Intercounty Coordinating Committee

Adams, Columbia, Dodge, Green Lake, Jefferson, Juneau, Marquette,
Sauk & Waushara Counties

April 21, 2025 Meeting Minutes

ATTENDEES: Dave Frohling, Dodge; Cynthia Haggard, Adams; Tess Carr, Columbia; Bryant Hazard, Sauk; Darren Schroeder, Columbia; Ken Borzick, Marquette; Tim McCumber, Sauk; Doug Richmond, Columbia; Megan Kapp, Waushara; Steve Ness, Jefferson; Tammy Lowrey, Adams; Chelsea Shanks, WCA; Brad Cook, Columbia; Benjamin Jordan, UW-Madison

1. Call to Order: Chair McCumber called the meeting to order at 9:30 AM.
2. Pledge of Allegiance: Cynthia Haggard
3. Meeting certification: Meeting met Open Meeting certification
4. Adoption of Agenda: Motion/2nd Marquette/Columbia - Unanimous Approval
5. Minutes of 2/17/25: Motion/2nd to approve Minutes of 2/17/25: Waushara/Dodge - Unanimous Approval
6. Visiting Legislative Official: None
7. WCA Update: Chelsea Shanks gave an update.
8. Program: Ben Jordan, UW-College of Engineering, gave a presentation on Transportation/Roads/Pavement.
9. Open Discussion: County Legislative Breakfasts; Homeless Issues; Airbnb ordinances
10. Next Meeting: June 16, 2025 in Columbia County. Program Topic - Focus on Benefits & Process; (Daniel Foth?)
11. Adjourn: Motion/2nd to adjourn; Dodge/Jefferson at 10:54 AM.

Roads - Pavement Longevity

Benjamin J. Jordan, PE (IL, WA, WI)
Staff Engineer
Wisconsin LTAP

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Factors that affect pavement longevity

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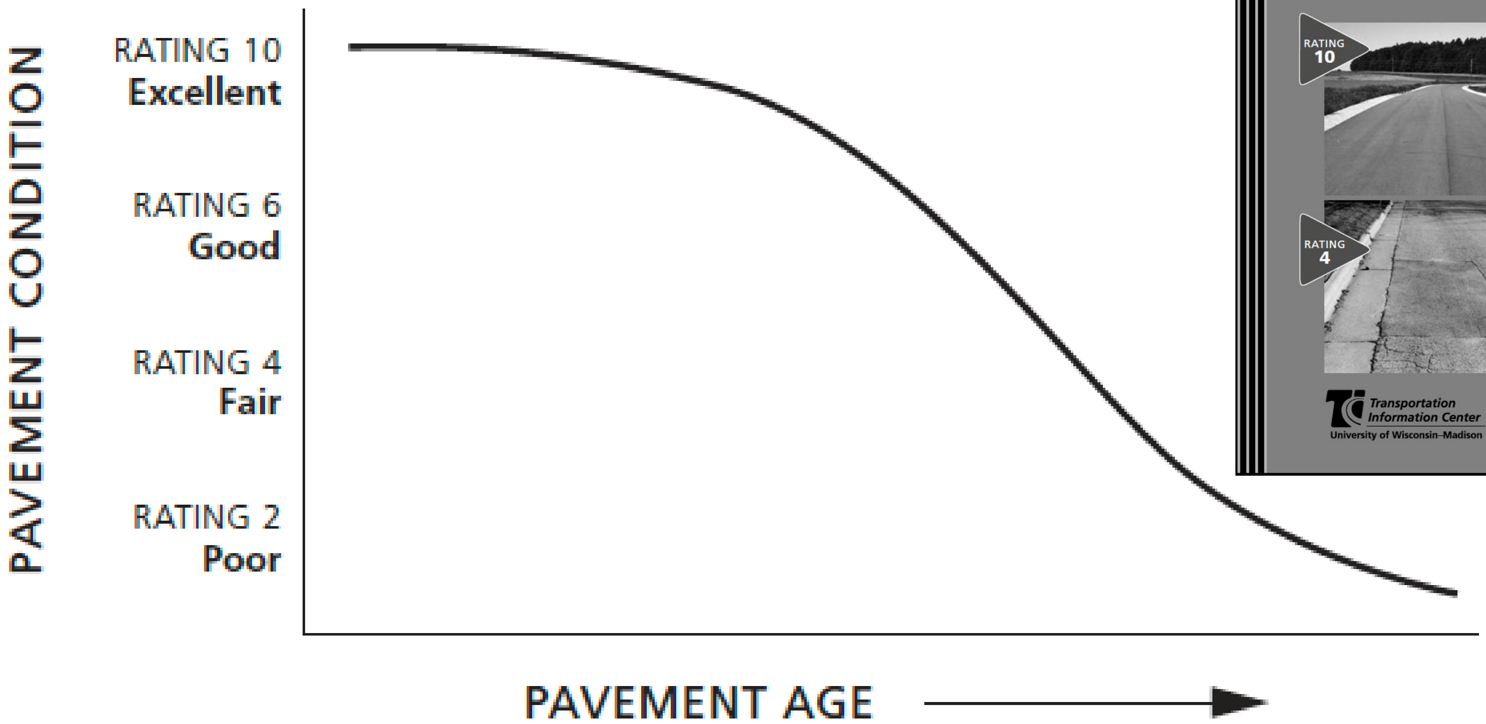
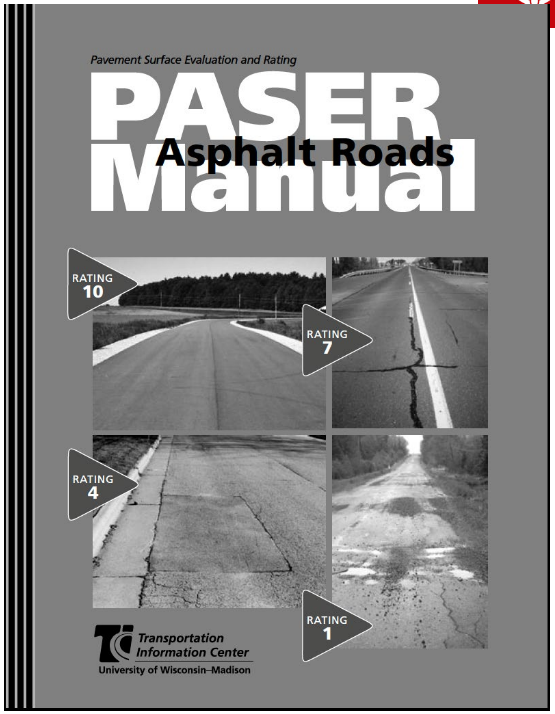
Public Works Facilities Deteriorate with use and age – Pavement Example





