

The Federal Role in Structural Design Standards Development

April 4, 2023
ACI Spring Convention



U.S. Department
of Transportation
**Federal Highway
Administration**

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Disclaimer



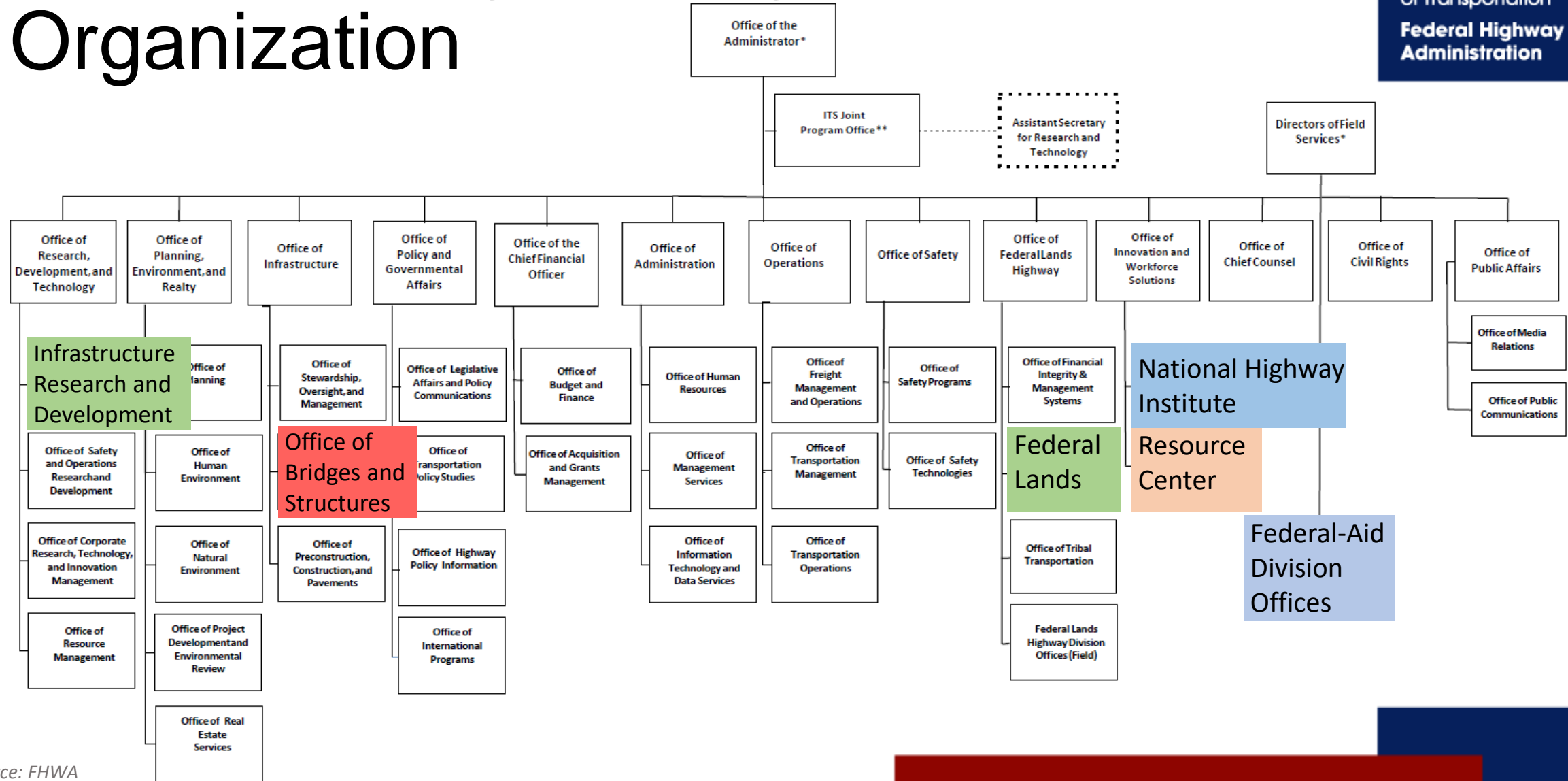
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Structural Engineering in the FHWA Organization



