

Field guide for
Accessible Public
Rights-of-Way



2017 Edition

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PEDESTRIAN FACILITIES IN THE PUBLIC RIGHTS-OF-WAY

Pedestrian access routes (R204). A pedestrian access route (PAR) is a continuous and unobstructed path of travel provided for pedestrians with disabilities within or coinciding with a pedestrian circulation path in the public right-of-way.

Components (R302.2). Pedestrian access routes shall consist of one or more of the following components: 1) Sidewalk. 2) Pedestrian street crossing and at-grade rail crossing. 3) Pedestrian overpasses and underpasses. 4) Curb ramps and blended transitions. 5) Ramps. 6) Elevators. 7) Platform lift. 8) Doors, doorways, and gates.

Continuous Width (R302.3). Except as provided in R302.3.1 the continuous clear width of pedestrian access routes shall be 4 feet minimum, exclusive of the width of the curb.

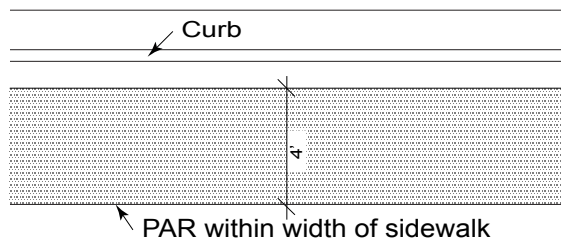


Figure R302.3
Continuous Width

Medians and Pedestrian Refuge Islands (R302.3.1). The clear width of pedestrian access routes within medians and pedestrian refuge islands shall be 5 feet minimum.

Passing Spaces (R302.4). Where the clear width of pedestrian access routes is less than 5 feet, passing spaces shall be provided at intervals of 200 feet maximum. Passing spaces shall be 5 feet minimum by 5 feet minimum. Passing spaces are permitted to overlap pedestrian access routes.

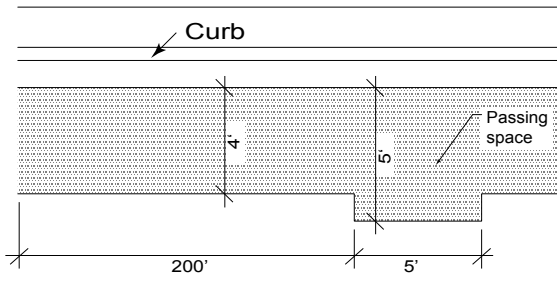


Figure R302.4
Passing Spaces

Grade (R302.5). Except as provided in R302.5.1, 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 percent maximum.

Pedestrian Street Crossings (R302.5.1). Where pedestrian access routes are contained within pedestrian street crossings, the grade of the pedestrian access route shall be 5 percent maximum.

Cross Slope (R302.6). Except as provided in R302.6.1 and R302.6.2 the cross slope of pedestrian access routes shall be 2 percent maximum.

Advisory R302.6.1. Pedestrian street crossings without yield or stop control are crossings where there is no yield or stop sign, or where there is a traffic signal that is designed for the green phase. At pedestrian street crossings without yield or stop control, vehicles can proceed through the intersection without slowing or stopping. Where pedestrian access routes are contained within pedestrian street crossings with yield or stop control, the cross slope of the pedestrian access route must be 2 percent maximum (see R302.6). At pedestrian street crossings with yield or stop control, vehicles slow or stop before proceeding through the intersection.

Pedestrian Street Crossings Without Yield or Stop Control (R302.6.1). Where pedestrian access routes are contained within pedestrian street crossings without yield or stop control, the cross slope of the pedestrian access route shall be 5 percent maximum.

Midblock Pedestrian Street Crossings (R302.6.2). Where pedestrian access routes are contained within mid block pedestrian street crossings, the cross slope of the pedestrian access route shall be permitted to equal the street or highway grade.

Surfaces (R302.7). The surfaces of pedestrian access routes and elements and spaces required to comply with R302.7 that connect to pedestrian access routes shall be firm, stable, and slip resistant and shall comply with R302.7.

Vertical Surface Discontinuities (R302.7.2). Vertical surface discontinuities shall be 1/2 inch maximum. Vertical surface discontinuities between 1/4 inch and 1/2 inch shall be beveled with a slope not steeper than 50 percent. The bevel shall be applied across the entire vertical surface discontinuity.

