

# Northeast Pavement Preservation Partnership Meeting Burlington, VT

April 7, 2014

**“Keep Good Roads Good!”**

Is this  
“Mission Impossible?”



Christopher Clement – NHDOT Commissioner



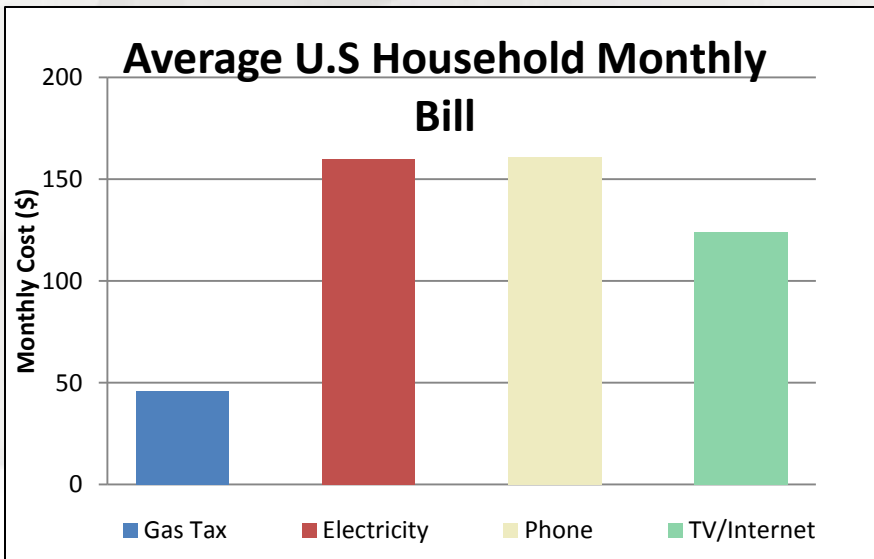
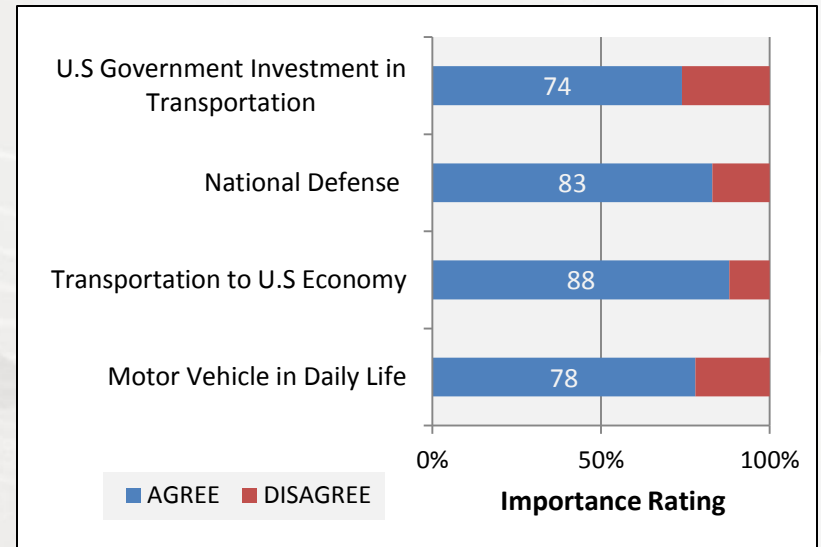
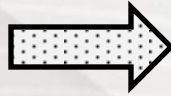
# Keep Good Roads Good!

## Challenges:

- Deteriorating Road Conditions
- Current Levels of Investment
- Available Funding
- Increasing Costs

