



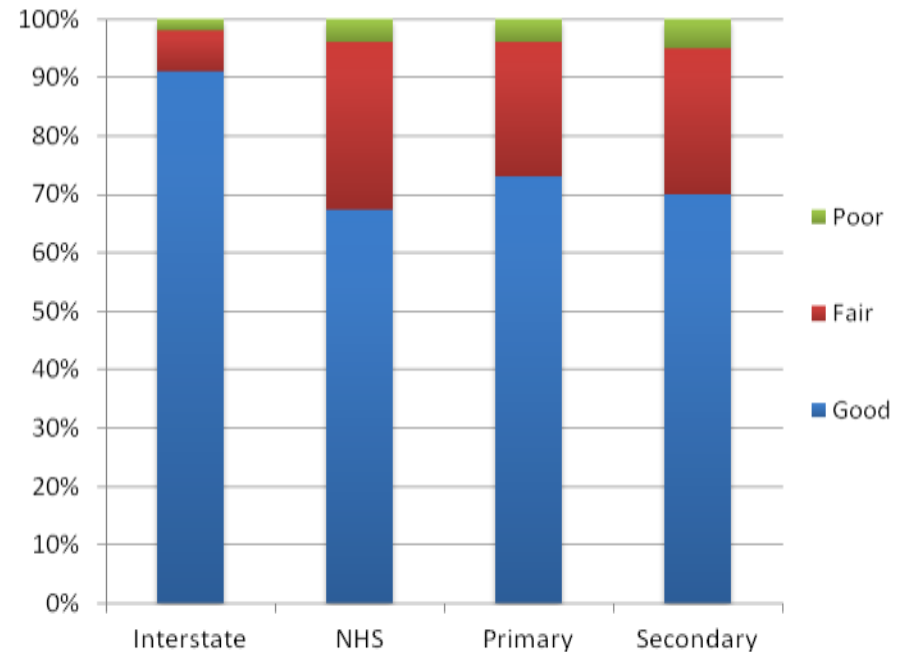
# Montana Department of Transportation

Rocky Mountain West Pavement Preservation Partnership Meeting  
October 4 – 6, 2011

