

Alternate Bidding Pavements

**North Central
Asphalt User/Producer Group**
February 3, 2010



Presentation Overview

- Overview of Alternate Bidding
- FHWA policy memo
- What are other states doing
- Use of LCCA in Alternate Bidding



Overview of Alternate Bidding

- Pavement type selection
 - Engineering judgment
 - Initial cost
 - Life-cycle cost, etc
- *But, costs can change rapidly...*



Overview of Alternate Bidding

- Alternate pavement types
- Two projects designed
- Award based on lowest cost project
 - Adjustment factors
 - No adjustment factors
- What are adjustment factors?
- Equivalent designs
 - performance
 - level of service
 - performance period
 - cost



FHWA Memo on Alternate Bidding

- Issued November 13, 2008
- Clarifies and consolidates FHWA policy
- Applies to Federal-aid on the NHS
- Alt Bidding is “not encouraged”
- However, in the rare instance....
 - Equivalent designs
 - Discount rate
 - Uncertainty
 - Rehabilitation strategy
 - Subjective factors
 - Commodity price adjustments
 - I/D provisions
 - Materials quantities
 - Approval process



FHWA Memo on Alternate Bidding

- Equivalent Design
 - Performance
 - Level of service
 - Performance period
 - Life-cycle costs
- Performance period to include one rehab cycle
- NPV should be <10% higher than lower cost alternate



FHWA Memo on Alternate Bidding

- Discount rate
 - Use appropriate discount rates
 - Consult OMB Circular A-94
 - 2-4% is reasonable
- Uncertainty should be considered
 - Performance life
 - Materials costs
 - Future actions
 - RealCost software



FHWA Memo on Alternate Bidding

- Rehabilitation strategy
 - Should reflect reality
 - If history is lacking, consult best-practice guides
- Subjective considerations
 - Constructability
 - Type of adjacent pavements
 - Recycling
 - Conservation of materials
- Appropriate application



FHWA Memo on Alternate Bidding

- Commodity price adjustments
 - Should not be used with alternate bidding
- Incentive/disincentive specifications
 - Provide comparable opportunity
- Materials quantities
 - Balance materials quantity risk