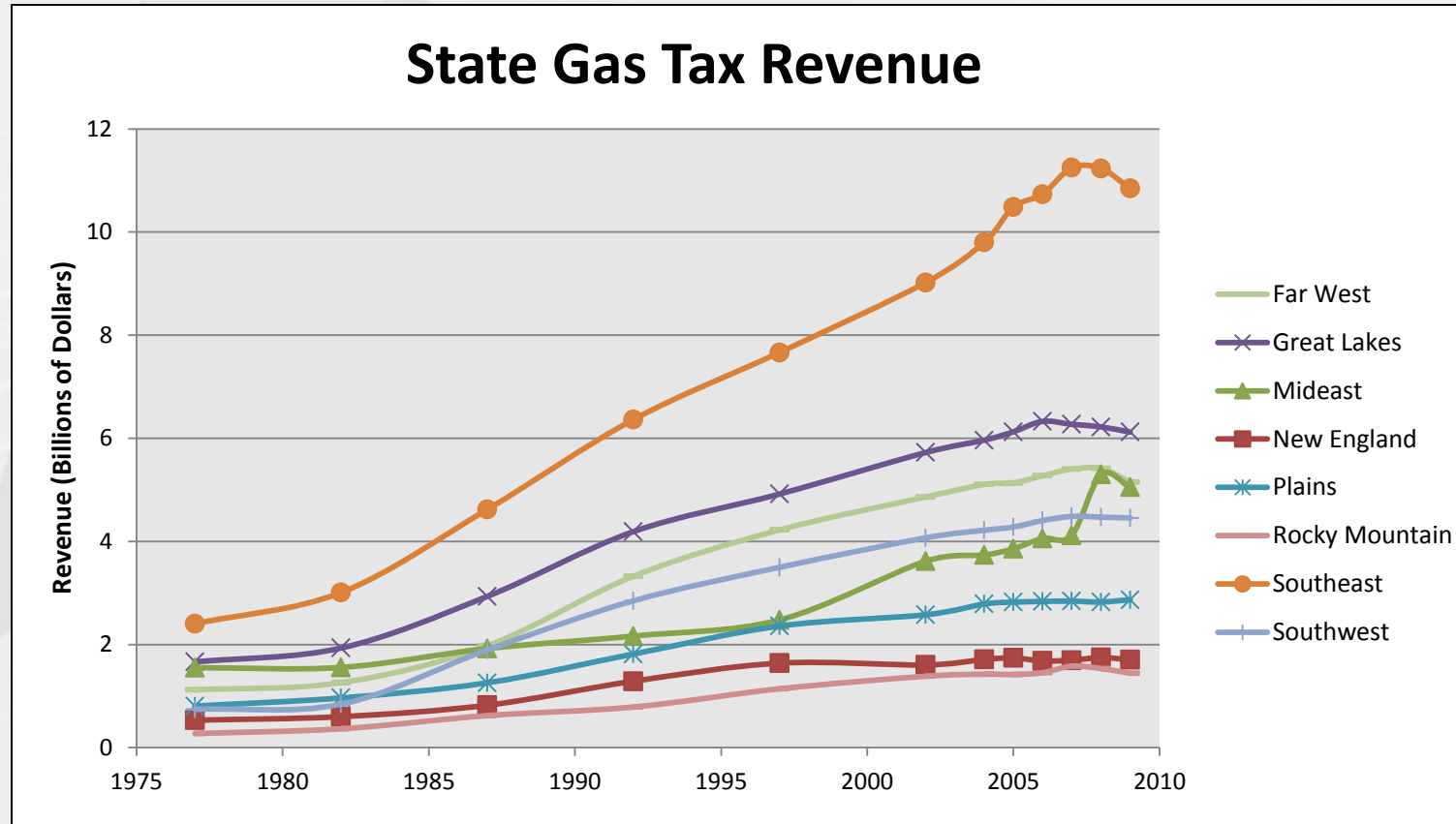
# Personal investment in “good roads”

How important are “good roads” to the public?



How much are “good roads” worth?

