



Montana Department  
of Transportation

**MANAGEMENT MEMO - Engineering**

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**To:** All offices

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## INTRODUCTION

Currently, we have more than 2800 miles of highways that were reconstructed prior to 1960. These roads are the ones most likely needing geometric upgrades. These policy statements, revised standards and guidelines are intended to give MDT an effective transportation system.

## POLICY

This policy affects the following areas of design and construction: Rural roadway widths, alignments, rehabilitation, recycling, surfacing and surfacing options. It is intended for new construction, reconstruction and major rehabilitation projects. For projects of lesser scope (e.g. minor rehabilitation) use the width criteria found in the Guidelines for Nomination and Development of Pavement Projects.

## REVISED STANDARDS

### Roadway widths:

First, these standards apply only to rural routes. The Route Segment Maps shown in the design manual can still serve as a guide for future development. The actual roadway width scoped for a project will be derived from a combination of factors: Safety data and analysis, Congestion modeling/level of service, present ADT, design year ADT and route continuity.

**Non-NHS Routes:** The following steps should be used in conjunction with the Roadway Width Decision Matrix to determine the necessary roadway width.

- 1) Obtain traffic data from planning. Start with the existing roadway width and determine if the existing width will meet a level of service B with present and future traffic. Examine the accident history and identify any trends including whether the highway is classified as a "high crash corridor" within MDT's Comprehensive Highway Safety Plan.

- 2) Use current ADT for the roadway and pick a width from the following table as a starting point.

<b><u>ADT</u></b>	<b><u>Width</u></b>
0-299	24 ft
300-999	28 ft
1000-1999	32 ft
2000-3000	36 ft
>3000	40 ft

- 3) The Traffic and Safety Bureau will use the attached decision matrix to arrive at a roadway width.

Where it is determined that the subgrade will be constructed for a future width and pavement will be for a narrower width, the following applies: Surfacing slopes will be warped to the subgrade shoulder or partial gravel shoulders constructed; Guardrail will be placed at the future surfacing width and paved to the face of the rail; Tapers ratios will be the design speed to one.

- 4) Evaluate the width for continuity with adjacent projects, bicycle use, and previous commitments including any proposed improvements identified through corridor planning processes.

If a width less than the width determined by this procedure is recommended an exception must be authorized by the Chief Engineer or his designee.

#### **NHS Routes (non-Interstate)**

**Major Rehabilitation:** For major rehabilitation projects on NHS Routes follow the same procedure used to determine roadway widths for non-NHS routes.

**Reconstruction & New Construction:** For reconstruction and new construction projects follow the same procedure used to determine roadway widths for non-NHS routes and compare the width to the following table. If the width that is determined by this procedure is less than the width for the appropriate design speed and ADT shown in the table below, a design exception must be authorized by the Chief Engineer or his designee. The design exception must also be approved by FHWA on projects with FHWA oversight.

<b><u>Design Speed (mph)</u></b>	<b><u>Future ADT</u></b>			
	Less than 400	400 – 1500	1500 – 2000	>2000
50	30 ft	34 ft	36 ft	40 ft
55	30 ft	34 ft	36 ft	40 ft
60	32 ft	36 ft	36 ft	40 ft
70	32 ft	36 ft	36 ft	40 ft

## **GUIDELINES**

The following excerpts from the May 29, 2008 scoping of projects memo are included.

### **Alignments:**

Every attempt should be made during alignment/grade to utilize as much of the existing road bed and roadway surfacing as possible.

Examine projects initially scoped as complete reconstruction, and ensure major rehabilitations with spot reconstructions for safety critical areas are not feasible. A written justification approved by the Preconstruction Engineer is required for a project to remain scoped as a reconstruction project.

### **Surfacing**

Explore recycling methods for each project. The economical analysis must include life-cycle costs as well as first construction costs.

Pulverizing existing plant mix and using it to supplement base course material will be used as often as possible.

Alternate surfacing options should be included on projects. If an alternate surfacing section is impractical, the decision to use a single surfacing section must be documented in the appropriate report (e.g. Scope of Work) or separate memo.

