
Image source: NAPA


Image source: ACPA

Targeted Overlay Pavement Solutions (TOPS)

A solution for extending the life of an existing pavement investment.

U.S. Department of Transportation
Federal Highway Administration

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Every Day Counts
Innovation for a Nation on the Move

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Abbreviations & Acronyms

- AADT: Average annual daily traffic
- ARGG: Asphalt Rubber Gap-Graded
- CAM: Crack Attenuating Mixture
- CRCP: Continuously reinforced concrete pavement
- DOT: Department of Transportation
- EDC: Every Day Counts
- FHWA: Federal Highway Administration
- HiMA: Highly Modified Asphalt
- HPTO: High-Performance Thin Overlay
- HWTT: Hamburg Wheel Tracking Test
- NMAS: Nominal Maximum Aggregate Size
- OGFC: Open-Graded Friction Course
- OT: Overlay Test
- PCC: Portland cement concrete
- PG: Performance Grade
- SMA: Stone Matrix Asphalt
- TOPS: Targeted Overlay Pavement Solutions
- UTBWC: Ultra-thin bonded wearing course
- VMA: Voids in the Mineral Aggregate

EDC-6 TOPS Team

Asphalt Experts

- **Tim Aschenbrener, FHWA HQ**
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- Robert Blight, NJ DOT
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- Howie Moseley, FDOT
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Concrete Experts

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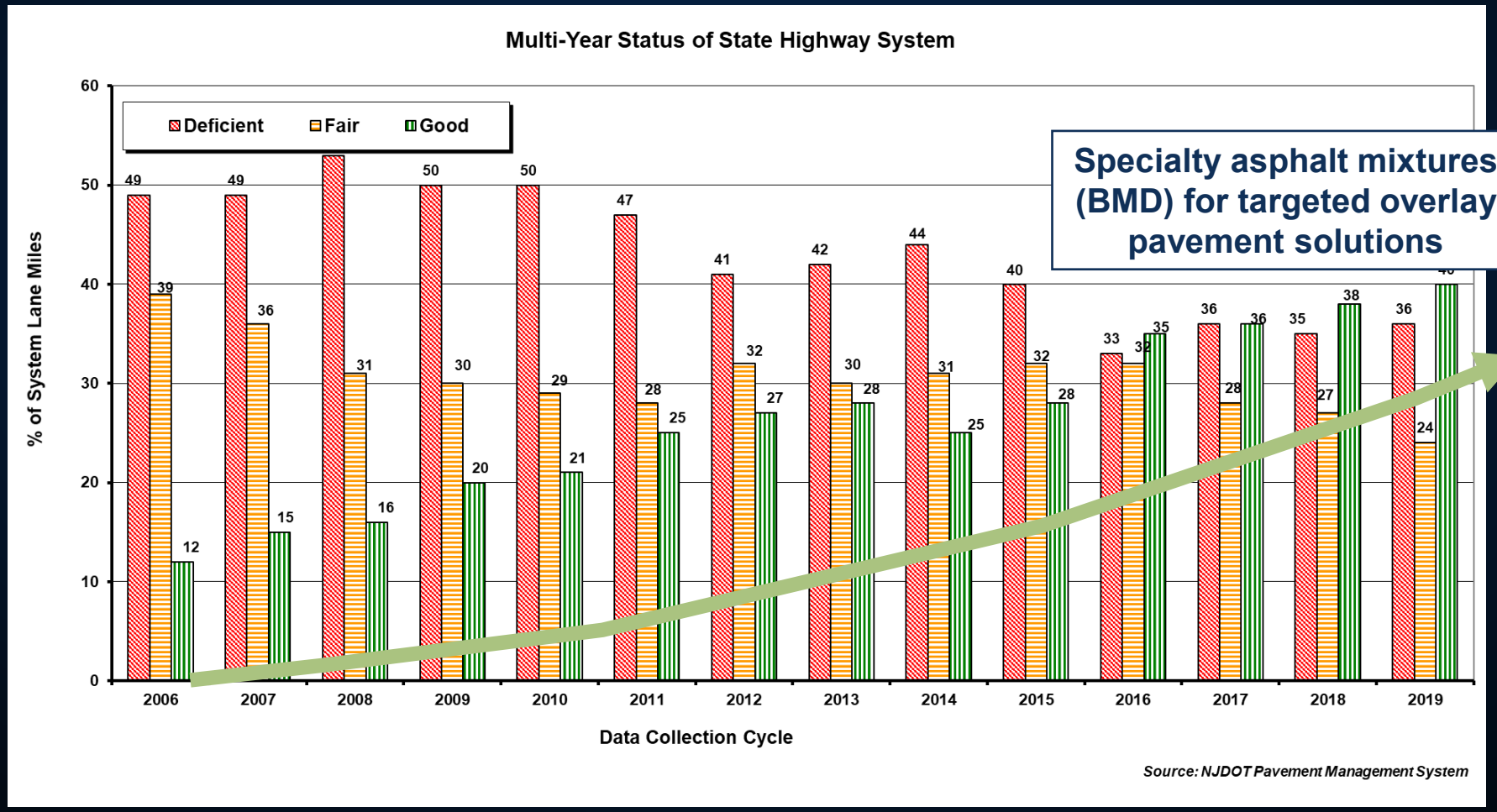
Additional team members: Gina Ahlstrom, FHWA HQ and Hans Anker, FHWA NY Division.

