



North Dakota Division Office

Rugged North Dakota Landscape

# North Dakota Asphalt Conference

March 29, 2017

## EDC-4 Pavement Preservation



# North Dakota Division Organization

North Dakota Division Office

Rugged North Dakota Landscape

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David Ferrell  
Safety and Traffic Operations  
Engineer



# North Dakota EDC-4 Focused Initiatives

- Data-Driven Safety Analysis  
[https://www.fhwa.dot.gov/innovation/everydaycounts/edc\\_4/ddsa.cfm](https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/ddsa.cfm)
- e-Construction and Partnering  
[http://www.fhwa.dot.gov/innovation/everydaycounts/edc\\_4/epartnering.cfm](http://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/epartnering.cfm)
- Pavement Preservation  
[http://www.fhwa.dot.gov/innovation/everydaycounts/edc\\_4/pavement.cfm](http://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/pavement.cfm)



# Pavement Preservation: When and Where

## Benefits to Using a Whole-Life Approach to Pavement Preservation Project and Treatment Selection



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# Pavement Preservation: When and Where

- Why Is Pavement Preservation Important?
  - Good roads are vital for our economy
  - Preservation preserves the significant investment in pavements
  - Preservation is six times less expensive than rehabilitation and requires fewer resources/energy

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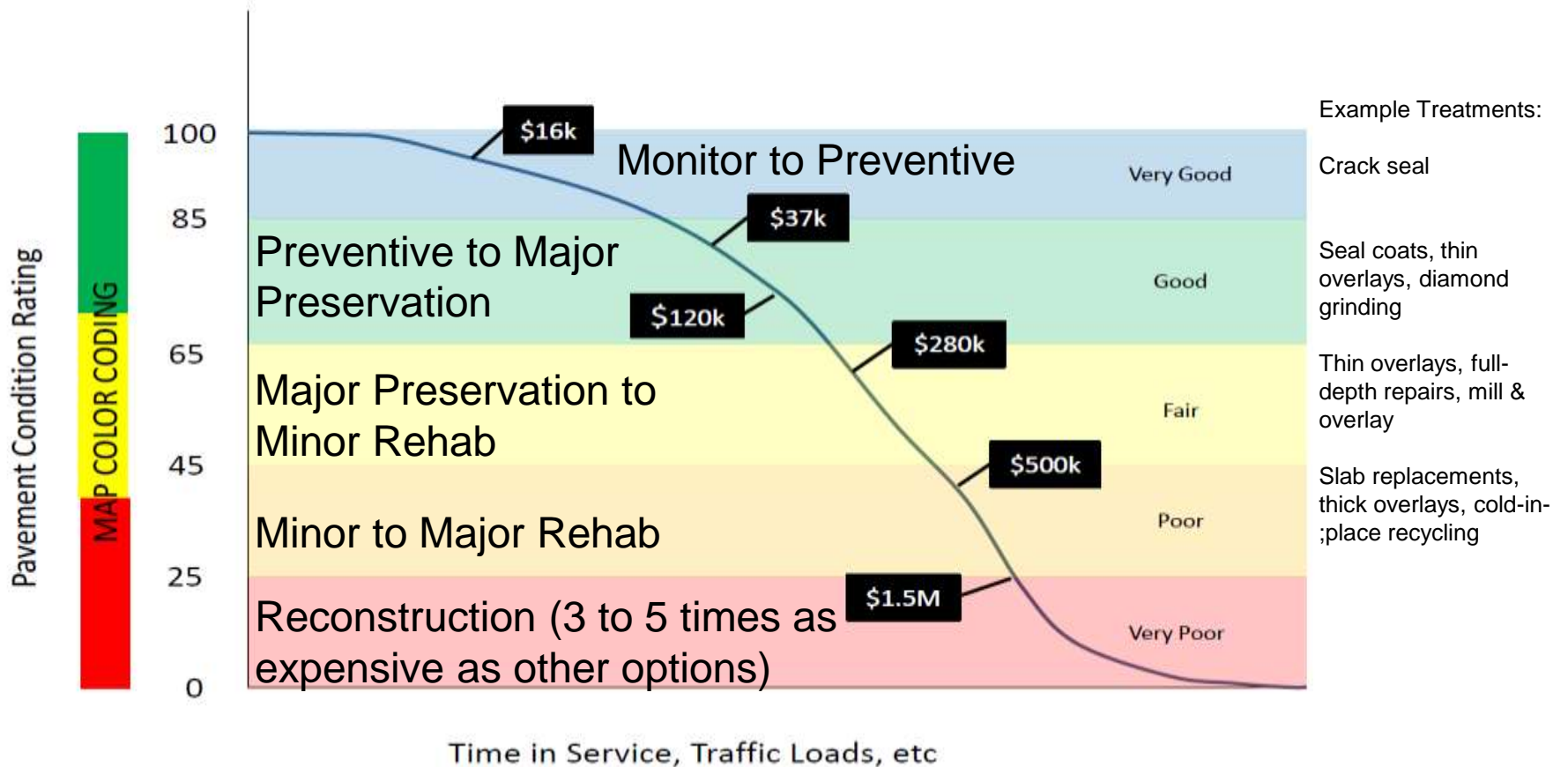
# Pavement Preservation: When and Where

