

## SYNOPSIS

Update on the “SLIC” Method - LTPP Sensor Positioning  
*Errors Revisited*

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Last year at the FWD-Users Group meeting, a new FWD deflection basin screening method was presented, called “SLIC” (for the authors of the method - Stubstad, Lukanen, Irwin, and Clevenson). This method is able to detect the possibility of FWD Sensor spacing errors, or possible malfunctions of given FWD sensors, along the raise-lower bar.

Previously, the method was primarily conducted manually and visually - by transforming the normalized deflection basin into a straight or smoothly curved line, assuming the FWD’s sensors are positioned as reported and that they are calibrated and functioning properly. To recheck the previously-reported sensor positioning errors in the LTPP database and also to create a software product that can screen for sensor position accuracy or problems automatically, the entire FWD database in the IMS was re-screened using an automated SLIC method.

It was found that the previously reported LTPP sensor positioning errors were essentially correct, with a few minor “adjustments” based on the automated SLIC findings. Also, two additional relatively short-lived sensor-positioning errors were detected on the LTPP database. Finally, other possible errors also exist; however, none of the these could be verified with certainty; thus they are not recommended for change in LTPP.

Examples from the SLIC screening process - both from LTPP data and from other FWD data are presented to illustrate the automated screening process and the visual SLIC method. These examples show how a given sensor, or sensors, that were mispositioned (or malfunctioning) are detected and also what the probable positions of the sensor (or sensors) were at during testing.