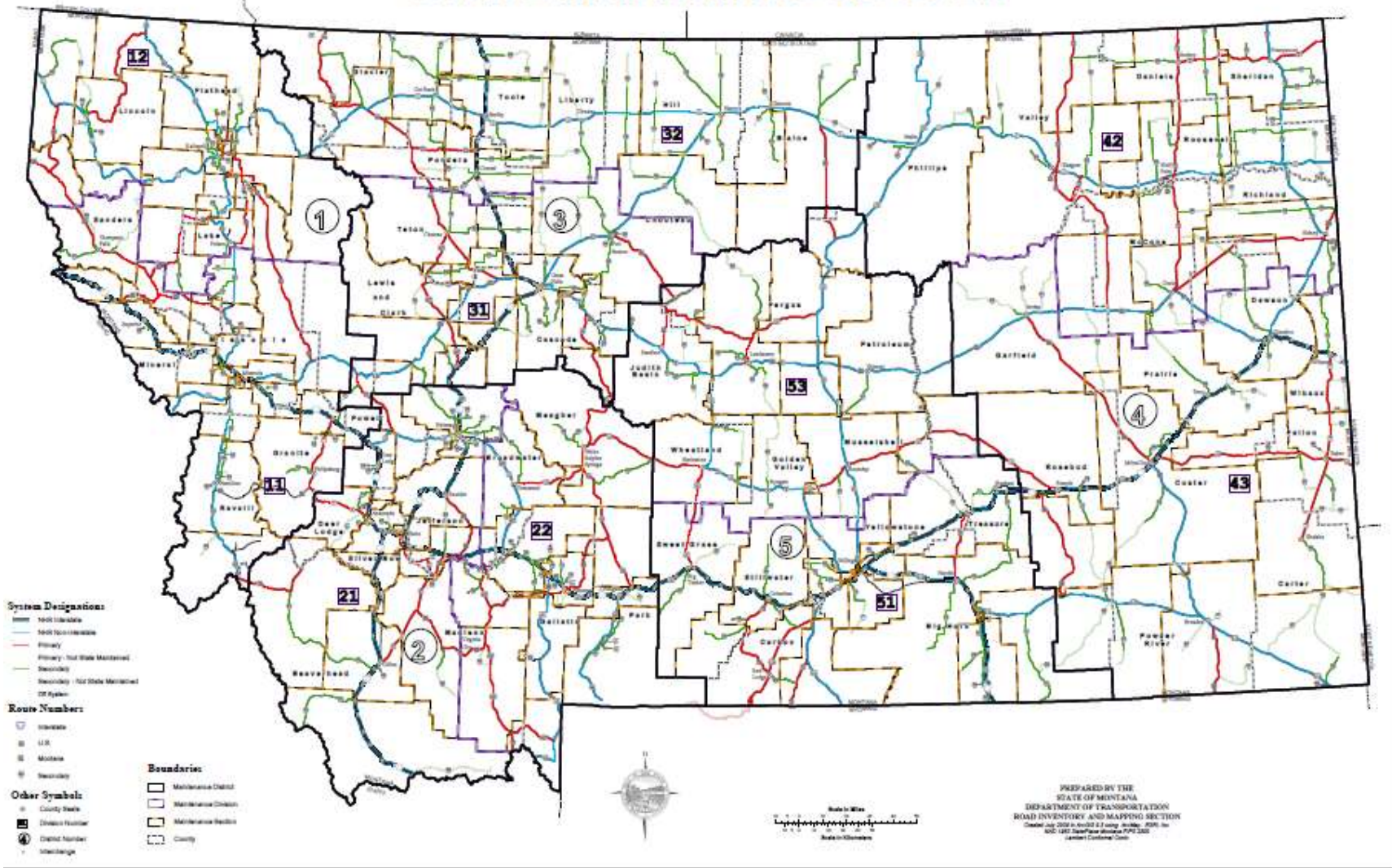
# Montana's Pavement Condition

- ▶ 96 percent of Montana's four major systems are in fair or better condition.
- ▶ Good condition lane miles increased by more than 500 lane miles from 2009 to 2010.
- ▶ The Primary System increased from 68 percent to 73 percent good lane miles.
- ▶ Four of the five districts have at least 75 percent of their total lane miles in good condition

**2010 OPI Comparison by System**



# STATE MAINTAINED ROUTES



# Montana by the Numbers

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- ▶ 744 miles from Yaak to Alzada
- ▶ Population 989,415 (2010 US Census)
- ▶ 25,000 State Maintained Lane Miles
- ▶ 5 Districts
- ▶ 10 Maintenance Divisions
- ▶ 120 Maintenance Sections



# MDT's Pavement Preservation Culture

Began in the mid – 90's



# Maintenance Pavement Preservation

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- ▶ Touting the benefits of Pavement Preservation since the late 1990's
- ▶ At that time Maintenance “Pavement Preservation” money was primarily used for Reactive projects
- ▶ The focus has shifted since then, using a good share of Maintenance Pavement Preservation money for preventative maintenance type projects
- ▶ Project selection is driven by the Pavement Conditions and Treatment info put out by the Pavement Analysis Section
- ▶ Guidelines for Maintenance
  - ▶ Crackseal all new pavements within 2 years
  - ▶ Chip Seal at 7 years
  - ▶ Thinlift Overlays at 10 – 12 years



# Maintenance Pave Pres Funding

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- ▶ Since the mid 90's funding for Maintenance Pavement Preservation has ranged from 8 million to 15 million statewide.
- ▶ Currently at 10.6 million
- ▶ Currently, there is no Federal Aid Money in the Maintenance Pavement Preservation funding. There is still a push to perform preservation projects.



# Maintenance State Funded Const.

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- ▶ In FY 2010 State Funded Construction Money was moved to Maintenance.
- ▶ 10 million/year initially
- ▶ 40 million this year
- ▶ SFC money is to be all contracted work
- ▶ A large share of this money is used for pavement preservation
- ▶ MDT has practiced a Pavement Preservation mindset long enough now that there are staff who know nothing different, it is a part of the departments culture.





