

# 700 Bridges

---

## 700.1 General

The National Bridge Inspection Standards, published in [23 Code of Federal Regulations \(CFR\) 650, Subpart C](#), defines a bridge as:

A structure including supports erected over a depression or an obstruction, such as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

The New Mexico Department of Transportation (NMDOT) uses the current edition of the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications and the current interim editions as the primary standards for the design of bridges in New Mexico. The AASHTO Standard Specifications for Highway Bridges, 17<sup>th</sup> Edition, may be used for the rehabilitation or widening of existing bridges that were designed with earlier methods, but only with the approval of the State Bridge Engineer.

The NMDOT has developed a NMDOT Bridge Procedures and Design Guide as a supplement to AASHTO's LRFD Bridge Design Specifications. The NMDOT Bridge Procedures and Design Guide

is not intended to replace AASHTO's LRFD Bridge Design Specifications or any other design guide or regulatory code. The intent of the NMDOT Bridge Procedures and Design Guide is to provide guidance as well as an interpretation of AASHTO's LRFD Bridge Design Specifications specific to New Mexico bridge design practice to achieve uniformity in bridge design procedures. NMDOT updates the NMDOT Bridge Procedures and Design Guide periodically to incorporate new information as it becomes available.

The NMDOT Bridge Procedures and Design Guide provides a comprehensive guide to the applicable requirements for bridge design. It addresses:

- Standards and design references
- General bridge requirements
- The bridge design process
- Bridge loads
- Reinforced concrete
- Prestressed concrete
- Structural steel
- Bearing devices and girder anchorages
- Deck joints
- Substructures
- Construction phase activities
- Load rating

In addition, the NMDOT has developed other specific guidance for bridge design in New Mexico. Links to NMDOT's bridge design resources and a brief description of their contents are provided below. Additional information regarding bridges is located [here](#).

## 700.2 References

The following documents provide information regarding NMDOT's design and documentation practices related to bridges:

- AASHTO LRFD Bridge Design Specifications, current edition - NMDOT uses the current edition of the AASHTO LRFD Bridge Design Specifications and the current interim editions as the primary standards for the design of bridges in New Mexico.
- NMDOT [Bridge Procedures and Design Guide](#), April 2013 - NMDOT developed this guide to supplement the AASHTO LRFD Bridge Design Specifications. NMDOT's guide also provides an interpretation of the AASHTO LRFD Bridge Design Specifications specific to New Mexico bridge design practice.
- NMDOT [Example No. 1: Prestressed Concrete Girder Bridge Design](#) and [Appendix A](#), July 15, 2011.
- NMDOT [Specifications for Highway and Bridge Construction](#), current edition.
- NMDOT [Standard Drawings](#).
- NMDOT [Bridge Load Capacity Rating Information](#) - Bridge load capacity rating is required for new bridges, and may be required for existing bridge modifications.
- Seismic Retrofitting Manual for Highway Structures, Federal Highway Administration (FHWA) - [Part 1 \(2006\)](#) of the manual contains procedures for evaluating and upgrading the seismic resistance of existing highway bridges. [Part 2 \(2004\)](#) provides guidance on the seismic evaluation and retrofit design of retaining structures, slopes, tunnels, culverts, and roadways.

