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# ***SPS-12 PCC Pavement Preservation Experiment***

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LTPP Program  
Pavement Preservation Experiment  
NCC Presentation  
September 2015



U.S. Department of Transportation  
Federal Highway Administration



**LONG TERM**  
**pavement**  
PERFORMANCE

# Project Objectives

Design pavement preservation experiment for LTPP program to:

- Provide short- and long-term performance data on pavements relative to preservation technology
- Verify preservation as viable technology in extending pavement life
- Enable development and implementation of important preservation products and tools



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# SPS-12 Treatments & Pavements

## Treatments:

- Diamond grinding & dowel bar retrofit
- Joint sealants
- Joint penetrating sealers (for joint associated distress or JAD)

## Pavement Types :

- Original jointed plain concrete pavement (JPCP)

# Traffic & Climate

## Traffic:

- Low – less than 500,000 ESALs / year
- High – greater than 500,000 ESALs / year

## Climate:

- Wet/Dry - precipitation of 20 inches/year
- F/NF - freezing Index of 150°F-days/year

# Replicates, Repeats & Supplemental

## Replicates:

- Two per experimental cell; will depend on funding

## Repeat:

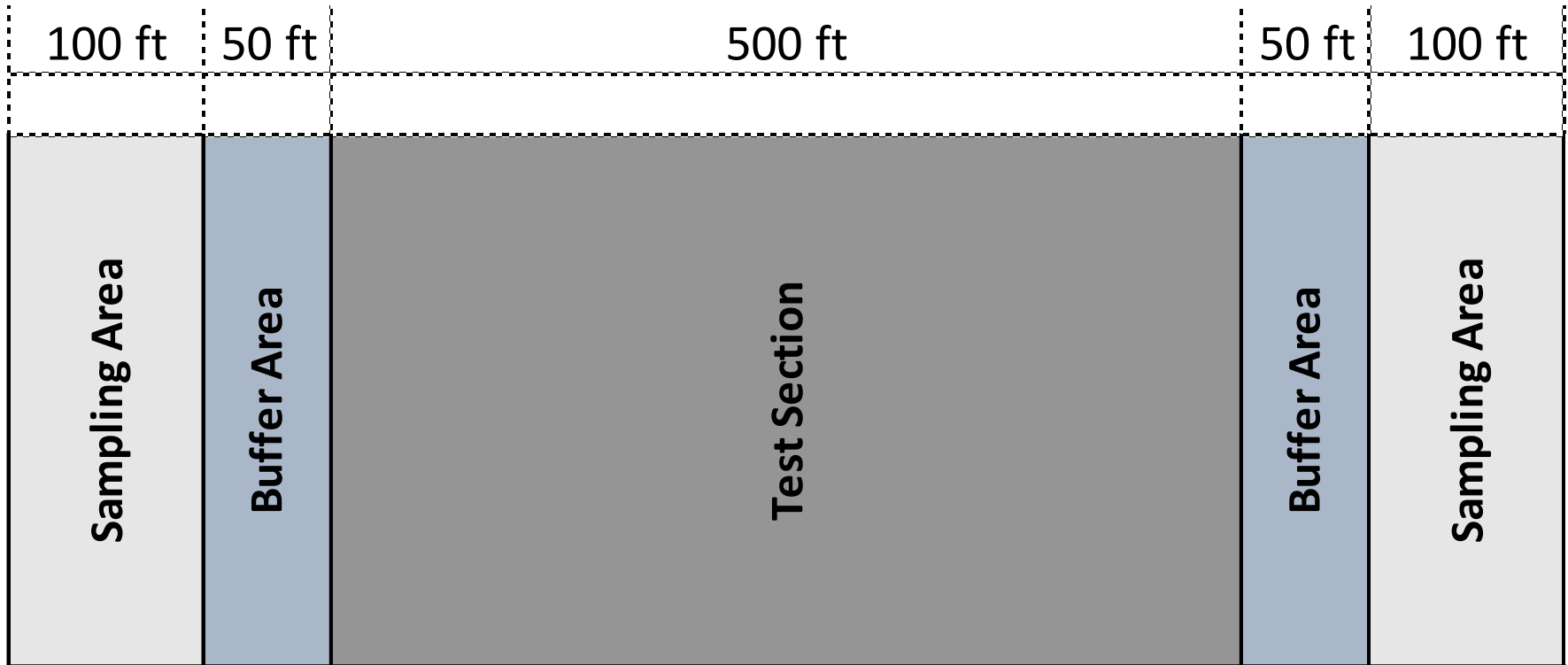
- Control test section plus test sections that have not received treatment

