Highway Operations

Wisconsin Department of Transportation

We get you where you're going—safely, reliably, comfortably, at a reasonable price.

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Highway Operations

Each year, the citizens of Wisconsin entrust the Wisconsin Department of Transportation to operate and maintain the state's 31,000 lane miles of state highway. They ask for increased mobility and traveler information, safer and more attractive roads, and the wise stewardship that makes small investments today to avoid much larger repair costs tomorrow.

To provide these services in the most cost-effective way possible, highway operations employees in the state and the counties work with their partners in the legislature to determine how best to allocate their efforts across eight broad asset groups.

Each area is maintained to one of five service levels (A–F), depending upon available funding and direction from citizens and the legislature.

Pavement: Smooth, well-cared-for pavements move travelers and goods safely and efficiently —and are vital to Wisconsin's overall economy.

Bridges: Safe, strong bridges connect the highway system, moving people and heavy loads from point to point.

Highway emergency and event management: Safe and quick clearance of crashes and other incidents from the state's highways keeps travelers and goods safely moving.

Traffic control and operations: Visible signs, strong guardrails, well-timed signals and other traffic control features help drivers safely get where they're going.

Drainage system: A clear and structurally sound drainage system provides cost-effective preservation of the pavement.

Roadsides: Attractive and appropriately trimmed roadsides protect the safety of travelers and support Wisconsin's tourist economy.

Roadside facilities: Clean, safe and attractive tourist information centers, rest areas, and waysides support Wisconsin's tourist economy and provide a safe place to get off the road.

Snow and ice control: Clear roads keep people and goods moving.

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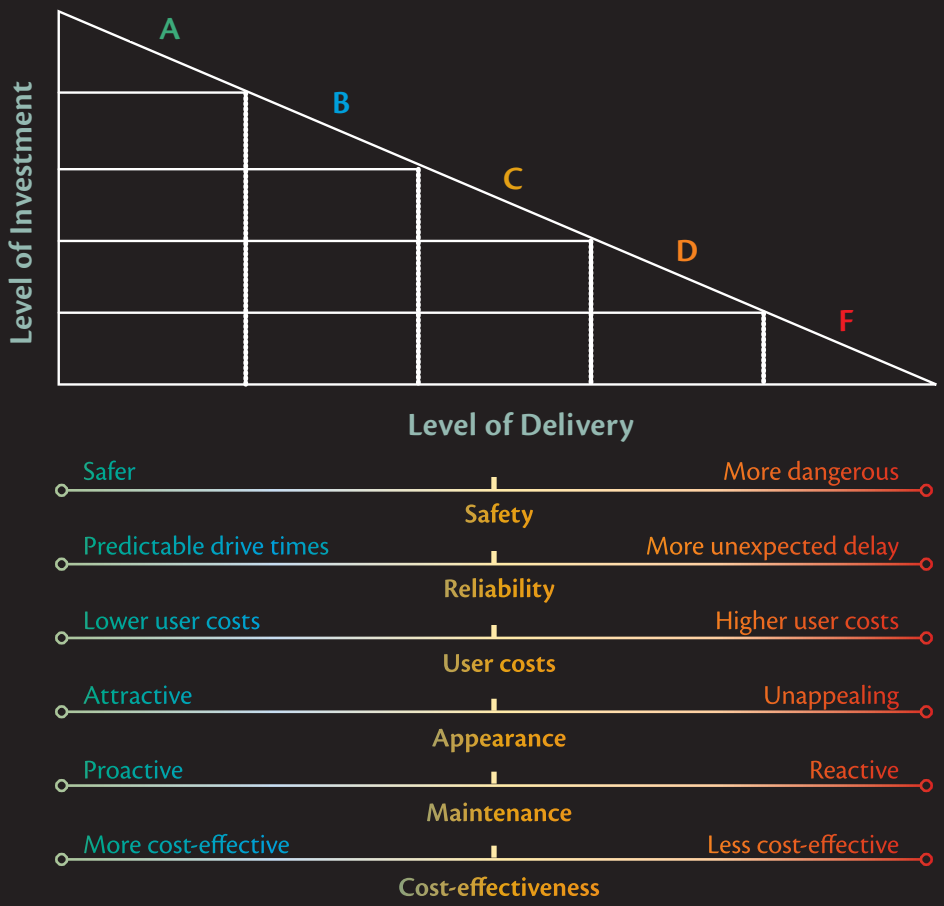
Service Levels

As you can see below, at service level A, highways are smooth, their appearance is pleasing, and there is minimal unexpected delay. At service level C, safety deficiencies are beginning to appear, cost-saving investments are being deferred, and short-term delays are becoming common. At service level F, there are significant safety deficiencies, regular long-term delays, and no investment in preservation.
See Appendix for details.