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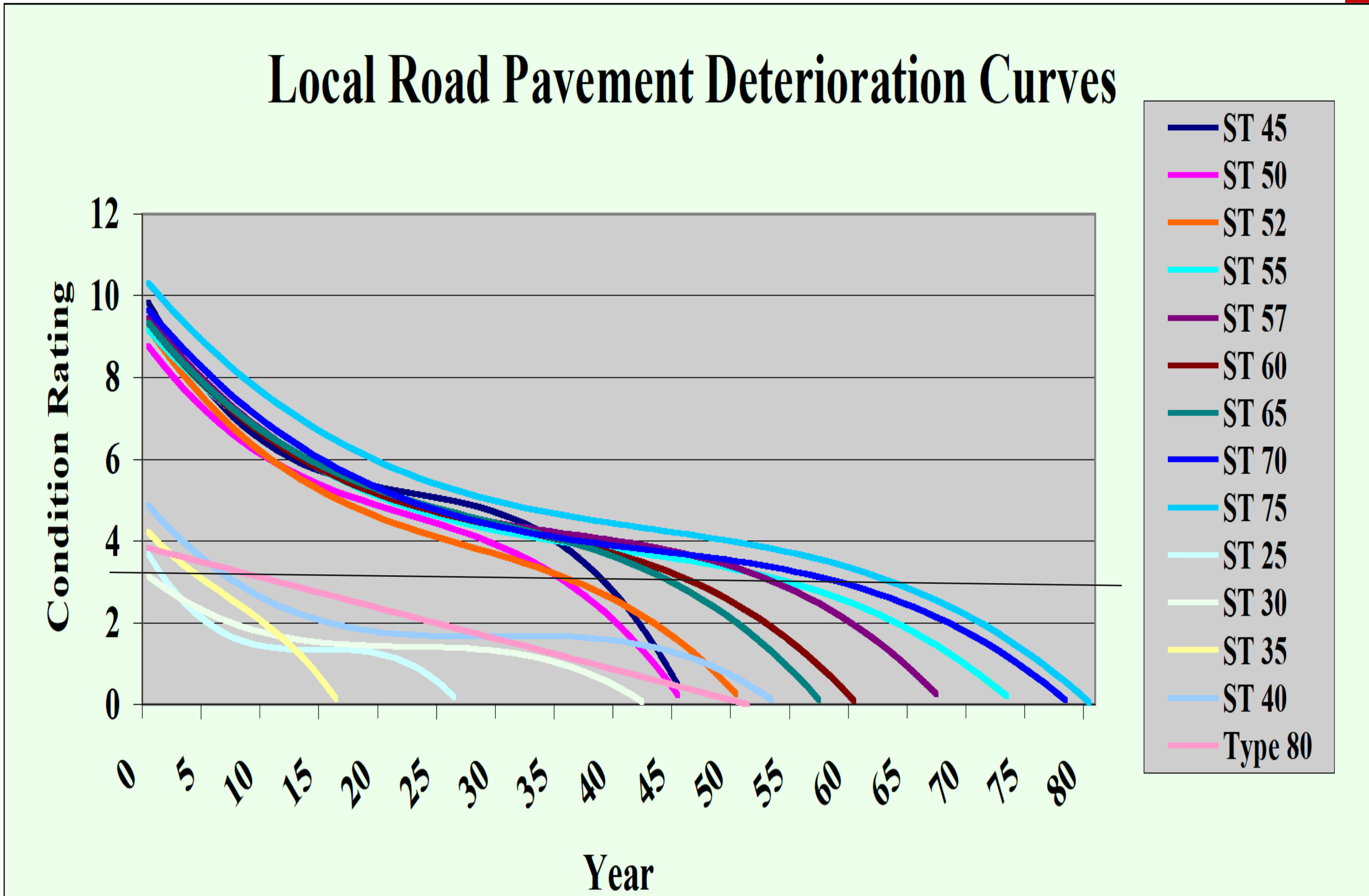