- FHWA is promoting a network-level approach to managing pavements that:
  - Considers economic treatment strategies over the life of the asset – including preservation
  - Combines capital and maintenance needs in life cycle planning
  - Reduces annual preservation costs without sacrificing performance

# Pavement Preservation Makes Sense

Pavement Condition Index vs Cost of Repair

Average Cost of Treatment @ PCR **\$\_k**

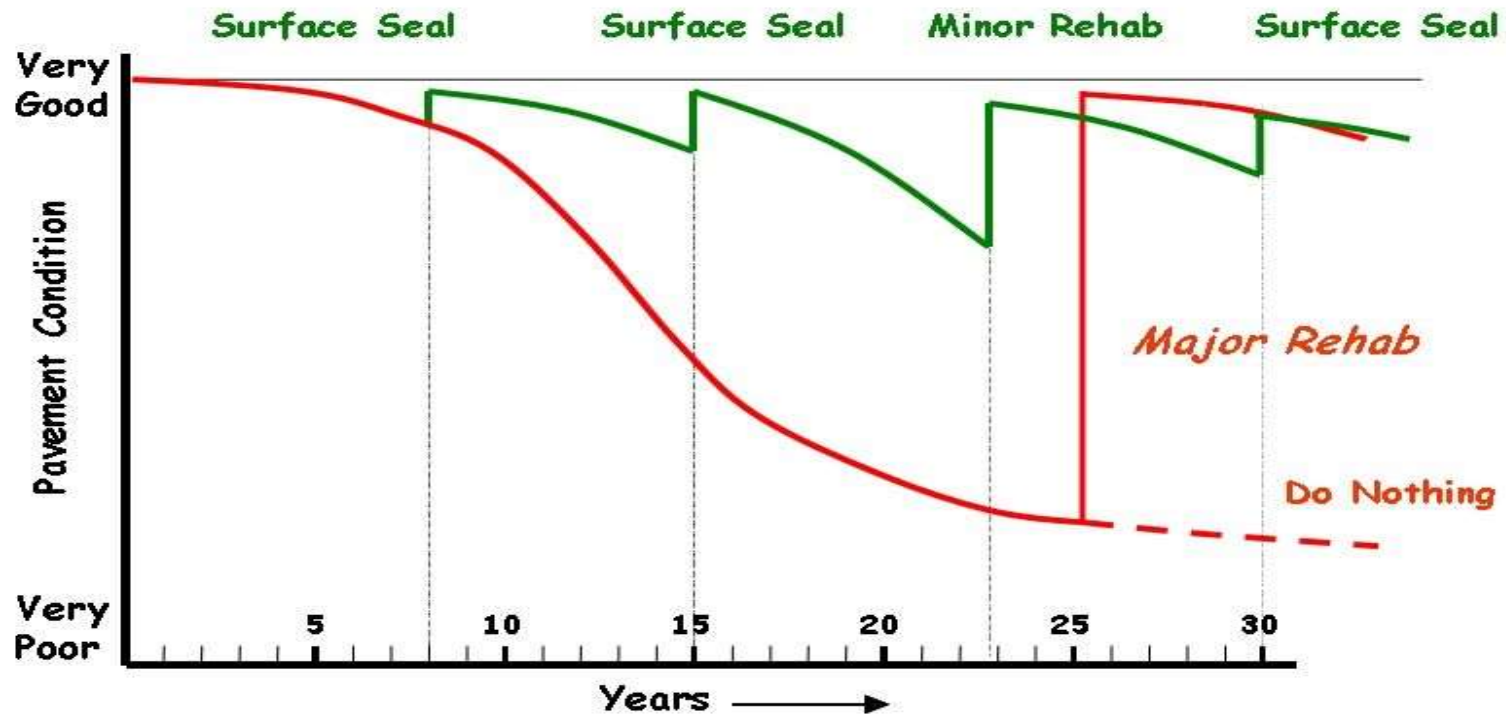


Source: NMDOT



# Planned Preservation Strategy vs. Other Strategies

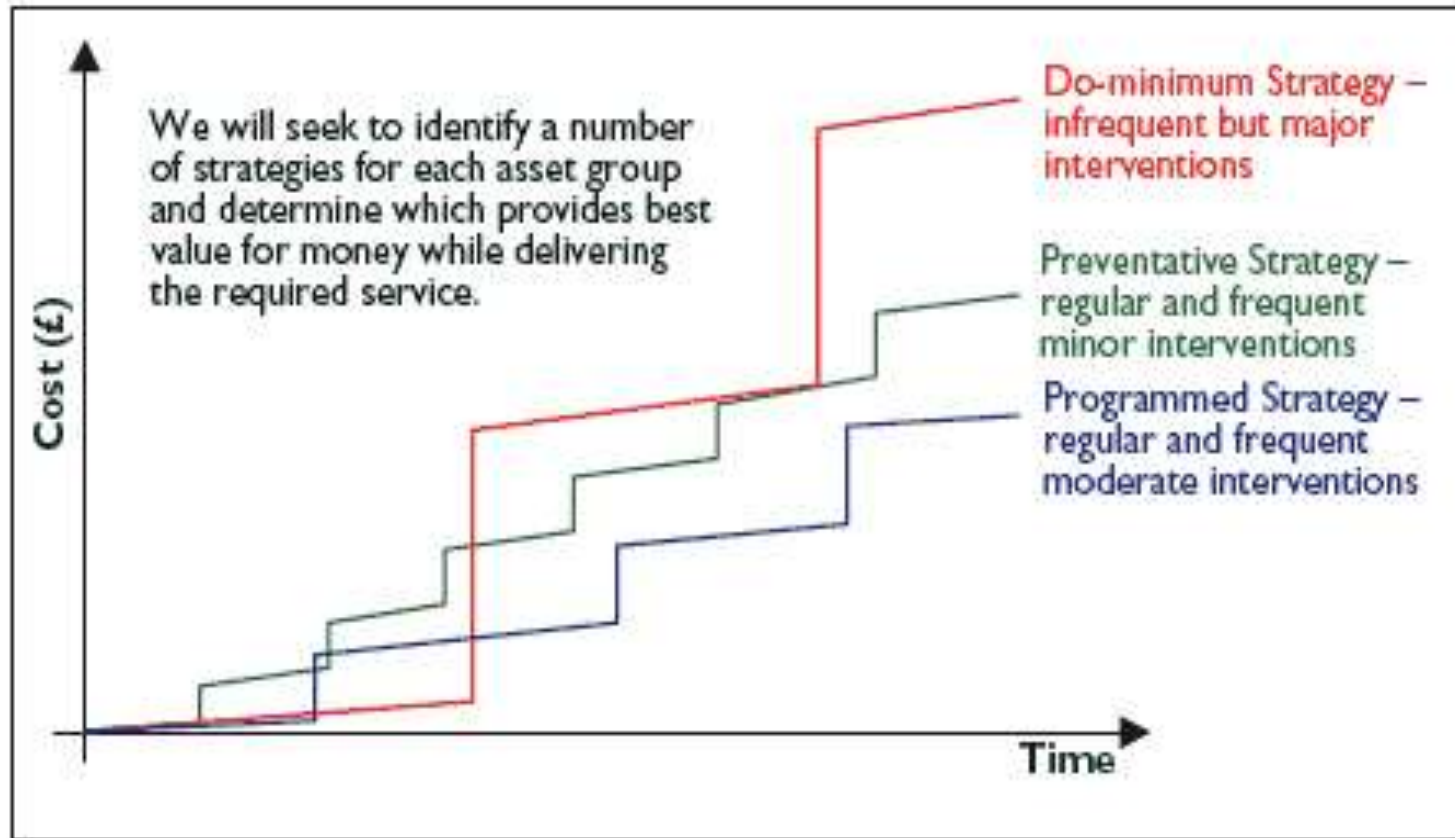
*Pavement Management with  
"Good Roads Cost Less"  
Preservation Strategies*



