

Public Abstract

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The bridge inspection process is critical to ensuring the safety of highway bridges, Variations in bridge inspections can arise from inspector characteristics, inconsistency in the inspection procedures and practices, understanding of inspection program requirements, and other factors.

The goal of this document is to improve highway bridge safety by providing guidelines for implementing QC/QA procedures within existing bridge inspection programs. The document is intended to provide a resource that describes methodologies and practices for QC and QA, to improve the quality of the existing programs and allow owners to consider practices that best fit their programmatic needs.

The report documents both QC and QA practices that are presently implemented in the United States. A review of available literature, a series of discussions with bridge owners and experts, and investigation of current practices and procedures was conducted to develop the information included in the report. The fundamental tenants of quality systems are discussed, and quality dimensions for highway bridge inspection and load rating are described. The elements of a quality program are discussed. Several models for different aspects of the QC process have been developed and described.

Several models that generalize procedures for implementing QA procedures have also been developed and described. Methods of measuring quality and approaches to sampling for QA are discussed. Sample forms from various State DOTs that can be utilized in the bridge inspection QC/QA process have been included. The purpose of the report is to provide a resource for bridge owners that are developing, improving and/or implementing QC/QA practices. The report provides key information that can be practically applied and implemented to assure systematic QC and QA for the purpose of maintaining a high degree of accuracy and consistency in bridge inspection programs.