

VIRGINIA DEPARTMENT OF TRANSPORTATION

LOCATION AND DESIGN DIVISION

INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: Curb Ramps and Sidewalks	NUMBER: IIM-LD-55.17
SPECIFIC SUBJECT: Guidelines for the Placement of Curb Ramps for Pedestrian Access Routes	DATE: June 19, 2018
	SUPERSEDES: IIM-LD-55.16
APPROVAL:	Susan H. Keen, P.E. State Location and Design Engineer Approved June 19, 2018

Changes are shaded.

CURRENT REVISION

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- This memorandum has been revised to define the purpose of the Detectable Warning Surfaces and to clarify where they are required as well as to update the Road Design Manual references to Appendix A(1).
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EFFECTIVE DATE

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- This memorandum is effective upon receipt.
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POLICY

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- VDOT's policy is to provide facilities for persons with disabilities in accordance with the [Code of Virginia, Section 15.2 –2021](#)

“§ 15.2-2021. Ramps on curbs of certain streets; specifications. Notwithstanding the provisions of subsection A of § [15.2-2000](#), every locality requiring curbs along its streets that incorporate accessible routes for pedestrian use, such as existing or proposed sidewalks, shall require that curb ramps be constructed at

intersections for use by persons with mobility impairments. The ramps shall comply with the Virginia Department of Transportation's Road and Bridge Standards. Local option, variance, or waiver of these standards is prohibited. (1974, c. 169, § 15.1-381; 1975, c. 74; 1976, c. 477; 1990, c. 186; 1993, c. 258; 1997, c. [587](#); 1999, cc. [409](#), [417](#).)”

- The Americans with Disabilities Act (ADA) became effective January 26, 1992. The [Proposed Guidelines \(2011\)](#): “Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way” also referred to as “Public Rights-of-Way Accessibility Guidelines” (PROWAG), dated July 26, 2011 have been adopted by VDOT. The U.S. Access Board and the Federal Highway Administration are in agreement with VDOT’s policy to adhere to these proposed guidelines. VDOT is also guided by the “2010 ADA Standards for Accessible Design”, dated September 15, 2010, which sets minimum requirements – both scoping and technical – for newly designed and constructed, or altered, state and local government building facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities. This document consists of the Title II regulations at 28 CFR 35.151 and the 2004 ADAAG at 36 CFR Part 1191, appendices B and D.
- The U.S. Access Board issued proposed guidelines on accessible public rights-of-way for public comment in July 2011. This proposal includes revisions that were made in response to public comments received on earlier drafts of the rule the U.S. Access Board released in 2002 and 2005. The earlier drafts include the “Draft Guidelines for Accessible Public Rights-of-Way” dated June 17, 2002 and the “Revised Draft Guidelines for Accessible Public Rights-of-Way” dated November 23, 2005. See [Background on the Public Rights-of-Way Rulemaking](#).

PEDESTRIAN ACCESS ROUTE (SIDEWALK OR SIDEWALK SPACE)

- New Pedestrian Access Routes (Sidewalks or Sidewalk Space) shall be 5 feet wide excluding the width of curb. However, in unique situations where this is not feasible, a minimum clear width of 4 feet shall be provided excluding the width of curb. Pedestrian Access Routes less than 5 feet wide require the submission of a Design Waiver ([See IIM-LD-227](#)). **Design Exceptions are not applicable for sidewalk widths less than 4 feet wide.**
- New Pedestrian Access Routes (Sidewalk or Sidewalk Space) less than 5 feet in continuous width excluding the width of curb shall provide a pedestrian passing area a minimum of 5 feet x 5 feet at reasonable intervals not to exceed 200 feet. These passing areas can be provided at street intersections with cross slopes no greater than 48:1 (2%).

- The Pedestrian Access Route surfaces shall be firm, stable, and slip resistant and openings that are more than 1/2" in one dimension are prohibited. The pedestrian access route is permitted level changes up to 1/4" without treatment and level changes between 1/4" and 1/2" that are beveled with a slope no greater than 2:1.
 - Where pedestrian access routes are contained within a street or highway right-of-way, the grade of pedestrian access routes shall not exceed the general grade established for the adjacent street or highway. Where pedestrian access routes are not contained within a street or highway right-of-way, the grade of pedestrian access routes shall be 5% maximum
 - Where sidewalks cross rail systems at grade, the surface of the pedestrian access route shall be level and flush with the rail top at the outer edge and between the rails.
 - For On-Street and Off-Street Parking, see the [VDOT Road Design Manual, Appendix A\(1\)](#), Section A(1)-2.
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CURB RAMPS