The "Why" & Potential Benefits of TOPS

NJDOT Benefits: Overall Pavement Network Improvements



Background

- Over 25% of all infrastructure funds go to pavements overlays.
- Agencies have 2.8 million miles to manage.

Image source: Iowa State University

How is this different than typical overlays?

TOPS matches treatments to high-priority, high-need locations.

Image Source: Georgia DOT

Where should TOPS be used?

- Rural/urban and or primary/interstate pavements
- Intersections
- Bus lanes
- Ramps
- Curved alignments

High-Priority/High-Maintenance Areas

May be beneficial in wide range of traffic, environmental, and underlying pavement conditions.

TOPS EDC Mission

Extend pavement life, increase load-carrying capacity, and improve safety, mobility, and user satisfaction in a cost-effective and sustainable manner by delivering targeted pavement overlay solutions to Federal, State, and local transportation agencies.

Asphalt

- Alternative materials and mixture design for higher-performance and durability
- Alternative overlay mixture designs & surface types to address:
  - Friction
  - Noise
  - Drainage

Image source: NAPA

What's in the TOPS toolbox?

Asphalt overlay products:

• High-Performance Thin Overlay (HPTO)	11 states
• Crack Attenuating Mixture (CAM)	7 states
• Highly Modified Asphalt (HiMA)	10 states
• Enhanced friction overlay	7 states
• Stone matrix asphalt (SMA)	5 states
• Asphalt Rubber Gap-Graded (ARGG)	4 states
• Open-Graded Friction Course (OGFC)	3 states
• Ultra-thin bonded wearing course (UTBWC)	3 states

TOPS Potential Benefits

- Improved Safety
- Improved Performance
- Retained Investments
- Cost Savings
- Environmentally Sound

Potential Benefits

Overlays may reduce maintenance, maximize previous investments, and reduce user delays (fewer work zones) due to extended service life of pavement structure.

Safety Benefits	TOPS Asphalt Products
Increase skid resistance	• Enhanced-friction overlay
Reduce splash and spray	• Ultra-thin bonded wearing course • Open-graded friction course

Potential Benefits

Overlays may reduce maintenance, maximize previous investments, and reduce user delays (fewer work zones) due to extended service life of pavement structure.

