edgeline markings	NC	6%	6%	6%	4%
		NE	5%	1%	1%	4%
		NW	8%	6%	6%	8%
		SE	0%	5%	5%	20%
		SW	6%	4%	4%	22%
	Detour/object marker/recreation/guide signs (emergency repair)	NC	1%	0%	0%	0%

		NE	0%	0%	0%	0%
		NW	3%	0%	1%	0%
		SE	1%	0%	1%	0%
		SW	2%	1%	0%	1%
	Detour/object marker/recreation/guide signs (routine replacement)	NC	61%	60%	51%	40%
		NE	60%	64%	65%	59%
		NW	52%	54%	55%	48%
		SE	48%	49%	51%	53%
		SW	56%	56%	54%	51%
	Protective barriers	NC	0%	1%	5%	4%
		NE	13%	12%	3%	8%
		NW	1%	2%	0%	4%
		SE	10%	3%	3%	3%
		SW	0%	8%	5%	2%
	Regulatory/warning signs (emergency repair)	NC	0%	0%	0%	0%
		NE	1%	1%	1%	0%
		NW	3%	1%	1%	2%
		SE	1%	2%	1%	2%
		SW	3%	1%	1%	1%
	Regulatory/warning signs (routine replacement)	NC	35%	25%	18%	18%
		NE	39%	39%	38%	36%
		NW	26%	19%	16%	14%
		SE	30%	28%	28%	28%
		SW	31%	21%	18%	19%
	Special pavement markings	NC	4%	23%	4%	0%
		NE	5%	4%	6%	5%
		NW	3%	11%	0%	12%
		SE	2%	6%	7%	17%
		SW	2%	5%	17%	8%

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	0	1	0	0
		0%	0%	0%	0%
	Mowed by Property Owner	205	342	104	1
		89%	97%	23%	50%
	Woody Vegetation Control	11	0	7	0
		5%	0%	2%	0%
	Maintenance Decision	59	89	449	1
		26%	25%	97%	50%
	Total	**230**	**351**	**461**	**2**

2009 Signs: Compass Report on Routine Replacement and Age Distribution

Data in this section comes from the Sign Inventory Management System (SIMS). This section covers only routine replacement, not emergency replacement of knocked-down signs and related work.

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. It is possible that a sign is installed one year or more after it is manufactured.

Regulatory and warning signs on Wisconsin's 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 2009:

- The backlog for routine replacement of regulatory and warning signs remained at the 2008 level of 23%. Among regions, the percentage of regulatory and warning signs backlogged for replacement varies widely, from a low of 14% in the Northwest Region to a high of 36% in the Northeast Region.
- The backlog for routine replacement of other signs (i.e. detour/object marker/recreation/ guide signs) decreased from 55% in 2008 to 51%. By region, the percentage of other signs backlogged for routine replacement varies from 40% in the North Central Region to 59% in the Northeast Region.
- Regulatory and warning signs are being used for an average 4.9 years beyond their recommended service lives. On average, other signs remain in service for 7.3 years beyond their recommended service life.
- There are 19,327 regulatory or warning signs and 43,709 other signs in service more than five years beyond their recommended service life. This represents 12% and 34% respectively of the state highway signs in each category.
- WisDOT is migrating from engineering grade sign face material (i.e. 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 60% in 2008 to 65%. Over 21,000 high intensity sings were added to the state system in the last year.

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[7]**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life[7]**
2005	160,185	41%	65,092	5.7	113,693	59%	67,449	6.0
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**

Regions 2009: Sign Condition

	Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
Region	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life[7]**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life[7]**
NC	28,531	18%	5,243	4.5	19,733	40%	7,843	7.0
NE	24,932	36%	8,939	6.8	23,959	59%	14,244	8.8
NW	33,400	14%	4,795	4.6	28,522	48%	13,786	6.3
SE	38,563	28%	10,807	5.3	27,203	53%	14,341	6.9
SW	41,315	19%	8,055	4.4	29,536	51%	15,136	8.2

[7] When comparing the 'Average years beyond service life column', please note that starting with the 2006 data the useful life standard for signs with high intensity face material changes from 10 years to 12 years. Useful life standard for engineer-grade signs remained at 7 years.

Regions 2009: Routine Replacement of Signs

	Regulatory/Warning/School Signs					Detour/object marker/recreation/guide Signs			
Region	**Total Signs**		**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**
NC	2005	26,164	45%	11,746	6.1	18,480	66%	12,177	6.6
	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
NE	2005	22,246	47%	10,346	5.4	20,367	62%	12,647	5.5
	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
NW	2005	36,737	37%	13,606	5.4	29,848	59%	17,541	5.2
	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
SE	2005	32,872	32%	10,533	4.9	21,077	50%	10,439	5.7
	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
	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
SW	2005	42,166	45%	18,861	6.3	23,921	61%	14,645	7.0
	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

Wisconsin and Regions 2009: Sign Face Material Distribution

Face		Region					Statewide	
Grade	**Type**	**NC**	**NE**	**NW**	**SE**	**SW**	**Total**	**Percentage**
1	Non-Reflective	7	83	336	105	108	639	0.2%
	Other or Varies	134	63	321	36	1,305	1,859	0.6%
	Reflective - Engineering Grade	12,560	23,423	17,960	23,408	22,225	99,576	33.8%
2	Type D - Diamond Grade	-	-	-	-	-	-	-
	Type F - Fluorescent	533	207	401	812	816	2,769	0.9%
	Type H - High Intensity	15,067	15,669	22,381	20,832	25,235	99,184	33.6%
	Type HP - Prismatic High Intensity	19,367	9,404	20,479	20,507	20,905	90,662	30.7%
	Type SH - Super High Intensity	46	2	26	66	140	280	0.1%
Total		47,714	48,851	61,904	65,766	70,734	294,969	100%

Wisconsin and Regions: Sign Face Material Trends

	2006		2007		2008		2009	
Region	**Engineering Grade**	**High Intensity**	**Engineering Grade**	**High Intensity**	**Engineering Grade**	**High Intensity**	**Engineering Grade**	**High Intensity**
NC	24,877	21,392	20,112	25,777	14,956	32,438	12,701	35,013
NE	25,942	17,095	25,225	18,438	23,466	21,047	23,569	25,282
NW	38,240	27,721	32,395	32,957	24,987	37,648	18,617	43,287
SE	34,430	27,783	31,927	31,804	27,789	36,937	23,549	42,217
SW	34,528	32,096	29,962	37,500	24,910	43,370	23,638	47,096
Statewide	158,017	126,087	139,621	146,476	116,108	171,440	102,074	192,895
	56%	**44%**	**49%**	**51%**	**40%**	**60%**	**35%**	**65%**

Wisconsin and Regions 2009: Sign Age Distribution

Regulatory/warning/school signs

	Years prior to the end of service life							Years beyond service life						
	6-10	**5**	**4**	**3**	**2**	**1**	**0**	**1**	**2**	**3**	**4**	**5-10**	**>10**	**Total**
NC	14903	3002	1403	859	864	1202	1055	880	615	517	768	2280	183	28531
	52%	11%	5%	3%	3%	4%	4%	3%	2%	2%	3%	8%	1%	100%
NE	9057	2467	1677	1015	647	651	479	838	815	1110	1008	3827	1341	24932
	36%	10%	7%	4%	3%	3%	2%	3%	3%	4%	4%	15%	5%	100%
NW	19834	3577	2287	907	625	911	464	533	549	735	774	1990	214	33400
	59%	11%	7%	3%	2%	3%	1%	2%	2%	2%	2%	6%	1%	100%
SE	19187	3134	2396	993	855	754	437	798	1536	1938	1055	4039	1441	38563
	50%	8%	6%	3%	2%	2%	1%	2%	4%	5%	3%	10%	4%	100%
SW	22767	3867	2179	1080	1034	1438	895	983	1061	1152	847	3225	787	41315
	55%	9%	5%	3%	3%	3%	2%	2%	3%	3%	2%	8%	2%	100%
State	85748	16047	9942	4854	4025	4956	3330	4032	4576	5452	4452	15361	3966	166741
	51%	10%	6%	3%	2%	3%	2%	2%	3%	3%	3%	9%	2%	100%

Detour/object marker/recreation/guide Signs

	Years prior to the end of service life							Years beyond service life						
	6-10	**5**	**4**	**3**	**2**	**1**	**0**	**1**	**2**	**3**	**4**	**5-10**	**>10**	**Total**
NC	8240	865	720	247	918	343	557	476	707	739	837	3945	1139	19733
	42%	4%	4%	1%	5%	2%	3%	2%	4%	4%	4%	20%	6%	100%
NE	5910	1278	735	479	600	221	492	727	1188	1020	792	7339	3178	23959
	25%	5%	3%	2%	3%	1%	2%	3%	5%	4%	3%	31%	13%	100%
NW	10656	1152	1123	267	913	345	280	529	1237	2060	1753	6507	1700	28522
	37%	4%	4%	1%	3%	1%	1%	2%	4%	7%	6%	23%	6%	100%
SE	7108	1542	938	1165	1211	326	572	937	1531	1493	1070	5575	3735	27203
	26%	6%	3%	4%	4%	1%	2%	3%	6%	5%	4%	20%	14%	100%
SW	9035	1400	1250	383	1196	575	561	948	1211	1485	901	5668	4923	29536
	31%	5%	4%	1%	4%	2%	2%	3%	4%	5%	3%	19%	17%	100%
State	40949	6237	4766	2541	4838	1810	2462	3617	5874	6797	5353	29034	14675	128953
	32%	5%	4%	2%	4%	1%	2%	3%	5%	5%	4%	23%	11%	100%

2009 Winter: Compass Report on Winter Operations

This section of the report looks at winter operations on state highways from November 1, 2008 to April 30, 2009.

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.

The Winter Severity Index (WSI) is a tool WisDOT uses to analyze individual storms and the winter as a whole. It facilitates comparisons from one winter to the next and from county to county within the same season. The average WSI in 2008-09 was 36.2 versus 37.2 in the previous year.

Coming off of the record-setting winter of 2007-08, the 2008-09 winter was also one of the snowiest on record. Winter Severity Index this year is recorded at 36.2, only one point less than last year and more than four points more severe than any of the previous four years. Additionally, the counties again faced challenges in dealing with rising salt costs and a continued nationwide salt shortage that led to two Wisconsin counties not receiving any salt directly from vendors.

Statewide measures for winter

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Time to bare/wet pavement	**2 hours 38 minutes** after the storm ended	**2 hours 4 minutes** after the storm ended	**1 hour 55 minutes** after the storm ended	**1 hour 28 minutes** after the storm ended	**3 hour 16 minutes** after the storm ended	**2 hour 32 minutes** after the storm ended
Cost per lane mile	**$1,279**	**$1,374**	**$1,386**	**$1,549**	**$2,591**	**$2,365**
Winter severity index	**31.2**	**31.9**	**31.8**	**28.4**	**37.2**	**36.2**
Winter related crash	**26 per 100 million** vehicle miles traveled	**25 per 100 million** vehicle miles traveled	**24 per 100 million** vehicle miles traveled	**23 per 100 million** vehicle miles traveled	**43 per 100 million** vehicle miles traveled	**40 per 100 million** vehicle miles traveled

Key Observations:

- The winter of 2008-09 can be divided into two distinct narratives. December and the first half of January brought what seemed like a continuation of the previous winter's record snowy conditions. But beginning in mid-January, the weather turned fairly benign. March brought warming and little snowfall across most of the state, easing salt shortage concerns. There were occasional snowfalls, but the heaviest events stayed well north and west of the state.
- Snowfall varied quite a bit across the state this winter (see Figure 1). The highest snowfall recorded was in Iron County, at 215 inches; the lowest was in Eau Claire County, at 58 inches. This range was similar to last year's range of 56 to 217 inches. Statewide, this

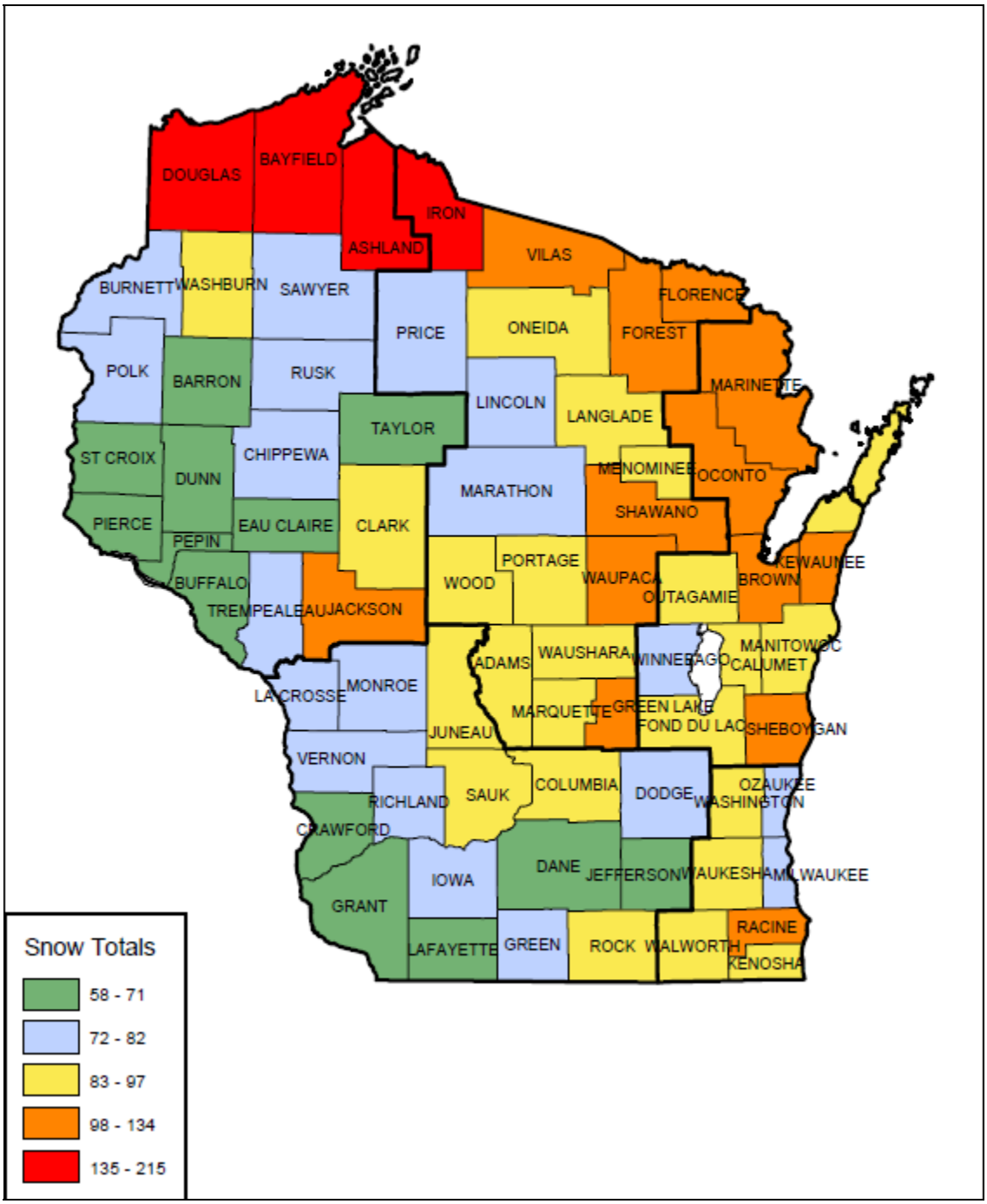
winter's total snowfall ranged from near average in the northwest to above average in the southeast. On average, temperatures were below normal statewide this winter.