From: Wisconsin Information System for Local Roads - WISLR

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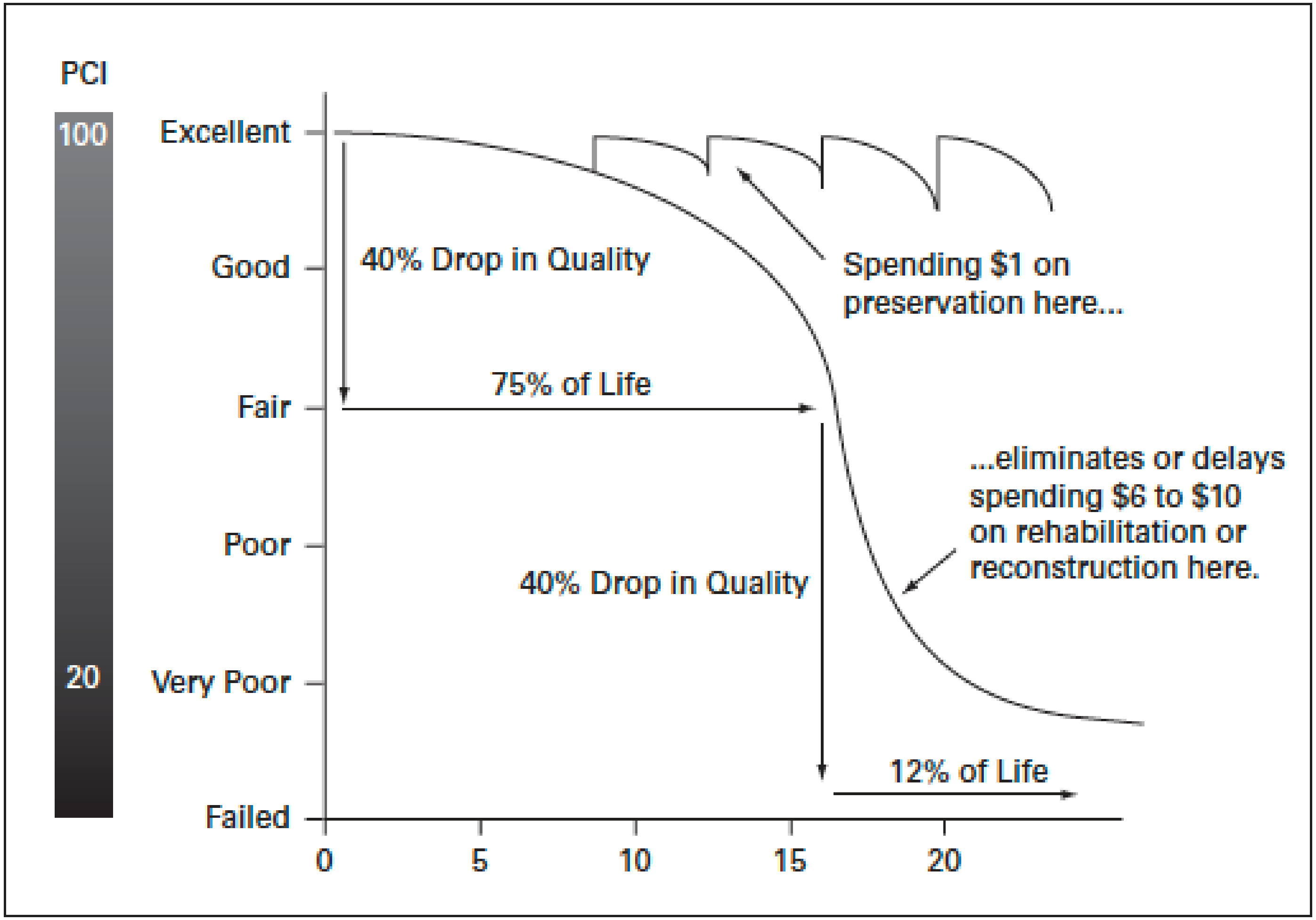
We can increase pavement longevity by:

