



Transportation Infrastructure Durability Center
AT THE UNIVERSITY OF MAINE



C9.2019: A new method of determining payment for in-place concrete with double-bounded compressive strength pay factors

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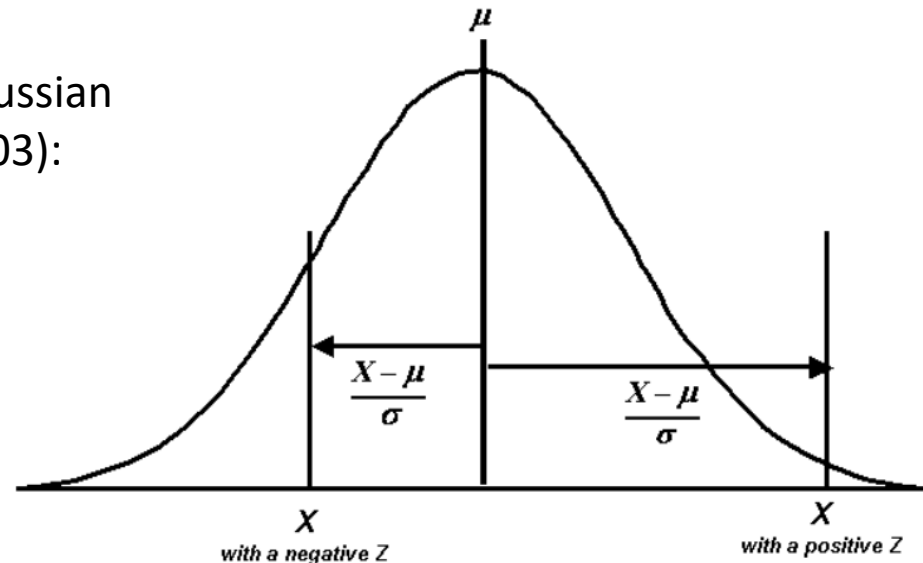
Students: None yet

What's the Problem

Existing guidance for the use of a double-bounded pay factor system for the placement of concrete is inadequate if:

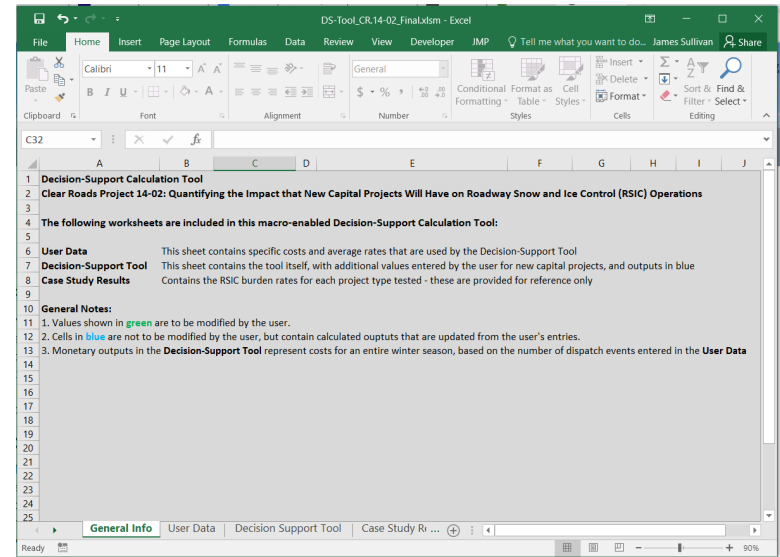
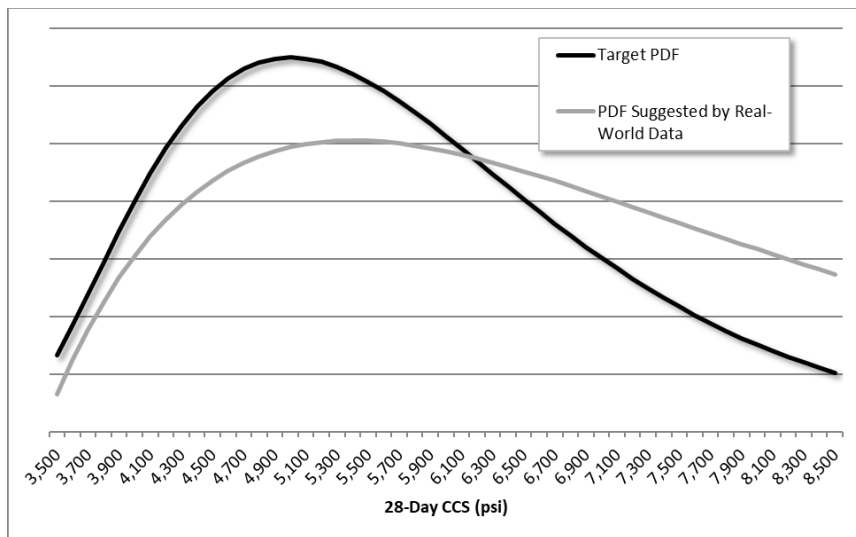
- The design distribution and/or the industry response is non-Normal
- The incentives and disincentives are not symmetrical around the peak of the design distribution

Calculation of the z-score for a Gaussian distribution (from Burati et al., 2003):



What We Did (Are Planning to Do)

1. Develop a new approach for calculating percent within limits (PWLs) from a lot distribution of 28-day concrete compressive strengths (CCSs) that is non-Gaussian
2. Demonstrate the implementation of the new approach for 3 5-year forecast scenarios
3. Create a tool to facilitate the implementation of the new approach by DOTs





What are the results/benefits

Results: None yet

Benefits: The decision-support tool will allow state DOTs and other agencies that fund transportation infrastructure to implement their own double-bounded pay factor system for 28-day CCS.



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