

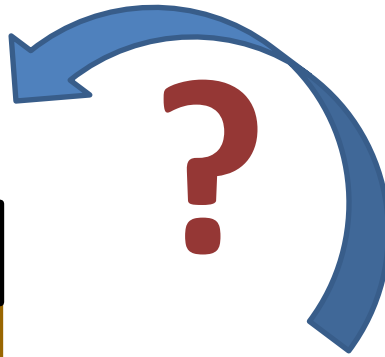
Moving Towards Design and Construction Integration Through Performance-Related Specifications (PRS)

**Expert Task Group (ETG) on Asphalt Mixtures
Bozeman, Montana
September 20, 2017**

Structural Design
(materials/thickness)



Richard Kim



Mixture Design
Material Characterization



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The Issue: Pavement "Life"



Construction
(QA; QC)



fhwa.gov

In terms of pavement performance / life:

THAT these elements are interrelated is not questioned;

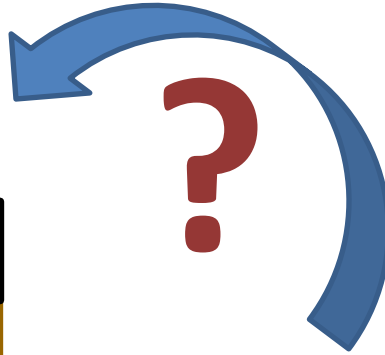
The extent to which we intentionally relate them...?

Near Term: Performance Mix Design

**Structural Design
(materials/thickness)**



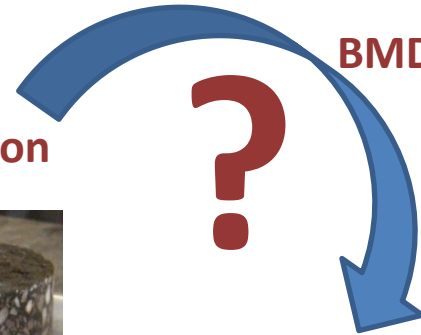
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**Mixture Design
Material Characterization**



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**ETG
BMD Task Group**

**Construction
(QA; QC)**



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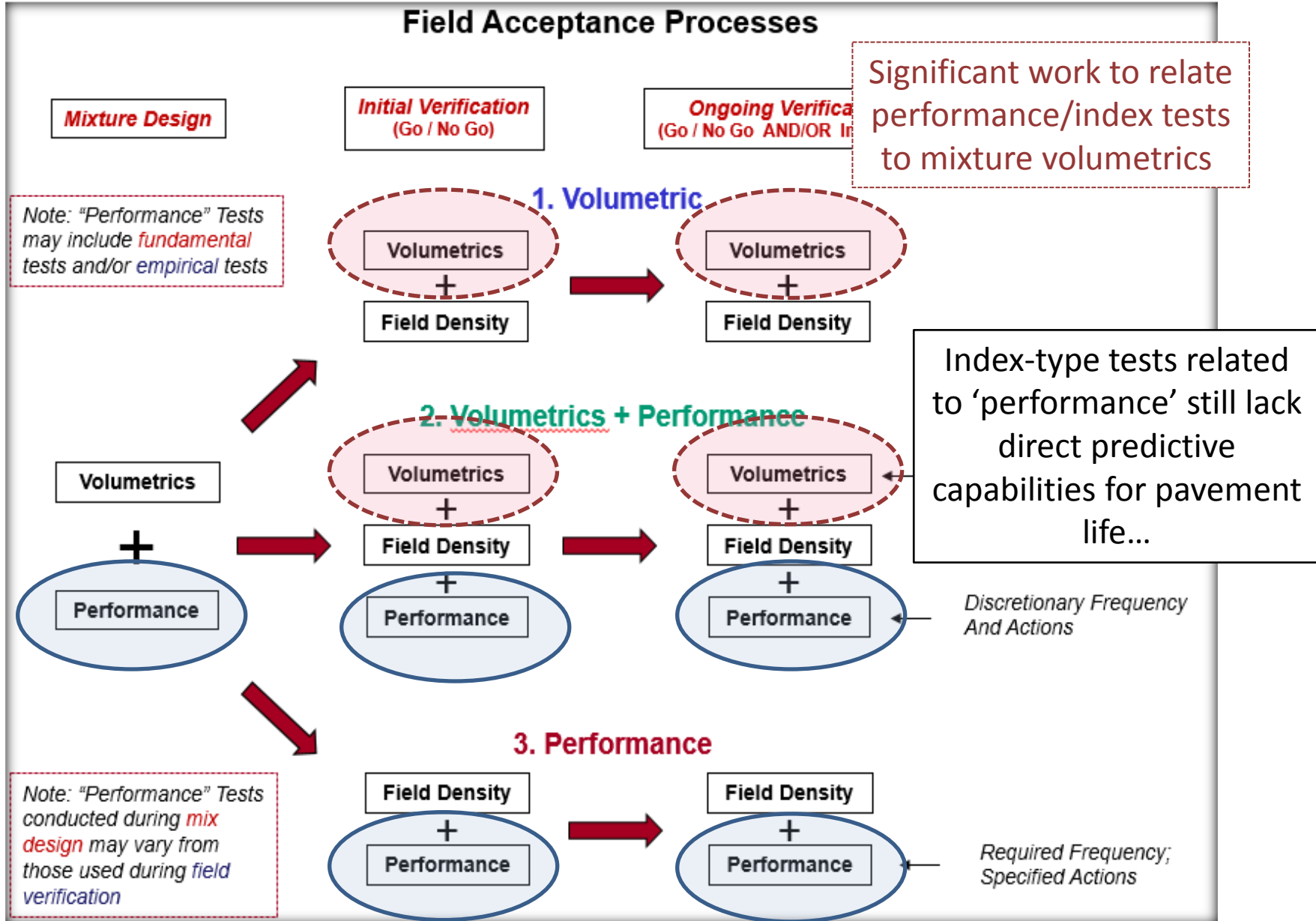
Rutting:
Hamburg; APA; others

