

Making night work zones safe

Nighttime construction has distinct advantages: less traffic to pose a threat to workers, and far fewer delays for motorists. A DOT might even close an Interstate completely during the wee hours and not hear complaints.

But with visibility drastically decreased for drivers and workers alike, night work raises its own safety issues. NCHRP initiated Projects 17-17 and 17-17(2) to develop standard procedures for planning, designing and implementing safe night work zones.

The projects created three products: Report 475 helps DOTs evaluate night work alternatives against other work schedules; Report 476 provides guidelines for maximizing public and worker safety; and CRP-CD-50 is a training package that incorporates elements from both reports. Consultant James Bryden and Douglas Mace of The Last Resource were the projects' principal investigators.

Training for field personnel

To bring the concepts in these reports to the contractors and DOT staff who are often responsible for designing and operating night work zones, the American Traffic Safety Services Association offers a training course that is based heavily on Report 476.

"That report is excellent," says Juan Morales, ATSSA's chief instructor and principal of J. M. Morales & Associates. "We hand it out as course material."



Two-phase closure message on a changeable message sign



A well-lit night work zone

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Morales uses some visual aids from CRP-CD-50 in the course as well, and says courses like this one are an ideal means of reaching field personnel who may not be inclined to read a full-length report.

"To me this is the perfect application of an NCHRP report," Morales says. "We've digested the information in the report and made it accessible to the actual users."

Consistency in work zone designs

Jeff Grossklaus, a construction work zone specialist with Michigan DOT, took the ATSSA course as part of MDOT's efforts to improve its night work zone procedures.

"Michigan's current nighttime work specifications leave lighting decisions up to the contractor," Grossklaus says. "Our goal is to refine our specification so that everybody's doing it the same way and motorists know what to expect."

Grossklaus says he appreciated the course's discussion of the levels of lighting needed

for different types of work. He's also using NCHRP Reports 475, 476 and 498, *Illumination Guidelines for Nighttime Highway Work*, as guidance for MDOT's specification changes.

"NCHRP is the only source I've found that has what we need to know," Grossklaus says.

Colorado DOT has a similar goal: giving contractors a set of standard night work zone designs. CDOT added night work zone guidance and diagrams from Report 476 to its work zone safety flipbook, which CDOT provides to its contractors.

"It kept us from having to start from scratch," says K.C. Matthews, CDOT's traffic specifications and standards engineer. "And it allowed us to put something out there that has been tried in several states."

Sharing best practices

For Nova Scotia Department of Transportation & Public Works, Reports 475 and 476 were crucial in the development of night work zone specifications that have served as models for state DOTs in the U.S. Former project engineer Gerard Kennedy has given presentations about Nova Scotia's specifications as part of FHWA's "Making Work Zones Work Better" workshop series.

"It kept us from having to start from scratch."

"The NCHRP reports were primary to the development of Nova Scotia's specifications," Kennedy says.

You can review NCHRP Report 475, *A Procedure for Assessing and Planning Nighttime Highway Construction and Maintenance*, Report 476, *Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance and Construction*, and Report 498 at the TRB Web site at <http://www.trb.org/>. All three reports and CRP-CD-50, *Training Materials for Night Road Work to Improve Safety and Operations*, are available for purchase from the TRB Bookstore at <http://www.trb.org/bookstore/>.

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