- The average time to bare/wet pavement during winter 2008-09 was 2 hours and 32 minutes, which is 44 minutes less than the previous winter. From storm to storm, most of the variability in this time is due to weather effects (type, duration and severity of storms throughout the winter season).
- This year's total salt use was about average relative to the severity index. Last year's salt use was higher than average relative to the severity index, which may have been partly due to timing of storms (multiple storms in quick succession) as well as extended bouts of lower temperatures.
- A total of 44,179 cubic yards of sand was used on state highways this winter, compared to 80,133 cubic yards last year. While this amount is significantly lower, it is still unusually high compared to only 13,636 cubic yards the year before. This total was due in large part to the salt shortages mentioned above, as many counties mixed their salt with sands in order to stretch their salt supplies to cover more storms.

2008-2009 Winter season snowfall for Wisconsin

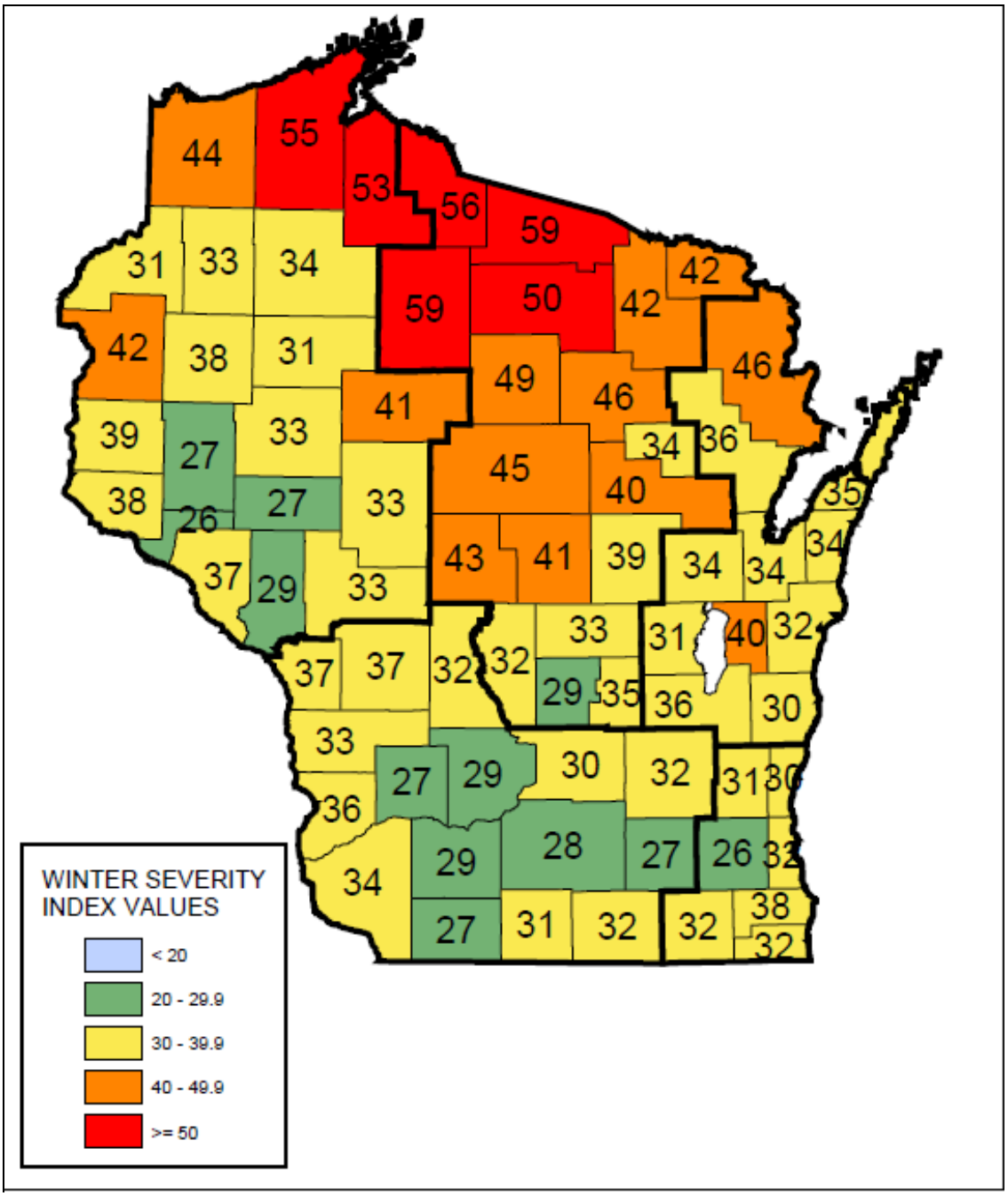
Note: The below map is in color. If you are not viewing a color copy, please contact the Compass Program Manager at the Bureau of Highway Operations for a color version to be mailed or emailed to you.

The National Weather Service (NWS) map below shows the snowfall for Wisconsin during the period July 1, 2008 to June 30, 2009.



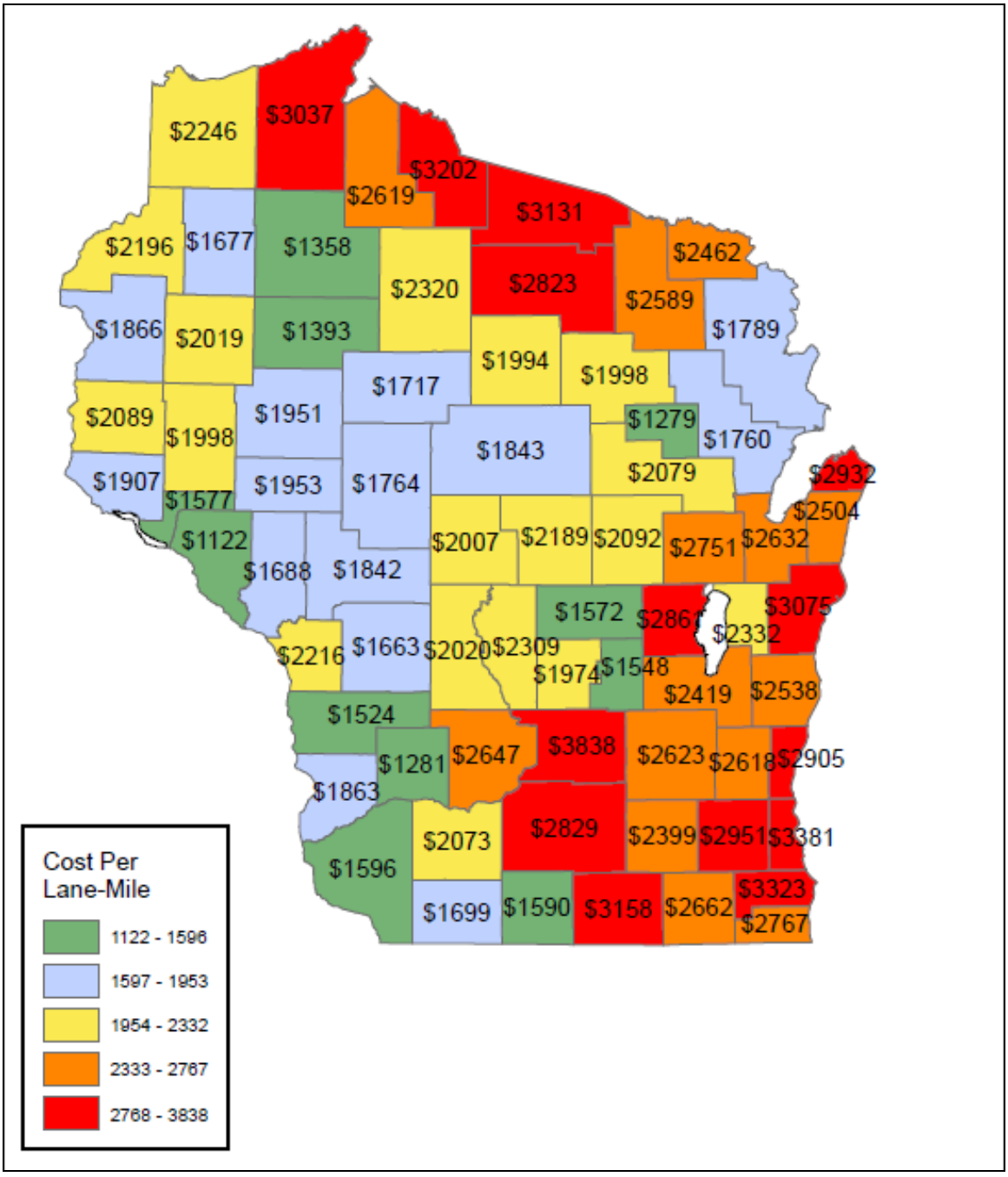
2008-2009 Wisconsin Winter Severity Index

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 2008-2009 was 36.2. The average for the previous ten-years (winter 1998-1999 to winter 2007-2008) is 31.4.



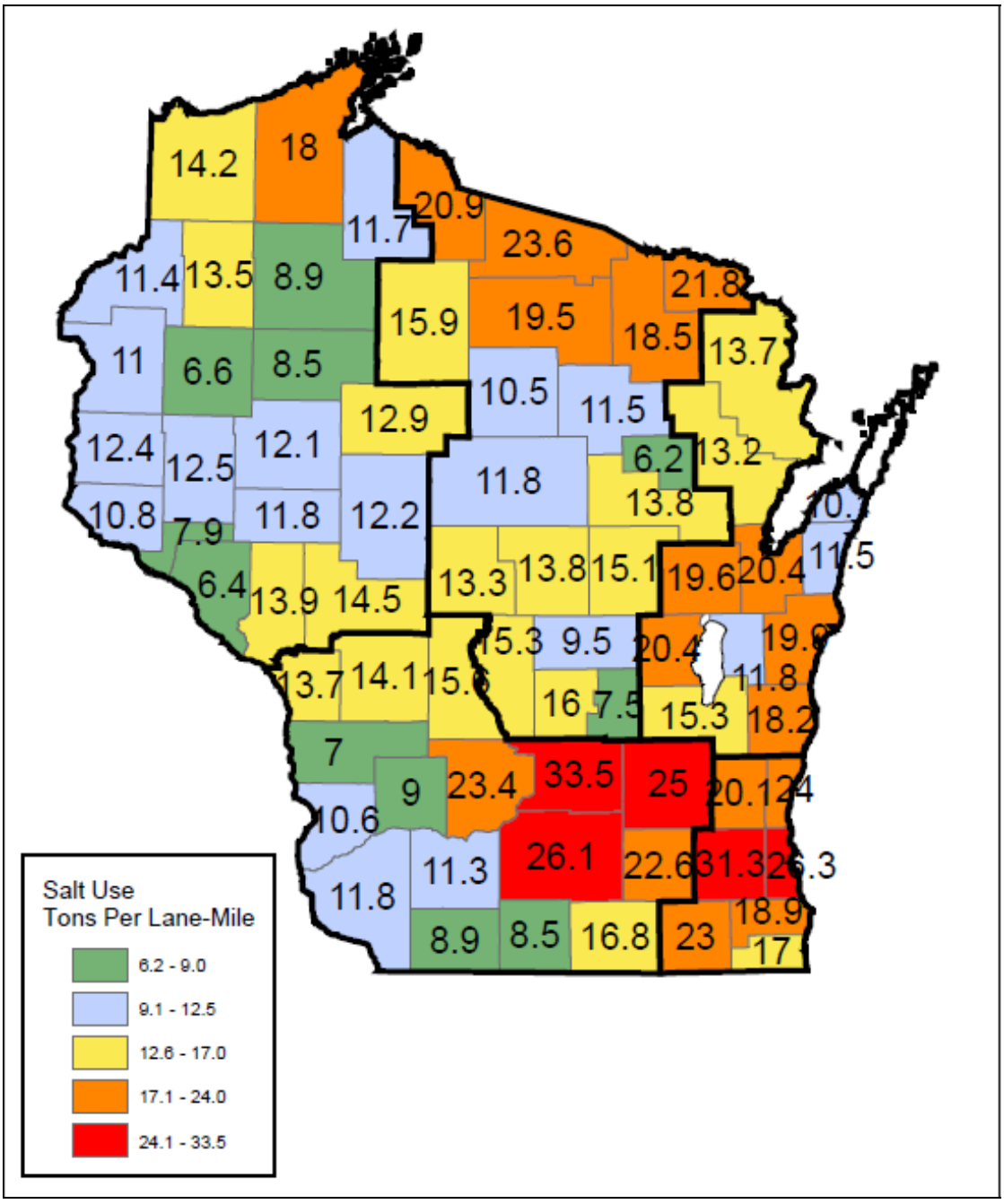
2008-2009 Wisconsin Winter Cost per Lane Mile

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.