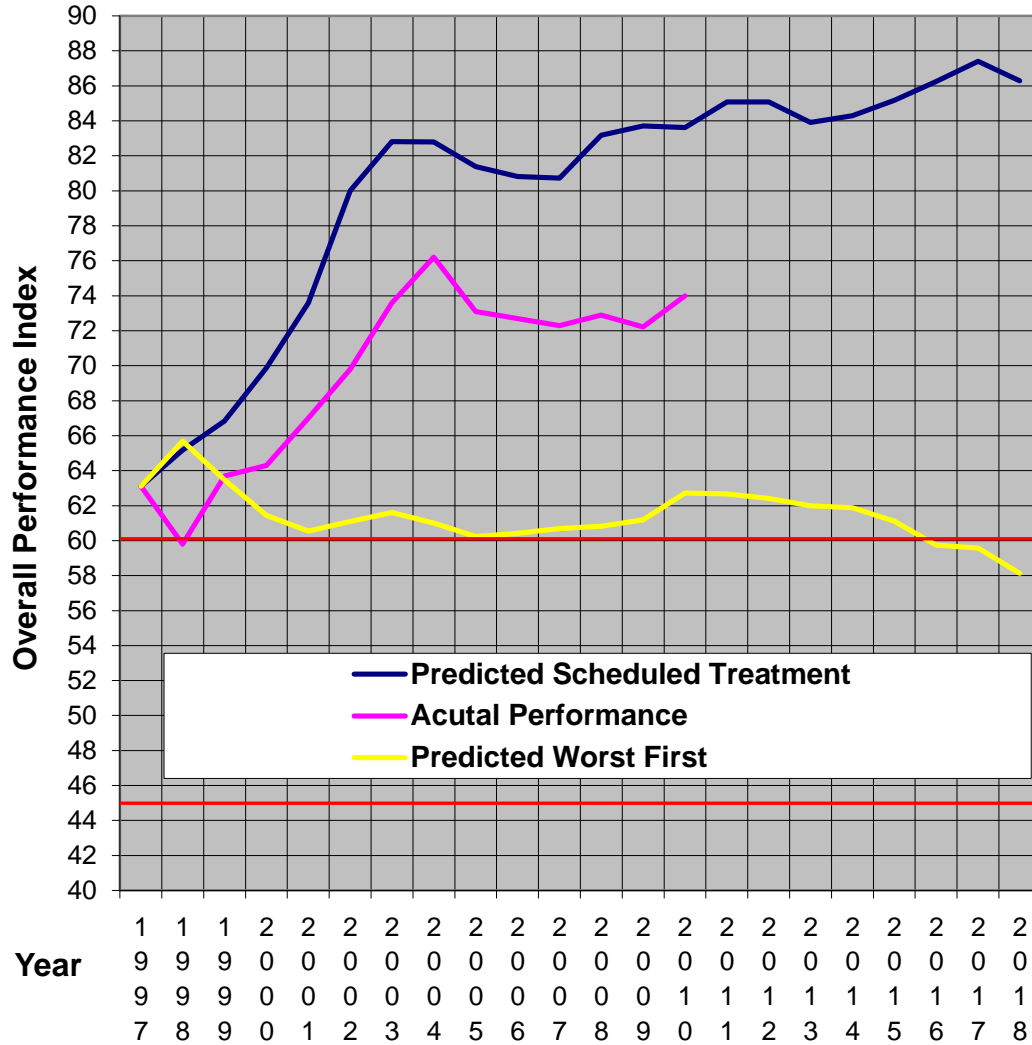
# Construction Pavement Preservation Program

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- ▶ Presented pavement preservation vs worst first analysis 1998
- ▶ Signed agreement with FHWA for use of Federal funds in 1999
- ▶ Began assigning dedicated funding in 2000
- ▶ Current annual average \$ 77M dollars in Tentative Construction Program for 2013 - 2015
- ▶ Each District receives an annual pavement preservation budget to nominate projects



