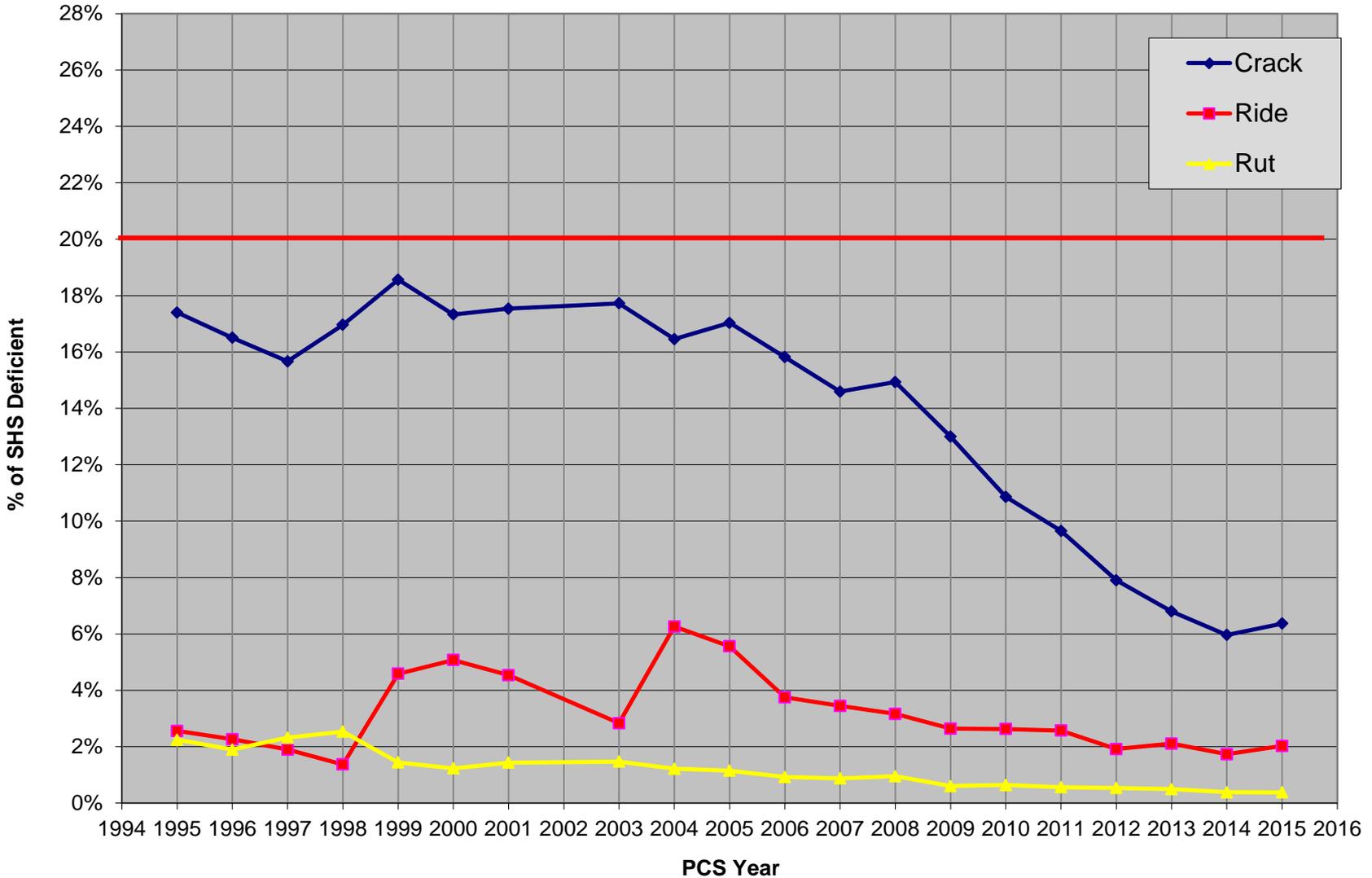