Source: FHWA

FHWA Structural Engineering Research



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- Analytical, experimental, and applied research



Source: FHWA

Lightweight Concrete: Shear Performance

PUBLICATION NO. FHWA-HRT-15-022

MAY 2019

U.S. Department of Transportation
Federal Highway Administration
Research, Development, and Technology
Turner Fairbank Highway Research Center
6300 Georgetown Pike
McLean, VA 22101-2298

Lightweight Concrete Bridge Design Primer



U.S. Department of Transportation
Federal Highway Administration

Office of Infrastructure
FHWA-HIF-19-067

November 2021

FHWA Participation in Design Standard Development Organizations



U.S. Department
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- Transportation Research Board
 - Committee membership
- National Cooperative Highway Research Program
 - Project panel liaisons
- AASHTO Committee on Bridges and Structures
 - Non-voting Technical Committee Liaisons

Regulation



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Title 23, Code of Federal Regulations

§ 625.3 Application.

(a) *Applicable standards.*

- (1) Design and construction standards for new construction, reconstruction, resurfacing (except for maintenance resurfacing), restoration, or rehabilitation of a highway on the NHS shall be those approved by the Secretary in cooperation with the State DOTs. These standards must consider, in addition to the criteria described in § 625.2(a), the following:
 - (i) The constructed and natural environment of the area;
 - (ii) The environmental, scenic, aesthetic, historic, community, and preservation impacts of the activity;
 - (iii) Cost savings by utilizing flexibility that exists in current design guidance and regulations; and
 - (iv) Access for other modes of transportation.
- (2) Federal-aid projects not on the NHS are to be designed, constructed, operated, and maintained in accordance with State laws, regulations, directives, safety standards, design standards, and construction standards.



Source: FHWA

- (3) Interstate highways located in Alaska and Puerto Rico shall be designed in accordance with such geometric and construction standards as are adequate for current and probable future traffic demands and the needs of the locality of the highway.
- (4) A State may allow a local jurisdiction to design a project using a roadway design publication that is different from the roadway design publication used by the State in which the local jurisdiction resides if -
 - (i) The local jurisdiction is a direct recipient of Federal funds for the project;
 - (ii) The roadway design publication is adopted by the local jurisdiction and recognized by FHWA;
 - (iii) The design complies with all applicable Federal laws and regulations; and
 - (iv) The project is located on a roadway that is owned by the local jurisdiction and is not part of the Interstate System.

Design Standards Application Training



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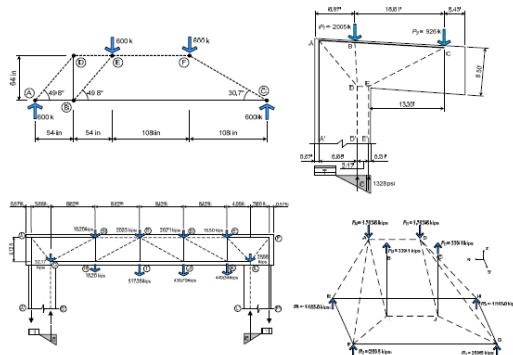


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Federal Highway Administration

Publication No. FHWA-NHI-17-070
November 2017

NHI Course No. 130126

Strut-and-Tie Modeling (STM) for Concrete Structures



Participant Workbook



NATIONAL HIGHWAY INSTITUTE
Training Solutions for Transportation Excellence



U.S. Department
of Transportation
Federal Highway
Administration

Publication No. FHWA-NHI-15-045
January 2016

NHI Course No. 130102

Engineering for Structural Stability in Bridge Construction

Participant Workbook



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Training Solutions for Transportation Excellence



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Publication No. FHWA-NHI-10-087
February 2011

NHI Course No. 130095

Analysis and Design of Skewed and Curved Steel Bridges with LRFD



REFERENCE MANUAL



NATIONAL HIGHWAY INSTITUTE
Training Solutions for Transportation Excellence