- Improving design (pavement thickness & mix design selection)
  - Improving subgrade soils and drainage
  - Getting truck counts and projecting truck traffic
  - Selecting mix for anticipated traffic
- Inspection and material testing
- Early low-cost maintenance
- Continued proactive maintenance
  - Select appropriate treatments for the pavement condition

Preventive Maintenance extends useful life



Source Pavement Preservation Compendium II
Federal Highway Administration
SEPTEMBER 2006
Publication No. FHWA-IF-06-049

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Maintenance Methods

- Routine Maintenance
  - Crack seal
  - Temporary patch
  - Permanent patch
- Surface Treatments
  - Fog Seal
  - Chip seal
  - Scrub seal
  - Slurry seal/Micro-surfacing
  - Thin overlay (3/4")
- Overlay or Reconstruct
  - Overlay (2" - 3")
  - Full Depth Reclamation
  - Reconstruction

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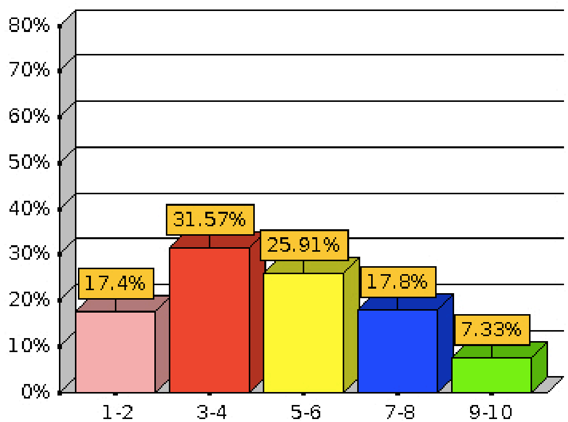
Estimated Life Extension

Treatment	Good Condition PASER Rating 7 or more	Fair Condition PASER Rating 5-6	Poor Condition - PASER rating 4 or less
Fog Seal	3-5 years	1-3 years	1-2 years
Chip Seal	7-10 years	3-5 years	1-3 years
Scrub Seal	[redacted]	3-4 years	1-3 years
Slurry Seal	7-10 years	3-5 years	1-3 years
Microsurfacing	8-12 years	7-10 years	2-4 years
Thin Overlay	8-12 years	7-10 years	2-4 years

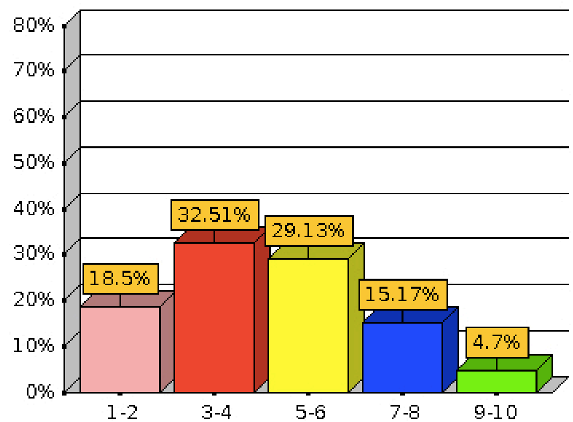
Use PASER analysis to develop plan

Do nothing 5-year plan (1-2, 3-4, 5-6 increase; 7-8, 9-10 decrease; backlog increases $374,283)