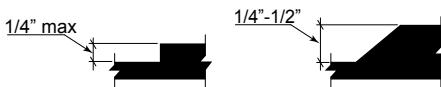


Figure R302.72
Vertical Surface Discontinuities

Horizontal Openings (R302.7.3). Horizontal openings in gratings and joints shall not permit passage of a sphere more than 1/2 inch, in diameter. Elongated openings in gratings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

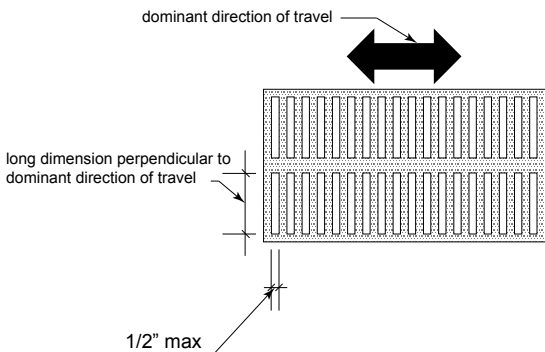


Figure R302.7.3
Horizontal Openings

CURB RAMPS

R304 Curb Ramps and Blended Transitions.

Advisory (R304.1) General. There are two types of curb ramps:

- Perpendicular curb ramps have a running slope that cuts through or is built up to the curb at right angles or meets the gutter break at right angles where the curb is curved. On large corner radiuses, it will be necessary to indent the gutter break on one side of the curb ramp in order for the curb ramp to meet the gutter break at right angles.
- Parallel curb ramps have a running slope that is in line with the direction of sidewalk travel and lower the sidewalk to a level turning space where a turn is made to enter the pedestrian street crossing.

Perpendicular curb ramps can be provided where the sidewalk is at least 12 feet wide. Parallel curb ramps can be provided where the sidewalk is at least 4 feet wide. Parallel and perpendicular curb ramps can be combined. A parallel curb ramp is used to lower the sidewalk to a mid-landing and a short perpendicular curb ramp connects the landing to the street. Combination curb ramps can be provided where the sidewalk is at least 6 feet wide.

Blended transitions are raised pedestrian street crossings, depressed corners, or similar connections between pedestrian access routes at the level of the sidewalk and the level of the pedestrian street crossing that have a grade of 5 percent or less. Blended transitions are suitable for a range of sidewalk conditions.

PERPENDICULAR CURB RAMPS

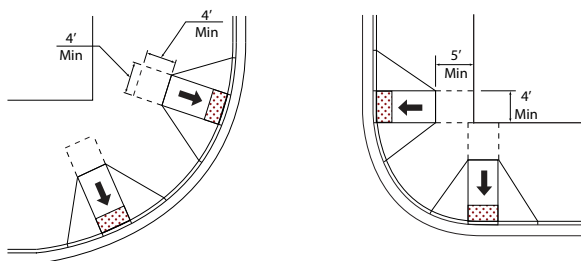


Figure R304.2.1
Turning Space

Turning Space (R304.2.1). A turning space 4 feet minimum by 4 feet minimum shall be provided at the top of the curb ramp and shall be permitted to overlap other turning spaces and clear spaces. Where the turning space is constrained at the back-of-sidewalk, the turning space shall be 4 feet minimum by 5 feet minimum. The 5 feet dimension shall be provided in the direction of the ramp run.

Running Slope (R304.2.2). The running slope of the curb ramp shall cut through or shall be built up to the curb at right angles or shall meet the gutter grade break at right angles where the curb is curved. The running slope of the curb ramp shall be 5 percent minimum and 8.3 percent maximum but shall not require the ramp length to exceed 15 feet). The running slope of the turning space shall be 2 percent maximum.

PERPENDICULAR CURB RAMPS

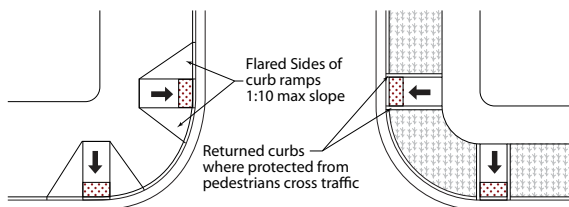


Figure R304.2.3
Flared Sides

Flared Sides (R304.2.3). Where a pedestrian circulation path crosses the curb ramp, flared sides shall be sloped 10 percent maximum, measured parallel to the curb line.