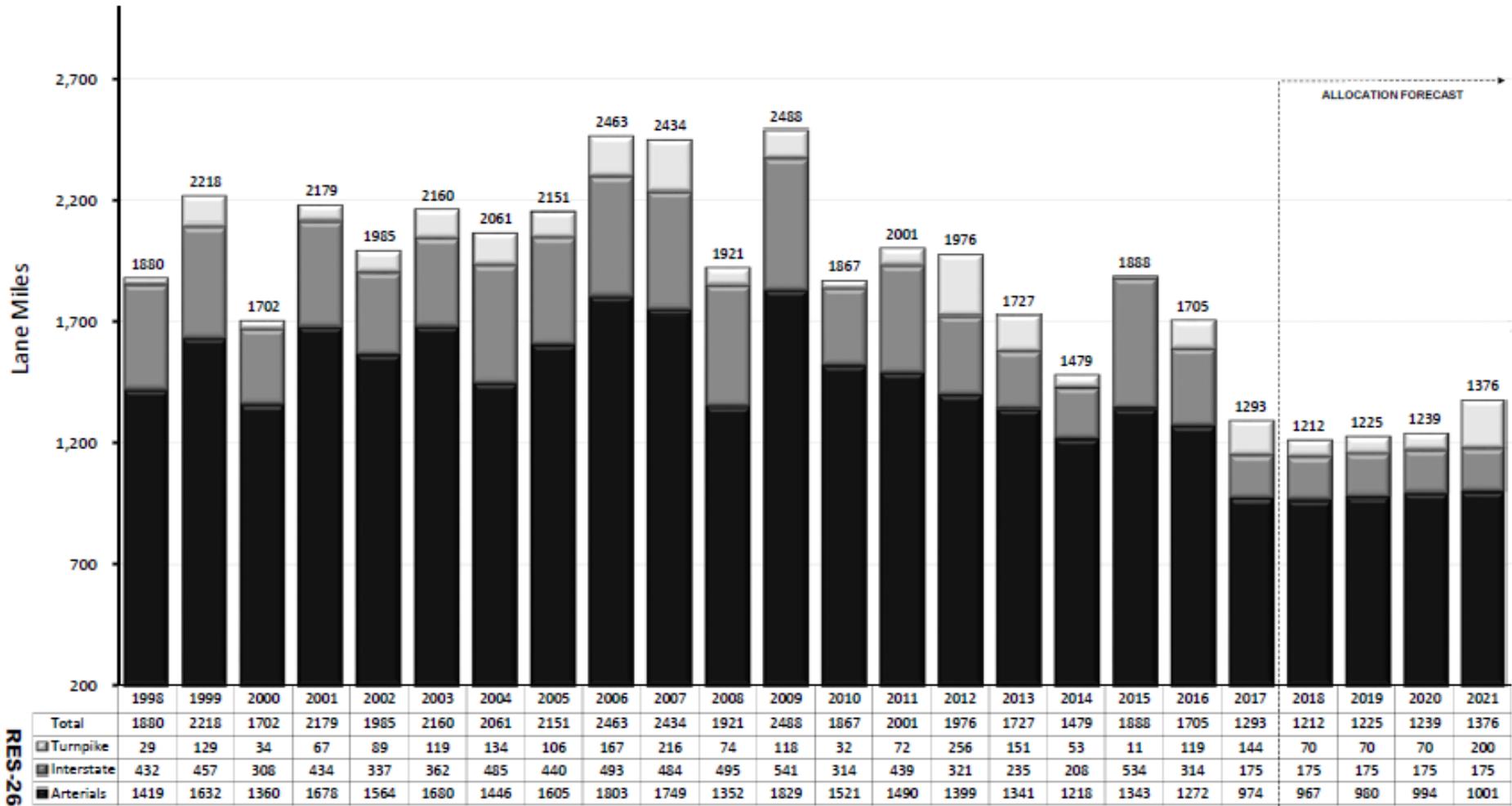