2008-2009 Wisconsin Winter Salt Use per Lane Mile

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.



Winter by the numbers

		2004-05	2005-06	2006-07	2007-08	2008-09
Infrastructure	Lane miles	31,810 miles	33,022 miles	33,221 miles	33,297 miles	33,531 miles
	Road Weather Information System (RWIS) stations	59	59	58	59	58
Material usage[4]	Salt	407,924 tons 12.8 tons per lane mile	426,723 tons 12.9 tons per lane mile	405,793 tons 12.2 tons per lane mile	644,485 tons 19.4 tons per lane mile	569,985 tons 17.0 tons per lane mile
	Average cost of salt	$31.42 per ton	$35.25 per ton	$39.04 per ton	$41.69 per ton	$47.19 per ton
	Pre-wetting liquid used	638,685 gal.	803,131 gal.	745,919 gal.	1,293,655 gal.	1,321,290 gal.
	Anti-icing agent	272,856 gal.	435,277 gal.	485, 485 gal.	331,179 gal.	500,673 gal.
	Sand	15,843 cu. yd.	15,997 cu. yd.	13,636 cu. yd.	80,133 cu. yd.	44,179 cu. yd.
Services	Regular county hours on winter[8]	110,390 hrs.	110,354 hrs.	112,087 hrs.	178,682 hrs.	148,655 hrs.
	Overtime county hours on winter	123,300 hrs.	112,522 hrs.	120,603 hrs.	199,835 hrs.	176,636 hrs.
	Public service announcements aired	6,382 total 5,735 radio; 647 TV	6,989 total 6,353 radio; 636 TV	5,545 total 4,966 radio; 579 TV	6,786 total 6,109 radio; 677 TV	5,948 total 5,340 radio; 608 TV
	Cost of public service announcements	$31,500	$31,500	$35,000	$35,000 ($301,463 market value)	$46,500 ($288,895 market value)
Management and Technology	Patrol sections	719	733	768	768	762
	Average patrol section length	44.24 miles	45.05 miles	43.00 miles	43.36 miles	45.54 miles
	Salt spreaders equipped with on-board pre-wetting unit[9]	639 of 2647 (24%)	639 of 2647 (24%)	658 of 2586 (25%)	N/A	N/A
	Counties with salt spreaders equipped with on-board pre-wetting unit	59 of 72 (82%)	59 of 72 (82%)	56 of 72 (78%)	52 of 72 (72%)	55 of 72 (76%)
	Salt spreaders equipped with ground-speed controller unit	1316 of 2647 (50%)	1316 of 2647 (50%)	1332of 2586 (52%)	N/A	N/A
	Counties with salt spreaders equipped with ground-speed controller unit	69 of 72 (96%)	69 of 72 (96%)	65 of 72 (90%)	67 of 72 (93%)	67 of 72 (93%)
	Underbody plows	508	508	507	565	572

[8] Costs and hours come from county storm reports, and reflect sanding, salting, plowing and anti-icing efforts.
[9] County equipment may be used on either state or county roads.
[4] All material usage quantities are from the county storm reports except for salt. The salt quantities are from the Salt Inventory Reporting System.

		2004-05	2005-06	2006-07	2007-08	2008-09
	Counties with underbody plows	51 of 72 (71%)	51 of 72 (71%)	51 of 72 (71%)	55 of 72 (76%)	55 of 72 (76%)
	Counties equipped to use anti-icing agents	65 of 72 (90%)	65 of 72 (90%)	65 of 72 (90%)	65 of 72 (90%)	65 of 72 (90%)
	Counties that used anti-icing agents during 2007-08 winter season	56 of 72 (78%)	50 of 72 (69%)	56 of 72 (78%)	52 of 72 (72%)	54 of 72 (75%)

Compass winter operations measures

Time to bare/wet pavement

The counties, under contract to WisDOT, provide different levels of effort during and after a storm depending on how busy and how critical a given category of highway is. State highways fall into five such categories, with category 1 being the highest priority. It is expected that an urban freeway (category 1) receives more materials, labor and equipment – and consequently experiences shorter time to bare/wet pavement – than a rural two-lane highway (category 5).

The following table shows the average time to bare/wet pavement after storms end for each of the highway categories. In general, it is expected that the more critical the highway the shorter the average time to bare/wet pavement. This is true this year with the exception of highways in category 2 having the shortest time to bare/wet pavement.

Time to bare/wet pavement is measured from the reported end time of a storm. 'Bare/wet never achieved' means that it took more than 24 hours to achieve bare/wet condition, or the next storm began before the bare/wet condition was achieved. Less critical highways are more likely to have snow on them 24 hours after a storm has ended than are more critical highways. This suggests that major urban freeways and highways are receiving a higher level of effort for winter operations than secondary roads.

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 category		**Average time to bare/wet pavement** (hours after end of storm)*					
		2003 - 04	2004 - 05	2005 - 06	2006 - 07	2007 - 08	2008-09
More critical highways	1	1.07	0.45	-1.21	-2.50	2.20	1.35
↓	2	1.31	0.64	0.2	-0.55	0.76	1.01
	3	1.52	1.82	1.32	1.57	3.14	2.40
Less critical highways	4	2.45	3.06	2.47	2.70	4.01	3.06
	5	3.63	2.89	3.4	2.73	4.84	3.74

* Only includes storms where bare/wet pavement was achieved

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 $2,365 with average severity index of 36.2. Total costs include material, labor, equipment, and administrative costs.

Region	Average WSI				Cost/LM				Relative cost per WSI point			
	2005-06	2006-07	2007-08	**2008 - 09**	2005-06	2006-07	2007-08	**2008 - 09**	2005-06	2006-07	2007-08	**2008 - 09**
NC	40.2	32.4	41.2	43.0	$1,612	$1,509	$2,373	$2,183	$40	$47	$58	$51
NE	32.5	26.7	37.5	35.2	$1,396	$1,492	$2,618	$2,526	$43	$56	$70	$72
NW	32.6	28.7	35.7	36.2	$1,309	$1,288	$1,914	$1,918	$40	$45	$54	$53
SE	20.3	24.2	35.6	31.6	$1,431	$2,138	$3,233	$3,042	$70	$88	$91	$96
SW	25.9	26.7	35.1	31.2	$1,199	$1,467	$2,909	$2,366	$46	$55	$83	$76
Statewide	31.8	28.4	37.2	36.2	$1,386	$1,549	$2,591	$2,365	$44	$55	$70	$65

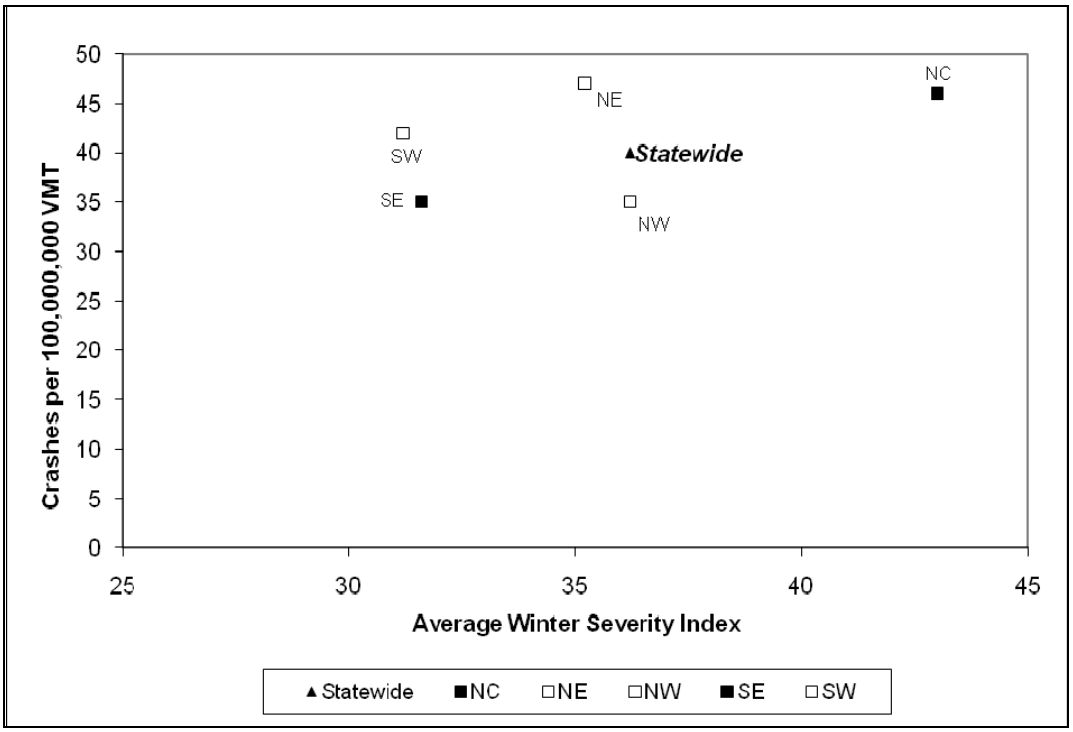
Winter weather crashes per vehicle miles traveled (VMT)

The following table shows the four-year trend of crashes per 100 million VMT statewide and in each Region. The state average is 40 winter crashes per 100 million VMT. In 2008-09 the NE region has the largest number of crashes per VMT at 47 winter crashes per 100 million VMT.

Scope	VMT* (100 million)	Crashes	Crashes per 100 million VMT				Average Winter Severity Index			
			2005 - 06	**2006 - 07**	**2007 - 08**	**2008 - 09**	**2005 – 06**	**2006-07**	**2007 - 08**	**2008 - 09**
NC	33.97	1,387	31	25	41	46	40.16	32.41	41.24	43.0
NE	50.20	2,165	24	21	43	47	32.48	26.67	37.53	35.2
NW	39.45	1,379	28	20	35	35	32.61	28.69	35.65	36.2
SE	86.14	3,166	17	21	37	35	20.32	24.19	35.57	31.6
SW	69.55	3,963	27	27	57	42	25.93	26.66	35.07	31.2
Statewide	279.31	12,060	24	23	43	40	31.80	28.42	37.20	36.2

*100 million vehicle miles traveled (VMT) for November 1, 2007 though April 30, 2008 determined from annual average daily traffic (AADT) counts, gallons of gas sold, fuel tax collected, and average vehicle miles per gallon.

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.



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, 2008 to June 30, 2009.

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	County Name
A	Brown, Dane, Eau Claire, Kenosha, La Crosse, Marathon, Milwaukee, Ozaukee, Portage, Racine, Waukesha, Winnebago
B	Chippewa, Columbia, Dodge, Dunn, Jefferson, Manitowoc, Marquette, Oneida, Outagamie, Rock, Sauk, Shawano, Sheboygan, St. Croix, Walworth, Washington, Waushara
C	Calumet, Clark, Crawford, Door, Douglas, Fond Du Lac, Grant, Iowa, Jackson, Juneau, Kewaunee, Lafayette, Lincoln, Monroe, Oconto, Trempealeau, Vernon, Vilas, Washburn, Waupaca, Wood
D	Adams, Ashland, Barron, Bayfield, Buffalo, Burnett, Florence, Forest, Green, Green Lake, Iron, Langlade, Marinette, Menominee, Pepin, Pierce, Polk, Price, Richland, Rusk, Sawyer, Taylor

Passable roadway expectation categories

Category	Definition	Lane miles	% of total
1	Major urban freeways and most highways with six lanes and greater	2,863	9%
2	High volume four-lane highways (ADT $\geq$ 25,000) and some four-lane highways (ADT < 25,000), and some 6-lane highways.	3,199	10%
3	All other four-lane highways (ADT < 25,000)	8,202	25%
4	Most high volume two-lane highways (ADT $\geq$ 5,000) and some 2-lanes (ADT <5000)	4,933	15%
5	All other two-lane highways	14,100	42%

2009 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 one week from May 3rd to May 7th, 2010.

Key observations:

Bridge Deck Condition Distribution

- 31% of decks statewide are in Fair condition and need reactive maintenance, based on their NBI ratings of 5 or 6. These include 26% of concrete bridges and 42% of steel bridges.
- The NW region has the lowest percent of decks in good condition, only 51% of decks in good condition. The SE region however has the highest percentage of decks in poor condition at 4%. The SE region does have the largest deck area to maintain (14,902,482 ft^2).
- The NE region (874 bridges) has the best bridge ratings in the state with 81% 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:
  - Expansion Joints – Clean
  - Decks - Seal Surface Cracks
  - Expansion Joints – Seal
  - Miscellaneous - Cut Brush
  - Approaches - Seal Approach to Paving Block
  - Decks – Clean and Sweep Deck/Drains
  - Drainage - Repair Washouts / Erosion

Bridge Special Inspection Backlog

- Backlog for bridge inspection is calculated based on the mandatory inspection frequency for each inspection type. Bridges without a 'Last Inspection Date' are reported in HSI as 'Unknown' and are regarded as non-compliant (backlogged) for this report. All bridges require initial and biennial routine inspections. Initial inspections are the most up to date with 1% of backlogs statewide, while routine inspections and Underwater – Diving inspections is the next lowest with only 4% backlog.
- Seventeen bridges need Load Posting inspections (61% backlog), while the backlog for Underwater Probe/visual inspections is 31% (544 bridges still needs this inspection).