Source: Utah DOT



# Planned Preservation Is Cost Effective



Source: Transport Scotland

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# Where Does “Pavement Preservation: When and Where” Fit Into FHWA EDC-4?

- One of two pavement preservation technologies (with “Pavement Preservation: How”)
- Focuses on **network-level investment strategies that consider life cycle planning**
- Introduced over 3 months in 2 virtual summits and 7 in-person summits
  - Introduce technology
  - Hear from owner agencies
  - Develop Implementation Plan
- 2017 and 2018
  - Deliver Implementation Plan activities

# Implementation Team

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# EDC-4 Pavement Preservation: When/Where Products

- Implementation Plan
  - Overview & Implementation Description
    - State of the practice, challenges, & benefits
  - Vision & Mission Statement
  - Goals
  - Target Audience
  - Performance Targets
  - Implementation Work Plan

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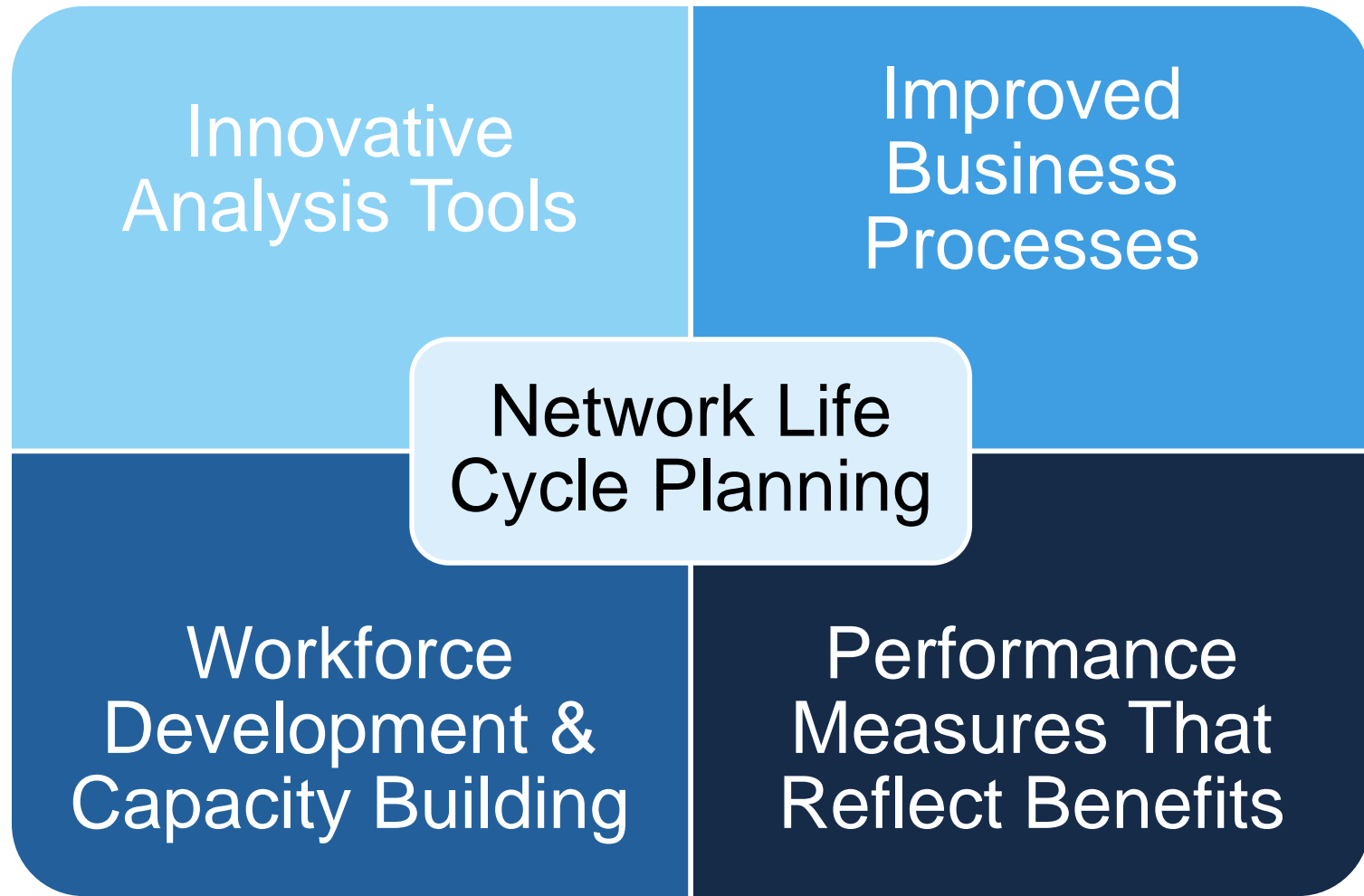
# EDC-4 Pavement Preservation: When/Where Draft Vision