## Pavement Preservation Model Validation Interstate Statewide



## The Selling Point

Early model developed to demonstrate to management the effect of encouraging the construction side of MDT into pavement preservation



# Treatment Guidelines Developed with FHWA

CATEGORY	PREVENTATIVE MAINTENANCE		REHABILITATION		RECONSTRUCTION
	Scheduled Maintenance	Pavement Preservation	Minor	Major	
Surface Engineering	None ≤ 0.20 ft Overlay	None ≤ 0.20 ft Overlay	Engineered	Engineered	Engineered
Environmental Documentation	NEPA/MEPA	NEPA/MEPA	NEPA/MEPA	NEPA	NEPA
Geometric Design STDs	As-Built	As-Built	As-Built (see geometrics section)	As-Built to Current Standards	Current Standards
Safety & Capacity Considerations	Crash Cluster and ADA Evaluations	Treatable Trends, Clusters Clear Zone Signage Guardrail Criteria ADA Evaluations	Treatable Trends, Clusters, Clear Zone, Signage, Guardrail & ADA Criteria Width, Slope and Geometric Evaluations	Treatable Trend, Clusters, Clear Zone, Signage, Guardrail & ADA Criteria Width, Slope and Geometric Evaluations	Full Safety and Capacity
Applied Treatments	Crack Seal Seal & Cover Joint Seal Fog Seal Sand Seal Micro Surfacing Overlay ≤ 0.20ft	Crack Seal, Seal & Cover Sand Seal, Fog Seal Rut Fill, Mill OGFC Micro Surfacing Overlay ≤ 0.20 ft Mill & Fill ≤ 0.20 ft Cold In-Place Recycle w/Chip Seal	0.20 ft ≤ Overlay ≤ 0.30 ft Mill & Fill ≤ 0.30 ft w/Overlay Cold In-Place Recycle w/Overlay No exposure of base gravel	0.20 ft ≤ Overlay Mill, Overlay, Recycle Pulverize w/Overlay If Base Gravel exposed Treat/Modify gravels	Full Surfacing Standards
How Needs Identified	Scheduled Treatments	Observed Distress PvMS recommendations	Observed Distress PvMS recommendations	Observed Distress, Geometrics, Safety Considerations	Observed Operational Factors, Geometrics
Eligible Funding Source	Maintenance Funds	Maintenance Funds	---	---	---
	State Construction	State Construction	State Construction	---	---
	Federal Aid	Federal Aid	Federal Aid	Federal Aid	Federal Aid



# Annual Cycle

## ► Pavement Condition Annual Report – Recommended Treatments

11-FAR-11  
Report Name: cvar0015  
MONTANA DEPARTMENT OF TRANSPORTATION  
PVRP PAVEMENT CONDITIONS AND RECOMMENDED TREATMENTS  
Survey Year: 2010 Run Year: 2011  
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Dist	Rt	Seg	Mile	End Mile	Road	E	P	M	Dx	Ride	Performance Indices			Treatments/Recommendations			
											IRI	ACI	PCI	Construction 2011	Construction 2010	Maintenance 2011	Maintenance 2010
P-12	89.90	93.30	+	2	23	2	22	87.8	49.7	95.2	95.0	C_AC Minor Patch_Put	C_AC Minor Patch_Put	M_Maintenance Rut Fill	M_Maintenance Rut Fill	M_Maintenance Rut Fill	
P-13	83.36	87.33	+	2	24	2	22	71.8	97.1	97.5	97.2	C_AC Crack Seal & Cover	C_AC Thin Overlay	M_AC Crack Seal & Cover	M_AC Thin Overlay	M_AC Thin Overlay	

Corridor ID: C060014  
From a point on C06008 at Townsend eastward via White Sulphur Springs, Harlowton, Ryegate, Rossmore, and Melrose, to a point on C06004 at Forsyth.