Advisory R304.2.3. Flare Sides. The flared sides are part of the pedestrian circulation path, but are not part of the pedestrian access route. Curb ramps whose sides have returned curbs provide useful directional cues where they are aligned with the pedestrian street crossing and are protected from cross travel by landscaping, street furniture, chains, fencing, or railings.

PARALLEL CURB RAMPS

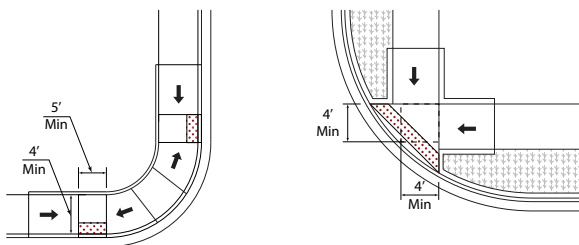


Figure R304.3.1
Turning Space

Turning Space (R304.3.1). A turning space 4 feet minimum by 4 feet minimum shall be provided at the bottom of the curb ramp and shall be permitted to overlap other turning spaces and clear spaces. If the turning space is constrained on 2 or more sides, the turning space shall be 4 feet minimum by 5 feet. The 5 feet dimension shall be provided in the direction of the pedestrian street crossing.

Running Slope (R304.3.2). The running slope of the curb ramp shall be in-line with the direction of sidewalk travel. The running slope of the curb ramp shall be 5 percent minimum and 8.3 percent maximum but shall not require the ramp length to exceed 15 feet minimum. The running slope of the turning space shall be 2 percent maximum.

BLENDING TRANSITIONS

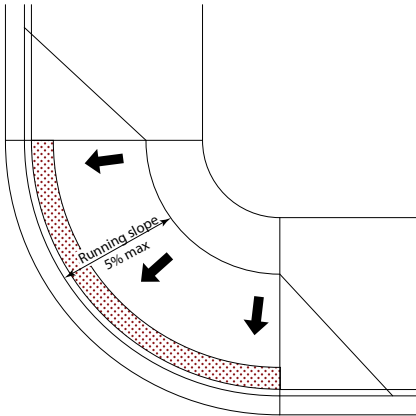
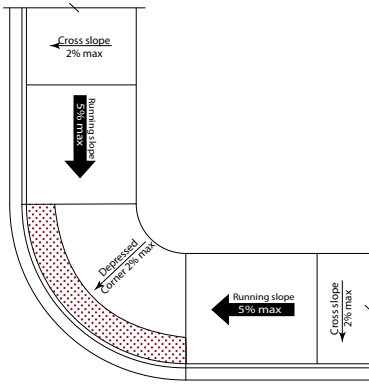


Figure R304.4.1
Running Slope

Running Slope (R304.4.1). The running slope of blended transitions shall be 5 percent maximum.



Blended Transition
Running Slope

COMMON REQUIREMENTS

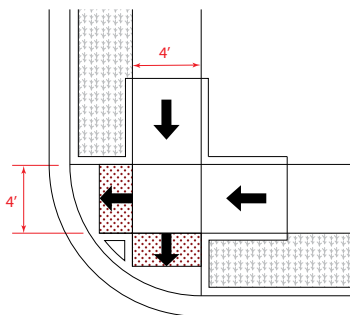
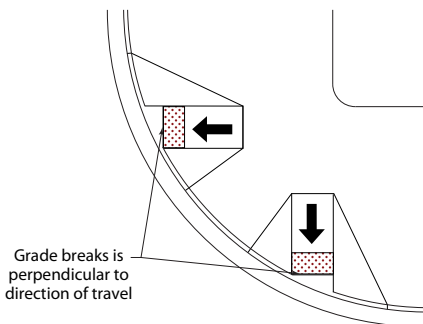


Figure R304.5.1
Width

Width (R304.5.1). The clear width of a curb ramp runs (excluding any flare sides), blended transitions, and turning spaces shall be 4 feet minimum .



Grade breaks is perpendicular to direction of travel

Figure R304.5.2
Grade Breaks

Grade Breaks (R304.5.2). Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

COMMON REQUIREMENTS

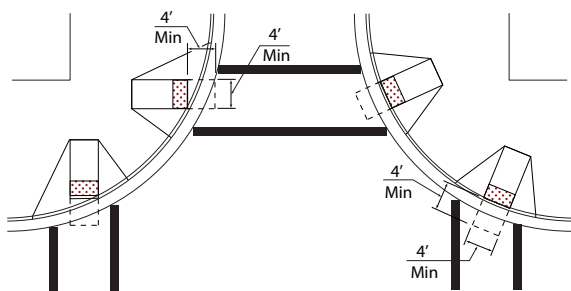


Figure R304.5.5
Clear Space

Common Requirements (continued)

Cross Slope (R304.5.3). The cross slope of curb ramps, blended transitions, and turning spaces shall be 2 percent maximum. At pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings, the cross slope shall be permitted to equal the street or highway grade.