VISION: Expand the use of network-level life cycle planning to promote the use of pavement preservation strategies.

- Why? It will enable agencies to reduce the annual cost of managing the network without negatively impacting pavement performance
- It allows agencies to maintain higher performance targets even with constrained funding
- It will enable agencies to address the requirements for a Transportation Asset Management Plan

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# Innovations & Improvements to Promote





# Why Is This Important?



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# Federal Legislation Promotes:

- Performance-based investment decisions
- Development of a 10-year Transportation Asset Management Plan
  - Includes consideration of life cycle planning and risk
  - Sets minimum standards for the use of pavement management systems
  - Links investments to performance targets

# State Practices Illustrate Benefits

A whole life approach reduces the annual cost of preservation, which allows agencies to redirect available funding to other agency priorities

Increased investments



## Pavement Preservation Treatments

- Crack sealing
- Chip seals
- Microsurfacing



## Bridge Preservation Treatments

- Sealing of bridge decks
- Cleaning bridges



## Culvert Preservation Treatments

- Debris removal
- Erosion protection

Allowed the Ohio DOT to redirect

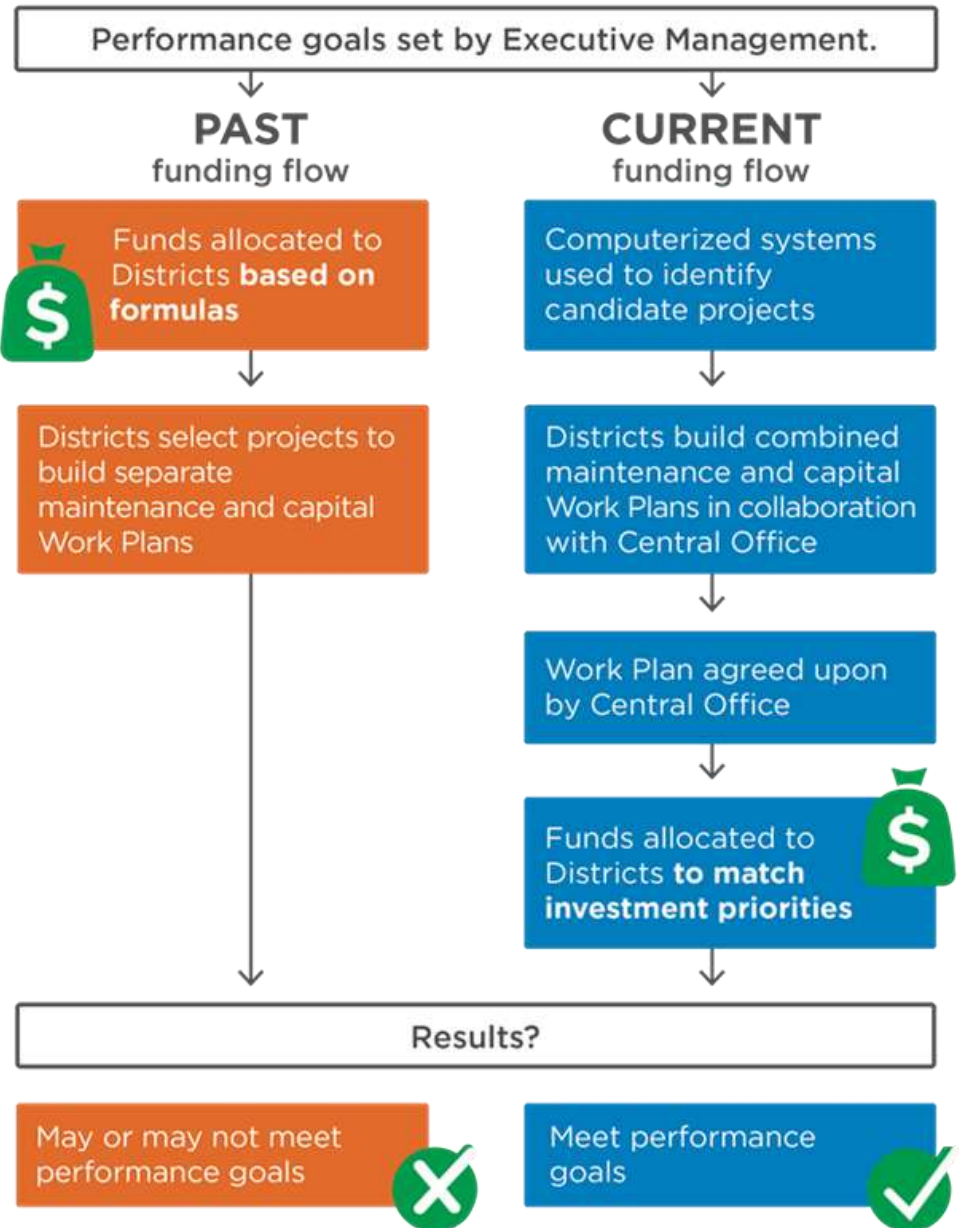
**\$300M**



over 6 years to other pavement, bridge, & culvert priorities

# Additional Benefits

The development of a network-level preservation strategy helps ensure agencies meet performance targets



# Additional Benefits

Building workforce competencies helps ensure the success of the new way of doing business



