

Resources for Guardrail Maintenance/Installation

(NOTE: CO LTAP has many of these documents available free through their Library Loan Program.)

- **CDOT FAQs on Guardrails, Crash Cushions, and End Treatments (2017)**
<https://www.codot.gov/business/designsupport/standard-plans/2012-m-standards-plans/guardrail-faq/guardrail-faq>
- **AASHTO Roadside Design Guide (2011) – Chapter 5: Roadside Barriers (Guardrail)** covers: Performance Requirements, Barrier Recommendations, Barrier/Guardrail Types, Selection Guidance, Transitions, Placement, Grading for Terminals, etc. https://bookstore.transportation.org/collection_detail.aspx?ID=105
- **NCHRP 668 - Guidelines for Guardrail Implementation (2009)** - Explores guidance on selecting the appropriate barrier performance level for the installation of longitudinal barriers.
<http://www.trb.org/Publications/Blurbs/161769.aspx>
- **NCHRP 711 - Guidance for the Selection, Use, and Maintenance of Cable Barrier Systems (2012)** - Provides guidance to agencies on the selection, use, and maintenance of cable barrier systems to reduce serious injuries and fatalities as well as operational costs. <http://www.trb.org/Publications/Blurbs/167753.aspx>
- **MASH 16 – Manual for Assessing Safety Hardware (2016)** – (Supersedes NCHRP 350) Longitudinal Barriers, Terminals and Crash Cushions https://bookstore.transportation.org/item_details.aspx?id=2707
- **TRB Special Report 323: In-Service Performance Evaluation of Guardrail End Treatments** - Develops a research design for evaluating the in-service performance of guardrail end treatments and other roadside safety devices and identifies the data required to do so. https://www.nap.edu/login.php?action=guest&record_id=24799
- **NCHRP 665 - Identification of Vehicular Impact Conditions Associated with Serious Run-off-Road Crashes (2010)** – Discusses angles of impact <http://www.trb.org/Publications/Blurbs/164413.aspx>
- **CDOT Construction Specifications (2017)** – Updated Nov 2017
<https://www.codot.gov/business/designsupport/cdot-construction-specifications/2017-construction-standard-specs>
- **Colorado Roadway Design Guide (2005)** -
https://www.codot.gov/business/designsupport/bulletins_manuals/roadway-design-guide
- **CDOT M & S Standards - Miscellaneous Standard Plans and Project Special Details (2012)** – Section 606 Barriers <https://www.codot.gov/business/designsupport/standard-plans/2012-m-standards-plans>
- **NCHRP Guardrail and Median Barrier Crashworthiness (1997)** - Synthesis of Highway Practice
<https://www.mytrb.org/Store/Product.aspx?ID=5579>
- **NCHRP 15-53 [Active] Roadside Barrier Designs Near Bridge Ends with Restricted Rights of Way**
<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3657>
- **NCHRP 22-30 [Pending] In-Service Performance Evaluation of W-beam End Terminals**
<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3669>

- **FHWA Longitudinal Barriers Website** - This listing contains barriers such as guardrail, median barrier, bridge railings and transitions that have been issued an Eligibility Letter by FHWA.
https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/listing.cfm?code=long
- **W-Beam Guardrail Repair (2008)** – A Guide for highway and Street Maintenance Personnel
https://safety.fhwa.dot.gov/local_rural/training/fhwasa08002/fhwasa08002.pdf
- **Coming Soon** – NCHRP Study addressing how much damage Guardrails can sustain before needing to be replaced.