

Technical Memorandum

To: Electronic Distribution Recipients

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Division Director, Engineering Services



Subject: Performance-Based Practical Design Guidelines

Expiration

This Technical Memorandum supersedes TM 18-02-TS-01 and will remain in effect until September 11, 2023 unless superseded or the attached design criteria are published in their entirety in the MnDOT Road Design Manual or on-line prior to that date.

Implementation

The design guidance referenced by this Technical Memorandum is applicable to projects in all phases of design. Its provisions are binding for projects in the early to middle stages of the preliminary design phase. It is recommended for application on projects in more advanced design phases to the extent practical.

Introduction

MnDOT has adopted the concept of Performance-Based Practical Design (PBPD), a term coined by the Federal Highway Administration (FHWA) to combine the cost saving advantages of practical design with the evidence-oriented methods of performance-based design. This approach stresses a disciplined focus on project purpose and need as well as a system-wide approach that seeks to optimize value and ensure long-term financial sustainability. It necessitates the use of design flexibility both within and outside the standard range of practice.

Purpose

The purpose of this Technical Memorandum is to present process guidance and design criteria in the form of the referenced guideline document on Performance-Based Practical Design. This document is referenced in MnDOT Policy OP012, which establishes PBPD as MnDOT's fundamental design approach. The intended functions of the guideline document are as follows:

1. Convey the thought process and design approach of performance-based design, summarize the research documents pertaining to the subject, and direct the reader to those sources for complete information.
2. Serve as a desktop resource and reference hub to the designer for day-to-day use. At the time of this publication, MnDOT design criteria exists as a combination of Road Design Manual chapters and technical memoranda. This guidebook directs practitioners to the appropriate locations for the design elements discussed.
3. Provide useful information and discussion on various design elements in light of PBPD.

4. Present updated and/or expanded design policy for a variety of controls and elements.

Guidelines

Refer to the document [Performance-Based Practical Design](#), which contains process and design guidance for use in applying Performance-Based Practical Design on projects. As stated therein, the document presents various new and revised design criteria. Their applicability as design standards are discussed separately for each design element in the “Particular Design Guidance and Criteria” section of the document.

Questions

Any questions regarding the technical provisions of this Technical Memorandum can be addressed to:

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Any questions regarding publication of this Technical Memorandum should be referred to the Design Standards Unit, DesignStandards.DOT@state.mn.us. A link to all active and historical Technical Memoranda can be found at <http://techmemos.dot.state.mn.us/techmemo.aspx>.

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