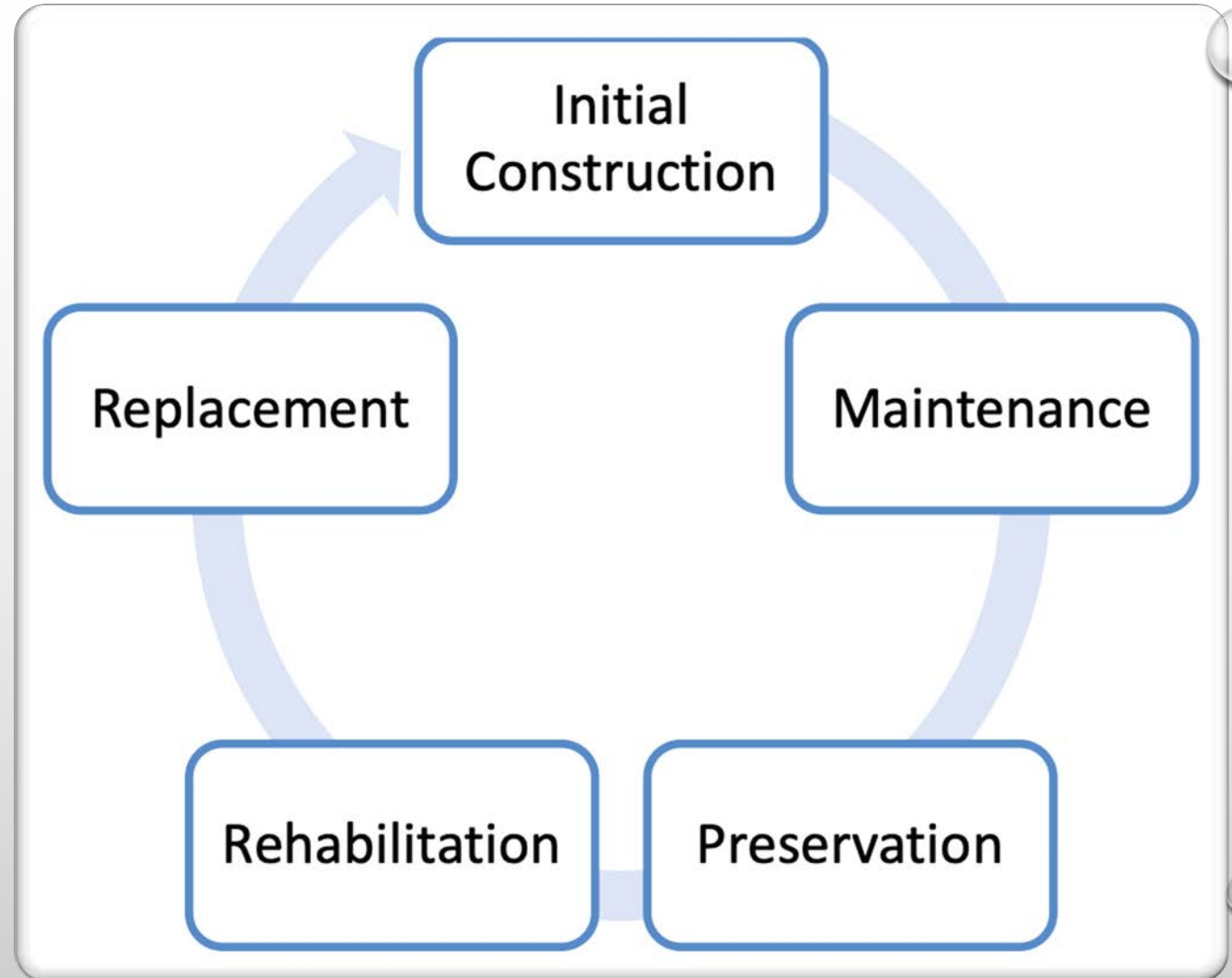


The background of the slide is a light gray gradient, decorated with numerous realistic water droplets of various sizes. The droplets are rendered with soft shadows and highlights, giving them a three-dimensional appearance. They are scattered across the upper and middle portions of the slide, with a higher concentration on the right side. The text is centered horizontally and vertically within the upper half of the slide.

