



## COURSE NUMBER

FHWA-NHI-130055

## COURSE TITLE

### Safety Inspection of In-Service Bridges

NOTE: This course was updated in 2012 and 2015 and now contains mandatory prerequisite requirements for participants and host requirements in preparation for the field exercises. See details below.

This course is based on the 2015 FHWA “Bridge Inspector’s Reference Manual (BIRM)” and provides training on the safety inspection of in-service highway bridges. The course includes two virtual bridge inspection exercises\* facilitated using NHI’s virtual bridge inspection (VBI) computer-based training (CBT) technology; instruction on critical findings, their identification and response; curriculum on the American Association of State Highway and Transportation Officials (AASHTO) element level inspection approach using the 2013 AASHTO Manual for Bridge Element Inspection 2015 Interim Revisions; and activities that maximize participant engagement throughout the course. This course does not go into depth on fracture critical, underwater, or complex bridge inspections. Other specialty courses, 130078 Fracture Critical Inspection Techniques for Steel Bridges and 130091 Underwater Bridge Inspection, cover these topics.

Participants will be asked to complete mid-term and end-of-course assessments each with a cumulative score of 70% or better to successfully complete the course and receive a certificate of completion. The sponsoring agency/State may monitor the examinations and retain the scores to qualify or certify bridge inspectors. Satisfactory completion of this course will fulfill the comprehensive bridge inspection training requirements of the National Bridge Inspection Standards. Note: Many States have additional requirements to become a bridge inspection team leader.

Participant Prerequisite Requirement: ALL participants must have met one of the three prerequisite requirements for participation in this course\*\* and bring a course completion certificate bearing their name to the first day of the class. The passing score for all prerequisites is 70% or better. Individuals have the option to complete one of the following three prerequisite requirements: 1) 130054 Engineering Concepts for Bridge Inspectors, a 5-day Instructor-led course; 2) 130101 Introduction to Safety Inspection of In-Service Bridges, a 14-hour Web-based training and assessment; or 3) 130101a Prerequisite Assessment for Safety Inspection of In-Service Bridges, a Web-based assessment.

Host Requirements: Hosts must provide a training room large enough to accommodate at least 30 participants as well as the 15 NHI virtual bridge laptops (provided by NHI Instructors) that will be used for the virtual bridge exercises. Additionally, the host must ensure that ALL students have successfully met the prerequisite requirement\*\* and have a valid course completion certificate for one of the three prerequisite options.

\*Alternatively, the State can exercise the option to request to have a physical field trip in lieu of one or both virtual bridge exercises. If this option is exercised, the host/sponsoring agency is required to provide transportation for course participants to attend the field trip portion of this course at the host/sponsoring agency’s own expense. The host must coordinate with the instructor to identify bridges for inspection during the field trip exercises, in advance of the course delivery.

\*\*Please note: prerequisite must be completed within two years of the course start date. Additionally, it is recommended that prior to attending this course participants spend some time in the field, at bridge inspection sites, but not required.

## OUTCOMES

Upon completion of the course, participants will be able to:

- Discuss the duties and responsibilities of a bridge inspector and define inspection concepts including personal and public safety issues associated with bridge inspections
- List the inspection equipment needs for various types of bridges and site conditions
- Describe, identify, evaluate, and document the various components and deficiencies that can exist on bridge components and elements
- List design characteristics and describe inspection methods and locations for common concrete, steel, and timber structures
- Identify and evaluate the various culvert and waterway deficiencies
- Discuss the need to inspect underwater portions of bridges
- Describe nondestructive evaluation methods for basic bridge materials
- Demonstrate how to field inspect and evaluate common concrete, steel, and timber bridges

## TARGET AUDIENCE

Federal, State, and local highway agency employees; and consultants involved in inspecting bridges or in bridge inspection management and leadership positions. A background in bridge engineering is strongly recommended. All participants must successfully complete (score 70% or better) one of the following three prerequisite requirements within two years prior to attending this training: 1) 130054 Engineering Concepts for Bridge Inspectors ; 2) 130101 Introduction to Safety Inspection of In-Service Bridges ; or 3) 130101a Prerequisite Assessment for Safety Inspection of In-Service Bridges .

**TRAINING LEVEL:** Intermediate

**FEE:** 2021: \$970 Per Person; 2022: N/A

**LENGTH:** 10 DAYS (CEU: 6.7 UNITS)

**CLASS SIZE:** MINIMUM: 20; MAXIMUM: 30

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