Dist	Rt	Seg	Mile	End Mile	Road	E	P	M	Dx	Ride	Performance Indices			Treatments/Recommendations			
											IRI	ACI	PCI	Construction 2011	Construction 2010	Maintenance 2011	Maintenance 2010
P-14	3.00	8.42	+	2	33	2	22	79.1	62.1	99.0	94.4	C_AC Crack Seal & Cover	C_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	
P-14	8.42	11.00	+	2	34	2	22	94.8	75.0	105.0	98.8	Do Nothing	Do Nothing	Do Nothing	Do Nothing	Do Nothing	
P-14	11.00	23.63	+	2	24	2	22	75.3	75.1	97.7	95.5	C_AC Crack Seal & Cover	C_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	
P-14	23.10	33.63	+	2	24	2	22	73.8	74.3	91.4	93.9	C_AC Crack Seal & Cover	C_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	
P-14	33.10	41.70	+	2	25	2	22	78.9	99.0	99.9	98.9	Do Nothing	Do Nothing	Do Nothing	Do Nothing	Do Nothing	
P-14	41.70	42.70	+	2	46	2	22	63.5	65.1	96.1	97.0	C_AC Thin Overlay	C_AC Thin Overlay	M_AC Thin Overlay	M_AC Thin Overlay	M_AC Thin Overlay	
P-14	42.70	49.00	+	2	36	2	22	75.3	78.8	95.8	96.1	C_AC Crack Seal & Cover	Do Nothing	Do Nothing	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	
P-14	49.00	55.82	+	2	36	2	22	75.8	75.5	97.7	97.2	Do Nothing	C_AC Crack Seal & Cover	Do Nothing	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	
P-14	55.82	63.15	+	2	26	2	22	78.8	83.3	99.9	99.3	Do Nothing	Do Nothing	Do Nothing	Do Nothing	Do Nothing	
P-14	63.15	77.33	+	2	21	2	22	69.4	63.6	83.4	93.0	C_Reconstruction	C_Reconstruction	M_AC Reactive Maintenance	M_AC Reactive Maintenance	M_AC Reactive Maintenance	

Corridor ID: C060015  
From the Idaho state line at Mendon via Dillon, Butte, Helena, Great Falls, Dutton, Conrad and Shelby to the Canadian boundary at Sweet Grass.

Dist	Rt	Seg	Mile	End Mile	Road	E	P	M	Dx	Ride	Performance Indices			Treatments/Recommendations			
											IRI	ACI	PCI	Construction 2011	Construction 2010	Maintenance 2011	Maintenance 2010
I-15	3.00	17.83	L	2	43	2	21	79.2	76.3	81.3	95.4	None	Do Nothing	None	Do Nothing	C_AC Thin Overlay	
I-15	3.00	17.83	R	2	40	2	21	80.4	89.0	81.8	87.5	None	Do Nothing	None	Do Nothing	C_AC Thin Overlay	
I-15	17.10	33.80	L	2	30	2	21	89.8	82.1	95.8	97.8	C_AC Crack Seal & Cover	C_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	
I-15	17.10	33.80	R	2	35	2	21	86.8	77.0	94.7	97.7	C_AC Crack Seal & Cover	C_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	M_AC Crack Seal & Cover	

- Nominations based on recommended treatments; field review any nomination more than one level up/down from recommendation
- Nominate for two year design/letting cycle

# Expanding the Tool Box

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## ▶ Common Treatments

- ▶ Crack Seal
- ▶ Seal and Cover
- ▶ Thin Overlay

## ▶ Newer Additions

- ▶ Plant Mix Seal
- ▶ Cold and Place Recycle w/ Seal and Cover
- ▶ Microsurfacing
- ▶ 3/8" Plant Mix Surfacing
- ▶ Warm Mix Surfacing



# MDT's Expectation's of RMWPPP

Information Sharing / Documentation



# Best Practices

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- ▶ **New and Innovative**
  - ▶ Treatments
  - ▶ Materials
- ▶ **Successes and Failures**



# Communication and Documentation

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- ▶ Ability to provide unified voice for policy matters
  - ▶ Federal criteria
- ▶ Reporting results
- ▶ Sharing information





# Questions