Wisconsin 2009: Bridge Condition Distribution

	Bridges	Deck Area (ft^2)	Component	% of bridges in condition			
				Good[1]	Fair[2]	Poor[3]	Critical[3]
All	5,118	50,627,843	Decks	66%	31%	3%	0%
			Superstructures	71%	28%	1%	0%
			Substructures	71%	28%	1%	0%
Concrete	3,558	28,048,397	Decks	72%	26%	2%	0%
			Superstructures	79%	20%	1%	0%
			Substructures	80%	20%	0%	0%
Steel	1,560	22,579,446	Decks	54%	42%	4%	0%
			Superstructures	54%	44%	2%	0%
			Substructures	52%	46%	2%	0%

Region 2009: Bridge Condition Distribution

Region	Bridges	Deck Area (ft^2)	Component	% of bridges in condition			
				Good[1]	Fair[2]	Poor[3]	Critical[3]
NC	654	5,048,496	Decks	75%	22%	3%	0%
			Superstructures	83%	16%	1%	0%
			Substructures	80%	18%	2%	0%
NE	870	9,141,793	Decks	81%	19%	0%	0%
			Superstructures	81%	19%	0%	0%
			Substructures	78%	22%	0%	0%
NW	1,072	9,501,910	Decks	51%	47%	2%	0%
			Superstructures	65%	33%	2%	0%
			Substructures	69%	29%	2%	0%
SE	1,052	14,902,482	Decks	55%	41%	4%	0%
			Superstructures	54%	45%	1%	0%
			Substructures	54%	45%	1%	0%
SW	1,470	12,033,162	Decks	73%	24%	3%	0%
			Superstructures	75%	23%	2%	0%
			Substructures	76%	23%	1%	0%

[1]Good: Bridges with NBI rating 7-9 should receive Preventive Maintenance
[2]Fair: Bridges with NBI 5-6 should receive Reactive Maintenance. These bridges are considered backlogged for maintenance
[3]Poor and Critical: Bridges with NBI 0-4 should receive Rehabilitation or Replacement.

Wisconsin and Regions 2009: Bridge Condition

Region	Year	Percent of Bridges Feature in Fair condition			Number of state-maintained bridges	Dollar spent on bridges (in millions)
		Decks	Superstructures	Substructures		
NC	**2006**	19%	14%	17%	**604**	
	2007	21%	15%	17%	**620**	
	2008	21%	17%	18%	**637**	
	2009	22%	16%	18%	**654**	
NE	**2006**	23%	15%	27%	**771**	
	2007	21%	17%	25%	**837**	
	2008	19%	18%	24%	**859**	
	2009	19%	19%	22%	**870**	
NW	**2006**	44%	35%	34%	**1040**	
	2007	47%	32%	31%	**1067**	
	2008	45%	31%	29%	**1067**	
	2009	47%	33%	29%	**1072**	
SE	**2006**	51%	52%	51%	**1034**	
	2007	48%	50%	50%	**1023**	
	2008	45%	47%	47%	**1055**	
	2009	41%	45%	45%	**1052**	
SW	**2006**	24%	20%	16%	**1451**	
	2007	24%	22%	18%	**1462**	
	2008	24%	23%	22%	**1466**	
	2009	24%	23%	23%	**1470**	
Statewide	**2006**	33%	29%	29%	**4900**	**$10.50**
	2007	33%	28%	29%	**5007**	**$11.40**
	2008	32%	28%	29%	**5084**	**$11.78**
	2009	31%	28%	28%	**5118**	**$11.87**

Wisconsin and Regions: Trend of Bridge Maintenance Needs

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	**2006**	24%	144	8%	48	2%	12	1%	4	10%	61	1%	8	2%	14
	2007	39%	241	11%	66	4%	24	1%	5	12%	75	2%	11	3%	17
	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
NE	**2006**	13%	102	22%	167	2%	18	2%	15	6%	48	7%	56	1%	5
	2007	18%	150	25%	209	4%	32	4%	37	9%	78	9%	78	1%	11
	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
NW	**2006**	8%	78	1%	11	8%	85	17%	175	4%	37	5%	50	3%	31
	2007	7%	77	2%	24	5%	57	16%	174	4%	37	4%	45	2%	25
	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
SE	**2006**	12%	122	15%	150	13%	138	6%	63	8%	87	11%	112	11%	109
	2007	14%	140	18%	181	17%	174	9%	89	9%	96	12%	121	12%	126
	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
SW	**2006**	8%	114	3%	39	5%	68	5%	74	2%	33	3%	46	4%	65
	2007	13%	188	4%	51	12%	174	10%	146	4%	65	6%	83	7%	95
	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
statewide	**2006**	11%	560	8%	415	7%	321	7%	331	5%	266	6%	272	5%	224
	2007	16%	796	11%	531	9%	461	9%	451	7%	351	7%	338	5%	274
	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

Wisconsin and Regions 2009: Bridge Special Inspection Backlog

Inspection backlogs are shown as 'percent of bridges in the county/region/state requiring this type of inspection'. Shown under the percentages are the numbers of bridges backlogged for that inspection type in the county/region/state. Data was extracted from WisDOT's Highway Structures Information System on-line reports.

The special inspection types have a mandatory inspection frequency. The inspection frequencies for each special inspection are as follows:

- Initial: After construction and major rehabilitations, or 48 months
- Routine: 24 months
- Load Posted: 12 months
- In-depth: 72 months
- Fracture Critical: 24 months
- Underwater Diving: 60 months
- Underwater Probe/Visual: 24 months

	Special Inspection Type % of bridges backlogged for inspection type # of bridges backlogged for inspection						
Region	Initial	Routine	Load Posted	In-depth	Fracture Critical	Underwater Diving	Underwater Probe/Visual
NC	2%	1%	--	5%	11%	2%	15%
	2	7	--	2	1	1	56
NE	0%	1%	--	8%	16%	0%	35%
	0	6	--	1	5	0	98
NW	0%	6%	100%	56%	31%	13%	24%
	0	67	2	9	5	12	128
SE	1%	8%	0%	8%	40%	11%	25%
	2	79	0	7	4	1	56
SW	2%	3%	88%	38%	0%	1%	62%
	3	37	15	8	0	1	206
Statewide	1%	4%	61%	15%	15%	4%	31%
	7	196	17	27	15	15	544

Appendices

A. **Program Contributors**
B. **Feature Thresholds and Grade Ranges**
C. **Feature Contribution Categories**
D. **2008 Maintenance Targets**
E. **2008 Compass Rating Sheet**
F. **County Data:**
    1. **Field Review: Traffic, Shoulders, Drainage and Roadside**
    2. **Signs (routine replacement needs)**
    3. **Bridge Maintenance Needs**

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B. 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
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)	4%	9%	18%	30%	>30%
	Delineators	Missing OR not visible at posted speed OR damaged (by delineator)	5%	12%	23%	40%	>40%
	Detour/object marker/recreation/guide signs (emergency repair)	Missing OR not visible at posted speed (by sign)	4%	9%	18%	30%	>30%
	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)	4%	9%	18%	30%	>30%
	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)	5%	12%	23%	40%	>40%
	Special pavement markings	Missing OR not functioning as intended (by marking)	5%	12%	23%	40%	>40%
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)	7%	18%	35%	60%	>60%
	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)	6%	15%	29%	50%	>50%
	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)	7%	18%	35%	60%	>60%
	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)	7%	18%	35%	60%	>60%
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)	7%	18%	35%	60%	>60%

Element	Feature	Threshold	Ranges for System Grades *Grade determined by percent backlogged* shown: top of range				
			A	B	C	D	F
	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)	9%	22%	41%	70%	>70%
	Ditches	Ditch with greater than minimal erosion of ditch line OR obstructions to flow of water requiring action (by linear feet of ditch)	7%	18%	35%	60%	>60%
	Flumes	Not functioning as intended OR deteriorated to the point that they are causing erosion (by flume)	7%	18%	35%	60%	>60%
	Storm sewer system	Inlets, catch basins, and outlet pipes with >=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)	7%	18%	35%	60%	>60%
	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)	9%	22%	41%	70%	>70%
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%
	Noxious weeds	Any visible clumps (by mile)	7%	18%	35%	60%	>60%
	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%

C. Feature Contribution Categories

		This Feature Contributes Primarily To:				
Element	**Feature**	**Critical Safety**	**Safety/ Mobility**	**Ride/ Comfort**	**Stewardship**	**Aesthetics**
Asphalt Traveled Way	Alligator Cracking				✓	
	Block Cracking				✓	
	Edge Raveling				✓	
	Flushing				✓	
	Longitudinal Cracking				✓	
	Longitudinal Distortion			✓		
	Patch Deterioration			✓		
	Rutting	✓				
	Surface Raveling			✓		
	Transverse Cracking				✓	
	Transverse Distortion			✓		
Concrete Traveled Way	Distressed Joints/Cracks			✓		
	Longitudinal Joint Distress			✓		
	Patch Deterioration			✓		
	Slab Breakup			✓		
	Surface Distress				✓	
	Transverse Faulting			✓		

		This Feature Contributes Primarily To:				
Element	**Feature**	**Critical Safety**	**Safety/ Mobility**	**Ride/ Comfort**	**Stewardship**	**Aesthetics**
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		✓			
Shoulders	Hazardous Debris	✓				
	Cracking (paved)				✓	
	Drop-off/Build-up (paved)	✓				
	Potholes/Raveling (paved)			✓		
	Cross-Slope (unpaved)			✓		
	Drop-off/Build-up (unpaved)	✓				
	Erosion (unpaved)				✓	

		This Feature Contributes Primarily To:				
Element	**Feature**	**Critical Safety**	**Safety/ Mobility**	**Ride/ Comfort**	**Stewardship**	**Aesthetics**
Drainage	Culverts				✓	
	Curb & Gutter				✓	
	Ditches				✓	
	Flumes				✓	
	Storm Sewer System				✓	
	Under-drains/Edge-drains				✓	
Roadside	Fences		✓			
	Litter					✓
	Mowing		✓			
	Mowing for Vision		✓			
	Noxious Weeds				✓	
	Woody Vegetation		✓			
	Woody Veg. Control for Vision		✓			

Category Definitions:

Critical safety: Critical safety features that would necessitate immediate action – with overtime pay if necessary - 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 or decorative structures, located along a highway corridor. Also, the absence of things like litter and graffiti, that detract from the sightlines of the road.

WisDOT Highway Operations
2009
Target Service Levels

September 17, 2008

Issued by
David Vieth, Director of the Bureau of Highway Operations

Attached are the 2009 target service levels for highway operations. Highway operations managers expect these targets to provide guidance to central office and regional highway operations staff in selecting activities and expending resources. The 2009 targets will help structure the process for developing 2009 Routine Maintenance Agreements.

Targets are the conditions expected on state highways at the end of the summer maintenance season. They were selected by highway operations managers in the regions and BHO 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 operations needs, we would expect to see features at or close to 0%. The following chart provides historical service levels statewide and by region for 2007. Please remember that targets have not yet been set for a portion of highway operations expenditures including winter operations, certain traffic devices and electrical operations.

Targets do not necessarily reflect an optimal maintenance condition for the highways, but instead reflect organizational priorities, existing highway conditions, and dollars available. It is assumed that all highway operations staff is doing the best job possible, given constrained resources. These organizational priorities include:

- Focusing our resources on keeping the system safe and operating from day to day. Highway operations will:
    - Decrease the amount of hazardous debris on shoulders.
    - Decrease drop-off on unpaved shoulders.
    - Continue the routine replacement of regulatory and warning signs.
- Expending far fewer resources based on limited funding.
    - Activities that address pavement cracking, noxious weeds and fence maintenance will be done infrequently, and primarily to address safety concerns. Litter removal and mowing will be reduced over time and will also have a safety focus.
    - 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 due to reduced funding.
- Leveraging improvements that can decrease the maintenance workload.
    - Now and going forward, operations managers will step up their work with the improvement program to decrease pavement rutting and to improve culverts.