***PAVEMENT PRESERVATION AND
REHABILITATION PERFORMANCE:
LOOKING BACK TO MOVE AHEAD***

PAVEMENT PRESERVATION

- MICRO-SURFACING
- CHIP SEALS



“We cannot solve our problems with the same thinking we used when we created them” – Albert Einstein

MICRO SURFACING

- SINGLE VS. TWO PASSES
- REQUIREMENT OF TACK COAT
- INCREASE IN MINIMUM RESIDUAL ASPHALT CONTENT
- USE OF ASPHALT EXTRACTION PROCEDURES AS QA TEST
- MOISTURE CONTENT VERIFICATION



POOR PERFORMANCE

“Failure is so important. We speak about success all the time. But it is the ability to resist or use failure that often leads to greater success.” – J.K. Rowling



2020 VERSION OF MICRO SURFACING

CHIP SEALS

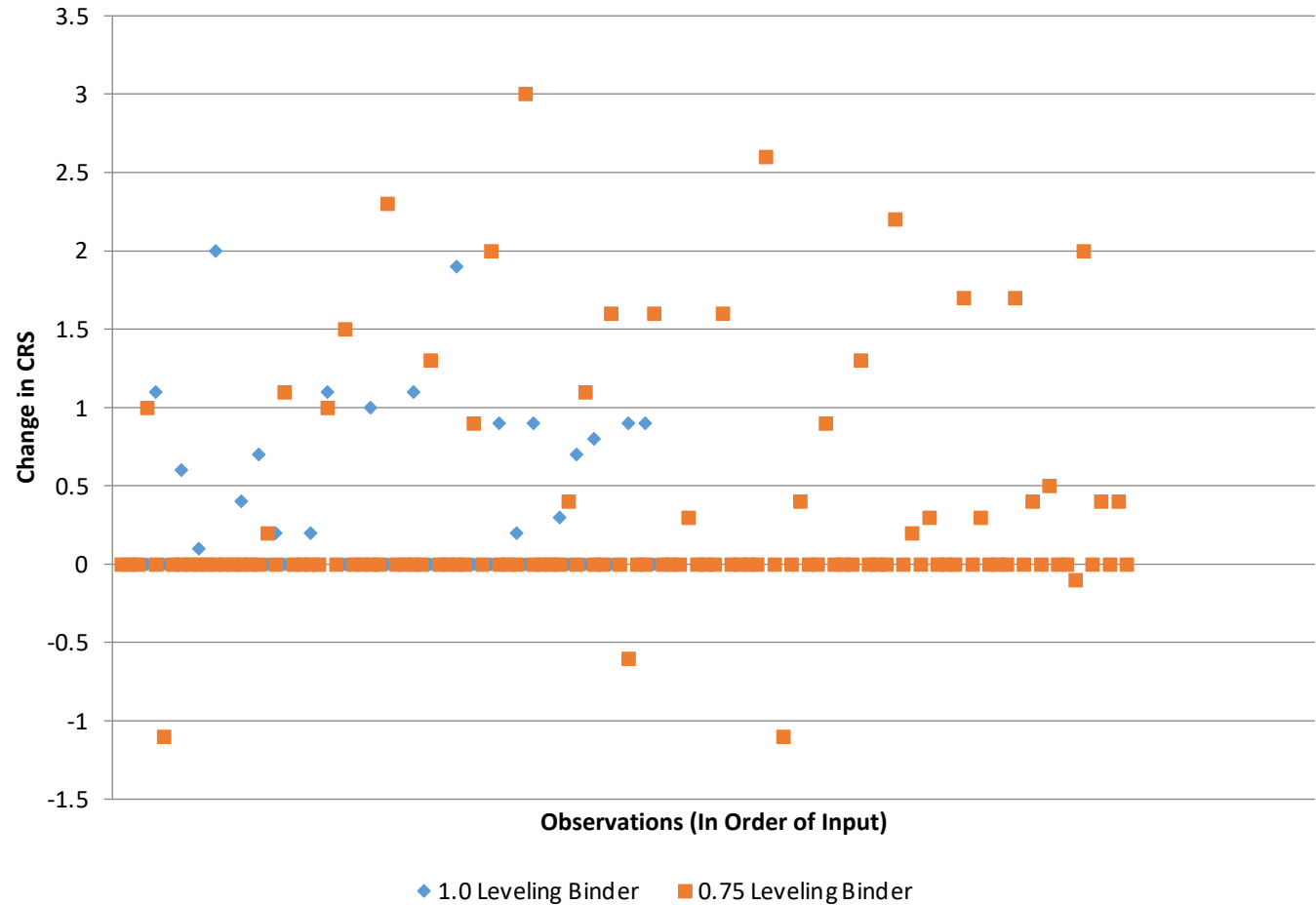
- ADDITION OF FOG SEAL



REHABILITATION – HMA OVERLAYS

- EXCESSIVE RUTTING LED TO MEASURES TO INCREASE DENSITY
 - LIFT THICKNESSES INCREASED TO MEET 3 TIMES NMAAS CRITERIA
 - STARTED WITH IL 19.0 MM – 1.75 IN. BINDER INCREASED TO 2.25 IN. BINDER
- INCREASED TACK COAT APPLICATION RATE
- POOR PERFORMANCE OF IL 9.5 AT 0.75”
 - ELIMINATED LEVELING BINDER, THICKNESS BASED ON GRADATION
- REQUIRING LJS ON ALL CENTERLINE AND LANE TO LANE JOINTS

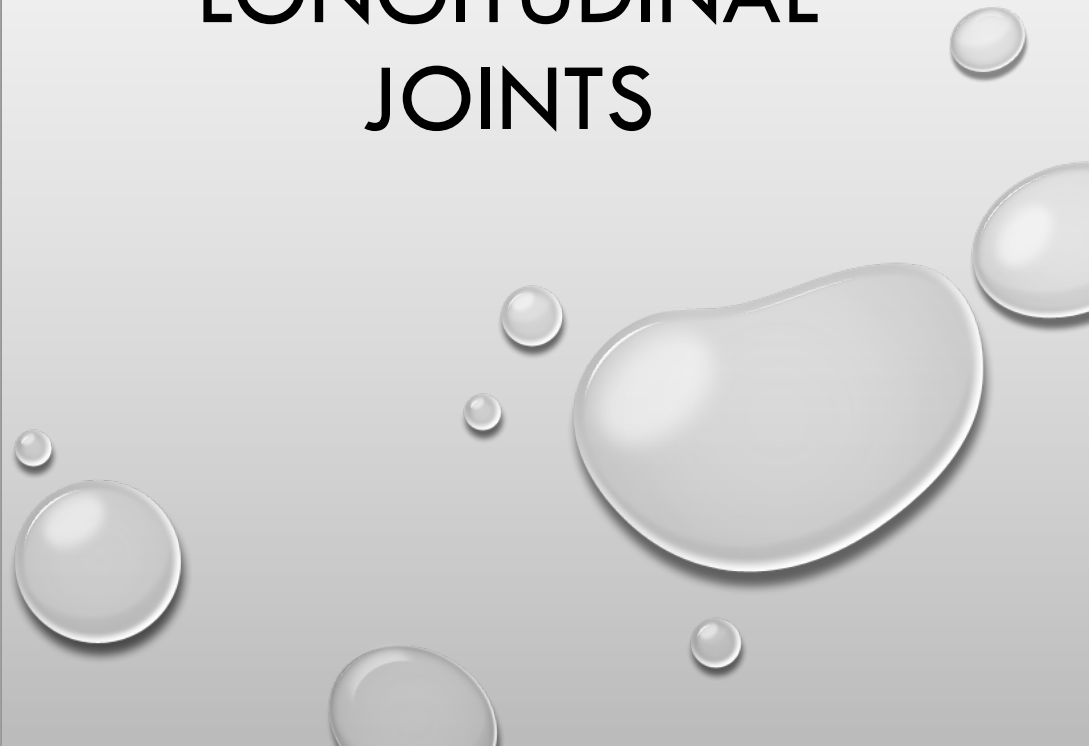
INCREASED SERVICE LIFE THROUGH INCREASED DENSITY