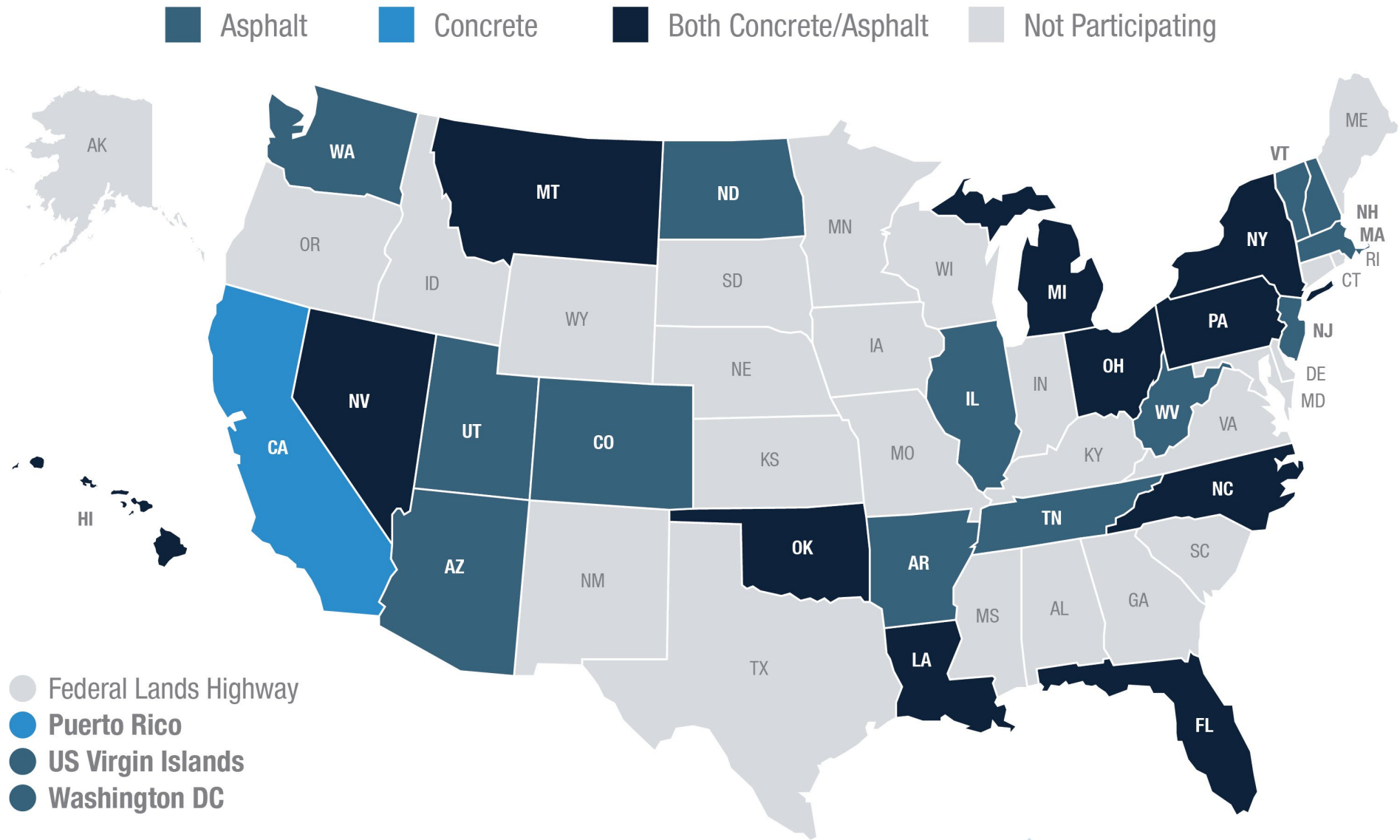
Performance Benefits	TOPS Asphalt Products
Adds durability to high traffic locations (truck routes, intersections, roundabouts)	• Stone-matrix asphalt • Asphalt rubber gap graded • Highly modified asphalt
Provides solutions for distressed existing pavements with extensive cracking, marginal base, etc.	• Crack attenuating mixture • Ultra-thin bonded wearing course
Preserves existing pavement through thin durable overlays	• High-performance thin overlays • Highly modified asphalt

Potential Benefits

Overlays may reduce maintenance, maximize previous investments, and reduce user delays (fewer work zones) due to extended service life of pavement structure.

Environmental Benefits	TOPS Products
Reduces noise	• Open-graded friction course • Ultra-thin bonded wearing course

States Participating in EDC TOPS



Source: FHWA

Targeted Overlay Pavement Solutions (TOPS)
State-Defined Baseline and Goal Stage

Stage	Stand (6 Total)	Walk (14 Total)	Jump (8 Total)	Leap (0 Total)	Fly (0 Total)
Institutionalized	NJ, NV, UT, WA				
Assessment	CO	OK			
Demonstration		CA, IL, MI, NY, VT			
Development	MT	AR, AZ, DC, LA, MA, NH, PR, WV	OH, PA		
Not Implemented			FL, HI, NC, ND, TN, VI		

Want more information on TOPS?
Contact the TOPS lead:

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Thank you

Questions / Comments Please?

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