Historical Statewide Performance in Florida



Lane Miles to Be Resurfaced Tentative Work Program (04/06/15)



LTPP SPS-10: Warm Mix Asphalt (WMA) Overlays of AC Pavements

FHWA Asphalt Mixture ETG
September 17, 2015
Oklahoma City, Oklahoma

Jim Musselman
Florida DOT



U.S. Department of Transportation
Federal Highway Administration



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Background

- Need to investigate long-term performance of WMA
 - Higher potential for rutting?
 - Increased risk of moisture damage?
- Compare WMA to HMA
- Compare various WMA technologies
- Investigate inclusion of RAP in various quantities

Experimental Design

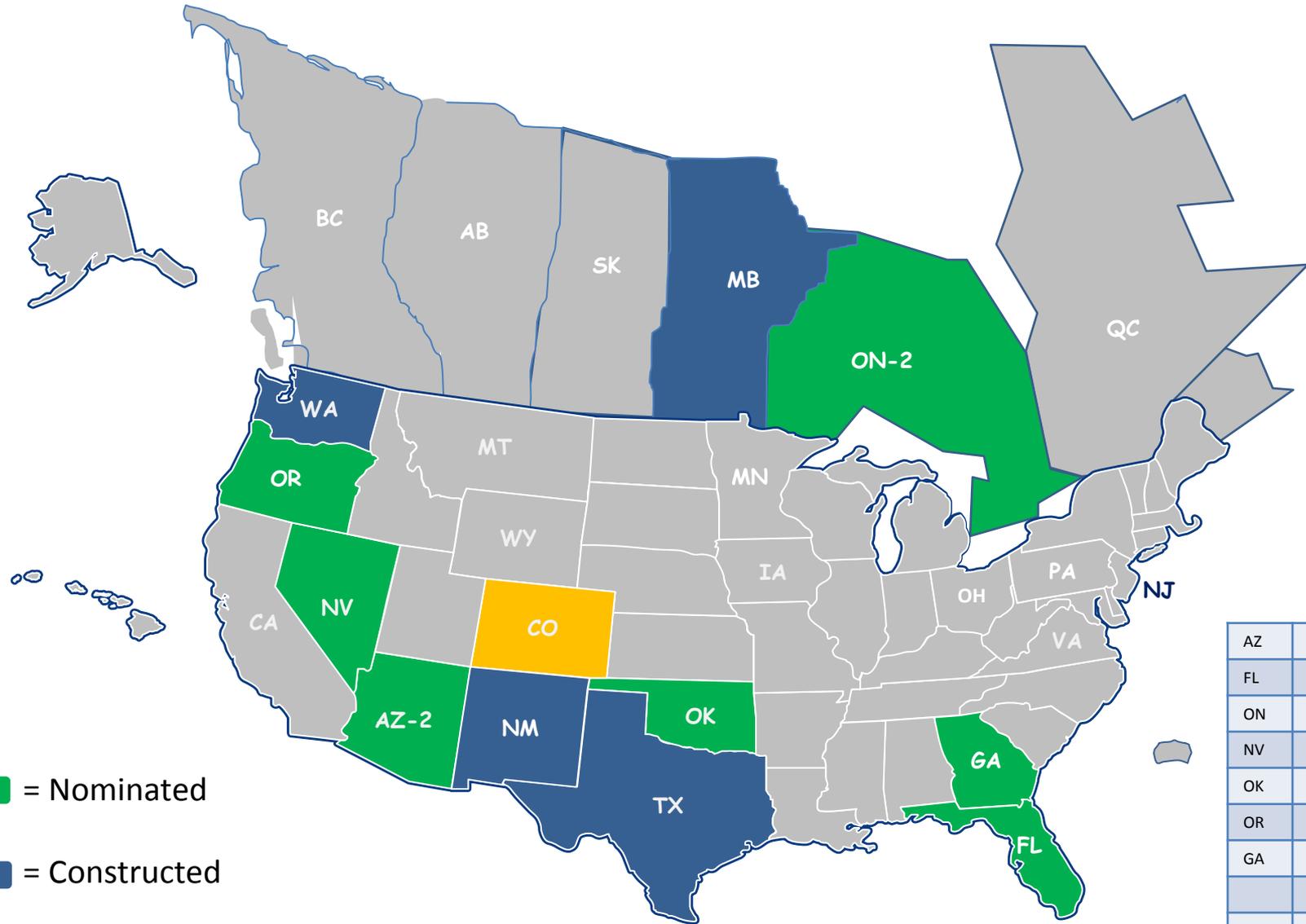
WMA Technology

Wet				Dry								
Freeze		No Freeze		Freeze		No Freeze						
High	Low	High	Low	High	Low	High	Low					
Core Test Sections on Project												
HMA (Control)	WMA (Foaming Process)		WMA (Chemical Additive)		2	2	2	2	2	2	2	2

Moisture
Temperature
Traffic



16 Projects



- = Nominated
- = Constructed
- = Rejected

AZ	2016 Both
FL	Spring 16
ON	Summer 16
NV	Spring 16
OK	Fall 15
OR	Fall 15
GA	Spring 16

Status of LTPP SPS-10



Southern Region

- New Mexico - I-40 (**Constructed October 2014**)
 - WMA with chemical additive (Cecabase)
 - WMA with chemical additive (Cecabase) and PG 70-28+ binder (standard binder is PG 70-28 binder)