Pavement

Smooth, well-cared-for pavements move travelers and goods safely and efficiently—and are vital to Wisconsin's overall economy.

Pavement may have small potholes, and some significant rutting, cracking, and shoulder dropoff.

Shoulders have occasional hazardous debris.

Pavement has minimal rutting, infrequent cracking, and very little shoulder dropoff.

Shoulders are free of debris.

Pavement may have frequent potholes, extensive and deep rutting, frequent and wide cracking, and long lengths of significant shoulder dropoff.

Shoulders have moderate amounts of hazardous debris.

Pavement may have infrequent, small potholes, minor rutting, and minimal shoulder dropoff.

Shoulders are almost always free of debris.

Pavement may have frequent potholes, hazardous rutting, extensive cracking, and long lengths of hazardous shoulder dropoff.

Shoulders are not serviceable, creating hazardous and unsightly conditions.

Concrete Bridges

Safe, strong bridges connect the highway system, moving people and heavy loads from point to point.

A

No deterioration.

Possible discoloration or superficial cracking doesn't affect strength or serviceability.

B

Bridge may show minor cracks and spalls, but no exposed reinforcing or surface evidence of rebar corrosion.

CD

Bridge may show some delaminations, spalls, exposed reinforcing, and possible rebar corrosion.

Section loss is incidental and doesn't significantly affect strength or serviceability.

F

Bridge shows advanced deterioration, including corrosion of reinforcement and/or loss of concrete section

Strength and serviceability of the element or the bridge may be compromised.

Steel Bridges

A

Bridge shows no evidence of active corrosion.

Paint system protects the metal surface.

B

Bridge shows little or no active corrosion, though surface rust has formed.

Paint system may show distress, but there is no exposure of metal.

C

Surface or freckled rust is prevalent

There may be exposed metal but there is no active corrosion causing section loss.

D

Corrosion may be present but section loss due to active corrosion doesn't warrant structural analysis.

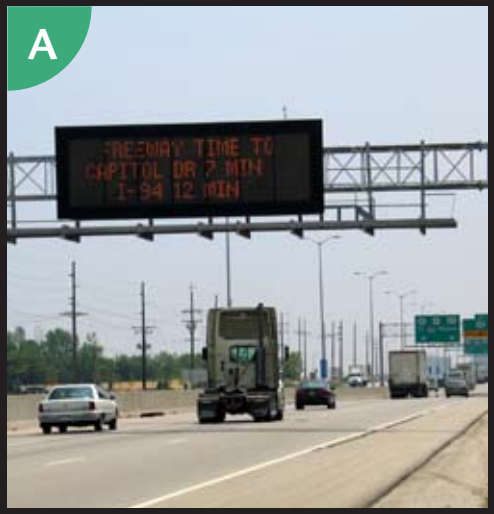
F

Advanced corrosion.

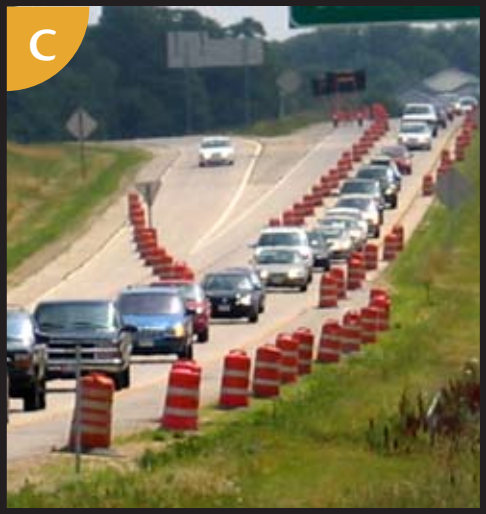
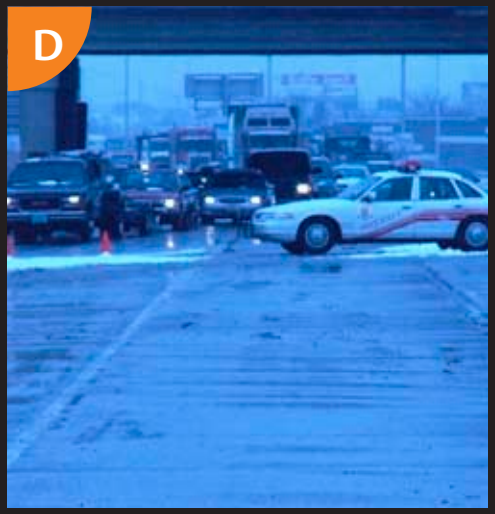
Strength and serviceability of the bridge may be compromised.

Highway Emergency and Event Management

Safe and quick clearance of crashes and other incidents from the state's highways keeps travelers and goods safely moving.