# Regional investment in “good roads”



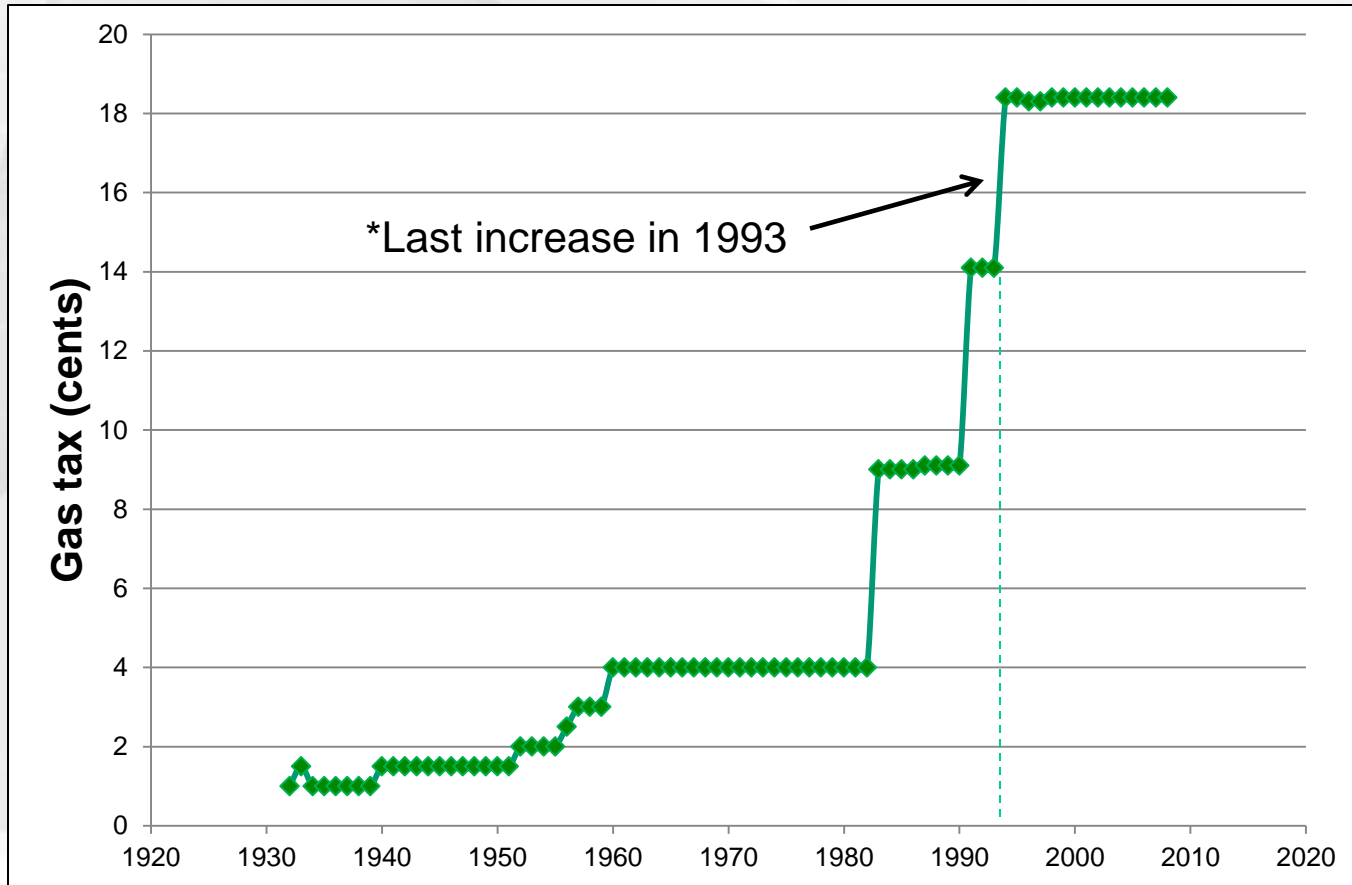
New England 2009 funding  
(**actual**):  
\$1.7 Billion

New England 1977 value  
(corrected for **inflation**):  
\$1.9 Billion

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# National investment in “good roads”

- Federal gas tax



# The NHDOT Maintained road network would stretch from Concord, NH to Anchorage, AK – 4,559 miles



A very long drive!

# Poor Road Conditions



Anchorage, AK

Lake Watson, Yukon

Concord, NH

Fargo, ND



Would your car survive?

