FACT SHEET

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

PROJECT TITLE
A new method of determining payment for in-place concrete with double-bounded compressive strength pay factors

STUDY TIMELINE
October 2020 - February 2022

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Problem Statement

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
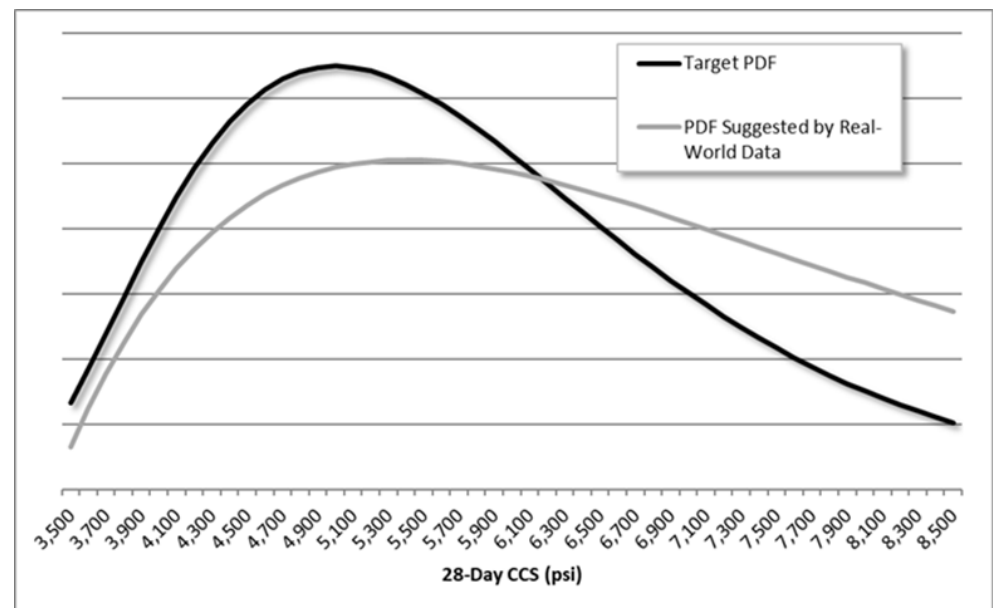
Methodology

The following tasks have been completed for this project:

1. Developed a new approach for calculating performance from a lot distribution of 28-day concrete compressive strengths (CCSs) that is distribution-agnostic

2. Created a tool to facilitate the implementation of the new approach by DOTs

The research team is currently working on the application of the new approach for 3 5-year forecast scenarios.

Conclusions

A new performance measure, the Percent Within Distribution (PWD), was discovered which replaces the PWL and addresses its shortcomings. The PWD can be used as a performance measure for this application regardless of the target distribution, the target mean, or the target standard deviation. It also provides better resolution for high-performing contractors.

Potential Impacts and VTrans 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.