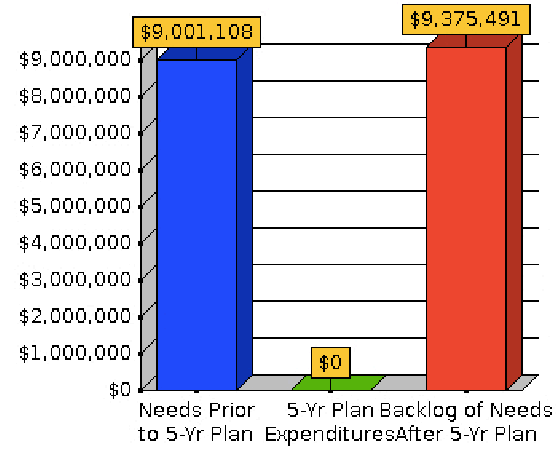
Condition Before Plan



Condition After Plan

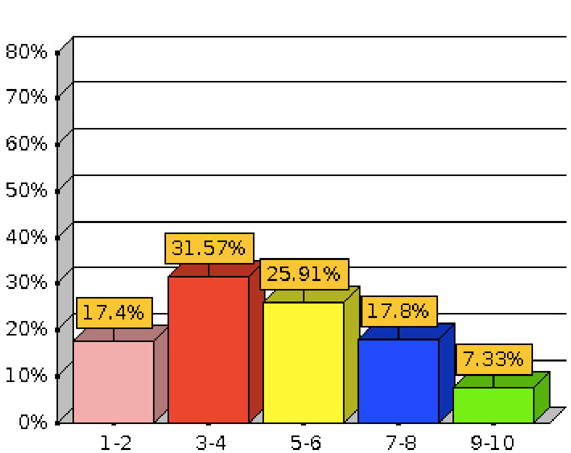


Pavement Need & Expenditure Graphic

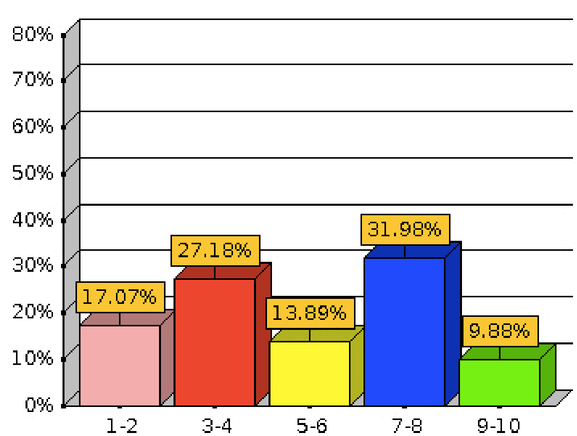


$250,000 / year (1-2 no change, 3-4, 4-6 decrease; 7-8, 9-10 increase; backlog decreases $1,117,008)

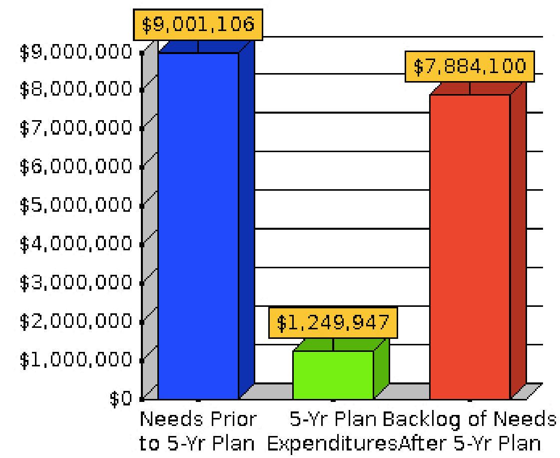
Condition Before Plan



Condition After Plan



Pavement Need & Expenditure Graphic



Useful resources:

roadresource.org

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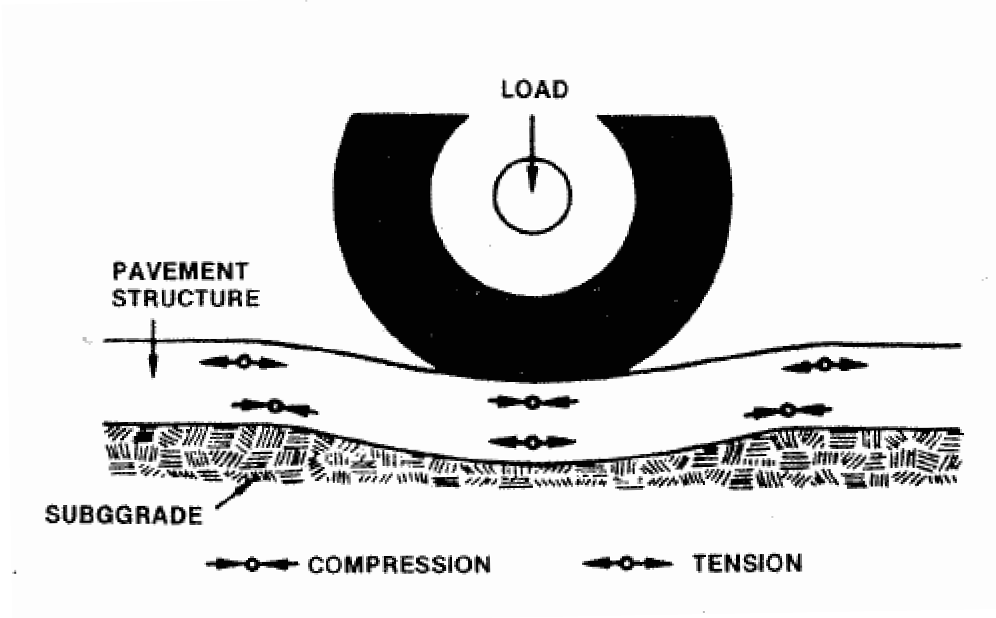
Deflection causes deterioration



Proper thickness design keeps deflection under a failure threshold over the design life of the pavement.