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

D. 2009 Highway Operations Targets

Element	Feature	2005 Target Percent Backlogged and Feature Grade - Statewide	2006 Target Percent Backlogged and Feature Grade - Statewide	2007 Target Percent Backlogged and Feature Grade - Statewide	2004 Actual Percent Backlogged and Feature Grade - Statewide	2005 Actual Percent Backlogged and Feature Grade - Statewide	2006 Actual Percent Backlogged and Feature Grade - Statewide*	2008 Target Percent Backlogged and Feature Grade - Statewide	2009 Target Percent Backlogged and Feature Grade - Statewide
Asphalt Traveled Way	Alligator Cracking	5=A	5=A	5=A	1=A	1=A	2=A	5=A	5=A
	Block Cracking	5=A	5=A	5=A	3=A	3=A	2=A	5=A	5=A
	Edge Raveling	15=B	18=B	20=C	15=B	15=B	17=B	20=C	20=C
	Flushing	1=A	1=A	1=A	0=A	0=A	0=A	1=A	1=A
	Longitudinal Cracking	25=C	28=C	30=C	26=C	26=C	62=F	30=C	65=F
	Longitudinal Distortion	1=A	1=A	1=A	0=A	0=A	0=A	1=A	1=A
	Patch Deterioration	10=B	10=B	10=B	9=B	9=B	7=B	10=B	10=B
	Rutting	15=D	13=D	10=D	9=C	9=C	7=B	7=B	7=C
	Surface Raveling	2=A	2=A	2=A	1=A	1=A	0=A	2=A	2=A
	Transverse Cracking	25=C	28=C	30=C	24=C	24=C	62=F	30=C	67=F
	Transverse Distortion	5=A	5=A	5=A	1=A	1=A	0=A	5=A	5=A
Concrete Traveled Way	Distressed Joints/Cracks	43=D	43=D	43=D	34=D	33=D	18=C	43=D	43=D
	Longitudinal Joint Distress	27=C	27=C	27=C	21=C	21=C	0=A	27=C	27=C
	Patch Deterioration	30=D	30=D	30=D	28=C	28=C	18=C	30=D	30=D
	Slab Breakup	45=D	45=D	45=D	45=D	44=D	29=C	45=D	45=D
	Surface Distress	25=C	25=C	25=C	20=C	20=C	8=B	25=C	25=C

	Transverse Faulting	75=F	75=F	75=F	74=F	74=F	61=F	75=F	88=F
Traffic and Safety	Centerline Markings	5=B	5=B	6=C	5=B	5=B	4=B	5=B	5=B
	Delineators	15=C	25=D	25=D	21=C	24=D	21=C	25=D	25=D
	Edgeline Markings	6=B	6=B	7=B	7=B	5=B	6=B	6=B	8=C
	Detour/object marker/recreation/guide signs (emerg. repair)	1=A	1=A	1=A	0=A	1=A	1=A	1=A	1=A
	Detour/object marker/recreation/guide signs (routine repair)	50=D	65=F	70=F	46=D	59=D	55=D	70=F	70=F
	Protective Barriers	3=A	3=A	3=A	3=A	4=A	4=A	3=A	3=A
	Reg./Warning Signs (emerg.)	0=A	0=A	0=A	1=A	1=A	1=A	0=A	0=A
	Reg./Warning Signs (routine)	40=D	35=D	30=D	36=D	41=F	31=D	25=D	25=D
	Special Pavement Markings	25=D	25=D	25=D	13=C	5=A	3=A	25=D	25=D
Shoulders	Hazardous Debris	6=C	6=C	6=C	13=D	12=D	13=D	6=C	6=C
	Drop-off/Build-up (paved)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	N/A
	Cracking (paved)	60=D	60=D	60=D	51=D	52=D	50=D	60=D	60=D
	Potholes/Raveling (paved)	10=B	10=B	10=B	5=A	7=B	5=A	10=B	10=B
	Cross-Slope (unpaved)	20=C	20=C	20=C	15=B	14=B	25=C	20=C	20=C
	Drop-off/Build-up (unpaved)	35=F	30=D	25=D	37=F	36=F	40=F	20=D	20=F
	Erosion (unpaved)	5=A	5=A	5=A	3=A	3=A	3=A	5=A	5=A

Drainage	Culverts	15=B	15=B	15=B	17=B	18=B	15=B	15=B	20=C
	Curb & Gutter	8=A	10=B	10=B	6=A	7=A	8=A	10=B	10=B
	Ditches	2=A	2=A	2=A	2=A	2=A	3=A	5=A	5=A
	Flumes	30=C	30=C	30=C	32=C	19=C	27=C	30=C	30=C
	Storm Sewer System	10=B	10=B	10=B	9=B	9=B	9=B	10=B	15=B
	Under-drains/Edge-drains	20=B	25=C	25=C	14=B	20=B	13=B	25=C	25=C
Roadside	Fences	14=C	14=C	14=C	4=A	2=A	3=A	14=C	14=C
	Litter	75=D	75=D	75=D	70=D	62=D	64=D	75=D	75=D
	Mowing	40=C	40=C	40=C	40=C	35=C	39=C	40=C	40=C
	Mowing for Vision	5=B	5=B	5=B	26=D	--	2=A	5=B	5=B
	Noxious Weeds	50=D	50=D	50=D	30=C	29=C	34=C	61=F	61=F
	Woody Vegetation	5=B	5=B	5=B	4=A	3=A	3=A	5=B	5=B
	Woody Veg. Control for Vision	5=B	3=A	3=A	1=A	1=A	1=A	3=A	3=A

E. 2009 Compass Rating Sheet

2009 Compass Rating Sheet
Wisconsin Department of Transportation

Date Survey Taken:
Start Time:
Stop Time:
Reviewed by:

«My Segment», «MyRoute», «MyCounty», «MyDistrict»
Directions: «PrimaryDir»
Alternate Directions: «AltDir»

If a segment is discarded for one of the reasons below, please check the appropriate box and add the next highest numbered "spare" segment for a similar roadway (divided or undivided) to your list of segments to be rated. Please enter the reject reason in the database.

☐ A piece or all of the segment falls on a bridge.
☐ A piece or all of the segment is currently under construction.
☐ We believe it would be unsafe to rate this segment.
☐ We cannot locate this segment.
☐ An organization other than WisDOT is responsible for the maintenance of ANY of the four elements within this section.

Shoulders	Standard	Value	Comments
Hazardous Debris (S-1)	Number of items large enough to cause a safety hazard		
Paved Shoulder	☐None (If none, skip to Unpaved Shoulder)		
Drop off/ build-up (S-2)	Linear ft. of paved-to-paved drop-off/build-up greater than 1.5"		
Cracking (S-3)	Linear ft. of unsealed cracks greater than ¼" (up to 150' on undivided or 300' on divided hwy)		
Potholes/ Raveling (S-4)	Total sq. ft. of BOTH potholes AND raveling greater than 1 ft² x 1" deep		
Unpaved Shoulder	☐ None (If none, skip to Drainage) Width_____		
Drop off/ build-up (S-5)	Linear ft. of paved-to-unpaved drop-off/build-up greater than 1.5"		
Cross Slope (S-6)	Linear ft. with unpaved cross slope greater than 2x planned angle		
Erosion (S-7)	Square ft. with ruts deeper than 2 inches		

Drainage			Value & Repair/Clean	Comments
Ditches (D-1)	☐ None	Total linear ft. of ditch Linear ft. with more than minimal erosion of ditch line OR obstructions to the flow of water requiring action	☐ Repair ☐ Clean	
Culverts (D-2)	☐ None	Total number of culverts Number more than 25% obstructed OR where a sharp object (a shovel) can be pushed thru bottom of pipe OR pipe is collapsing	☐ Repair ☐ Clean	
Under/ Edge Drain (D-3)	☐ None	Total number of drains Number with outlets, endwalls or end protection closed or crushed OR where water flow or end protection is obstructed	☐ Repair ☐ Clean	
Flumes (D-4)	☐ None	Total number of flumes Number not functioning as intended OR deteriorated to the point that they are causing erosion	☐ Repair ☐ Clean	
Curb & Gutter (D-5)	☐ None	Total linear ft. of curb and gutter Linear ft. with severe structural distress OR more than 1" structural misalignment OR more than 1" of debris build up in the curb line	☐ Repair ☐ Clean	
Storm Sewer (D-6)	☐ None	Total number of inlets, catch basins and outlet pipes Number with more than 50% capacity obstructed OR less than 80% structurally sound OR more than 1" vertical displacement OR not functioning as intended	☐ Repair ☐ Clean	

Roadsides			Value	Comments
🚗 **Litter** (R-1)		Number of pieces (up to 15) of litter & non-natural encroachments on shoulders & roadside visible at posted speed, but not causing a safety threat		
Mowing (R-2)		Mowing meets standard If NO, grass is mowed: ☐ too wide ☐ too short ☐ too tall ☐ in a no mow zone If NO, why: ☐ safety/equipment ☐ mowed by property owner ☐ woody vegetation control ☐ maintenance decision	☐yes ☐no	
🚗 **Mowing Vision** (R-2)	☐ None	Grass blocks a vision triangle or sightlines	☐yes ☐no	
Noxious Weeds (R-3)		Visible clumps of noxious weeds are present	☐yes ☐no	
Woody Vegetation (R-4)		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		
🚗 **Woody Vegetation Vision** (R-4)		Woody vegetation causes a vision problem	☐yes ☐no	
Fences (R-5)	☐ None	Total linear ft. of right-of-way fence Linear ft. missing OR not functioning as intended		

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

🚗 Indicates some or all of feature rating must be completed while driving at posted speed OR rated through the eyes of a driver traveling at posted speed.

1/10-mile	528 ft
X2	1056 ft
X3	1584 ft
X4	2112 ft

Rating Sheets should be entered into the LAN database **by October 16, 2009.** Please send the hardcopy Rating Sheets Inter-D to Scott Bush, Hill Farms, Room 501 **by October 16, 2009.**

Questions? Please call Scott Bush, Compass Program Manager at 608-266-8666 or email him at Scott.Bush@dot.wi.gov

F. County Data

Counties 2009: Shoulders and Drainage

		Condition % backlogged # of observations												
		Shoulders							Drainage					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
NC	ADAMS	0%	50%	0%	0%	0%	10%	0%	33%	1%	0%	100%	--	--
		10	10	10	10	10	10	10	3	2	9	1	--	--
	FLORENCE	0%	50%	0%	0%	57%	29%	0%	50%	--	0%	--	--	--
		7	6	6	6	7	7	7	2	--	7	--	--	--
	FOREST	0%	62%	0%	8%	7%	40%	0%	50%	4%	0%	--	0%	--
		16	13	13	13	15	15	15	6	2	14	--	1	--
	GREEN LAKE	14%	86%	0%	0%	14%	43%	0%	0%	0%	0%	--	--	--
		7	7	7	7	7	7	7	3	1	6	--	--	--
	IRON	17%	38%	0%	0%	58%	33%	8%	0%	--	0%	--	--	0%
		12	8	8	8	12	12	12	5	--	12	--	--	1
	LANGLADE	0%	70%	0%	0%	40%	20%	0%	33%	4%	0%	--	0%	--
		15	10	10	10	15	15	15	2	1	15	--	1	--

		Condition % backlogged # of observations												
		Shoulders							**Drainage**					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		6%	75%	0%	0%	69%	50%	6%	17%	--	10%	--	0%	0%
	LINCOLN	16	12	12	12	16	16	16	6	--	16	--	1	2
		0%	65%	4%	22%	4%	35%	4%	0%	15%	3%	67%	0%	11%
	MARATHON	28	23	23	23	26	26	26	8	3	27	2	2	5
		22%	67%	0%	22%	11%	78%	11%	0%	15%	0%	100%	--	0%
	MARQUETTE	9	9	9	9	9	9	9	5	1	9	1	--	1
		0%	--	--	--	75%	50%	0%	100%	--	1%	--	--	--
	MENOMINEE	4	--	--	--	4	4	4	1	--	4	--	--	--
		0%	29%	0%	0%	18%	6%	0%	33%	5%	1%	0%	0%	--
	ONEIDA	17	17	17	17	17	17	17	3	4	17	1	1	--
		0%	67%	0%	0%	0%	13%	0%	14%	0%	0%	0%	13%	21%
	PORTAGE	16	15	15	15	15	15	15	5	2	15	1	5	4
		13%	57%	0%	7%	50%	13%	0%	50%	--	0%	--	--	0%
	PRICE	16	14	14	14	16	16	16	2	--	15	--	--	1
		0%	72%	17%	0%	16%	47%	5%	0%	0%	0%	60%	50%	3%
	SHAWANO	19	18	18	18	19	19	19	7	2	18	3	3	10
	VILAS	13%	38%	0%	0%	73%	53%	0%	0%	--	1%	--	--	--

		Condition % backlogged # of observations												
		Shoulders							**Drainage**					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		15	13	13	13	15	15	15	4	--	15	--	--	--
		20%	41%	0%	0%	0%	35%	5%	0%	0%	1%	33%	0%	50%
	WAUPACA	20	17	17	17	20	20	20	4	5	20	2	2	2
		0%	50%	0%	0%	0%	14%	0%	0%	24%	0%	100%	--	--
	WAUSHARA	14	14	14	14	14	14	14	1	2	14	1	--	--
		0%	56%	0%	6%	11%	39%	0%	14%	--	0%	--	--	100%
	WOOD	18	16	16	16	18	18	18	6	--	18	--	--	1
		12%	88%	0%	0%	59%	59%	0%	17%	0%	1%	33%	15%	0%
NE	BROWN	17	17	17	17	17	17	17	5	2	17	2	5	1
		10%	70%	0%	20%	--	--	--	40%	6%	0%	100%	0%	--
	CALUMET	10	10	10	10	--	--	--	3	2	10	1	1	--
		9%	55%	0%	0%	36%	55%	0%	0%	0%	1%	0%	--	--
	DOOR	11	11	11	11	11	11	11	3	1	11	1	--	--
		10%	75%	5%	5%	35%	30%	0%	12%	5%	0%	0%	33%	15%
	FOND DU LAC	20	20	20	20	20	20	20	12	5	20	1	2	9
		17%	67%	0%	17%	33%	50%	0%	0%	29%	2%	100%	--	--
	KEWAUNEE	6	6	6	6	6	6	6	3	1	6	1	--	--

		Condition % backlogged # of observations												
		Shoulders							**Drainage**					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		13%	67%	0%	0%	14%	43%	0%	75%	0%	1%	--	0%	--
	MANITOWOC	15	15	15	15	14	14	14	8	2	13	--	4	--
		19%	29%	0%	7%	25%	13%	6%	40%	11%	3%	--	0%	--
	MARINETTE	16	14	14	14	16	16	16	4	2	16	--	2	--
		7%	54%	0%	0%	0%	0%	0%	0%	0%	0%	--	--	0%
	OCONTO	15	13	13	13	2	2	2	5	3	15	--	--	2
		11%	60%	20%	20%	17%	25%	8%	67%	1%	5%	29%	22%	--
	OUTAGAMIE	18	15	15	15	12	12	12	3	9	12	2	8	--
		29%	71%	6%	6%	6%	35%	0%	29%	4%	1%	0%	0%	0%
	SHEBOYGAN	17	17	17	17	17	17	17	7	5	16	5	3	1
		13%	50%	19%	0%	0%	100%	0%	0%	4%	0%	50%	0%	10%
	WINNEBAGO	16	16	16	16	3	3	3	4	3	16	1	1	6
		0%	89%	0%	0%	0%	67%	8%	44%	--	16%	--	--	--
NW	ASHLAND	12	9	9	9	12	12	12	8	--	12	--	--	--
		7%	60%	0%	0%	0%	47%	0%	25%	5%	0%	100%	--	--
	BARRON	15	15	15	15	15	15	15	4	2	14	1	--	--
	BAYFIELD	0%	75%	6%	38%	24%	59%	0%	29%	100%	11%	--	--	--