Index Tests

Go/No-Go criteria;
Acceptance criteria based on
empirical relationships to “performance”
Optimize mixes’ resistance to distress mechanisms

Cracking:
TxOL; SCB; DCT; others

Near Term: Performance Mix Design



Structural Design (materials/thickness)



Richard Kim

Mixture Design Material Characterization



Rutting

Cracking

Long Term: PRS

Pay Factor = $f(\Delta\text{life})$

Construction (QA; QC)



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FlexPAVE Platform

Exhibited potential for integration, PRS

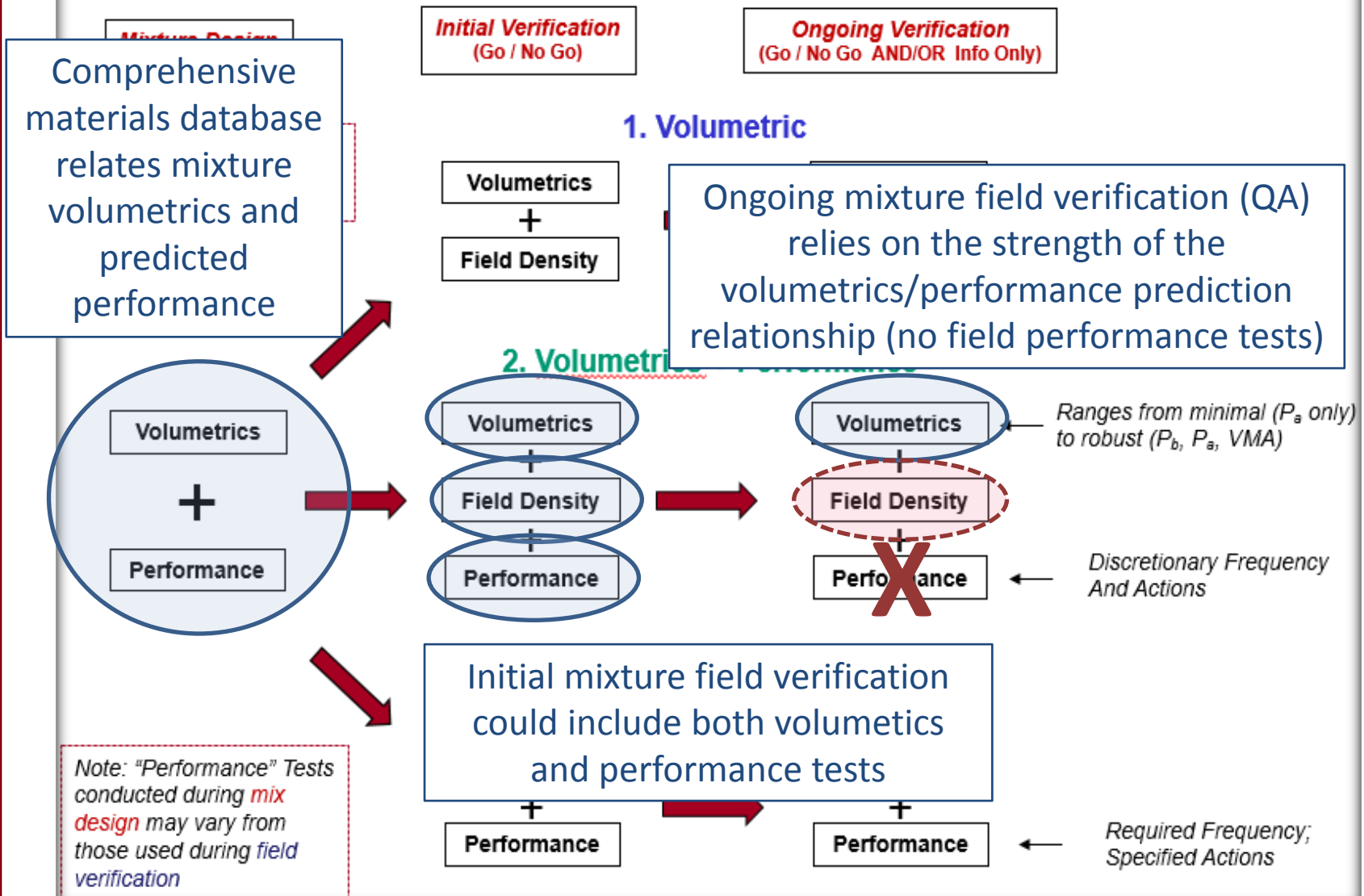
Material characteristics form basis

for mixture design and structural design

Through materials database, performance database, and

pay tables, can set up a PRS

Field Acceptance Processes



Ranges from minimal (P_a only) to robust (P_b , P_a , VMA)

Discretionary Frequency And Actions

Required Frequency; Specified Actions