GUIDELINES PURPOSE
To provide pavement designers a methodology to develop project-specific construction standards for asphalt and PCC pavements related with pavement smoothness based on existing field conditions.

BACKGROUND

PAVEMENT SMOOTHNESS REQUIREMENTS

NETWORK DATA COLLECTION AND ANALYSIS

PROJECT DATA COLLECTION AND ANALYSIS

Asphalt Pavement Decision Tree
Concrete Pavement Decision Tree

ASPHALT CONCRETE PAVEMENTS
METHODS FOR CORRECTING ROUGH ASPHALT PAVEMENTS

SMOOTHNESS CONSIDERATIONS FOR ASPHALT PAVEMENT CATEGORIES
NEW PAVEMENTS OR RECONSTRUCTION
PAVEMENT REHABILITATION
PAVEMENT PRESERVATION

HOW TO CALCULATE MRI AND DETERMINE AREAS OF LOCALIZED ROUGHNESS FOR ASPHALT PAVEMENTS

DETERMINE CORRECTIVE STRATEGY FOR REDUCING THE ROUGHNESS OF AN EXISTING ASPHALT PAVEMENTS

Identify and address leave outs (manhole covers, bridges, horizontal curves, etc.)
Determine number of opportunities to improve smoothness

Pavement Rehabilitation
When existing pavement MRI is $120$ x in/mile or less (The “x” numbers need to be re-assessed at this point)
When existing pavement MRI is greater than $120$ x in/mile but less than or equal to $240$ x in/mile
When existing pavement MRI is greater than $240$ x in/mile but less than or equal to $400$ x in/mile
When existing pavement MRI is greater than $400$ x in/mile
Isolated sections of roughness

Pavement Preservation
CAPM/Highway Maintenance HMA Overlays
When existing pavement MRI is \(120\) x in/mile or less
When existing pavement MRI is greater than \(120\) x in/mile but less than or equal to \(180\) x in/mile
When existing pavement MRI is greater than \(180\) x in/mile

Seal Coats

PAVEMENT SMOOTHNESS INFORMATION
WIDENINGS
CONTRACT DOCUMENTS
CONTRACT SPECIFICATIONS, BID ITEMS AND ESTIMATES

Methodology establishing contract specification approach
60 MRI target value
75 MRI target value
Percent improvement

PCC PAVEMENTS
METHODS FOR CORRECTING ROUGH PCC PAVEMENTS

SMOOTHNESS CONSIDERATIONS FOR PCC PAVEMENT CATEGORIES

HOW TO CALCULATE MRI AND DETERMINE AREAS OF LOCALIZED ROUGHNESS FOR PCC PAVEMENTS

DETERMINE CORRECTIVE STRATEGY FOR REDUCING THE ROUGHNESS OF AN EXISTING PCC PAVEMENTS
Identify and address leave outs (manhole covers, bridges, horizontal curves, etc.)

Continuously Reinforced Concrete Pavement
New
Widening
Jointed Plain Concrete
New
Widening

CONTRACT DOCUMENTS

CONTRACT SPECIFICATIONS, BID ITEMS AND ESTIMATES