		Condition % backlogged # of observations												
		Shoulders							**Drainage**					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		17	16	16	16	17	17	17	6	1	12	--	--	--
		0%	91%	0%	9%	87%	73%	0%	43%	20%	7%	100%	0%	--
	BUFFALO	16	11	11	11	15	15	15	6	2	15	1	1	--
		0%	56%	0%	0%	27%	0%	27%	0%	--	0%	--	--	--
	BURNETT	11	9	9	9	11	11	11	3	--	11	--	--	--
		9%	75%	10%	0%	0%	9%	0%	50%	0%	0%	--	50%	100%
	CHIPPEWA	22	20	20	20	22	22	22	8	2	22	--	2	3
		0%	59%	6%	0%	6%	6%	0%	11%	54%	0%	50%	--	0%
	CLARK	17	17	17	17	17	17	17	7	2	17	2	--	6
		0%	81%	0%	0%	6%	19%	6%	0%	--	0%	--	--	--
	DOUGLAS	16	16	16	16	16	16	16	4	--	16	--	--	--
		0%	67%	0%	0%	19%	10%	5%	14%	0%	1%	--	--	--
	DUNN	21	18	18	18	21	21	21	7	1	20	--	--	--
		6%	81%	25%	0%	0%	0%	0%	50%	11%	0%	0%	19%	100%
	EAU CLAIRE	16	16	16	16	15	15	15	6	4	16	2	4	1
		5%	44%	0%	0%	20%	30%	0%	38%	--	0%	100%	--	--
	JACKSON	20	18	18	18	20	20	20	7	--	20	1	--	--

		Condition % backlogged # of observations												
		Shoulders							Drainage					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		0%	80%	0%	0%	60%	40%	20%	--	22%	3%	100%	--	--
	PEPIN	5	5	5	5	5	5	5	--	1	5	1	--	--
		0%	64%	7%	7%	0%	0%	0%	0%	0%	0%	--	0%	--
	PIERCE	17	14	14	14	17	17	17	3	3	16	--	1	--
		0%	53%	7%	0%	41%	29%	0%	0%	1%	0%	--	20%	--
	POLK	17	15	15	15	17	17	17	6	4	16	--	2	--
		0%	71%	0%	0%	18%	45%	0%	0%	--	1%	--	--	--
	RUSK	11	7	7	7	11	11	11	3	--	11	--	--	--
		0%	36%	0%	0%	18%	35%	0%	63%	0%	1%	0%	--	--
	SAWYER	17	14	14	14	17	17	17	7	1	15	1	--	--
		0%	90%	0%	5%	5%	0%	5%	0%	8%	0%	--	12%	--
	ST. CROIX	22	21	21	21	22	22	22	2	4	21	--	5	--
		0%	20%	0%	0%	0%	8%	0%	33%	0%	0%	--	--	--
	TAYLOR	12	10	10	10	12	12	12	6	1	11	--	--	--
		11%	65%	0%	0%	58%	16%	5%	33%	38%	8%	--	--	--
	TREMPEALEAU	19	17	17	17	19	19	19	9	1	16	--	--	--
	WASHBURN	0%	53%	0%	0%	7%	27%	0%	20%	0%	0%	--	0%	--

		Condition % backlogged # of observations												
		Shoulders							**Drainage**					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		15	15	15	15	15	15	15	4	1	15	--	1	--
SE		0%	67%	11%	22%	22%	22%	0%	20%	4%	10%	20%	13%	75%
	KENOSHA	11	9	9	9	9	9	9	3	5	9	2	4	3
		12%	46%	0%	0%	0%	67%	0%	50%	1%	13%	67%	36%	0%
	MILWAUKEE	17	13	13	13	3	3	3	3	11	8	3	13	1
		63%	100%	14%	29%	14%	71%	14%	0%	0%	2%	--	8%	57%
	OZAUKEE	8	7	7	7	7	7	7	1	2	7	--	6	2
		0%	73%	0%	7%	23%	31%	0%	40%	0%	0%	80%	36%	50%
	RACINE	15	15	15	15	13	13	13	4	4	13	2	7	5
		14%	57%	0%	5%	0%	24%	0%	50%	24%	1%	0%	0%	0%
	WALWORTH	21	21	21	21	21	21	21	2	4	19	1	3	3
		17%	88%	0%	18%	19%	50%	0%	13%	2%	2%	0%	24%	29%
	WASHINGTON	18	17	17	17	16	16	16	5	4	15	1	6	3
		17%	50%	22%	17%	0%	0%	0%	0%	0%	3%	17%	5%	67%
	WAUKESHA	23	18	18	18	18	18	18	2	11	19	5	13	1
SW		31%	82%	9%	18%	48%	79%	17%	33%	39%	12%	--	50%	100%
	COLUMBIA	29	22	22	22	29	29	29	6	2	28	--	1	1

		Condition % backlogged # of observations												
		Shoulders							**Drainage**					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		0%	42%	0%	0%	11%	28%	0%	0%	1%	0%	50%	0%	--
	CRAWFORD	19	12	12	12	18	18	18	7	2	18	2	1	--
		12%	79%	6%	12%	3%	44%	0%	21%	3%	0%	17%	59%	52%
	DANE	41	34	34	34	39	39	39	13	13	39	4	8	4
		29%	46%	13%	17%	17%	58%	0%	60%	5%	0%	33%	100%	100%
	DODGE	24	24	24	24	24	24	24	7	4	23	2	1	2
		0%	54%	0%	0%	4%	33%	4%	9%	14%	0%	67%	0%	--
	GRANT	27	24	24	24	27	27	27	10	5	27	2	2	--
		0%	54%	0%	8%	0%	0%	0%	0%	0%	0%	--	0%	--
	GREEN	13	13	13	13	13	13	13	2	1	13	--	2	--
		0%	55%	0%	0%	22%	33%	0%	25%	0%	0%	--	0%	--
	IOWA	18	11	11	11	18	18	18	3	2	17	--	1	--
		0%	81%	6%	0%	11%	22%	0%	20%	5%	0%	33%	17%	22%
	JEFFERSON	18	16	16	16	9	9	9	5	7	17	3	2	3
		5%	47%	7%	0%	29%	35%	0%	33%	69%	0%	--	0%	8%
	JUNEAU	20	15	15	15	17	17	17	3	2	16	--	2	2
	LA CROSSE	21%	50%	10%	0%	42%	83%	0%	25%	0%	10%	--	0%	0%

		Condition % backlogged # of observations												
		Shoulders							**Drainage**					
Region	County	Hazardous Debris	Paved Cracking	Paved Dropoff	Paved Potholes/Raveling	Unpaved Cross slope	Unpaved Dropoff	Unpaved Erosion	Culverts	Curb & Gutter	Ditches	Flumes	Storm Sewer	Under-drains/edge-drains
		14	10	10	10	12	12	12	4	3	13	--	4	1
		0%	31%	0%	0%	14%	36%	14%	0%	7%	0%	--	--	0%
	LAFAYETTE	14	13	13	13	14	14	14	4	1	14	--	--	3
		0%	63%	25%	17%	62%	38%	0%	57%	0%	1%	0%	0%	--
	MONROE	25	24	24	24	13	13	13	6	3	24	2	2	--
		0%	8%	0%	0%	20%	13%	0%	0%	4%	0%	100%	0%	--
	RICHLAND	16	13	13	13	15	15	15	8	2	14	1	1	--
		4%	75%	0%	6%	25%	29%	0%	0%	0%	1%	25%	11%	0%
	ROCK	24	16	16	16	24	24	24	8	7	24	3	5	3
		25%	61%	6%	11%	65%	74%	9%	18%	6%	6%	25%	0%	50%
	SAUK	24	18	18	18	23	23	23	10	6	21	3	2	1
		0%	75%	0%	31%	26%	63%	0%	36%	6%	0%	20%	60%	--
	VERNON	22	16	16	16	19	19	19	11	4	20	3	2	--

Counties 2009: Roadsides and Traffic

		Condition % backlogged # of observations													
		Roadsides							Traffic						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
NC		--	40%	50%	0%	30%	10%	0%	10%	--	0%	0%	--	0%	0%
	ADAMS	--	10	10	3	10	10	10	10	--	10	3	--	7	1
		--	14%	14%	0%	43%	0%	0%	0%	--	0%	--	--	0%	--
	FLORENCE	--	7	7	2	7	7	7	7	--	7	--	--	1	--
		--	44%	13%	0%	31%	13%	0%	0%	--	0%	0%	0%	0%	--
	FOREST	--	16	16	2	16	16	16	16	--	15	2	1	5	--
		--	57%	57%	0%	71%	0%	0%	0%	14%	0%	0%	0%	0%	0%
	GREEN LAKE	--	7	7	2	7	7	7	7	2	7	3	1	1	1
		--	42%	42%	0%	0%	8%	0%	0%	--	25%	0%	--	0%	--
	IRON	--	12	12	3	12	12	12	12	--	12	3	--	4	--
		--	60%	7%	0%	73%	0%	0%	0%	--	0%	0%	--	0%	0%
	LANGLADE	--	15	15	6	15	15	15	15	--	15	7	--	7	2
		1%	75%	19%	0%	94%	0%	6%	0%	9%	0%	0%	15%	0%	--
	LINCOLN	4	16	16	2	16	16	16	16	7	16	2	3	7	--
		7%	64%	43%	8%	36%	4%	0%	7%	0%	4%	0%	11%	0%	0%
	MARATHON	5	28	28	13	28	28	28	28	6	27	10	3	16	3

		Condition % backlogged # of observations													
		Roadsides							Traffic						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		0%	44%	44%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	MARQUETTE	3	9	9	3	9	9	9	9	4	9	5	1	2	1
		--	75%	0%	--	0%	50%	0%	75%	--	75%	0%	--	0%	--
	MENOMINEE	--	4	4	--	4	4	4	4	--	4	2	--	2	--
		--	82%	12%	7%	24%	12%	0%	0%	--	0%	0%	--	0%	0%
	ONEIDA	--	17	17	15	17	17	17	17	--	17	4	--	7	3
		0%	81%	19%	0%	25%	0%	0%	0%	2%	0%	0%	4%	0%	0%
	PORTAGE	7	16	16	2	16	16	16	16	10	16	6	1	6	6
		--	75%	13%	0%	6%	0%	0%	31%	--	13%	0%	--	0%	--
	PRICE	--	16	16	10	16	16	16	16	--	16	3	--	5	--
		--	53%	21%	0%	16%	0%	0%	16%	0%	5%	0%	0%	0%	0%
	SHAWANO	--	19	19	3	19	19	19	19	10	19	9	1	7	2
		--	100%	67%	0%	0%	0%	0%	7%	67%	0%	0%	0%	0%	--
	VILAS	--	15	15	15	15	15	15	15	1	15	6	2	7	--
		0%	65%	35%	0%	0%	0%	0%	0%	27%	0%	0%	16%	0%	0%
	WAUPACA	1	20	20	1	20	20	20	20	4	20	4	1	7	5
		0%	21%	36%	0%	57%	0%	0%	14%	0%	0%	0%	--	0%	--
	WAUSHARA	3	14	14	1	14	14	14	14	4	14	8	--	9	--

		Condition % backlogged # of observations													
		Roadsides							**Traffic**						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		--	39%	72%	0%	17%	0%	0%	0%	--	0%	0%	--	0%	--
	WOOD	--	18	18	3	18	18	18	18	--	18	4	--	7	--
NE		0%	65%	35%	0%	71%	0%	0%	0%	2%	6%	0%	0%	0%	0%
	BROWN	7	17	17	2	17	17	17	17	8	17	7	3	12	2
		--	90%	90%	0%	0%	0%	0%	0%	--	0%	0%	--	0%	0%
	CALUMET	--	10	10	2	10	10	10	10	--	10	5	--	7	1
		0%	100%	27%	0%	0%	9%	0%	0%	40%	0%	0%	--	6%	--
	DOOR	3	11	11	1	11	11	11	11	3	11	5	--	10	--
		1%	85%	55%	0%	70%	0%	0%	0%	23%	0%	0%	12%	0%	13%
	FOND DU LAC	3	20	20	8	20	20	20	20	4	20	4	4	12	6
		--	67%	83%	0%	83%	0%	0%	0%	50%	0%	0%	33%	0%	0%
	KEWAUNEE	--	6	6	1	6	6	6	6	1	6	2	1	2	1
		0%	40%	40%	0%	33%	0%	0%	0%	28%	0%	0%	3%	0%	0%
	MANITOWOC	4	15	15	10	15	15	15	15	7	15	4	2	6	1
		0%	69%	44%	7%	6%	0%	0%	13%	0%	6%	0%	--	0%	0%
	MARINETTE	3	16	16	14	16	16	16	16	3	16	11	--	8	2
		0%	87%	27%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	OCONTO	3	15	15	2	15	15	15	15	3	15	5	1	5	4

		Condition % backlogged # of observations													
		Roadsides							**Traffic**						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		0%	28%	61%	0%	28%	11%	0%	11%	7%	11%	0%	0%	0%	0%
	OUTAGAMIE	2	18	18	14	18	18	18	18	2	18	6	2	10	6
		0%	82%	35%	0%	65%	0%	0%	6%	25%	18%	0%	11%	0%	0%
	SHEBOYGAN	2	17	17	5	17	17	17	17	5	17	9	3	10	1
		0%	81%	19%	--	19%	0%	0%	0%	0%	0%	0%	0%	0%	38%
	WINNEBAGO	8	16	16	--	16	16	16	16	8	16	7	1	10	5
		--	50%	17%	13%	8%	17%	8%	50%	--	17%	0%	--	0%	--
NW	ASHLAND	--	12	12	8	12	12	12	12	--	12	6	--	9	--
		0%	47%	20%	0%	27%	0%	0%	7%	9%	0%	0%	21%	0%	0%
	BARRON	3	15	15	3	15	15	15	15	4	15	4	1	6	2
		--	88%	12%	0%	0%	12%	0%	6%	--	0%	0%	--	0%	--
	BAYFIELD	--	17	17	1	17	17	17	17	--	17	4	--	5	--
		--	31%	50%	0%	44%	0%	0%	6%	0%	6%	0%	0%	0%	0%
	BUFFALO	--	16	16	7	16	16	16	16	2	16	5	3	7	1
		--	45%	55%	--	0%	0%	0%	0%	--	0%	--	--	0%	0%
	BURNETT	--	11	11	--	11	11	11	11	--	11	--	--	4	1
		0%	82%	36%	--	0%	0%	0%	0%	26%	14%	0%	0%	0%	0%
	CHIPPEWA	5	22	22	--	22	22	22	22	8	22	9	3	8	3