- Texas - US-277 (**Constructed February 2015**)
 - No Supplemental Sections

Southern Region

- Oklahoma - SR-66 (Fall 2015)
 - Stone matrix asphalt with chemical WMA additive
 - No fibers, RAP, or RAS
 - PG 64-22 binder with 10% - 25% RAP/RAS
 - standard binder is PG 70-28
 - PG 58-28 binder with 10% - 25% RAP/RAS
- Georgia – US-84 (Spring 2016)
 - 1.5” overlay (standard overlay is 2”)
- Florida – SR-77 Jackson County (Spring 2016)
 - Chemical at HMA temperature
 - Foaming with >35% RAP
 - Chemical with >35% RAP

Western Region

- Washington: (**Constructed Summer 2015**)
 - 1 HMA section with ½” NMAS and 60 gyration mix
 - 1 foaming section with ½” NMAS and 60 gyration mix,
 - 1 HMA section with 3/8” NMAS and 100 gyration mix,
 - 1 HMA with 3/8” NMAS and 60 gyration mix
- Arizona: (2016) - Both projects will have the same supplemental test sections
 - 1 foaming section with increased RAP,
 - 1 chemical section with increased RAP,
 - 1 HMA with increased RAP.

Western Region

- Nevada: (Spring 2016)
 - 1 organic WMA section,
 - 1 foaming additive,
 - 1 foaming additive with TBR (terminal blend rubber),
 - HMA with TBR
- Oregon: (Spring 2016)
 - 1 foaming section produced at hot mix temperatures,
 - 1 HMA section with increased RAP

