



SUBJECT Measurement Criteria for Newly Constructed Curb Ramps, Driveways, and Sidewalks.	FINAL NUMBER RD19-02(B)	EFFECTIVE DATE 12/16/2019	VALIDATION DATE	SUPERSEDES or RESCINDS NEW
TOPIC/PROGRAM Design Exceptions, Construction, and ADA Program	WEB LINK(S) https://www.oregon.gov/ODOT/Engineering/Pages/Technical-Guidance.aspx APPROVED SIGNATURE Original signed by: Michael Kimlinger, P.E. State Traffic-Roadway Engineer			

PURPOSE

This Tech Bulletin is to clarify how approved curb ramp, sidewalk and driveway design exceptions are incorporated into construction measurement and acceptance. ODOT's ADA related design standards established a tolerance between design and construction that is in line with national guidance. This Tech Bulletin shows how to apply the established tolerance to construction measurements in locations with approved design exceptions.

GUIDANCE

I. Slopes:

Table 1 shows the allowable tolerance for approved curb ramp slope design exceptions. Driveways and sidewalks have similar components including cross slope and running slopes along the pedestrian access route. For approved design exceptions on these elements, the same allowable tolerance for design is used.

Table 1: Construction Allowance for Slopes

Curb Ramp Criteria		Approved Design Exception Value Exceeds	Construction Tolerance	Example Approved Design Exception Value	Example Allowed Inspection Value
Running Slope		7.5%	+0.8 %	7.7%	8.5% max
Curb Running Slope		7.5%	+0.8%	8.0%	8.8% max
Counter Slope		4.0%	+1.0%	4.8%	5.8% max

Cross Slope		1.5%	+0.5%	1.8%	2.3% max
Gutter Slope	Stop/Yield Controlled	1.5%	+0.5%	2.5%	3.0% max
Gutter Slope	Uncontrolled	4.5%	+0.5%	6.0%	6.5% max
Gutter Slope	Midblock	Roadway Profile Grade	+0.5%	5.5%	6.0% max
Flare Slope		10%	+0.8%	11.5%	12.3% max

DEFINITIONS

ADA = Americans with Disabilities Act

Cross Slope = the grade of a surface perpendicular to the running slope or traversed surface in the direction of pedestrian travel

Counter Slope = the grade of the street or gutter pan perpendicular to the curb or street edge

Curb Running Slope = the grade of the curbed surface perpendicular to the gutter flow line, excluding any gutter pan adjacent to the street

Flare = the part of a sidewalk adjacent to a curb ramp that provides a transition between the ramp run of the curb ramp and the sidewalk level

Flare Slope = the grade of the flare which is immediately parallel to the adjacent curb line at a curb ramp

Grade = the rate of ascent or descent of a surface with respect to a level plane

Grade Break = the difference in percent between two surfaces with respect to a level plane

Gutter Flow Slope = the grade immediately parallel to the curb or street edge where water is conveyed to a drainage system

Running Slope = the grade of a surface parallel to the direction of pedestrian travel on a curb ramp or driveway

“on or along the state highway” = includes public sidewalk and accessible route features that are adjacent to the state highway road system regardless of who has public ownership, public easements, or intergovernmental agreements of the underlying property where accessible route features resides.

BACKGROUND/REFERENCE

ODOT Curb Ramp Design Checklist Form No. 734-5184

To ensure that newly built curb ramps do not exceed maximum design slopes, the ODOT Curb Ramp Design Checklist Form No. 734-5184 requires that:

- Design running slopes not exceed 7.5% to achieve 8.3% as constructed;
- Design cross slopes not exceed 1.5% to achieve 2.0% as constructed; and
- Design counter slopes not exceed 4.0% to achieve 5.0% as constructed.

Handbook of Construction Tolerances 2nd Edition 2007, David Kent Ballast

EXPLANATION

The national standard for ADA is not to exceed maximum or minimum values. National practice acknowledges that there is variability of the finished surface and has established a standard based on construction methods and material type. ODOT's design standards follow national practice and establishes a tolerance for newly built curb ramps. When site constraints preclude meeting ODOT's design standard due to technical infeasibility, a curb ramp design exception is required and must be approved by the State Traffic Roadway Engineer. Construction acceptance of curb ramps with approved design exceptions may include the same design tolerance.

New sidewalks and driveway construction must also be ADA compliant. ODOT does not have a specific design checklist or design exception form for preparing design exceptions for these pedestrian facilities. Design exceptions for sidewalk and driveways components are documented with ODOT's general design exception form and coded with the ADA checkbox when technical infeasibility is justified and approved. Driveways and sidewalks have similar components as a part of their construction including cross slope and ramp running slopes along the pedestrian access route. When a design exception is approved for these elements on a sidewalk or driveway, the same allowable tolerance is used.

RESPONSIBILITIES

Design and Project Delivery:

When curb ramps are designed on or along the state highway system, they shall be designed to meet ODOT's Accessibility Standards. Whenever the design criteria cannot be attained, an ADA Curb Ramp Design Exception shall be sought prior to construction of the curb ramp. Designers are to utilize the current version of ODOT's ADA Curb Ramp Design Checklist to determine when a design exception needs to be prepared for State Traffic Roadway Engineer approval. The location of the excepted feature and the design value shall be clearly indicated in the plan sheets in order for inspectors to identify which measurement(s) the design exception applies toward. The design

exception control number and crosswalk closure approval number if applicable shall also be indicated on the plan sheet for the curb ramp design.

Construction Offices:

After curb ramps are constructed, construction inspectors shall measure curb ramps with ODOT's approved tools using the current ODOT ADA Curb Ramp Inspection Form corresponding to the type of curb ramp constructed. Methodology for the inspection of the curb ramp shall follow ODOT's requirements and be conducted by an ODOT certified ADA inspector. If a design exception is approved and indicated on the contract plans, the passing criteria shall be calculated according to the tables above. This shall be the criteria to determine whether to accept or reject newly constructed curb ramps when a Design Exception has been approved for slopes.

Technical Services Traffic Roadway Section:

Curb ramp inspection forms received that have values within the acceptance range in the above tables shall be accepted. Asset management inventory will input and record data in the curb ramp inventory database.

SPECIAL INSTRUCTIONS

The effective date of this bulletin is immediate upon approval of authority.

Curb ramps constructed prior to this bulletin will be reevaluated based on this criteria by the Technical Services Traffic Roadway Section.

CONTACT INFORMATION

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