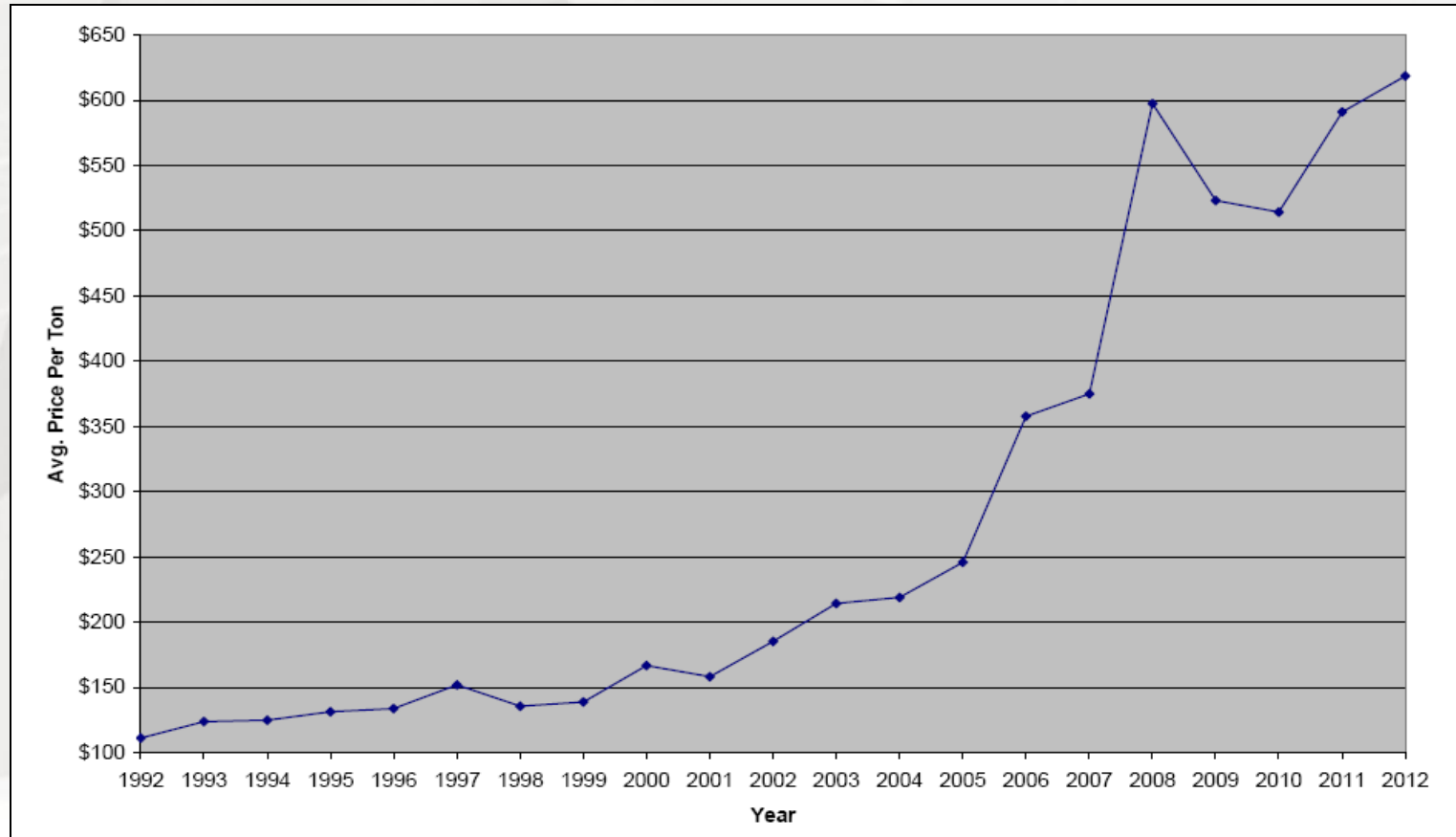
# Funding Resources for NH

- State Funds (road toll tax a.k.a. gas tax, motor vehicle fees, court fees, misc.) (\$250M/ year)
- Federal Aid: Highway Fund (\$143M/year)
  - Currently matched with Turnpike Toll Credits
  - Reduces Capital Program by 15 to 20 %
- Turnpike Fund: For use on turnpike only (\$117M/year)
- Future Revenue Outlook



# Increase in Material Costs

- Asphalt Cement cost increased 460% from 1992-2012



# What's the solution?

- Increase Revenue; gas tax, mileage fee, registration, etc
- Make our roads last longer
  - How do we accomplish with constrained funding?