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Repeated deflection causes fatigue cracking

- cracking of the pavement from the bottom up due to repeated deflection of the pavement

- fatigue cracking occurs as damage accumulates over multiple deflection cycles

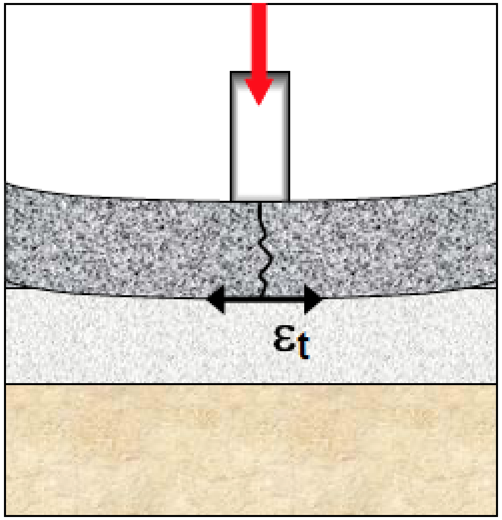
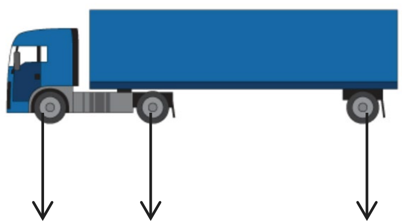


Figure 2.2 Schematic of Fatigue Cracking Mechanism

Graphic Source: Methodology And Calibration Of Fatigue Transfer Functions For Mechanistic-empirical Flexible Pavement Design By Angela L. Priest David H. Timm NCAT Report 06-03 December 2006

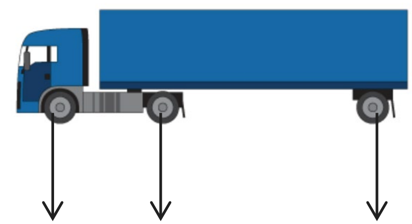
More Weight → Larger Deflection → More Damage

18,000 lb. single axle

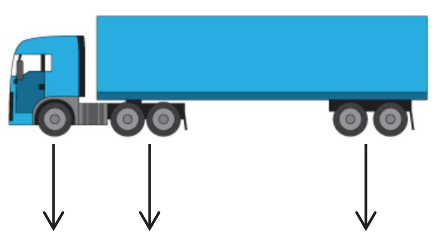


2.1 Damage Units

24,000 lb. single axle



6.1 Damage Units



34,000 lb. tandem axle

2.4 Damage Units

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More Trips → More Deflection Cycles → More Damage

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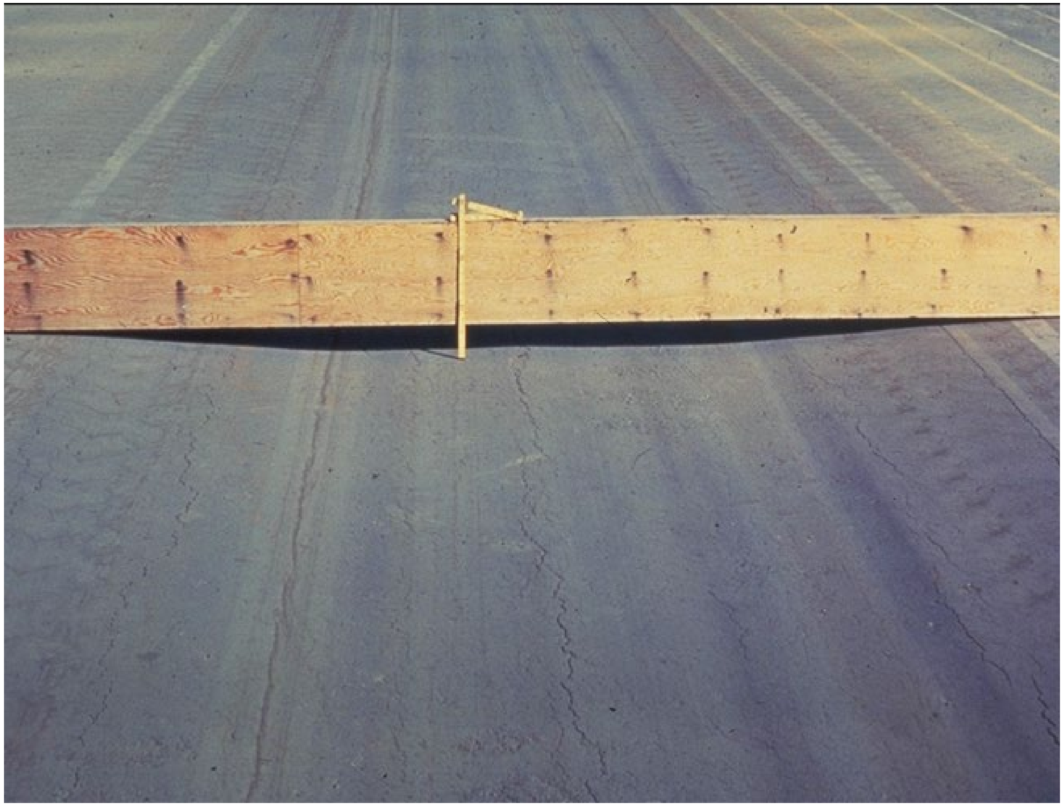
Fatigue cracking visible as a longitudinal crack in the wheelpath

