



MaineDOT

ENGINEERING INSTRUCTION

Title: Cross Slope

Number: C13

Discipline: General Engineering

Originators: Highway Program, Bradford Foley, P.E.,

Approved By: Joyce Taylor, P.E., Chief Engineer

Issue Date: March 1, 2016

Background:

Cross slope is a geometric feature of roadway surfaces; the transverse slope with respect to the horizon. Cross slope provides a drainage gradient so water will run off the surface to a drainage system such as a street gutter or ditch. Steep cross slopes increase the susceptibility to lateral skidding when vehicles brake on icy or wet pavements or when stops are made on dry pavements under emergency conditions.

Cross slope guidance and expectations, particularly regarding preservation paving projects, have varied over the years. The intent of this Instruction is to establish the desired criteria for cross slopes and to encourage engineering judgement when considering the associated impacts and costs.

Applicability:

This policy applies to all normal crown, two lane roadway configuration projects and is intended to supersede the cross-slope recommendations in the current Highway Design Guide volume 1 & volume 2 and the Bridge Design Guide.

Policy:

Cross slopes are one of FHWA's and MaineDOT's controlling criteria requiring a design exception when there are variations from the guidance. Variations to this Instruction must be discussed and approved.

Cross slope guidance for Reconstruction/New Construction or Rehabilitation projects:

Corridor Priority		New Construction/Reconstruction		Rehabilitation	
		TW	SH	TW	SH
ALL	Minimum	1.5%	2.0%	1.5%	2.0%
	Desirable	2.0%	4.0%	2.0%	4.0%
	Maximum	2.5%	4.0%	3.0%	6.0%

Cross slope guidance for Preservation Type projects:

Corridor Priority			
ALL*		TW	SH
	Minimum	1.0%	2.0%
	Desirable	As-Built Design	
	Maximum	4.0%	6.0%

* When considering the range and desirable cross slopes for rehabilitation and preservation projects on Corridor Priority 3, 4 and 5 roadways, the associated impacts and costs to attain the values shown shall be considered. When impacts and costs to attain the cross slope values in this guidance are significant, Program Managers should be consulted to evaluate the characteristics and accident history of the roadway and to determine whether a Design Exception to this instruction will be pursued.

Note: Shoulder cross-slope shall not be flatter than the adjacent travel way. Desired super-elevation shall be +/- 1.5% from as-built.

Responsibility:

Program Managers.