

MEPDG Implementation Plan PENNDOT

Research for the MEPDG

- Bureau of Planning and Research (BPR) Research Project “The Superpave In-Situ Stress/Strain Investigation (SISSI).” Final Reports completed May 2009.
- BPR Research Project “Establishing Appropriate Inputs When Using the Mechanistic-Empirical Pavement Design Guide to Design Rigid Pavements in Pennsylvania” Project ran from July 1, 2008 to March 31, 2011. The final report was submitted May 20, 2011.

Traffic Data Inputs for MEPDG: It is ideally recommended to have 6 Weigh-in-Motion (WIM) sites per Truck Weight Road Group (TWRG) represented in the state. Four WIM sites per TWRG would be minimally acceptable. PA has 13 WIM’s distributed geographically and five TWRG groups. PA would need 17 additional WIM sites for robust coverage.

TWRG	TPG	# of WIM's we have	# of WIM's needed
1	1,4	6	0
2	2	4	0-2
3	3,6	2	2-4
4	7-9	0	4-6
5	5,10	1	3-5
Total		13	9-17

Traffic Pattern Group (TPG)

Costs: Installation per WIM site: \$112,000.

Annual calibration per WIM site: \$3,000

Annual maintenance per WIM site: \$4,000

Average repairs per WIM site after 1-yr warranty: \$2,200.

BPR is creating a Purchase order (PO) for new installations to begin March, 2012.

The data that will come from the new WIM sites will be used in BPR’s monthly classification submittal to the Federal Highway Administration. BPR would also submit the weight data from those sites quarterly to FHWA which would go to various offices for freight analysis, pavement design and the truck weight study. The data will also be used with BPR’s existing permanent sites to create their yearly factors for the state’s short term counts. This fall (2011) BPR will be sending out an Request for Proposal (RFP) for assistance in being able to process all the WIM data to be able to perform these functions.

Not all RWIS sites have sensors installed in each lane of travel. Also RWIS sites only provide a rough car vs. truck breakdown and not a 13 class breakdown like our WIM and CAVC sites. These factors make the RWIS sites difficult to use.

AASHTOWare DARWin-ME Software:

- Contacted AASHTO about getting an evaluation copy of the software for a free 120-day evaluation period since PA participated in the development of the software. PennDOT Chief Counsel has reviewed and made requests for changes to the agreement. AASHTO agreed to some but not all changes. It is now a business decision for PennDOT to move forward. It is PDAS's opinion that as long as any designs examined during the evaluation period are not used in projects, there is little risk to the Department.
- Contacted ARA about creating a proposal for DARWin-ME training and a plan for additional implementation steps. This may include a phased-approach whereby the initial training and implementation will focus on one design type, such as full-depth construction or overlays. Training and additional services would be purchased from AASHTO through service units.

Local Calibration:

- Submitted IDEA form to BPR for research project for local calibration. Anticipate using available PA LTPP data and supplementing with additional concrete pavement data as new data is collected from new paving projects. CH2M Hill is following up with FHWA on data collection program funding with regard to the I-95 corridor.