Fatigue cracking visible as alligator cracking

Weak base and weak soils consolidating under load visible as rutting



Reduce pavement deflection by:

- increasing the thickness of pavement materials
- increasing the strength of the
  - Stone base
  - Subgrade Soils
    - Drainage Improvement

- decreasing the load applied to the pavement ==> Weight limits

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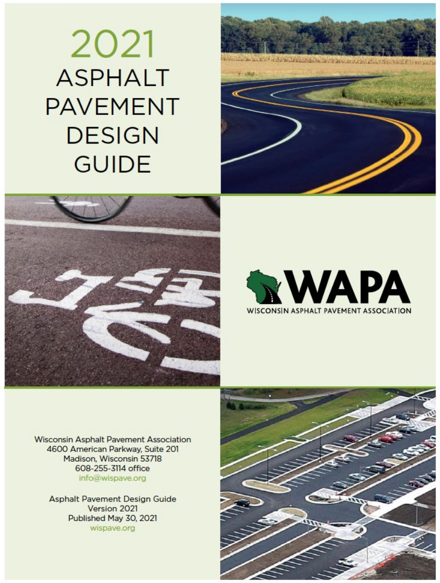
WAPA Asphalt Design Guide



https://www.wispave.org/designguide

WisDOT developed and uses the WisPave 4 design program

To request access to WisPave 4, send an email to WisPave's administrator(peter.kemp@dot.wi.gov), with your complete name, company name, and your Wisconsin Web Access Management System (WAMS) User ID (do not send your WAMS password).
Users must have a WAMS account to access WisPave.

PAVEXpress

https://www.pavexpressdesign.com/

MNPave https://www.dot.state.mn.us/app/mnpave/index.html

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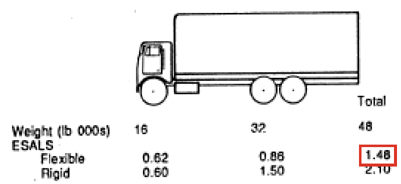
Table 6.3. Simplified Assignment of Traffic Class and 20-Year Design ESALs			
Traffic Class	**Pavement Class (see Table 4.1)**	**20-Year Design ESALs Range**	**Typical Use**
I	LT	< 1 million	Residential driveways School and recreational areas Playgrounds and tracks Bike paths Sidewalks Parking lots (<50 stalls)
II	LT	< 1 million	Low-volume roadways Subdivision streets Collector streets Town roads County roads Parking lots (≥50 stalls)
III	MT	1-8 million	Medium-volume roadways Arterial streets Town roads County roads Bus stops
IV	MT	1-8 million	Roundabouts Slow-moving traffic Town roads (slow-moving) County roads (slow-moving) Industrial parking lots Loading docks
V	HT [1,2]	> 8 million	Truck terminals Industrial roadways Arterials

(a) Three-Axle Single-Unit Truck



(c) Five-Axle Tractor-Semitrailer (3-S2)

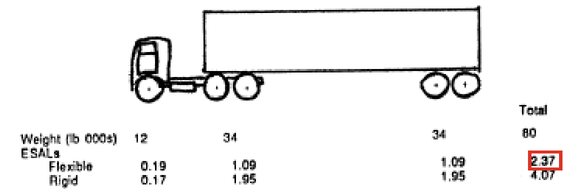


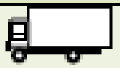
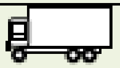
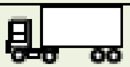
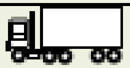
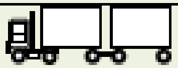
Table 6.2. Pavement ESAL Factors			
Truck Profile	**Designation**	**Application**	**ESAL Factor**
	2D	Local delivery School buses	0.3
	3SU	General delivery Refuse	0.8
	2S-1, 2S-2	General delivery	0.5
	3S-2 and above	Interstate transport Mass transit buses	0.8
	Double bottom	Interstate transport	2.0

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Table 7.2. Pavement Thickness for Traffic Class II							
20-Year Design ESALs	Typical Use	Asphalt Mixture Type	Subgrade Type		Asphalt with Crushed Aggregate Base		Recommended Surface Layer PG Binder Designation
			Rating	Description	Total Asphalt Thickness (in.)	Base Thickness (in.)	
< 1 million	Low-volume roadways Subdivision streets Collector streets Town roads County roads Parking lots ≥50 stalls	LT	Good-to-excellent	Gravels and coarse sands. SSV ≥ 5.0	3.0 – 3.5	6.0 – 10.0	S or H
			Medium	Clays and silts with low plasticity. SSV = 4.0 - 4.9.	3.5 – 4.0	6.0 – 12.0	S or H
			Poor	Clays and silts with high plasticity; sugary (incompactable) sands. SSV = 2.5 - 3.9.	4.0 – 4.5	9.0 – 14.0	S or H