**The Knowledge Management Plan is designed to ensure that:**

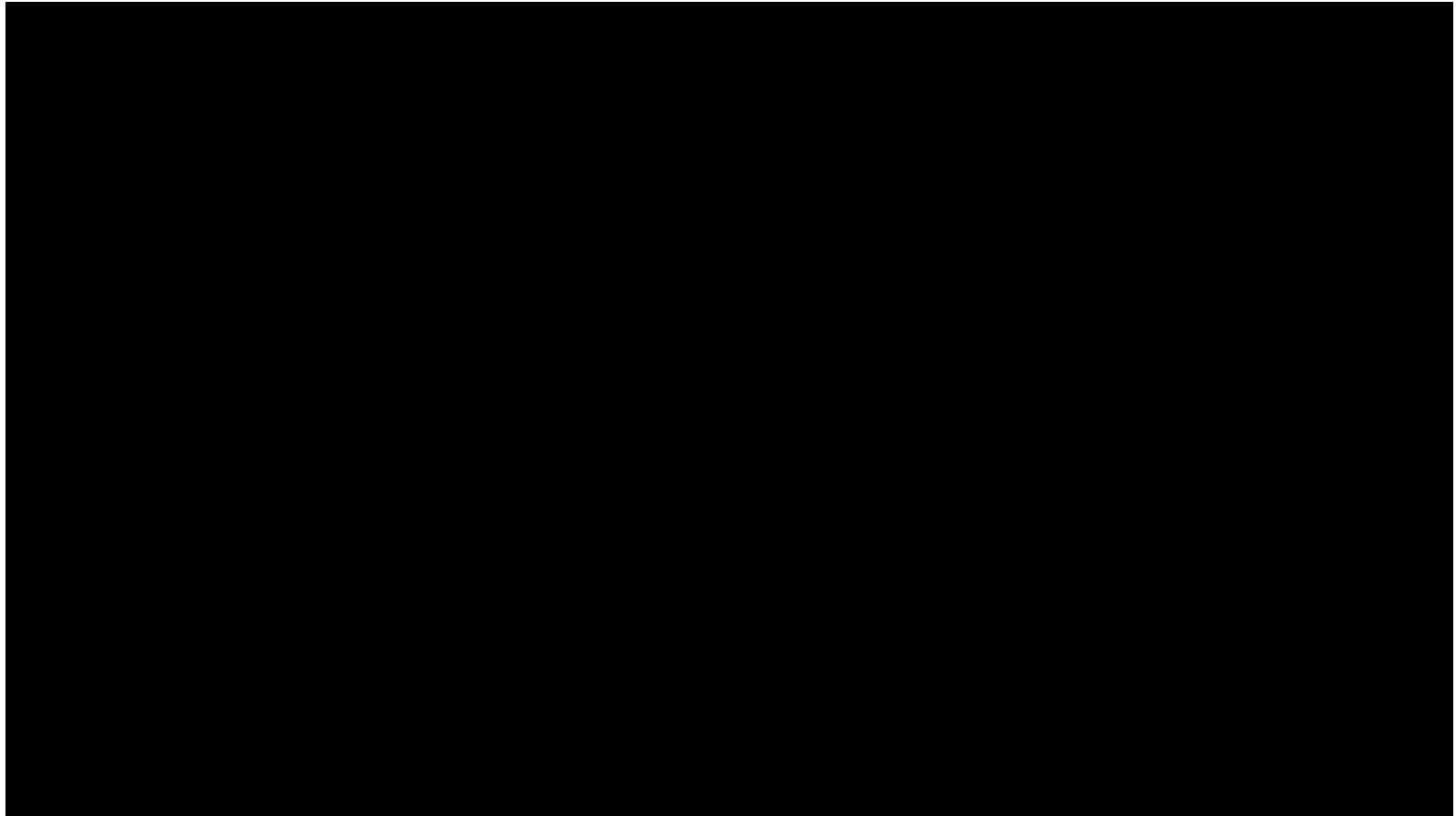
- Employees are prepared to identify when actions are needed
- Share what they've learned with others.

