



**SCAN TEAM REPORT**  
NCHRP Project 20 68A, Scan 15-01

# Developing And Maintaining Construction Inspection Competence

*Supported by the*  
National Cooperative Highway Research Program

The information contained in this report was prepared as part of NCHRP Project 20-68A U.S. Domestic Scan, National Cooperative Highway Research Program.

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# Executive Summary

This report summarizes findings from a domestic scan of construction inspection competence within transportation agencies and other organizations. The purpose of this scan was to investigate what agencies are doing to develop and maintain a skilled construction inspector (CI) workforce in the face of an aging workforce, changing missions, shifting priorities, and shrinking budgets.

A scan team consisting of state departments of transportation (DOTs) and the Federal Highway Administration (FHWA) was formed to guide the scan and develop findings, recommendations, and dissemination actions. Scan team members brought a diversity of construction inspection experience, an understanding of DOT management, and knowledge of workforce challenges to the table. The scan team members' contact information and biographical sketches are provided in Appendix A and Appendix B, respectively.

Scan team members met on two occasions over the course of the scan. The first meeting was an organizational meeting to determine what information needed to be collected. Appendix C provides results of the desk scan. The primary result of the meeting was the creation of a set of amplifying questions. The second meeting was held in October 2016 to facilitate information gathering and sharing between the team and invited host agencies. In all, scan participants reviewed training and competency development activities of nine state DOTs (Alabama, California, Colorado, Florida, Georgia, Nebraska, Oregon, Virginia, and Texas), one federal agency (FHWA), and two associations (American Association of State Highway and Transportation Officials [AASHTO] re:source and American Public Works Association). Key contact information and the workshop agenda are provided in Appendix D and Appendix E, respectively.

The scan investigated the following topics:

- **Organizational knowledge transfer/knowledge management initiatives**  
Knowledge management methods used to capture, document, and share knowledge of construction inspection practices within state DOTs and with industry partners.
- **Training programs**  
Key to understanding the role training plays in developing and maintaining competency is knowing how the training is developed, how it is delivered (i.e., modality or method of delivery), who delivers the training, who is eligible to participate in the training, how program development is budgeted, and how the training is documented.
- **Qualifications and certifications**  
Recognition of the regional and national certifications related to construction inspection.
- **Career path management (employee cross-training)**  
Learning what agencies are doing internally to develop their employees to assume the role and responsibilities of a CI.

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- **Expand innovations and new technologies**

Knowing what technologies are used to develop training materials and deliver training to current and future CIs.

- **Consultant engineering inspection (CEI)**

Understanding how state DOTs are using CEI services and how consultant inspectors are qualified to inspect construction projects.

- **Organizational hiring (recruiting) and retention practices**

Understanding what state DOTs are doing to recruit CIs, including the skills and competencies they look for when screening potential candidates.

While scan team members and scan participants were interested in competency development programs designed for technicians involved in construction testing, materials testing is beyond the scope of this scan. Participating states included technician-related information in their responses to the scan's amplifying questions. The list of amplifying questions and host agency responses are provided in Appendix F and Appendix G, respectively. Texas DOT's responses are provided in Appendix H.

This report presents information collected from host agencies concerning training and competency development activities designed to develop and maintain the competency of their CI workforce. Presented within the report are findings, conclusions, and recommendations developed from agency responses to amplifying questions and from information exchanged at the scan meeting.