



State of Illinois
Illinois Department of Transportation

Accessible Public Right-of-Way

Field Guide • January 2016



Illinois Department
of Transportation

Printed by authority of the State of Illinois, 7315-0510-0505-10 05/15-1000-0000

Contents

1. Introduction	1
2. Accessibility Requirements Checklists	1
2.1. Pedestrian Access Route (PAR).....	2
2.1.1. Continuous Width	3
2.1.2. Required Vertical Clearance	5
2.1.3. Grade.....	6
2.1.4. Surfaces	9
2.1.5. Protruding Objects	12
2.1.6. Post-Mounted Objects	13
2.1.7. Reduced Vertical Clearance.....	14
2.2. Alternate Pedestrian Access Routes (APAR).....	15
2.3. Curb Ramps and Blended Transitions	19
2.3.1. General	19
2.3.2. Perpendicular Curb Ramps	23
2.3.3. Parallel Curb Ramps	26
2.3.4. Blended Transitions.....	28
2.4. Driveways	28
2.5. Detectable Warning Surfaces (DWS)	30
2.5.1. DWS Size	31
2.5.2. DWS Placement.....	33
2.6. Pedestrian Street Crossings.....	39
2.6.1. Pedestrian Signal Phase Timing	40
2.6.2. Roundabouts.....	43

2.7. Accessible Pedestrian Signals and Pedestrian Pushbuttons 43

2.8. Transit Stops and Transit Shelters 55

 2.8.1. Transit Stops 55

 2.8.2. Transit Shelters 58

2.9. On-Street Parking Spaces 59

 2.9.1. Parallel Parking Spaces 59

 2.9.2. Perpendicular or Angled Parking Spaces 61

 2.9.3. Curb Ramps or Blended Transitions 62

 2.9.4. Signs 62

 2.9.5. Parking Meters and Parking Pay Stations 63

2.10. Passenger Loading Zones 64

 2.10.1. Access Aisle 64

2.11. Operable Parts 65

2.12. Clear Spaces 66

2.13. Toe and Knee Clearance 67

 2.13.1. Toe Clearance 67

 2.13.2. Knee Clearance 68

2.14. Reach Ranges 69

 2.14.1. Unobstructed Forward Reach 69

 2.14.2. Unobstructed Side Reach 70

2.15. Ramps 70

 2.15.1. Edge Protection 72

- 2.16. Stairways 73
 - 2.16.1. Treads and Risers 73
 - 2.16.2. Nosing..... 74
- 2.17. Handrails 75
 - 2.17.1. Height 75
 - 2.17.2. Clearance 76
 - 2.17.3. Gripping Surface..... 76
 - 2.17.4. Cross Section..... 77
 - 2.17.5. Extensions..... 77
- 2.18. Doors, Doorways, and Gates 80
- 3. Defined Terms 82

1. Introduction

This field guide is intended for use by construction inspectors to identify and evaluate issues that must be addressed along pedestrian access routes that are directly affected or altered by a project. The field guide includes checklists that are developed to verify compliance with all applicable accessibility laws and regulations in the State of Illinois, including the 2011 Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG), Illinois Accessibility Code (IAC), and IDOT standards. The following two sections in the field guide include accessibility requirements checklists and defined terms. Users of this field guide should review the defined terms section and the state standards for curb ramps before applying the requirements described herein.

2. Accessibility Requirements Checklists

The checklists in this section are mostly presented in the form of questions that should have an answer of “yes” (i.e., checked box) to evaluate and verify compliance of the listed items with accessibility requirements.

If the evaluation of an item results in an answer of “no” (i.e., box not checked), the element shall be identified as non-compliant for correction or for recordkeeping in the ADA transition plan.

2.1. Pedestrian Access Route (PAR)

- Does the pedestrian circulation path (PCP) include a 4 feet minimum width PAR (see Figure 1)?



Figure 1: PAR within Pedestrian Circulation Path

- Is there a PAR provided within pedestrian street crossings, including medians and pedestrian refuge islands?
- Is there a PAR provided within pedestrian at-grade rail crossings (see Figure 2)?



Figure 2: PAR within Pedestrian At-Grade Rail Crossings

- Is there a PAR provided within overpasses, underpasses, bridges, and similar structures that contain a PCP?
- Where an overpass, underpass, bridge, or similar structure is designed for pedestrian use only and the approach slope to the structure exceeds 5%, is there a provided ramp, elevator, or limited use/limited application elevator?

2.1.1. Continuous Width

- Is the continuous width of the PAR 4 feet or more (minimum 5 feet recommended), exclusive of the width of the curb (see Figure 3)?



Figure 3: PAR Continuous Width

- If the PAR width is less than 5 feet, are there passing spaces provided that satisfy the following requirements?
 - Cross slope of passing space is 2% or less.
 - Dimensions of each passing space are 5 feet x 5 feet or more (see Figure 4).
 - Intervals between passing spaces are 200 feet or less (see Figure 4).

