

Partner involvement speeds new specifications

A main goal for many NCHRP projects is incorporating research findings into national AASHTO standard specifications. NCHRP recently piloted a new approach to facilitate the approval of new AASHTO specs and their subsequent adoption and use by state DOTs.

LRFD for Signs and Supports

After establishing load and resistance factor design (LRFD) specs for major bridge structures, state DOTs looked to similarly update design guidance for highway signs and supports. This motivated NCHRP Project 10-80 to develop new AASHTO specs.

However, Waseem Dekelbab, NCHRP senior program officer, noted that typically several years are required for the completion and publication of NCHRP research and the subsequent development and approval of AASHTO specs.

“We saw ways to involve more parties earlier in the process,” Dekelbab says, “which could possibly lead to faster and smoother approval.” These methods were tried out for NCHRP 10-80 with great success.

Paths to Practice

A fast track to AASHTO

For this project, NCHRP began sharing the investigators’ early results—first progress reports and later draft specs—with the AASHTO Highway Subcommittee on Bridges and Structures (SCOBS).

“Early input from AASHTO and industry helped guide the specification language.”

Norm McDonald, state bridge engineer for Iowa DOT and former chair of SCOBS Technical Committee 12 (Structural Supports for Signs, Luminaires, and Traffic Signals), explained that the committee received updates on a semiannual basis. “I was also invited to participate in the NCHRP 10-80 panel meetings and provide an AASHTO perspective,” McDonald says.

Later discussions also included FHWA and industry representatives to provide feedback on draft specs. “Early input from AASHTO

and industry helped guide the specification language, ensuring that it was not only technically correct but sensible from an implementation standpoint,” McDonald says.

McDonald and Dekelbab agreed that the review and balloting of the specs went smoother than usual thanks to so much stakeholder input up front. In fact, the AASHTO specs were approved before the publication of the final research findings, *NCHRP Report 796: Development and Calibration of AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* (www.trb.org/Publications/Blurbs/171725.aspx).

Ample learning opportunities

The shift from existing design tools to LRFD for signs and supports is significant. This project also dedicated resources to extensive outreach and training to answer practitioner questions and help states transition to the updated design methodology.

“During the specifications vetting process, several participants voiced a need for training and implementation guidance,” Dekelbab says. “NCHRP was able to respond quickly and provided funding and facilitation support to meet this need.”

Carl Macchietto, with lighting and traffic pole manufacturer Valmont, served on the NCHRP 10-80 panel and participated as an industry representative in AASHTO spec development discussions. His company also hosted one among several training sessions.

“There were workshops on both coasts and in the Midwest, and then an abbreviated

workshop at the TRB Annual Meeting,” Macchietto says. “Some of those were held before the new specs came out. Those sessions, plus a number of webinars and a video series based on the live workshops, helped address a wide range of technical questions.”

Implementation Success

Xiaohua “Hannah” Cheng, principal engineer of bridge design for New Jersey DOT, served on the project panel, and her agency hosted one of the workshops. Cheng reported that New Jersey DOT and others are already using the new specs.



Design differences between traditional (left) and LRFD-based support designs are immediately apparent.

“It takes time to digest all this new information,” Cheng says. “Our involvement with this project put us ahead of the game.”

The trend toward early AASHTO involvement is catching on. Dekelbab reported that a similar process is moving forward with other NCHRP projects now underway.

Implementation Strategies AT A GLANCE

- **Stakeholder Involvement:** The right people discussing results early ensured faster and smoother approval of specifications.
- **Widespread Training:** Multiple training formats helped practitioners understand how to implement the new specifications.

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