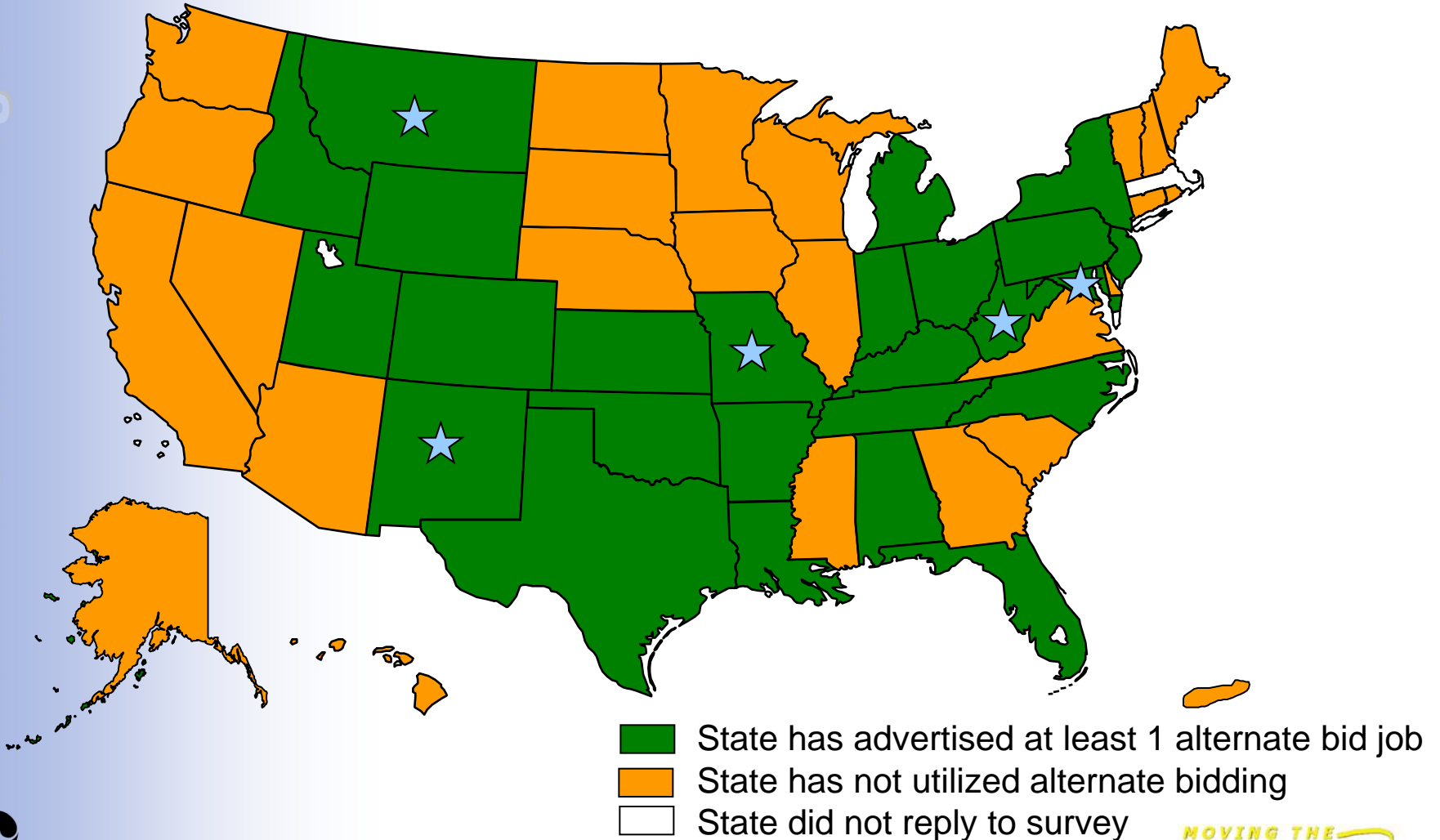


FHWA Memo on Alternate Bidding

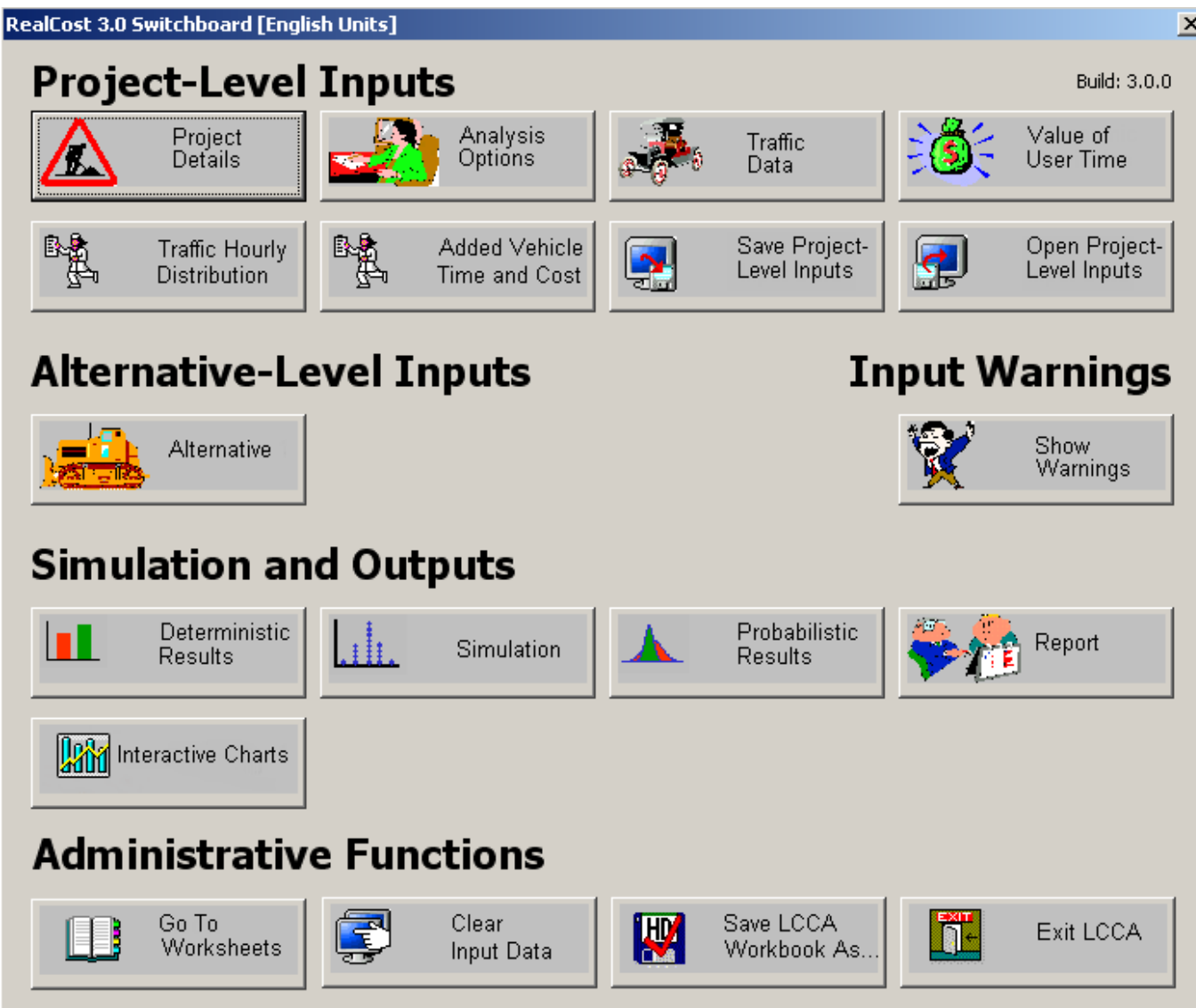
- Approvals
 - Approved under SEP-14 if using bid adjustments
 - Approved at Division Office if no adjustments used
- Future changes
 - Commodity price adjustments
 - Approvals