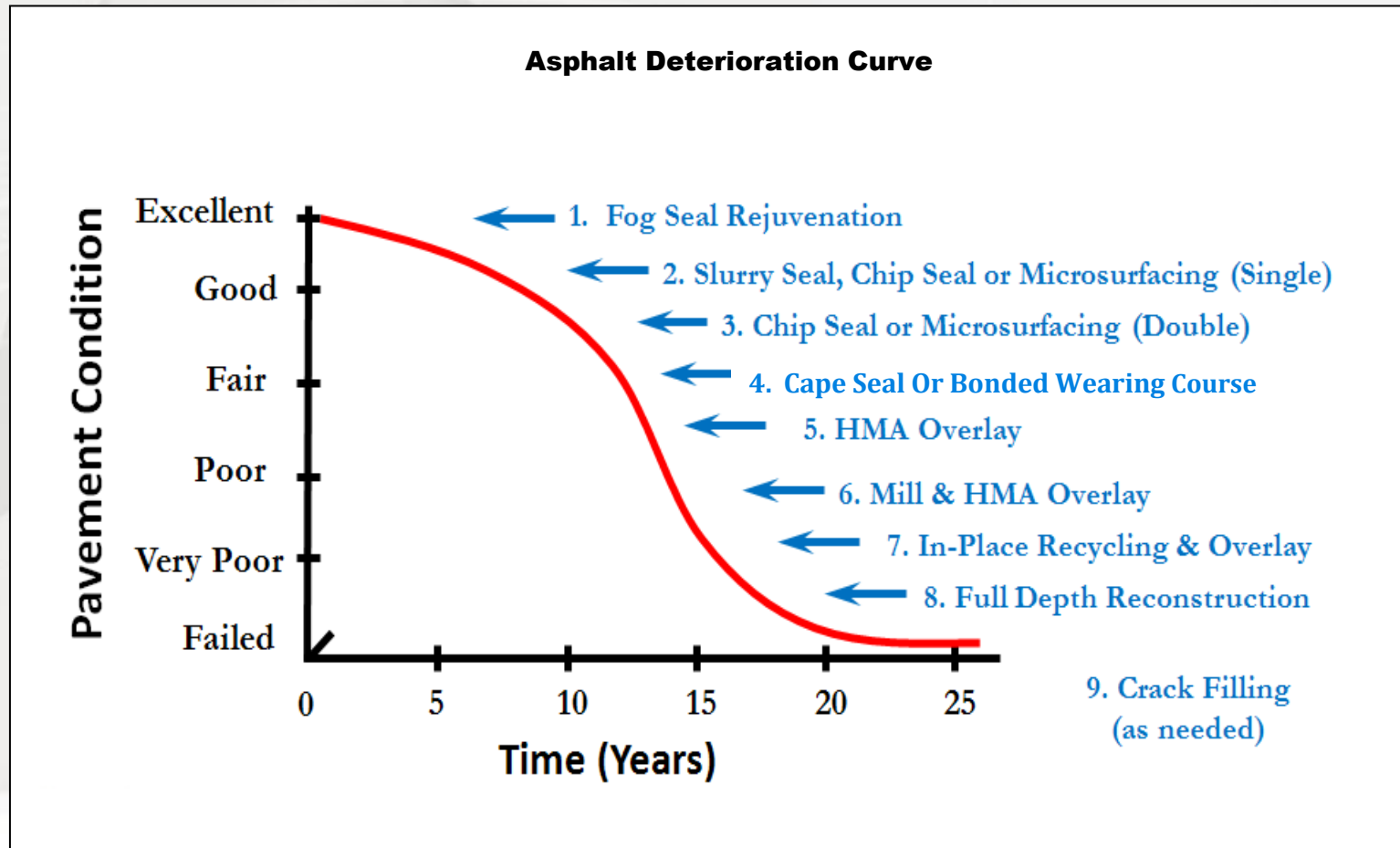
**Pavement Preservation!!**

# Pavement Preservation

- The **RIGHT** Treatment on the **RIGHT** Road at the **RIGHT** Time
- Cost Effectiveness
- Education and Promoting the Benefits