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Table 7.3. Pavement Thickness for Traffic Class III							
20-Year Design ESALs	Typical Use	Asphalt Mixture Type	Subgrade Type		Asphalt with Crushed Aggregate Base		Recommended Surface Layer PG Binder Designation
			Rating	Description	Total Asphalt Thickness (in.)	Base Thickness (in.)	
1 - 8 million	Medium-volume roadways Arterial streets Town roads County roads Bus stops	MT	Good-to-excellent	Gravels and coarse sands. SSV ≥ 5.0	4.0 – 6.0	9.0 – 14.0	S
			Medium	Clays and silts with low plasticity. SSV = 4.0 - 4.9.	5.0 – 7.0	9.0 – 14.0	S
			Poor	Clays and silts with high plasticity; sugary (incompactable) sands. SSV = 2.5 - 3.9.	6.0 – 8.0	10.0 – 18.0	S

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Consider soil stabilization with FDR projects

Table 1.2. Versatility of Cement Compared to Other Stabilizing Agents[1] Used with FDR

Material type - including RAP	Well graded gravel	Poorly graded gravel	Silty gravel	Clayey gravel	Well graded sand	Poorly graded sand	Silty sand	Clayey sand	Silt, silt with sand	Lean clay	Organic silt/ Organic lean clay	Elastic silt	Fat clay, fat clay with sand
USCS[2]	**GW**	**GP**	**GM**	**GC**	**SW**	**SP**	**SM**	**SC**	**ML**	**CL**	**OL**	**MH**	**CH**
AASHTO[3]	A-1-a	A-1-a	A-1-b	A-1-b A-2-6	A-1-b	A-3 or A-1-b	A-2-4- or A-2-5	A-2-6 or A-2-7	A-4 or A-5	A-6	A-4	A-5 or A-7-5	A-7-6
Emulsified asphalt SE > 30 or PI < 6 and P_{200} < 20%	X	X	X	X	X	X	X						
Foamed asphalt PI < 10 and P_{200} 5 to 20%	X		X	X	X		X						
Cement, CKD, or self-cementing class C fly ash PI < 20 SO_4 < 3000 ppm	X	X	X	X	X	X	X	X	X	X			
Lime/LKD PI > 20 and P_{200} > 25% SO_4 < 3000 ppm								X		X		X	X

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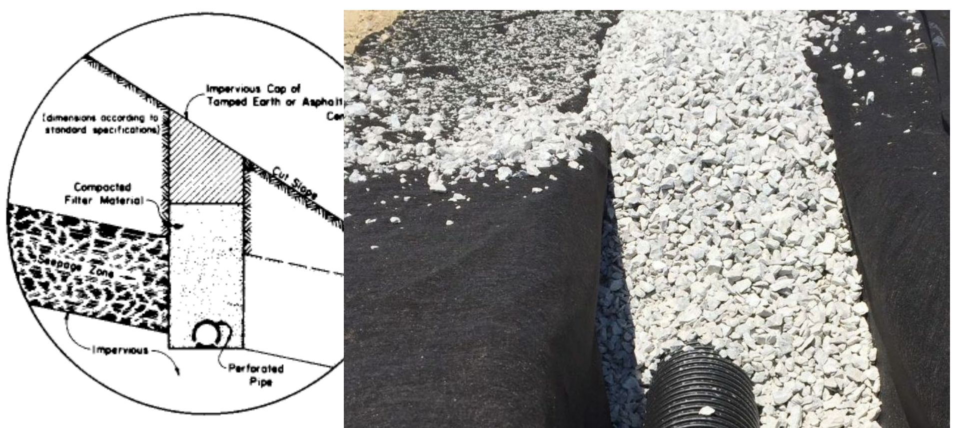
Improve drainage

Maintain culverts

regrade ditches



Consider underdrains

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April 21, 2025
ICC SIGN-IN SHEET

	Name	County	Position Title
1	Cynthia Haggard	ADAMS	County Administrator
2	Tess Carr	Columbia	2nd Vice Chair
3	Bryant Hazard	SAUK	SUPERVISOR
4	Darren Schroeder	columbia	County Chair
5	Dave Frohling	Dodge	Bd. Chr.
6	Ken Borzick	Marquette	Chair
7	Tim McCumber	Sauk	Chair
8	Doug Richmond	COLUMBIA	1st VICE-CHAIR
9	Megan Kapp	Waushara	County Administrator
10	Steve Nass	Jefferson	Cty Chair
11	Tony Cox	Adams	Hospital
12	Chelsea Shanks	WCA	WCA
13	BENJAMIN JORDAN	UW-Madison	~~Prog~~ Staff Engineer UW LTAP
14	Brad Cook	Columbia	Brd Supervisor
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