	A	B
Drivers are warned of emergencies and hazardous or congested conditions within 5 minutes of occurrence...	In almost all cases.	In most cases.
Traffic incidents block freeways or expressways...	Few for more than 90 minutes.	Few for more than 120 minutes.
Crash victims can receive emergency medical service...	Within 10 minutes.	Within 15 minutes.
Stranded motorists on freeways and expressways are rescued...	Within 30 minutes	Within 45 minutes.
Delays encountered in work zones and near special events...	Rarely exceed 10 minutes.	Rarely exceed 20 minutes.
There are alternate routes for...	All major highway corridors.	Most major highway corridors.
There are communication links between...	All state and county public safety and transportation agencies.	Most state and county public safety and transportation agencies.

C	D	F
		
In many cases.	In some cases.	In few cases.
Some for more than 120 minutes.	Many for more than 120 minutes.	Routinely for more than 120 minutes.
Within 20 minutes.	Within 30 minutes.	Within 45 minutes.
Within 60 minutes.	Within 90 minutes.	Within 120 minutes.
Rarely exceed 30 minutes.	Rarely exceed 45 minutes.	Routinely exceed 45 minutes.
Many major highway corridors.	Some major highway corridors.	A few major highway corridors.
Many state and county public safety and transportation agencies.	Some state and county public safety and transportation agencies.	A few major metropolitan state and county public safety and transportation agencies.

Traffic Control and Operations

Visible signs, strong guardrails, well-timed signals and other traffic control features help drivers safely get where they're going.

A

Stripes, signs and delineators are highly visible at night.

Traffic signals, lighting, and other traffic operations systems are fully functional.

Guardrail is sound and functional.

B

Night reflectivity is slightly diminished.

Some signals and other systems experience minimal outages.

C

Night reflectivity is diminished.

Some signals and other systems experience moderate outages.

Guardrail is functionally sound, but has some structural deterioration.

D

Night reflectivity is greatly diminished.

Some signals and other systems must be turned off.

Guardrail is beginning to fail.

F

Night reflectivity is significantly compromised.

Many signals and other systems must be turned off.

Guardrail is failing.

Drainage System

A clear and structurally sound drainage system provides cost-effective preservation of the pavement.

C

Many drainage structures experience blockages, and some are in need of minor repairs.

Ponding on pavement may occur.

A

Drainage structures flow freely and are in very good repair.

There is almost never any significant ponding on the pavement.

D

Drainage structures experience some significant blockages.

Some have failed and others are in need of significant repairs.

Frequent ditch blockages occur.

Ponding on pavement or overtopping of roadways is sometimes of long duration.

B

A few drainage structures experience blockages, but are in good repair.

Ditches are generally clear of debris buildup.

Minor ponding occurs on pavement.

F

Drainage structures experience blockages under normal flow conditions, and are failing or in need of significant repairs.

Frequent ditch blockages occur.

Ponding on pavement is common, requiring road closures.

Roadsides

Attractive and appropriately trimmed roadsides protect the safety of travelers and support Wisconsin's tourist economy.

C

Roadside shows significant amount of litter and weeds.

Ditch lines, guardrail, signs, and sight lines are slightly obscured by encroaching vegetation.

Walls and fences need moderate repair.

Landscaped areas look messy and unappealing.

A

Roadside has minimal visible litter, weeds, and vegetation obstructions.

Ditch lines, guardrail, signs, and sight lines are visible.

Noise and retaining walls and fences are in excellent condition.

Landscaped areas are well tended and attractive.

D

Roadside shows a significant amount of litter and weeds.

Vegetation is starting to encroach on the pavement edge, moderately obscuring ditch lines, guardrail, signs, and sight lines.

Walls and fences are in need of substantial repair.

B

Roadside may show some litter and weeds.

Ditch lines, guardrail, signs, and sight lines are visible.

Walls and fences need minor repair.

F

Roadside shows significant litter and weeds.

Vegetation encroaches on pavement edge, significantly obscuring ditch lines, guardrail, signs, and sight lines.

Walls and fences have significant structural damage.

Landscaped areas are entirely over-grown and are very unattractive.

Roadside Facilities

Clean, safe and attractive tourist information centers, rest areas, and waysides support Wisconsin's tourist economy and provide a safe place to get off the road.

A

- Facilities are clean and sanitary.
- Buildings and mechanical systems are in good repair.
- Sidewalks and pavements are in excellent condition.
- Everything complies with health and safety codes.
- Grounds and vegetation are neat and manicured.

B

- Most facilities are clean and sanitary.
- Buildings and mechanical systems are functioning.
- Sidewalks and pavements are in good condition.
- Sites may show minimal litter and graffiti.

C

- Most facilities are reasonably clean and sanitary.
- Buildings and mechanical systems may need minor repairs.
- Sidewalks and pavements may need some repairs.
- Some litter or graffiti is visible.
- Grounds may be messy and unappealing.