# The RIGHT Treatment on the RIGHT Road at the RIGHT Time



# Why “Pavement Preservation”?

## 2013 NHDOT Equivalent Annual Costs (EACs)

TREATMENT	COST (\$/SY)	AVG. SERVICE LIFE (years)	EAC (\$/SY/year)
4.75mm HMA	\$ 2.86	6	\$ 0.48
Micro Surfacing	\$ 3.11	6	\$ 0.52
Double Chip Seal	\$ 4.02	7	\$ 0.57
1" HBP Overlay	\$ 4.60	8	\$ 0.58
Bonded Wearing Course	\$ 5.94	10	\$ 0.59
3/4" Paver Shim	\$ 3.66	6	\$ 0.61
Asphalt Rubber Chip Seal	\$ 5.39	8	\$ 0.67
1-1/2" HBP Overlay	\$ 6.91	10	\$ 0.69
1-1/2" HBP Inlay	\$ 8.51	10	\$ 0.85
FDR with 4" HBP	\$ 20.03	15	\$ 1.34
2" TW Inlay with 1-1/2" FW Overlay	\$ 17.72	13	\$ 1.36
4" CIP with 3-1/2" HBP Overlay	\$ 29.15	15	\$ 1.94

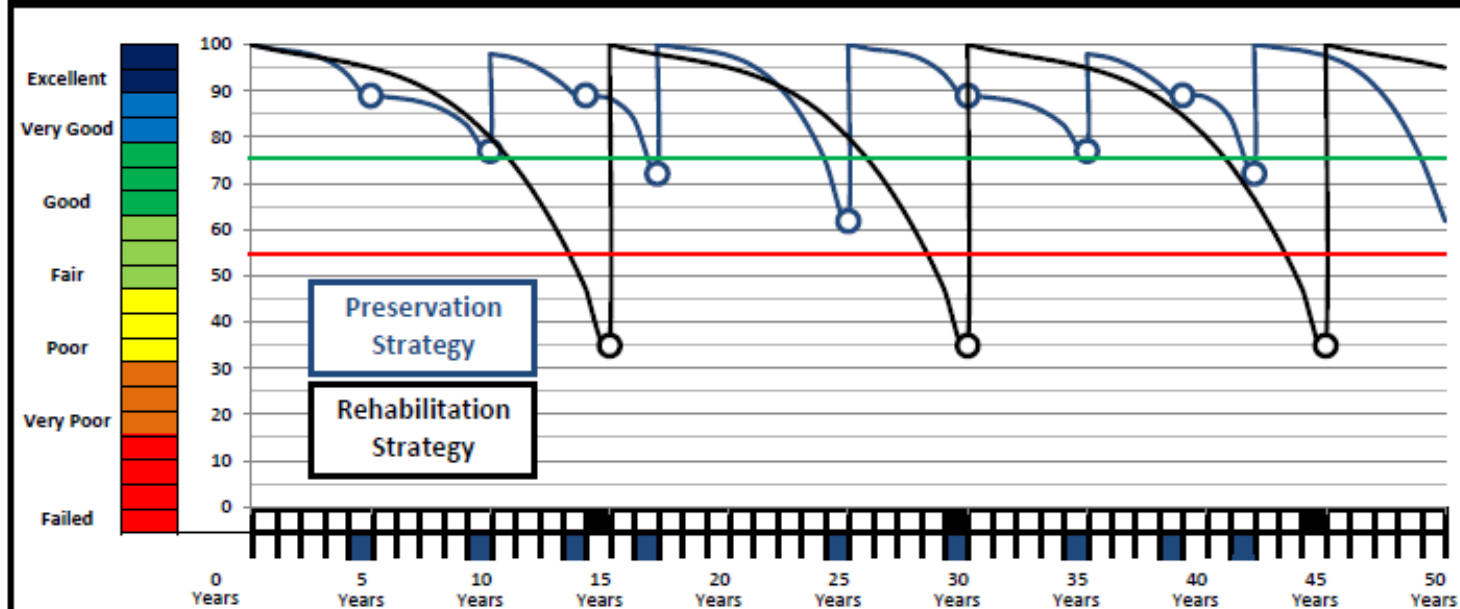
Preservation Treatments

Rehabilitation Treatments

# Why “Pavement Preservation”?

## Progressive Pavement Management

### Preservation vs. Rehabilitation



#### Preservation Strategy:

Years 5, 14, 30 & 39: Cracksealing  
 Years 10 & 35: Microsurfacing (Double)  
 Years 17 & 42: Chip Seal  
 Year 25: Mill & Pave