		Condition % backlogged # of observations													
		Roadsides							**Traffic**						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		--	29%	35%	0%	0%	0%	0%	0%	5%	6%	0%	0%	0%	33%
	CLARK	--	17	17	8	17	17	17	17	8	17	4	2	9	2
		--	50%	25%	--	0%	0%	0%	13%	6%	6%	0%	--	0%	--
	DOUGLAS	--	16	16	--	16	16	16	16	5	16	3	--	2	--
		0%	71%	24%	100%	0%	0%	0%	0%	55%	0%	0%	1%	8%	--
	DUNN	1	21	21	1	21	21	21	21	3	21	3	3	9	--
		0%	94%	38%	--	6%	0%	0%	0%	21%	0%	0%	0%	0%	19%
	EAU CLAIRE	3	16	16	--	16	16	16	16	4	16	7	3	8	2
		27%	45%	0%	0%	15%	0%	0%	20%	0%	30%	0%	0%	0%	--
	JACKSON	6	20	20	4	20	20	20	20	8	20	1	6	5	--
		--	80%	20%	--	40%	0%	0%	0%	0%	0%	0%	--	0%	--
	PEPIN	--	5	5	--	5	5	5	5	2	5	1	--	2	--
		--	76%	41%	--	0%	0%	0%	6%	0%	6%	0%	0%	0%	0%
	PIERCE	--	17	17	--	17	17	17	17	3	17	5	3	5	1
		--	12%	12%	0%	0%	6%	0%	0%	11%	0%	0%	--	0%	42%
	POLK	--	17	17	5	17	17	17	17	3	17	9	--	7	5
		--	0%	27%	0%	0%	0%	0%	0%	--	0%	0%	--	0%	--
	RUSK	--	11	11	1	11	11	11	11	--	11	4	--	1	--

		Condition % backlogged # of observations													
		Roadsides							**Traffic**						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		--	94%	18%	0%	29%	6%	0%	18%	0%	24%	0%	--	0%	--
	SAWYER	--	17	17	3	17	17	17	17	1	17	2	--	7	--
		0%	82%	18%	13%	32%	0%	0%	18%	9%	14%	0%	12%	3%	0%
	ST. CROIX	5	22	22	8	22	22	22	22	12	22	8	7	12	3
		--	25%	42%	0%	0%	0%	0%	0%	--	0%	0%	--	0%	0%
	TAYLOR	--	12	12	3	12	12	12	12	--	12	2	--	4	2
		100%	47%	26%	17%	58%	0%	0%	11%	16%	11%	0%	16%	25%	0%
	TREMPEALEAU	1	19	19	6	19	19	19	19	5	19	4	4	10	1
		0%	87%	27%	0%	13%	0%	0%	0%	0%	0%	0%	--	0%	--
	WASHBURN	4	15	15	5	15	15	15	15	5	15	4	--	6	--
		--	100%	73%	0%	9%	27%	9%	0%	--	0%	0%	0%	0%	5%
SE	KENOSHA	--	11	11	4	11	11	11	11	--	10	6	1	6	3
		0%	100%	53%	0%	71%	6%	0%	18%	55%	31%	0%	3%	11%	20%
	MILWAUKEE	7	17	17	9	17	17	17	17	7	16	17	9	11	12
		0%	88%	75%	0%	13%	0%	0%	0%	38%	0%	0%	0%	0%	0%
	OZAUKEE	3	8	8	1	8	8	8	8	5	8	2	4	5	5
		0%	87%	60%	--	67%	20%	7%	0%	0%	27%	0%	0%	0%	0%
	RACINE	1	15	15	--	15	15	15	15	4	15	7	3	11	4

		Condition % backlogged # of observations													
		Roadsides							**Traffic**						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		0%	81%	52%	0%	71%	5%	5%	0%	25%	0%	0%	--	0%	0%
	WALWORTH	3	21	21	5	21	21	21	21	3	21	6	--	10	4
		0%	50%	50%	0%	11%	0%	0%	0%	48%	0%	0%	0%	0%	4%
	WASHINGTON	5	18	18	9	18	18	18	18	7	17	5	1	14	6
		0%	57%	61%	--	0%	0%	0%	52%	79%	57%	0%	42%	1%	34%
	WAUKESHA	8	23	23	--	23	23	23	23	7	23	12	5	15	11
		31%	86%	28%	50%	72%	28%	0%	0%	40%	24%	0%	0%	0%	0%
SW	COLUMBIA	2	29	29	2	29	29	29	29	2	29	11	1	10	3
		--	21%	26%	0%	0%	0%	0%	21%	18%	42%	0%	0%	0%	--
	CRAWFORD	--	19	19	12	19	19	19	19	6	19	4	6	3	--
		1%	95%	44%	6%	61%	0%	0%	5%	16%	10%	3%	1%	0%	3%
	DANE	15	41	41	16	41	41	41	41	10	41	27	16	19	15
		37%	100%	29%	50%	79%	0%	0%	0%	31%	8%	0%	0%	0%	0%
	DODGE	1	24	24	2	24	24	24	24	4	24	4	2	9	1
		0%	44%	26%	0%	0%	0%	0%	0%	0%	22%	0%	0%	0%	0%
	GRANT	3	27	27	7	27	27	27	27	6	27	10	3	11	4
		0%	100%	15%	--	92%	0%	0%	15%	0%	23%	0%	0%	0%	100%
	GREEN	3	13	13	--	13	13	13	13	2	13	7	1	3	1

		Condition % backlogged # of observations													
		Roadsides							Traffic						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		0%	89%	44%	67%	83%	0%	0%	22%	0%	39%	0%	0%	0%	--
	IOWA	2	18	18	3	18	18	18	18	3	18	8	1	5	--
		0%	94%	56%	0%	44%	0%	0%	6%	33%	29%	0%	0%	0%	0%
	JEFFERSON	2	18	18	7	18	18	18	18	2	17	11	3	10	2
		0%	45%	40%	0%	0%	5%	0%	0%	0%	0%	0%	--	0%	0%
	JUNEAU	2	20	20	1	20	20	20	18	2	16	4	--	5	1
		0%	50%	50%	25%	57%	21%	0%	7%	17%	14%	0%	2%	0%	43%
	LA CROSSE	3	14	14	8	14	14	14	14	6	14	3	4	5	3
		0%	79%	14%	0%	79%	0%	0%	14%	0%	29%	0%	0%	0%	29%
	LAFAYETTE	2	14	14	2	14	14	14	14	3	14	2	1	5	1
		0%	36%	36%	0%	0%	4%	0%	0%	0%	0%	0%	0%	5%	0%
	MONROE	9	25	25	3	25	25	25	25	10	25	9	5	11	3
		--	56%	0%	0%	25%	6%	0%	6%	54%	25%	0%	0%	0%	0%
	RICHLAND	--	16	16	2	16	16	16	16	4	16	5	3	10	1
		0%	79%	17%	29%	83%	0%	0%	8%	44%	29%	3%	0%	0%	0%
	ROCK	5	24	24	7	24	24	24	24	5	24	9	3	6	9
		60%	100%	38%	0%	54%	4%	0%	8%	77%	21%	0%	0%	5%	0%
	SAUK	2	24	24	6	24	24	24	24	4	24	10	2	9	4

		Condition % backlogged # of observations													
		Roadsides							**Traffic**						
Region	County	Fences	Litter	Mowing	Mowing for Vision	Noxious Weeds	Woody Vegetation Control	Woody Vegetation Control for Vision	Centerline Markings	Delineators	Edgeline Markings	Detour/object marker/recreation guide Signs	Protective Barriers	Regulatory/Warning Signs	Special Pavement Markings
		--	82%	59%	8%	64%	5%	0%	5%	52%	48%	0%	16%	0%	33%
	VERNON	--	22	22	12	22	22	22	22	9	21	7	8	9	2

Counties 2009: Sign Condition

		Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
Region	**County**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**
NC	ADAMS	947	21%	197	3.2	713	47%	335	5.8
	FLORENCE	485	6%	31	5.5	428	29%	126	9.6
	FOREST	1241	4%	52	4.4	832	6%	52	8.8
	GREEN LAKE	865	13%	112	4.8	703	43%	300	6.5
	IRON	1066	8%	90	5.6	689	20%	135	9.2
	LANGLADE	1214	10%	118	4.1	809	30%	246	8.7
	LINCOLN	1410	16%	220	3.4	1035	40%	412	7.6
	MARATHON	4027	19%	782	4.2	2740	46%	1247	5.2
	MARQUETTE	947	18%	166	4.6	901	62%	556	6.9
	MENOMINEE	678	11%	75	6.0	216	10%	22	6.2
	ONEIDA	1844	15%	284	4.9	1159	16%	189	6.6
	PORTAGE	2201	22%	482	4.3	1822	51%	922	6.2
	PRICE	1012	7%	70	5.8	823	25%	203	7.7
	SHAWANO	1972	51%	998	5.4	1383	46%	631	5.5

		Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
Region	**County**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**
	VILAS	1530	17%	266	4.2	1016	23%	236	7.4
	WAUPACA	2974	17%	515	3.3	1832	46%	841	5.9
	WAUSHARA	1895	19%	351	4.0	1311	58%	764	6.9
	WOOD	2223	20%	434	3.5	1321	47%	626	5.6
NE	BROWN	3698	41%	1519	6.6	4176	71%	2956	8.8
	CALUMET	1411	29%	413	9.3	1269	46%	580	9.6
	DOOR	1964	42%	828	5.9	972	52%	503	6.2
	FOND DU LAC	2496	26%	658	6.0	2352	42%	998	7.7
	KEWAUNEE	653	20%	133	6.1	488	61%	297	13.5
	MANITOWOC	1903	41%	775	6.3	2198	82%	1806	8.4
	MARINETTE	1747	42%	742	6.6	1540	45%	686	7.4
	OCONTO	2208	31%	676	5.0	1810	52%	943	6.3
	OUTAGAMIE	3580	30%	1066	9.4	3174	52%	1638	13.0
	SHEBOYGAN	2793	45%	1258	6.2	3238	73%	2376	7.6
	WINNEBAGO	2479	35%	871	7.3	2742	53%	1461	8.2

		Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
Region	**County**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**
NW	ASHLAND	1224	20%	245	4.7	869	51%	439	5.6
	BARRON	1753	14%	247	5.1	1640	52%	856	6.9
	BAYFIELD	1440	22%	315	4.5	1174	58%	684	5.1
	BUFFALO	1590	5%	74	3.7	1117	41%	454	9.3
	BURNETT	1179	18%	214	5.2	740	46%	340	6.0
	CHIPPEWA	2320	7%	170	4.4	2101	40%	833	6.2
	CLARK	1675	7%	124	4.5	1279	44%	566	5.7
	DOUGLAS	1909	32%	604	4.6	1574	55%	868	5.6
	DUNN	2021	11%	218	3.9	2182	58%	1255	5.1
	EAU CLAIRE	2291	16%	363	6.0	2035	37%	745	6.4
	JACKSON	1543	7%	113	5.9	1502	33%	503	8.8
	PEPIN	568	7%	42	3.8	457	37%	170	6.5
	PIERCE	1686	14%	236	3.8	1754	61%	1078	6.7
	POLK	2163	16%	337	4.8	1427	48%	682	5.9
	RUSK	1021	12%	119	4.4	759	36%	277	4.4

		Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
Region	**County**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**
	SAWYER	1410	13%	178	4.8	1156	48%	558	5.1
	ST. CROIX	2734	13%	356	4.1	2775	55%	1531	6.0
	TAYLOR	988	6%	59	4.4	838	25%	208	6.0
	TREMPEALEAU	1941	11%	207	4.7	1701	51%	861	8.5
	WASHBURN	1944	30%	574	4.5	1442	61%	878	6.2
SE	KENOSHA	3971	32%	1269	5.8	3201	54%	1742	7.0
	MILWAUKEE	11176	32%	3568	5.9	8881	57%	5102	8.1
	OZAUKEE	1999	17%	340	3.7	1243	57%	713	6.9
	RACINE	4696	34%	1601	5.4	3389	63%	2121	6.9
	WALWORTH	3781	23%	888	5.1	2513	56%	1395	6.8
	WASHINGTON	3809	23%	886	5.5	2671	46%	1227	6.8
	WAUKESHA	9131	25%	2255	5.7	5305	38%	2041	6.1
SW	COLUMBIA	3065	15%	471	5.3	1813	44%	790	7.7
	CRAWFORD	2174	17%	364	4.2	1571	59%	929	7.9
	DANE	6643	37%	2488	6.9	4119	42%	1750	8.5

		Regulatory/Warning/School Signs				Detour/object marker/recreation/guide Signs			
Region	**County**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**	**Total Signs**	**%Backlog**	**Deficient Signs**	**Average Years Beyond Service Life**
	DODGE	2890	29%	828	5.1	1861	54%	996	7.5
	GRANT	2986	7%	223	5.2	1963	48%	941	8.7
	GREEN	1322	14%	179	4.1	776	61%	475	7.5
	IOWA	2050	22%	453	5.4	1363	52%	706	8.4
	JEFFERSON	1924	13%	251	4.1	1252	58%	725	8.5
	JUNEAU	1765	12%	219	3.3	1717	62%	1073	8.2
	LA CROSSE	2671	17%	455	3.2	2766	52%	1433	8.4
	LAFAYETTE	1301	23%	298	3.6	871	62%	540	10.2
	MONROE	2542	12%	303	3.3	2386	47%	1112	8.2
	RICHLAND	1940	13%	244	3.8	1609	53%	848	7.2
	ROCK	2218	30%	660	4.6	1784	54%	958	8.4
	SAUK	3170	7%	213	3.9	1544	33%	503	7.7
	VERNON	2654	15%	406	4.1	2141	63%	1357	7.8