- Standard CG-12 (Type A, B and C) curb ramps shall be provided wherever a proposed or existing pedestrian access route (sidewalk or sidewalk space) crosses a curb. For example, if the current typical section or the proposed typical section includes a pedestrian access route (sidewalk or sidewalk space), curb ramps shall be provided.
- The width of the curb ramp (excluding the flares) for shared use paths shall be the same width as the shared use path and include detectable warning surfaces that extend the full width of the path. See [VDOT Road Design Manual](#), Appendix A(1), Section A(1)-1, Figures A(1)-1-8 and A(1)-1-9).
- One curb ramp shall be provided for each direction of crossing at intersections that incorporate pedestrian access routes, and on both sides of a mid-block crossing location to establish a pedestrian access route. Curb ramps shall be in-line with the direction of pedestrian travel. If curb ramps are not placed at all corners of an intersection the ramp user's accessibility is restricted to the route that provides curb ramps.
- Diagonal Curb Ramps for all three Types (A, B and C) **shall only** be used for alteration projects and a minimum 4 feet by 4 feet square landing area at the bottom of the ramp and outside of the travelway shall be provided within the marked crosswalk. See [VDOT Road Design Manual](#), Appendix A(1), Section A(1)-1, Figures A(1)-1-18, A(1)-1-19 and A(1)-1-20.
- Crosswalk markings shall be located so that curb ramps are within the extension of the crosswalk markings. See [VDOT Road and Bridge Standards](#), Section 1300.

- Curb ramps shall conform to the [VDOT Road and Bridge Standards](#), Section 200 for CG-12, Type A, B or C and the [VDOT Road and Bridge Specifications](#), Sections 502 and 504. The designer shall ensure curb ramps are graphically depicted accurately on plans, drawn to scale, and annotated to denote the Type of Curb Ramp (i.e. - CG-12, Type A, B or C). Curb ramps (CG-12's) shall be constructed of hydraulic cement concrete with detectable warning surfaces.
 - Construction of the entire Standard CG-12, Type A, B or C is required. Construction of the wiped down section of curb only, with intentions of installing the curb ramp when/if a sidewalk is installed along the pedestrian access route, is **not** acceptable.
 - If parking is provided, accessible parking spaces shall be provided in accordance with ADA regulations. See [VDOT Road Design Manual](#), Appendix A(1), Section A(1)-2.
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CURB RAMP TYPES

- See [VDOT Road and Bridge Standards](#), Section 200, [Road and Bridge Specifications](#), Sections 502 and 504 and [VDOT Road Design Manual](#), Appendix A(1).
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CURB RAMP APPLICATION DETAILS

- See [VDOT Road Design Manual](#), Appendix A(1) for additional information.
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MEDIANS AND REFUGE ISLANDS

- Pedestrian Access Routes that cross medians and refuge islands shall be a minimum of 6 feet in length in the direction of pedestrian travel and include a ramp or cut-through at street level a minimum of 5 feet wide and include detectable warning surfaces. Detectable warning surfaces shall be truncated domes. See [VDOT Roads and Bridge Standards](#), Section 200, Standard CG-12 and Median and Refuge Island Applications (Type M1, M2 and RI1 and RI2).
- In situations where a median or refuge island 6 feet in length in the direction of pedestrian travel is **not** feasible due to existing conditions, detectable warning surfaces shall **not** be provided (i.e. - 4 feet medians).
- Appropriate curb ramps and landings shall be provided as necessary. The designer shall ensure medians and refuge islands are graphically depicted accurately on plans, drawn to scale, and annotated to denote the Type of Median (M1, M2) or Refuge Island (RI1, RI2). See [VDOT Roads and Bridge Standards](#), Section 200, Standard CG-12 and Median and Refuge Island Applications (Type M1, M2 and RI1 and RI2).

DETECTABLE WARNING SURFACES

Detectable warning surfaces indicate the boundary between pedestrian and vehicular routes where there is a flush rather than a curbed connection. Detectable warning surfaces are **not** intended to provide wayfinding for pedestrians who are blind or have low vision.

Detectable warning surfaces shall contrast visually with adjacent gutter, street or highway, or pedestrian access route surface, either light-on-dark or dark-on-light. Safety Yellow is the VDOT preferred color of Detectable Warning Surfaces.

Detectable warning surfaces **shall** be provided **only** at the following locations on pedestrian access routes and at transit stops:

- Curb ramps and blended transitions at pedestrian street crossings;
- Where a pedestrian access route (sidewalk or shared use path) crosses a commercial entrance. **Note: Detectable warning surfaces are not required where a pedestrian access route crosses a private residential entrance;**
- Pedestrian medians and refuge islands that are at least 6 feet in length in the direction of pedestrian travel. **Detectable warning surfaces are not required at pedestrian medians or refuge islands that are less than 6 feet in length in the direction of travel.** See [VDOT Roads and Bridge Standard](#), Section 200, Standard CG-12 and Median and Refuge Island Applications (Type M1, M2 and R11 and R12).
- Pedestrian at-grade rail crossings not located within a street or highway, boarding platforms at transit stops for buses and rail vehicles;
- Boarding platforms at transit stops for buses and rail vehicles where the edges of the boarding platform are not protected by screens or guards; and
- Boarding and alighting areas at sidewalks or street level transit stops for rail vehicles where the sides of the boarding and alighting areas face the rail vehicle is not protected by screens or guards.

For additional information, see the [Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way \(PROWAG\)](#) dated July 26, 2011, Chapter R2 and R3.