Alternate Bidding Usage



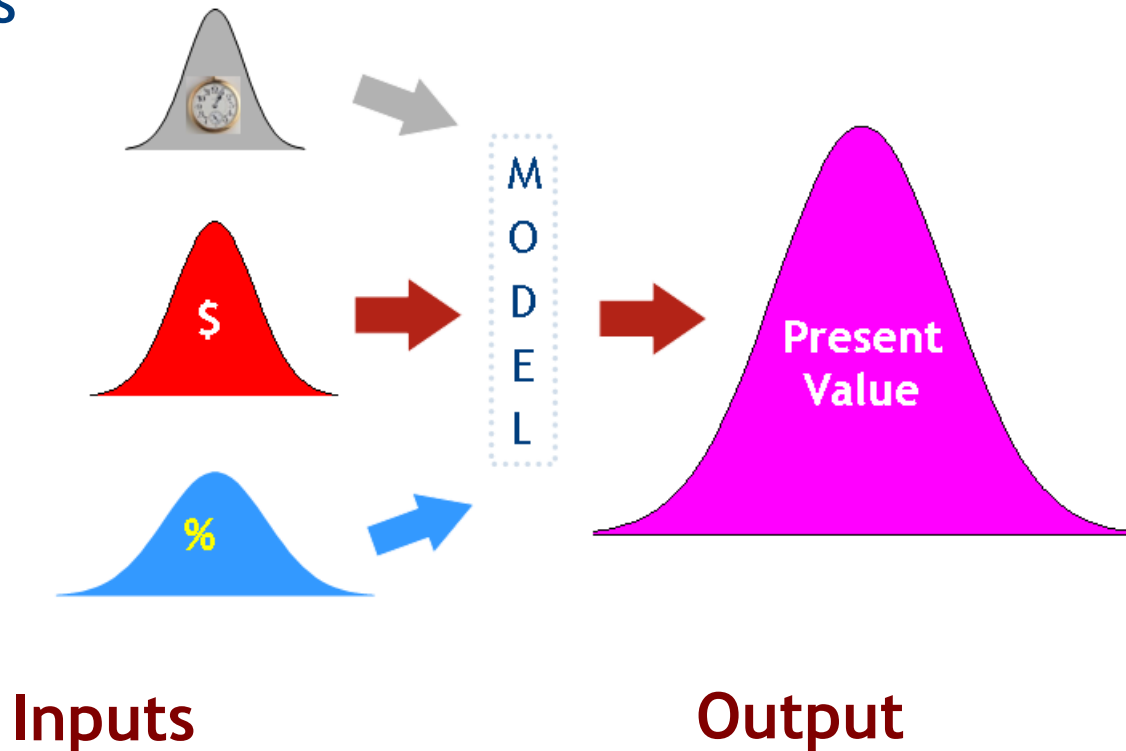
FHWA RealCost LCCA Software



- Automates the LCCA Process
- Calculates User Costs
- Accounts for Uncertainty/Risk
- MS Excel with Graphical User Interface
- Available for Free Download with Free support & Training