Counties 2009: Bridge Maintenance Needs

			% of bridges recommended for maintenance							
Region	**County**	**Number of state bridges**	**Expansion Joints - Clean**	**Deck - Seal Surface Cracks**	**Expansion Joints - Seal**	**Misc - Cut Brush**	**Approach - Seal Approach to Paving Block**	**Deck - Clean and Sweep Deck/Drains**	**Drainage - Repair Washouts / Erosion**	**Misc - Other Work***
NC	ADAMS	7	1	6	6				1	1
	FLORENCE	8								
	FOREST	11				1	1		1	
	GREEN LAKE	10	1	5	6	2		1		3
	IRON	18		1		3	1			
	LANGLADE	11		2		1	1			
	LINCOLN	52	2	16	2	5				4
	MARATHON	164	38	112	63	26		12	19	29
	MARQUETTE	37	4	21	26	3		1	4	5
	MENOMINEE	3		1		1	1			
	ONEIDA	14		3		1	1			1
	PORTAGE	90	21	68	34	5	3	4	9	26
	PRICE	21	1	3		1	1			2
	SHAWANO	53	3	27	1	8	1	4	6	21
	VILAS	13		7						1
	WAUPACA	69	14	33	26	1	1	1	11	13
	WAUSHARA	21	8	12	12			3	3	3
	WOOD	52	4	47	19	13	1	10	4	9
NE	BROWN	244	105	62	64	23	31	11	28	35
	CALUMET	13	1	2	5	1			7	2
	DOOR	15	1	8	4	1				4
	FOND DU LAC	82	17	36	14		15	9	8	6
	KEWAUNEE	17	1	1	2	1	1		2	
	MANITOWOC	90	20	21	27	5	10		7	5

			% of bridges recommended for maintenance							
Region	**County**	**Number of state bridges**	**Expansion Joints - Clean**	**Deck - Seal Surface Cracks**	**Expansion Joints - Seal**	**Misc - Cut Brush**	**Approach - Seal Approach to Paving Block**	**Deck - Clean and Sweep Deck/Drains**	**Drainage - Repair Washouts / Erosion**	**Misc - Other Work***
	MARINETTE	49	12	7	13	4	12	4		4
	OCONTO	46	1	14	11	1	3		6	
	OUTAGAMIE	80	8	30	48	7	13	2	21	9
	SHEBOYGAN	85	13	27	27	10	21		14	
	WINNEBAGO	149	43	40	52	10	41	4	34	26
NW	ASHLAND	19					2			
	BARRON	65		4		6	5		3	1
	BAYFIELD	34							2	1
	BUFFALO	72	2	2	1	2	2			
	BURNETT	14		1			3	1	1	
	CHIPPEWA	136	17	8	20		5		13	2
	CLARK	43	1		1		21			
	DOUGLAS	60		1	1		3		1	
	DUNN	94				1	2		6	
	EAU CLAIRE	114	7	7	2	2	12	2	12	
	JACKSON	74		1	5	1	9		6	
	PEPIN	16			1		2		2	
	PIERCE	57	2			5	3		5	1
	POLK	13		2					2	
	RUSK	28		1	1					
	SAWYER	19		1		2	7			
	ST. CROIX	101		1	2		3		9	1
	TAYLOR	20		3						2
	TREMPEALEAU	73	2	2			12		4	
	WASHBURN	20		1		2	6		1	

			% of bridges recommended for maintenance							
Region	**County**	**Number of state bridges**	**Expansion Joints - Clean**	**Deck - Seal Surface Cracks**	**Expansion Joints - Seal**	**Misc - Cut Brush**	**Approach - Seal Approach to Paving Block**	**Deck - Clean and Sweep Deck/Drains**	**Drainage - Repair Washouts / Erosion**	**Misc - Other Work***
SE	KENOSHA	54	10	15	18	3	7	25	6	15
	MILWAUKEE	522	440	70	141	153	75	101	37	219
	OZAUKEE	50	10	9	3	17	14	3	10	33
	RACINE	61	8	4	7	6	15	10	1	20
	WALWORTH	116	35	19	20	18	12	9	23	88
	WASHINGTON	74	34	2	6	4	17	70	4	22
	WAUKESHA	175	22	53	18	37	37	8	83	87
SW	COLUMBIA	97	7	15	2	46	20	26	11	13
	CRAWFORD	67	2	46	1	11	13	4	11	8
	DANE	280	58	12	18	129	94	151	56	70
	DODGE	64	3	7	2	17	9	9	4	6
	GRANT	69	9	24	1	9	10	5	10	6
	GREEN	28	4	5		3	1	7	2	2
	IOWA	56	1	6		12	5	12	6	2
	JEFFERSON	74	13	3	4	15	16	16	2	11
	JUNEAU	80	20	28	15		13	3	5	1
	LA CROSSE	109	47	40	5	28	36	12	16	12
	LAFAYETTE	40	1	3		11	2	13	10	1
	MONROE	154	10	47	7	14	28	6	8	13
	RICHLAND	78	5	37	3	18	15	6	4	5
	ROCK	122	35	8	4	33	26	64	8	17
	SAUK	79	8	6	1	8	15	17	7	7
	VERNON	73	1	6	3	15	5		21	1

Counties 2009: Bridge Special Inspection Backlog

		Special Inspection Type % bridges backlogged for inspection type # of bridges backlogged for inspection						
Region	County	Initial	Routine	Load Posted	In-depth	Fracture Critical	Underwater Diving	Underwater Probe/Visual
NC		--	0%	--	--	--	0%	22%
	ADAMS	--	0	--	--	--	0	2
		100%	0%	--	--	0%	0%	100%
	FLORENCE	1	0	--	--	0	0	1
		0%	0%	--	--	--	--	33%
	FOREST	0	0	--	--	--	--	1
		--	0%	--	--	--	--	0%
	GREEN LAKE	--	0	--	--	--	--	0
		--	0%	--	--	--	50%	0%
	IRON	--	0	--	--	--	1	0
		0%	0%	--	--	0%	--	67%
	LANGLADE	0	0	--	--	0	--	2
		0%	0%	--	0%	0%	0%	50%
	LINCOLN	0	0	--	0	0	0	3
		0%	0%	--	7%	50%	0%	3%
	MARATHON	0	0	--	2	1	0	3
		0%	0%	--	--	--	0%	24%
	MARQUETTE	0	0	--	--	--	0	6
		0%	0%	--	--	--	--	100%
	MENOMINEE	0	0	--	--	--	--	1
		0%	7%	--	--	--	0%	100%
	ONEIDA	0	1	--	--	--	0	3
		0%	0%	--	0%	--	0%	17%
	PORTAGE	0	0	--	0	--	0	8
		0%	10%	--	--	--	0%	50%
	PRICE	0	2	--	--	--	0	1
		0%	0%	--	--	0%	0%	38%
	SHAWANO	0	0	--	--	0	0	3
		0%	8%	--	--	--	0%	75%
	VILAS	0	1	--	--	--	0	3
		9%	4%	--	0%	0%	0%	26%
	WAUPACA	1	3	--	0	0	0	14
		--	0%	--	--	--	--	0%
	WAUSHARA	--	0	--	--	--	--	0
		0%	0%	--	0%	0%	0%	8%
	WOOD	0	0	--	0	0	0	5
NE		0%	1%	--	0%	13%	0%	57%
	BROWN	0	3	--	0	1	0	32
		0%	0%	--	--	--	--	100%
	CALUMET	0	0	--	--	--	--	5

		Special Inspection Type % bridges backlogged for inspection type # of bridges backlogged for inspection						
Region	County	Initial	Routine	Load Posted	In-depth	Fracture Critical	Underwater Diving	Underwater Probe/Visual
		0%	7%	--	--	75%	0%	0%
	DOOR	0	1	--	--	3	0	0
		0%	0%	--	--	--	--	8%
	FOND DU LAC	0	0	--	--	--	--	3
		0%	0%	--	--	--	0%	72%
	KEWAUNEE	0	0	--	--	--	0	13
		0%	0%	--	--	0%	--	19%
	MANITOWOC	0	0	--	--	0	--	6
		0%	0%	--	--	0%	0%	33%
	MARINETTE	0	0	--	--	0	0	5
		0%	0%	--	--	0%	--	54%
	OCONTO	0	0	--	--	0	--	13
		0%	3%	--	0%	--	0%	50%
	OUTAGAMIE	0	2	--	0	--	0	11
		0%	0%	--	--	0%	--	20%
	SHEBOYGAN	0	0	--	--	0	--	6
		0%	0%	--	33%	8%	0%	14%
	WINNEBAGO	0	0	--	1	1	0	4
		0%	0%	--	--	--	0%	38%
	ASHLAND	0	0	--	--	--	0	3
		0%	0%	--	--	--	0%	5%
	BARRON	0	0	--	--	--	0	1
		0%	0%	--	--	--	0%	4%
	BAYFIELD	0	0	--	--	--	0	1
		0%	28%	--	--	0%	14%	20%
	BUFFALO	0	20	--	--	0	2	8
		0%	0%	--	--	--	0%	50%
	BURNETT	0	0	--	--	--	0	3
		0%	0%	--	0%	100%	0%	19%
	CHIPPEWA	0	0	--	0	1	0	11
NW		--	0%	--	--	--	--	35%
	CLARK	--	0	--	--	--	--	8
		0%	0%	--	--	67%	44%	4%
	DOUGLAS	0	0	--	--	4	8	1
		0%	0%	--	100%	0%	0%	5%
	DUNN	0	0	--	2	0	0	3
		0%	0%	--	60%	--	0%	58%
	EAU CLAIRE	0	0	--	3	--	0	19
		0%	0%	--	--	--	0%	42%
	JACKSON	0	0	--	--	--	0	11
		0%	0%	--	--	--	0%	0%
	PEPIN	0	0	--	--	--	0	0
	PIERCE	--	82%	--	100%	0%	33%	86%

		Special Inspection Type % bridges backlogged for inspection type # of bridges backlogged for inspection						
Region	County	Initial	Routine	Load Posted	In-depth	Fracture Critical	Underwater Diving	Underwater Probe/Visual
		--	47	--	1	0	1	37
		0%	0%	--	0%	0%	0%	0%
	POLK	0	0	--	0	0	0	0
		--	0%	--	100%	--	0%	63%
	RUSK	--	0	--	1	--	0	12
		0%	0%	--	--	--	0%	0%
	SAWYER	0	0	--	--	--	0	0
		0%	0%	100%	0%	--	25%	13%
	ST. CROIX	0	0	1	0	--	1	8
		0%	0%	--	100%	0%	--	0%
	TAYLOR	0	0	--	1	0	--	0
		0%	0%	100%	100%	0%	0%	10%
	TREMPEALEAU	0	0	1	1	0	0	2
		0%	0%	--	--	--	--	0%
	WASHBURN	0	0	--	--	--	--	0
		0%	0%	--	--	100%	--	42%
	KENOSHA	0	0	--	--	1	--	8
		1%	5%	0%	7%	33%	0%	32%
	MILWAUKEE	1	24	0	6	3	0	19
		0%	6%	0%	--	--	100%	29%
	OZAUKEE	0	3	0	--	--	1	4
SE		0%	26%	--	--	--	--	17%
	RACINE	0	16	--	--	--	--	4
		10%	0%	0%	50%	--	--	3%
	WALWORTH	1	0	0	1	--	--	1
		0%	3%	--	0%	--	0%	9%
	WASHINGTON	0	2	--	0	--	0	2
		0%	20%	--	0%	--	--	32%
	WAUKESHA	0	34	--	0	--	--	18
		0%	0%	100%	0%	0%	7%	100%
	COLUMBIA	0	0	1	0	0	1	17
		25%	0%	75%	0%	0%	0%	5%
	CRAWFORD	1	0	3	0	0	0	1
		0%	1%	--	100%	0%	0%	100%
	DANE	0	2	--	1	0	0	24
		0%	0%	--	--	--	0%	100%
SW	DODGE	0	0	--	--	--	0	9
		0%	0%	--	0%	0%	0%	10%
	GRANT	0	0	--	0	0	0	1
		0%	0%	--	--	--	0%	100%
	GREEN	0	0	--	--	--	0	11
		50%	0%	--	100%	0%	0%	100%
	IOWA	2	0	--	1	0	0	12

		Special Inspection Type % bridges backlogged for inspection type # of bridges backlogged for inspection						
Region	County	Initial	Routine	Load Posted	In-depth	Fracture Critical	Underwater Diving	Underwater Probe/Visual
		0%	3%	--	--	--	0%	100%
	JEFFERSON	0	2	--	--	--	0	17
		0%	0%	100%	--	0%	0%	74%
	JUNEAU	0	0	8	--	0	0	37
		0%	0%	--	33%	0%	0%	0%
	LA CROSSE	0	0	--	2	0	0	0
		0%	0%	--	--	--	0%	100%
	LAFAYETTE	0	0	--	--	--	0	13
		0%	0%	50%	100%	0%	--	0%
	MONROE	0	0	1	1	0	--	0
		0%	41%	100%	--	0%	0%	32%
	RICHLAND	0	32	1	--	0	0	8
		0%	0%	--	50%	0%	0%	100%
	ROCK	0	0	--	2	0	0	27
		0%	1%	--	100%	0%	0%	91%
	SAUK	0	1	--	1	0	0	29
		0%	0%	100%	0%	0%	--	0%
	VERNON	0	0	1	0	0	--	0