GRATES WITHIN PEDESTRIAN ACCESS ROUTES

- New construction should **not** contain grates within the Pedestrian Access Route. However, should grates be located in the Pedestrian Access Route, they shall have spaces no greater than 1/2" wide in the direction of travel. If grates have elongated openings, they shall be placed so that the long dimension of the opening is perpendicular to the dominant direction of travel. **All efforts shall be made to avoid grates being located in pedestrian access routes.**

PAY ITEMS

14100 Removal of Sidewalk and Entrance	SY	To remove existing sidewalk
14120 Removal of Comb. Curb and Gutter	LF	To remove existing C&G (or curb only)
13108 CG-12 Detectable Warning Surface	SY	For the detectable area
13220 Hydr. Cement Conc. Sidewalk 4"	SY	For the SW concrete portion of ramp
13222 Hydr. Cement Conc. Sidewalk 7"	SY	For the SW concrete portion of ramp
12600 St'd. Comb. Curb & Gutter CG-6 *	LF	For the proposed C&G
12700 St'd. Comb. Curb & Gutter CG-7 *	LF	For the proposed C&G
12020 St'd. Curb CG-2 *	LF	For the proposed Curb
12030 St'd. Curb CG-3 *	LF	For the proposed Curb

* (Std. Type -match existing conditions)

- Where there is existing curb (with no gutter), the removal will be paid for by the same item (Removal of Combination Curb and Gutter) as if there was curb and gutter.
- Where sidewalk and curb ramps are constructed adjacent to commercial entrances or street connections, Hydraulic Cement Concrete Sidewalk 7" should be considered. See [VDOT Road and Bridge Standards](#) for St'd. CG-11 and CG-13.

REFERENCES

DOJ and DOT issued **Guidance on Street Resurfacing Project Requirements** to provide Curb Ramps when Street, Roads, or Highways are Altered through Resurfacing dated July 8, 2013 <http://www.ada.gov/doj-fhwa-ta.htm>, <http://www.ada.gov/doj-fhwa-ta-glossary.htm> and issued a Supplement to the 2013 DOJ/DOT Joint Technical Assistance Document on December 1, 2015 <http://www.ada.gov/doj-fhwa-ta-supplement-2015.html>.

The Access Board commonly refers to the requirements of this rulemaking as the “Public Rights-of-Way Accessibility Guidelines” (or PROWAG). However, the official title of the current proposal is “Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Rights-of-Way” dated July 26, 2011.

Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Rights-of-Way dated July 26, 2011:

<http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>

The Access Board: About Rulemaking on Public Rights-of-Way:

<http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way>

The Access Board current status of Public Rights-of-Way: Background dated July 26, 2011:

<http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/background>

The Access Board Streets and Sidewalks: <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks>

The Access Board Shared Use Paths: <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/shared-use-paths>

The United States Access Board Home Page: <http://www.access-board.gov/>

Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations, dated August, 2007: <https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/guidance-and-research/accessible-public-rights-of-way-planning-and-design-for-alterations>

U.S. Department of Justice ADA Best Practices Tool Kit for State and Local Government issued December 5, 2006: <http://www.usdoj.gov/crt/ada/pcatoolkit/toolkitmain.htm>.
<http://www.usdoj.gov/crt/ada/pcatoolkit/abouttoolkit.htm>.

FHWA Office of Civil Rights Memorandum dated September 12, 2006:
http://www.fhwa.dot.gov/civilrights/memos/ada_memo_clarificationa.htm.

U.S. DOT FHWA Memorandum dated January 23, 2006:
www.fhwa.dot.gov/environment/bikeped/prwaa.htm.

Publication FHWA-EP-01-027: Designing Sidewalks and Trails for Access Part II (Best Practices Design Guide dated September 2001) at:
www.fhwa.dot.gov/environment/sidewalk2/index.htm. See this guide for crossing refuge islands and median crossings.

Publication FHWA-HEP-99-006: Designing Sidewalks and Trails for Access Part I (Review of Existing Guidelines and Practices dated July 1999):
www.fhwa.dot.gov/environment/sidewalks/index.htm.

Please see this publication for information on ramp orientation.

The current Manual of Uniform Traffic Control Devices (MUTCD) provides design guidance and recommendations with respect to pedestrian crosswalk markings:

<http://mutcd.fhwa.dot.gov/>.

The 2010 ADA Standards for Accessible Design dated September 15, 2010:

www.ada.gov/2010ADASTandards_index.htm

VDOT ROAD AND BRIDGE STANDARDS

- See the [VDOT Road and Bridge Standards](#), Section 200, Standard CG-12 Type A, B, C and Median and Refuge Island Applications (Type M1, M2 and RI1 and RI2).
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STANDARD CG-9A, CG-9B, CG-9D and CG-13 ENTRANCES

- Standards for CG-9A, CG-9B, CG-9D and CG-13 entrances incorporate pedestrian access route treatment within the design. See the [VDOT Road and Bridge Standards](#)
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DESIGN CRITERIA FOR SIDEWALKS, CURB RAMPS AND BUFFER STRIPS

- Design details for sidewalks, curb ramps and buffer strips are available in Appendix A(1), of the [VDOT Road Design Manual](#).