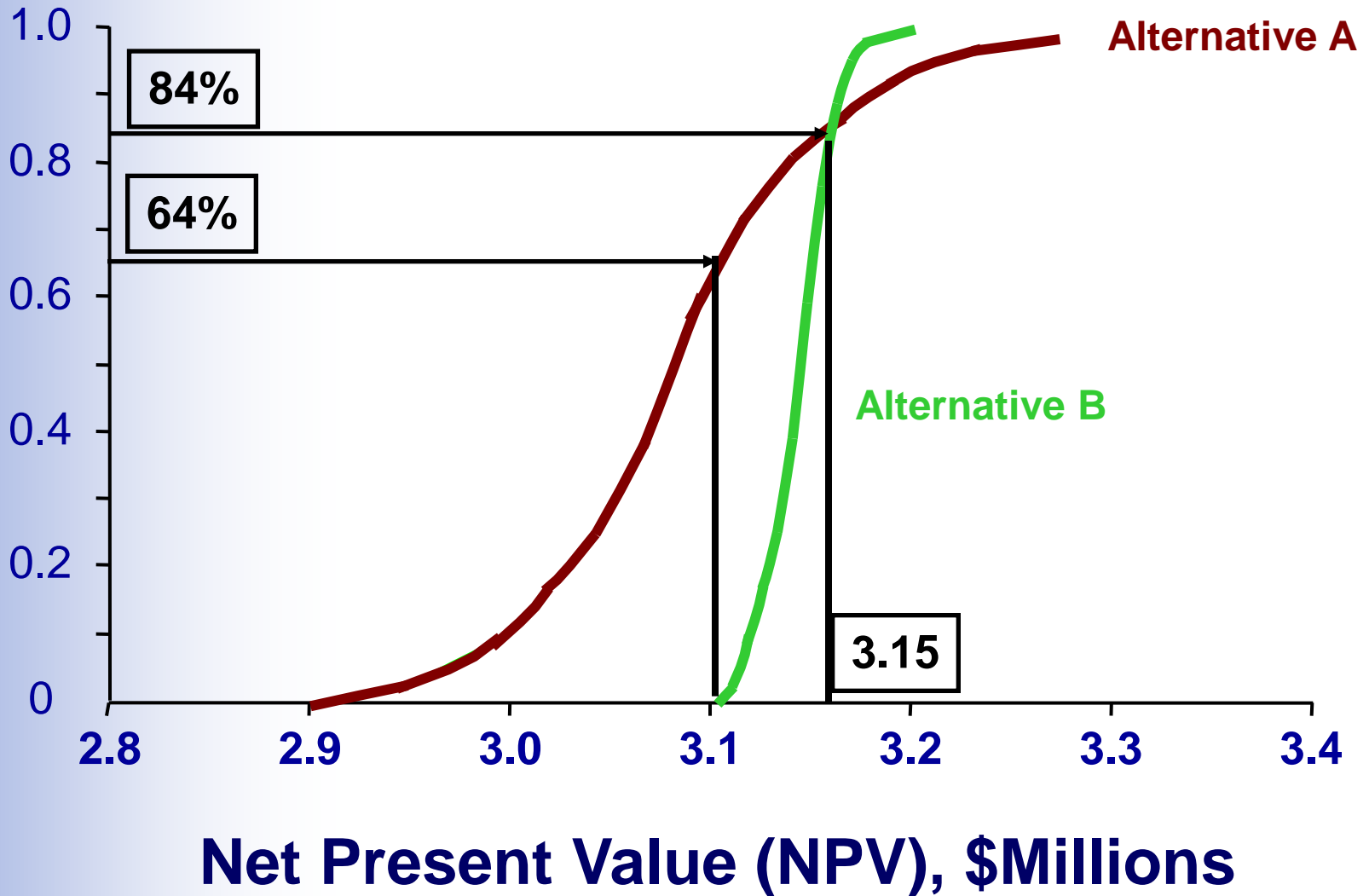
FHWA RealCost Software

- Inputs are defined by their range of values and probability of occurrence (probability distribution)
- Through simulation, outputs are expressed as ranges of values with probabilities of occurrence



FHWA RealCost LCCA Software

FHWA Pavement Program
Probability



Net Present Value (NPV), \$Millions



Thank You

Mark Swanlund

mark.swanlund@dot.gov

202 366 1323