D

- Facilities may be dirty and unsanitary.
- Buildings and mechanical systems need significant repairs, as do sidewalks and pavements.
- Some unsafe conditions may exist.
- May not be in full compliance with health and safety codes.
- Litter or graffiti is visible.

F

- Facilities may be unacceptably dirty or unsanitary.
- Buildings, mechanical systems, sidewalks, or pavements need major repairs.
- Conditions violate health and safety codes.
- Grounds are unsightly or in disrepair.
- Some facilities may be closed or out of service.

Snow and Ice Control

Clear roads keep people and goods moving.

Snow and Ice Control

Colors on roads in maps below indicate winter road conditions from pictures on opposite page.

Key to Winter Road Conditions

1. excellent
2. good
3. isolated slippery spots, with some delay
4. snow-covered and slippery, with regular delay
5. snow-covered and slippery, with widespread delay and slow travel

A

High-volume roads are in excellent condition.

Mid- to low-volume roads are in excellent to good condition, with drivers experiencing only isolated delay.

CD

High-volume roads are in excellent condition.

Mid-volume roads are starting to get slippery with some snow packing.

Low-volume roads are snow-covered and slippery, with drivers experiencing regular delays and slow travel.

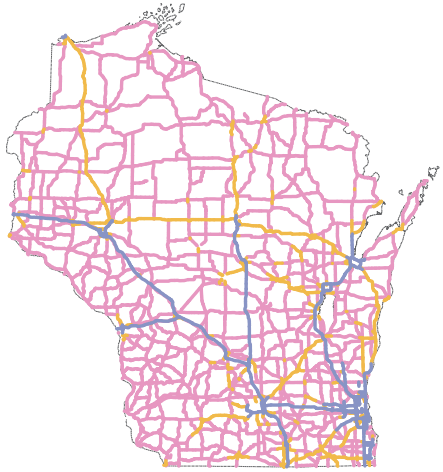
B

High-volume roads are in excellent condition.

Mid-volume roads are in good condition.

Low-volume roads have isolated slippery spots and some snow packing, with drivers experiencing some delay.

F



High-volume roads are in good condition, with isolated slippery spots.

Mid-volume multi-lane highways are starting to get slippery.

All two-lane highways are snow-covered and slippery, with drivers experiencing widespread delay and slow travel.

Appendix: Service Level Definitions

Service level A

is a very high service level in which the roadway and associated features are in excellent condition.

Systems are operational and users experience almost no unexpected delays.

At this maintenance service level, very few deficiencies are present and the overall appearance is pleasing.

Preventive and routine maintenance is practiced on a regular basis, requiring minimal corrective maintenance.

Service level B

is a high service level in which the roadway and associated features are in good condition.

Systems are operational and users may experience occasional unexpected delays.

At this maintenance service level, moderate deficiencies exist in the highway's appearance.

Preventive maintenance is practiced for safety-related work, but is deferred in other areas, resulting in additional routine and corrective maintenance measures.

Corrective maintenance is handled in a timely manner.

Service level C

is a medium service level in which the roadway and associated features are in fair condition.

Highway features may occasionally be inoperable and unavailable to users.

Short, unexpected delays are more frequent, resulting in minor safety impacts.

Some deficiencies are present in safety-related activities, moderate deficiencies for investment protection activities, and significant deficiencies in highway appearance and roadside aesthetics.

Preventive maintenance is deferred for most activities, except safety-critical work.

More emphasis is placed on routine maintenance activities, and corrective maintenance as necessary.

A backlog of deficiencies begins to build.

Some structural problems begin to appear due to long-term deterioration of the system.

Service level D

is a low maintenance service level in which the roadway and associated features are generally in poor condition.

Highway features fail regularly.

Short, unexpected delays are common; occasionally, delays may be lengthy.

At this service level, moderate deficiencies are present in safety-related activities and there are significant deficiencies for all other maintenance activities.

Maintenance has become very reactive, placing emphasis on correcting problems as they occur.

Deficiencies build up and will have to be dealt with eventually, at a much higher cost.

Safety problems increase risk and liability.

Significant structural deficiencies accelerate the long-term deterioration of the system.

The overall appearance is poor.

Service level F

is a very low maintenance service level in which the roadway and associated features are in poor and failing condition.

Unexpected delays occur regularly.

At this maintenance service level, significant deficiencies are present in all maintenance activities.

The overall appearance is extremely poor.

Preventive maintenance is not practiced for any maintenance activities.

Maintenance is reactive and emphasizes correcting problems after they occur.

Excessive safety problems persist.

Road conditions have deteriorated until maintenance treatments are not enough to correct deficiencies, necessitating high-cost remedial construction preservation projects in the future.