

Road Design

MANUAL



DEPARTMENT OF
TRANSPORTATION

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MnDOT ROAD DESIGN MANUAL

PREFACE

The Road Design Manual establishes uniform policies and procedures for the Minnesota Department of Transportation. The design criteria herein may also be applicable on the broader highway and street system within the state, subject to the judgment of individual localities as well as to other governing criteria.

The policy and criteria in this manual are largely adapted from the AASHTO publication, "A Policy on Geometric Design of Highways and Streets," which itself has been adopted as the design standard for the National Highway System by the Federal Highway Administration. That said, this manual is not intended as a legal standard. Rather, it presents vital engineering information normally required in the design of a new or reconstructed facility. It must be integrated with engineering judgment and balanced with social, economic and environmental factors to yield appropriate designs suitable for unique circumstances.

Each page contains the issue date in the inside upper corner and the page number in the outside upper corner. Pages are numbered consecutively through each major section.

Revisions will be provided to all holders of the manual accompanied by a numbered transmittal letter. The number of the transmittal letter should be recorded in the Transmittal Record Sheet in the front of the manual. Revised chapter indexes will be issued as necessary.

The Road Design Manual was originally issued as the Design Manual by the Department of Highways in 1961 and completely revised and republished by MnDOT in 1982.

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**CHAPTER 1
DESIGN FUNCTIONS AND RESPONSIBILITIES**

THE INFORMATION FOR THIS CHAPTER HAS BEEN REMOVED. SUPERSEEDING INFORMATION CAN BE FOUND IN THE MnDOT FACILITY DESIGN GUIDE AND THE MnDOT TRANSPORTATION PROJECT DEVELOPMENT PROCESS. REFER TO THE FOLLOWING WEBSITES:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

<https://www.dot.state.mn.us/project-development/>

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**CHAPTER 2
HIGHWAY DESIGN STANDARDS**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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**CHAPTER 3
ALIGNMENT AND SUPERELEVATION**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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**CHAPTER 4
CROSS SECTIONS**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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**CHAPTER 5
AT-GRADE INTERSECTIONS**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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**CHAPTER 6
INTERCHANGES AND GRADE SEPARATIONS**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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CHAPTER 7
PAVEMENT DESIGN

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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**CHAPTER 8
DRAINAGE DESIGN AND EROSION CONTROL**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

FOR MORE GUIDANCE ON EROSION CONTROL ISSUES REFER TO THE ENVIRONMENTAL STEWARDSHIP OFFICE.

<http://www.dot.state.mn.us/environment/erosion/index.html>

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**CHAPTER 9
BRIDGES AND OTHER STRUCTURES**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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CHAPTER 10
TRAFFIC CONTROL DEVICES AND TRAFFIC BARRIERS

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE, THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE MnDOT TRAFFIC ENGINEERING MANUAL. REFER TO THE FOLLOWING WEBSITES:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

<https://dot.state.mn.us/trafficeng/publ/mutcd/index.html>

<https://dot.state.mn.us/trafficeng/publ/tem/index.html>

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**CHAPTER 11
SPECIAL DESIGNS**

THE INFORMATION FOR THIS CHAPTER HAS BEEN INCLUDED IN THE MnDOT FACILITY DESIGN GUIDE. REFER TO THE FOLLOWING WEBSITE:

<https://www.dot.state.mn.us/design/design-standards/facility-design-guide.html>

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CHAPTER 12
DESIGN GUIDELINES FOR MODERN ROUNDABOUTS

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