Counter Slope (R304.5.4). The counter slope of the gutter or street at the foot of curb ramp runs, blended transitions, and turning spaces shall be 5 percent maximum.

Clear Space (R304.5.5). Beyond the bottom grade break, a clear space 4 feet minimum by 4 feet minimum shall be provided within the width of the pedestrian street crossing and wholly outside the parallel vehicle travel lane.

DETECTABLE WARNING SURFACES

General (R305.1). Detectable warning surfaces shall consist of truncated domes aligned in a square or radial grid pattern.

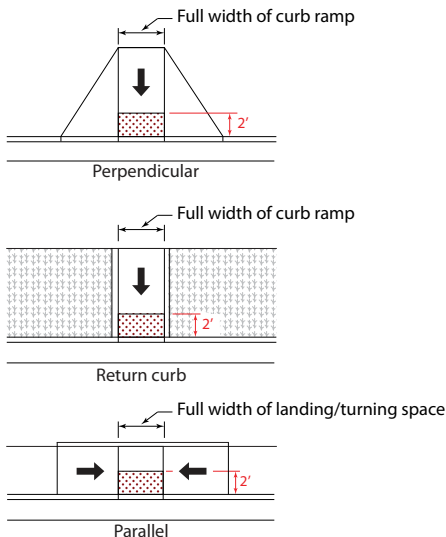


Figure R305.1.4
Size

Contrast (R305.1.3). 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.

Size (R305.1.4). Detectable warning surfaces shall extend 2 feet minimum in the direction of pedestrian travel. At curb ramps and blended transitions, detectable warning surfaces shall extend the full width of the ramp run (excluding any flared sides), blended transition, or turning space. At pedestrian at-grade rail crossings not located within a street or highway, detectable warnings shall extend the full width of the crossing.

DETECTABLE WARNING SURFACES

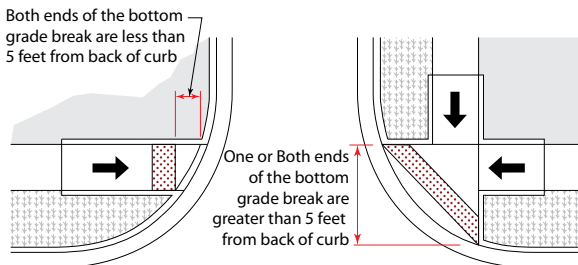


Figure R305.2.1
Perpendicular Curb Ramps

Perpendicular Curb Ramps (R305.2.1) On perpendicular curb ramps, detectable warning surfaces shall be placed as follows:

1. Where the ends of the bottom grade break are in front of the back of curb, detectable warning surfaces shall be placed at the back of curb.
2. Where the ends of the bottom grade break are behind the back of curb and the distance from either end of the bottom grade brake to the back of curb is 5 feet or less, detectable warning surfaces shall be placed on the ramp run within one dome spacing of the bottom grade break.
3. Where the ends of the bottom grade break are behind the back of curb and the distance from either end of the bottom grade brake to the back of curb is more than 5 feet, detectable warning surfaces shall be placed on the lower landing at the back of curb.

DETECTABLE WARNING SURFACES

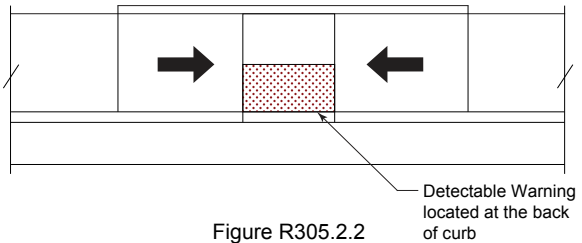


Figure R305.2.2
Parallel Curb Ramps

Parallel Curb Ramps (R305.2.2). On parallel curb ramps, detectable warning surfaces shall be placed on the turning space at the flush transition between the street and sidewalk.