CRS Interval Analysis		
	³ / ₄ " Leveling Binder	1" Leveling Binder
Average CRS Change Per Year	1.0606	0.8000
Minimum CRS Change Per Year	-1.1000	0.1000
Maximum CRS Change Per Year	3.0000	2.0000
Std. Deviation in CRS Change Per Year	0.6530	0.4661
Observation Intervals	33.0000	20.0000




**INCREASING
SERVICE LIFE
THROUGH BETTER
LONGITUDINAL
JOINTS**





BETTER PERFORMANCE THROUGH MORE OPTIONS

- NEW SUBCATEGORIES OF REHABILITATION
 - MINOR AND MAJOR REHABILITATION
 - RANGE OF THICKNESS BASED ON FUNCTIONAL CLASS
 - DISTRICT SELECTS MIXTURE AND USES LIFT THICKNESS TO MATCH GRADATION
- 

HMA OVERLAY GUIDANCE

Standard Overlay

3. Thickness. The resurfacing thickness for standard HMA overlays shall be according to the following.
 - a. Interstates. Two lifts with a total thickness of 3.00 to 4.25 in.
 - b. Other State Maintained Highways. Two lifts with a total thickness of 2.00 to 2.75 in. Bare PCC will require a minimum total thickness of 2.50 in.

Designed Overlay

3. Thickness. A thickness design procedure is still under development. Until the procedure is completed, HMA Designed Overlays will use the following default thicknesses.
 - a. Interstates. 5.00 in.
 - b. Other State Maintained Highways. 3.75 in.

The mixture gradations and lift thicknesses shall be selected from Figure 53-4.J.

HMA LIFT OPTIONS


Mixture Gradation	Type of Lift	Minimum Lift Thickness (in.)
IL-19.0	Binder only	2.25
IL-9.5	Surface or Binder	1.50
IL-9.5FG	Surface or Binder	1.25
IL-4.75	Binder only	0.75 – Over HMA Surface 1.00 – Over PCC Surface
SMA 12.5	Surface or Binder	2.00
SMA 9.5	Surface or Binder	1.50

LIFT THICKNESS REQUIREMENTS FOR HMA OVERLAYS

Figure 53-4.J




IN THE WORKS

- CHIP SEAL
 - LOOKING TO DEVELOP FIELD TEST FOR EMBEDMENT DEPTH
 - COLD RECYCLE TECHNOLOGIES
 - MOISTURE CONTENT TESTING WITH GPR
 - IN-PLACE DENSITY WITH GPR
 - ENHANCING MIX DESIGN METHODOLOGIES WITH IN-SITU TESTING
 - PERFORMANCE MONITORING
 - ULTRA-THIN BONDED WEARING COURSE
 - HMA QC/QA TESTS
- 



IN THE WORKS

- USE OF LOCAL AGGREGATES FOR SMA
 - CAN SOME LOCAL AGGREGATES PERFORM IN SMA?
 - HMA LIFT CONFIGURATION OPTIMIZATION
 - LARGE SCALE TESTING AND REAL-WORLD DATA ANALYSIS
 - HMA POTHOLE MAINTENANCE BEST PRACTICES
- 

QUESTIONS

“The only way to do great work is to love what you do. If you haven’t found it yet, keep looking. Don’t settle. As with all matters of the heart, you’ll know when you find it.” – Steve jobs



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