Source: Ohio DOT

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# ODOT Communication Plan

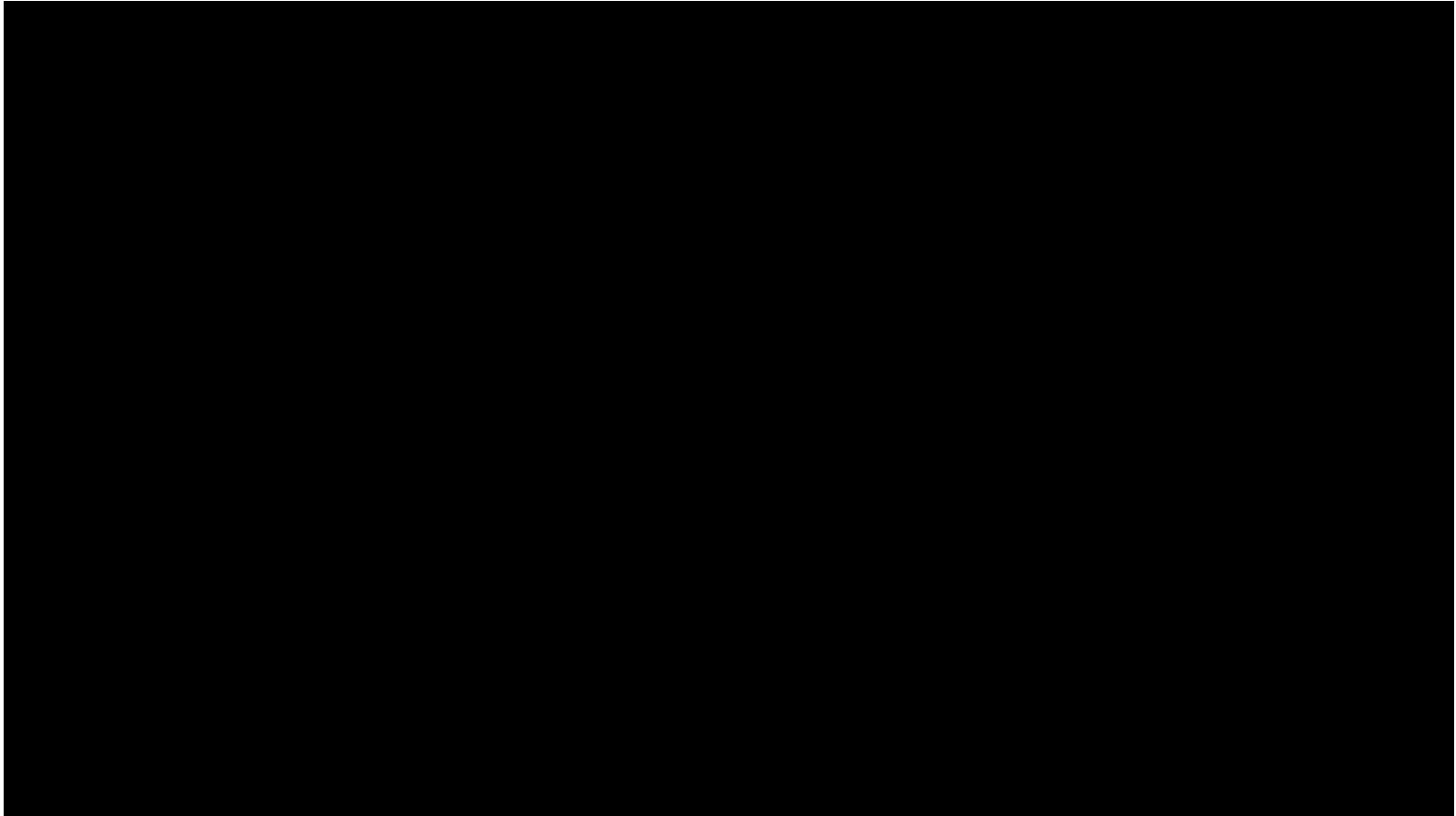
<https://www.youtube.com/watch?v=B6jZJQBvpc0#t=12>



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# Transportation Asset Management

[https://www.youtube.com/watch?v=ep3j7f\\_\\_LuM&feature=youtu.be](https://www.youtube.com/watch?v=ep3j7f__LuM&feature=youtu.be)



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# EDC-4 Funding Opportunities:

- Accelerated Innovation Deployment (AID) Demonstration
  - \*New\* Notice of Funding Opportunity under FAST Act > GOAL: \$10 million per year [23 U.S.C. 503(c)(2)(B)]
- Increase Federal Share for Project Level Innovation
  - Increase federal share up to 5 percent of the total project cost [23 U.S.C. 120(c)(3)]



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**Good Roads Are Vital For Our  
Economy, And They Preserve the  
Substantial Investment That Has Been  
Made in the System.**



# Technical Acknowledgement:

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# Thank You!

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***Buckle Up, Every Trip, Every Time***