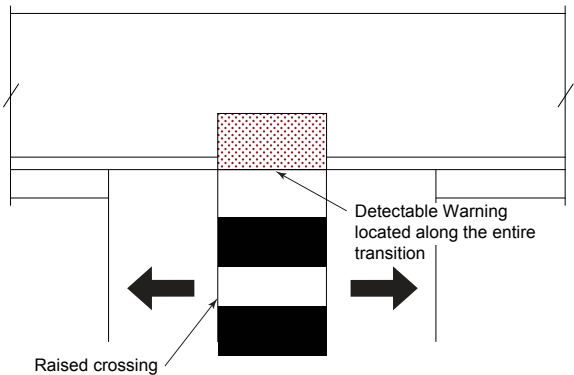


Figure R305.2.3
Blended Transitions

Blended Transitions (R305.2.3). On blended transitions, detectable warning surfaces shall be placed at the back of curb. Where raised pedestrian street crossings, depressed corners, or other level pedestrian street crossings are provided, detectable warning surfaces shall be placed at the flush transition between the street and the sidewalk.

DETECTABLE WARNING SURFACES

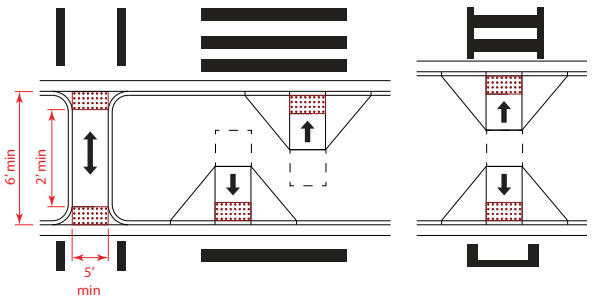


Figure R305.2.4
Pedestrian Refuge Island

Pedestrian Refuge Islands (R305.2.4). At cut-through pedestrian refuge islands, detectable warning surfaces shall be placed at the edges of the pedestrian island and shall be separated by a 2 feet minimum length of surface without detectable warnings.

PEDESTRIAN SIGNALS

General (R209.1). Where pedestrian signals are provided at pedestrian street crossings, they shall include accessible pedestrian signals and pedestrian pushbuttons complying with sections *4E.08 through 4E.13 of the MUTCD*.

OPERABLE PARTS shall comply with R403.

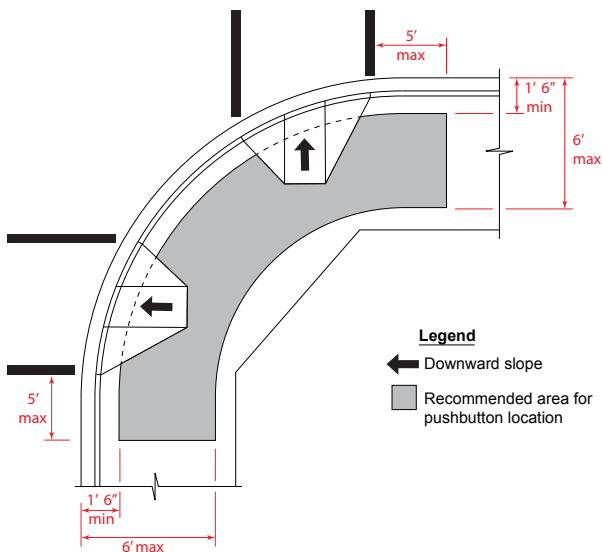


Figure 4E-3. Pushbutton Location Area
(2009 MUTCD Pages 500 -501).

Notes:

1. Where there are constraints that makes it impractical to place the pedestrian pushbutton between 1 foot 6 inch and 6 feet from the edge of the curb, shoulder, or pavement it should not be further than 10 feet from the edge of the curb, shoulder, or pavement.
2. Two buttons on a corner should be separated by 10 feet.
4. Figures 4E-4 (2009 MUTCD pages 502 - 503) show typical pushbutton locations.

Alterations (R209.2). Existing pedestrian signals shall comply with R209.1 when the signal controller and software are altered, or the signal head is replaced.

Nevada Department of Transportation



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NDOT does not authorize any other uses of the Field Guide for Accessible Public Rights-of-Way.

The content of this guide is based on "The 2011, Proposed Accessibility for Pedestrian Facilities in the Public Rights-of-Way" and the Nevada Department of Transportation design criteria. Users are cautioned that transportation design and the associated safety policy, criteria, and technology is a rapidly changing field of study.