North Central Region

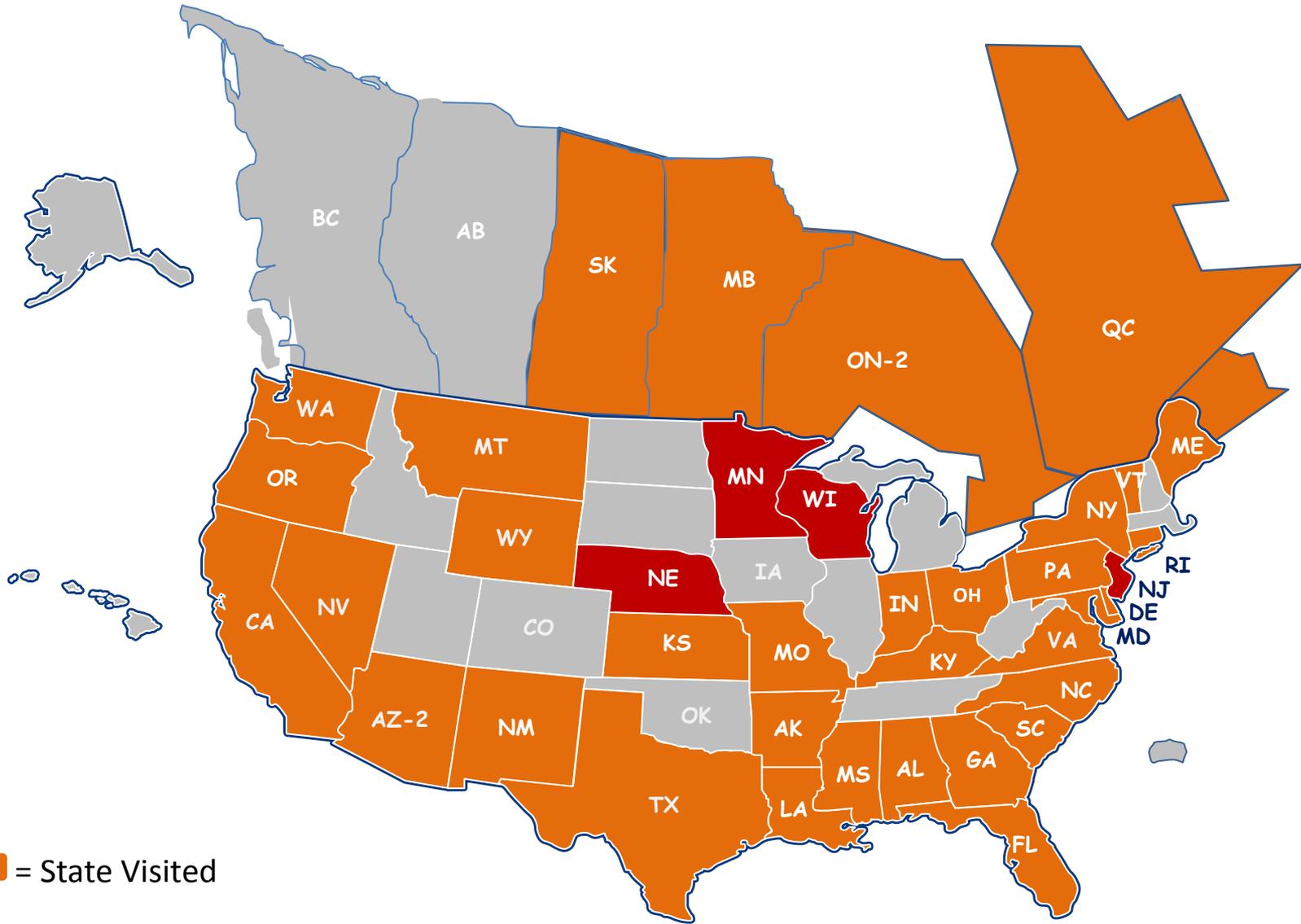
- Manitoba: (**Constructed August 2015**)
 - HMA Control Section
 - WMA with Foaming process
 - WMA Foaming process with chemical additive
 - WMA with chemical additive 0.3% Evotherm

North Atlantic Region

- Ontario (2):
 - WMA Chemical Additive test section (Rediset),
 - WMA Organic Additive test section (SonneWarmix).

Summary

- 13 of the 16 projects have been selected
 - 5 Western Region
 - 5 Southern Region
 - 2 North Atlantic Region
 - 1 North Central Region
- 4 Projects completed
 - 2 will be constructed in late 2015
 - 7 in 2016
- No wet/freeze projects yet in the U.S. This has been a focus during state visits



Orange square = State Visited

Red square = Scheduled

Status of LTPP SPS-10



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Contacts

Jason Puccinelli, LTPP Western Region:

jpuccinelli@ncenet.com

Gabe Cimini, LTPP North Central and North Atlantic Regions gabe.cimini@stantec.com

Thomas Burchett, LTPP Southern Region

TBurchett@Fugro.com

Jack Springer, FHWA-LTPP

Jack.springer@dot.gov



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Thank You... Questions?