## Supplemental:

- Highly encouraged; will be supported and monitored by LTPP



# Typical SPS-12 Test Section



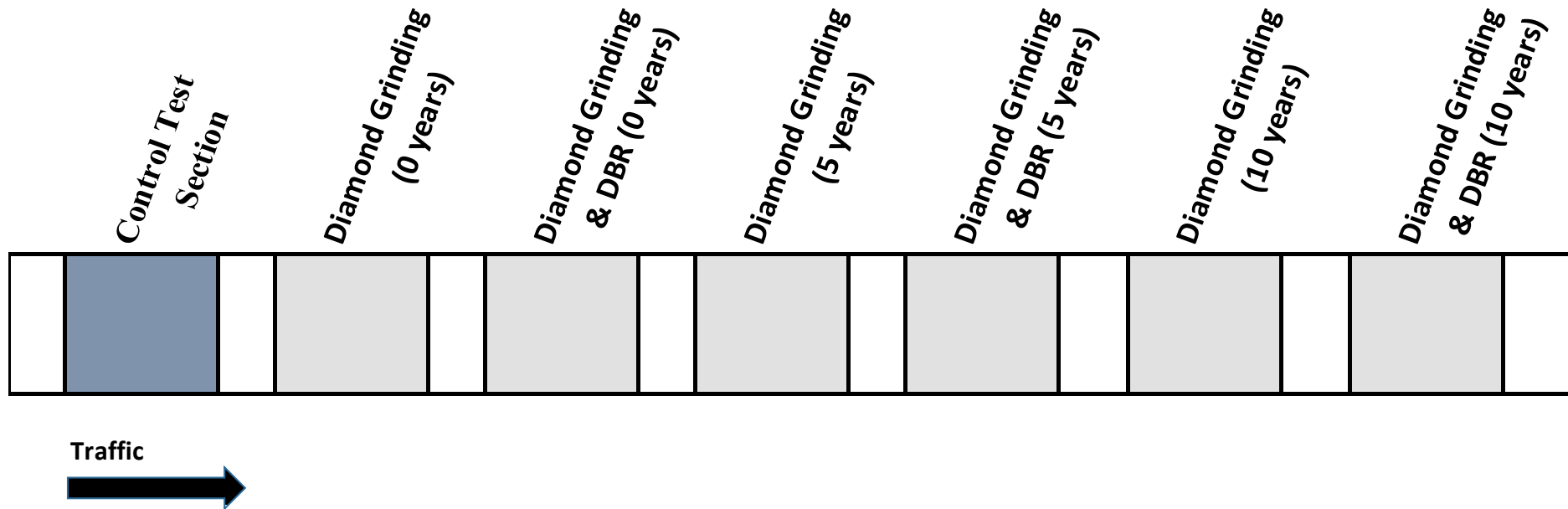
# Current SPS-12 Matrix

Treatment	Wet				Dry			
	Freeze		No Freeze		Freeze		No Freeze	
	High	Low	High	Low	High	Low	High	Low
Diamond Grinding & Dowel Bar Retrofit								
Joint Sealant								
Joint Penetrating Sealers								

Moisture  
Temperature  
Traffic

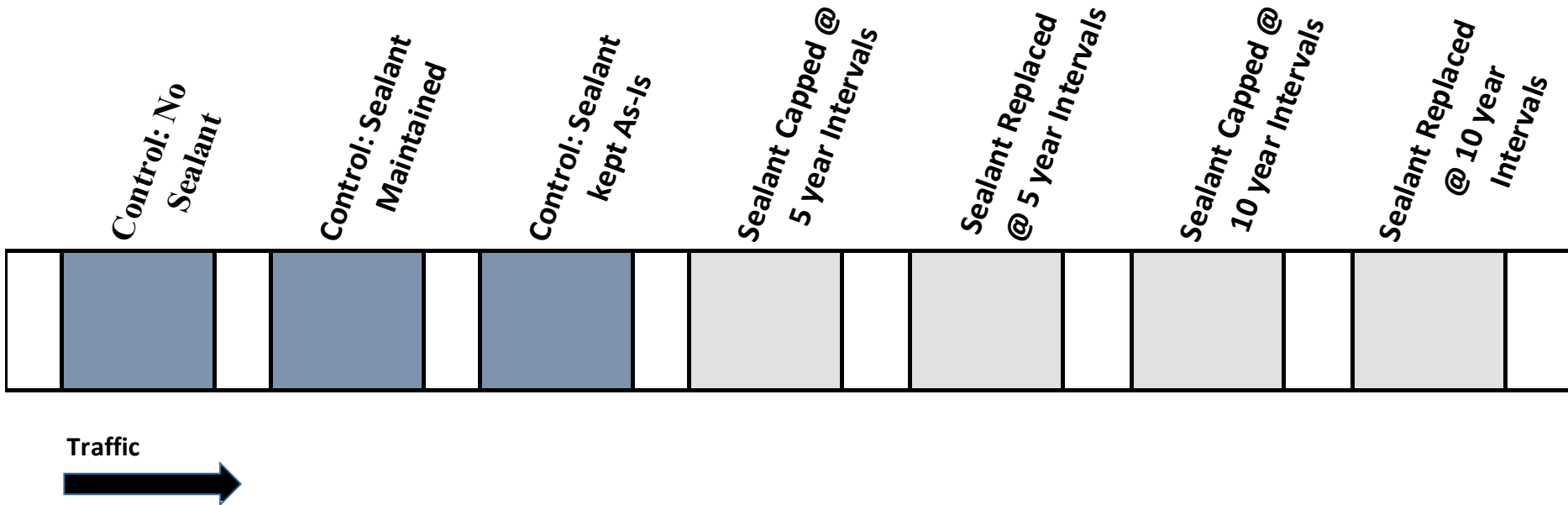


# Diamond Grinding & DBR





# Joint Sealant (Cap/Replace Sealant)



# Penetrating Sealer (Silanes or Siloxanes)

*Control: No Joint Sealant present; No Sealer*

*Control: Joint Sealant Maintained; No sealer*

*Sealer at Year 0; Re-Apply @ 3 year Intervals*

*Sealer at Year 0; Do Not Re-Apply*

*Sealer at Year 5; Re-Apply @ 5 year Intervals*

*Sealer at Year 5; Do Not Re-Apply*

*Sealer at Year 10; Re-Apply @ 10 Year Intervals*

*Sealer at Year 10; Do Not Re-Apply*

Traffic  
→

# Summary

- True-time approach to SPS-12
  - Start with young pavements (? years or less)
  - Apply same treatments over time
- Logical combination of diamond grindings and dowel bar retrofit
- Joint sealants and joint penetrating sealers help address important concrete issues