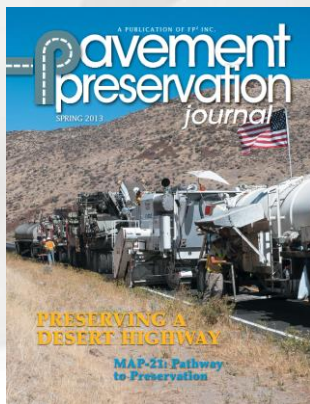
TOTAL COST/SY OVER 50 YEARS = \$29.60

#### Rehabilitation Strategy:

Year 15: FDR plus 4" Hot Mix Overlay  
 Year 30: FDR plus 4" Hot Mix Overlay  
 Year 45: FDR plus 4" Hot Mix Overlay

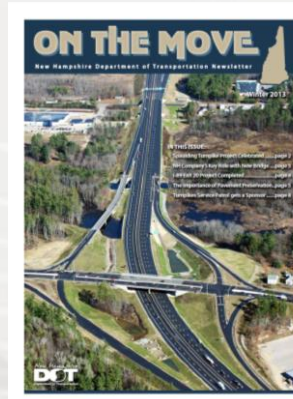
TOTAL COST/SY OVER 50 YEARS = \$60.00

# Promoting the Benefits



## 2012 NH 12 Micro Surfacing Project

# Promoting the Benefits



## Asphalt rubber chip seal adds life to Kancamagus

Preservation: About 62,500 recycled scrap tires were used to create the highway coating.

By SARA YOUNG-KNOX  
NH State Correspondent

**LINCOLN** — A section of Route 112 in Lincoln could now be described as "rubber" thanks to the composition of the material used to "rejuvenate" the road. The surface of the pavement recently received an application of asphalt rubber chip seal, a preservation treatment that, for this length of the Kancamagus Highway just east of Loom Mountain, used an estimated 62,500 recycled scrap tires. The work was done by All States Asphalt Inc. of Sunderland, Mass.

The surface treatment has pre-coated crushed stone over hot-applied crumb rubber modified asphalt, and is designed to be more durable and flexible than conventional chip seals.

On Thursday, state officials,



From left, Commissioner Christopher Clement of N.H. DOT, state Rep. Gene Chandler of Bartlett, Gov. LaRocque of All States Asphalt, NH's 11 Executive Councilor Roy Barman and Alan Ciccone of All States Asphalt stand by the asphalt rubber chip sealed section of the Kancamagus Highway.

N.H. Department of Transportation staff, and representatives from All States Asphalt Inc. celebrated the completion of the project with a ribbon-cutting. It's the eighth asphalt rubber chip project for DOT, and the goal is to preserve the existing pavement before it shows signs of deterioration, using the chip seal treatment to extend the life of the pavement another eight

In 2002 and 2003, the 6.1-mile section of road from the Seasons Road to the bridge over the Hancock Brook was rehabilitated for a cost of \$3.8 million. This year, that section was part of the 6.8 miles of All chip seal application, along with 1.3 miles of a hot mix overlay, and completed for about \$175,000. Commissioner Chris Clement said that after the completion of Interstate 93 and other large projects are done, there will be more funds for maintenance and the hopes are that are regular scheduling of chip sealing will save enough money to free funds to address the condition of the worst state roads.

Rod Borchell of All States said, "This is really a great initiative." He said the asphalt rubber chip seal will resist thermal cracking, and be good in high temperatures, too.

Waiting until a road is in poor condition and then re-constructing it is not a good use of the state's money, officials said. Instead, NHDOT is working "to keep good roads good." DOT spokesman Bill Boynton said, by the time you can actually see the areas, he said, it's too late. "It actually makes economic sense"



## 2012 NH 112 Asphalt Rubber Chip Seal Project



*Let's build tomorrow!*

**“Keep Good Roads Good”**

*Thank You!*