Note: Passing spaces are allowed to overlap PAR (see Figure 4).

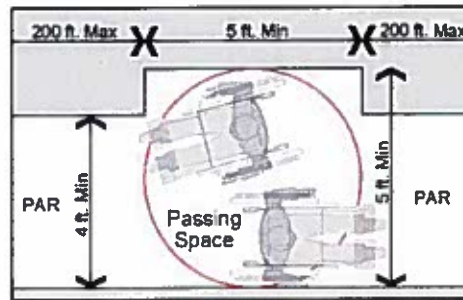


Figure 4: Passing Space Dimensions and Intervals

- Is the clear width of the PAR 4 feet minimum and free of street furniture or any other objects (see Figure 5)?



Figure 5: PAR Width and Street Furniture

- Is the minimum clear width of the PAR within medians and pedestrian refuge islands 5 feet or more (see Figure 6)?



Figure 6: PAR Width within Medians

2.1.2. Required Vertical Clearance

- Is the PAR vertical clearance 84 inches for signs and 80 inches for all other objects (see Figure 7)?

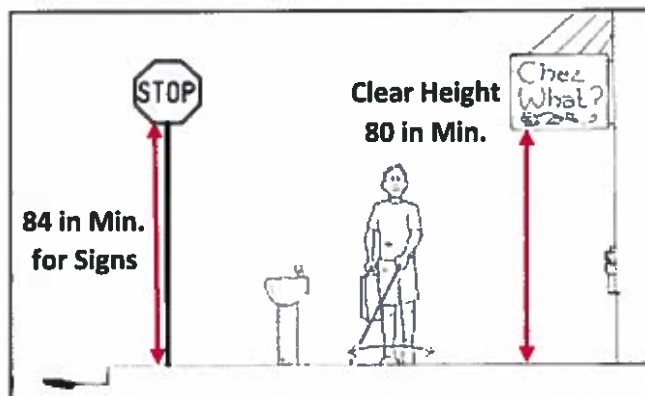


Figure 7: PAR Vertical Clearance

2.1.3. Grade

2.1.3.1. Running slope

- Is the PAR running slope 5% or less, where running slope is measured in the direction of pedestrian travel (see Figure 8)?

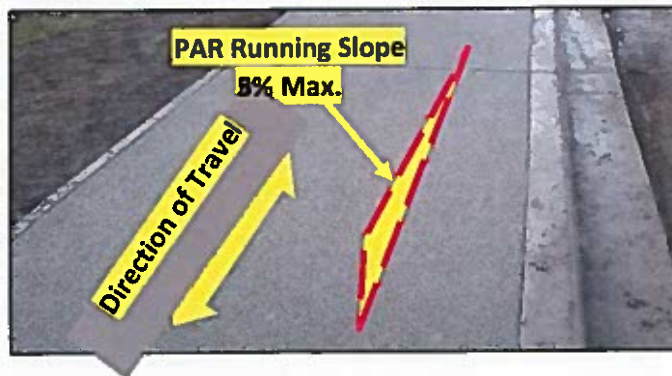


Figure 8: PAR Running Slope

- Where the PAR is contained within a street or highway right-of-way, is the grade of PAR less than or equal to the general grade of the adjacent street or highway (see Figure 9)?



Figure 9: PAR Running Slope Shall Not Exceed Grade of Adjacent Street

- Where the PAR is contained within the pedestrian street crossing, is the PAR running slope 5% or less (see Figure 10)?



Figure 10: PAR Running Slope within Street Crossings

2.1.3.2. Cross slope

- Is the PAR cross slope 2% or less (1.5% recommended), where PAR cross slope is measured perpendicular to the direction of pedestrian travel (see Figure 11)?



Figure 11: PAR Cross Slope

- Where the PAR is contained within pedestrian street crossings with yield or stop control, is the cross slope of PAR 2% or less (see Figure 12)?



Figure 12: Pedestrian Street Crossing with Stop Control

- Where the PAR is contained within pedestrian street crossings without yield or stop control, is the cross slope of PAR 5% or less (see Figure 13)?



Figure 13: Pedestrian Street Crossing without Yield or Stop Control

Note: Where PAR is contained within a midblock pedestrian street crossing, the cross slope of the PAR shall be permitted to equal the street or highway grade (see Figure 14).



Figure 14: Pedestrian Street Crossing at Midblock

2.1.4. Surfaces

- Is the PAR surface firm, stable, and slip resistant?

2.1.4.1. Vertical alignment

- Is vertical alignment generally planar within the PAR including curb ramp runs, blended transitions, turning spaces, and gutter areas within the PAR?
- Are grade breaks flush (see Figure 15)?



Figure 15: Grade Breaks

- Where the PAR crosses rails at grade, is the PAR surface level and flush with the top of the rail at the outer edges of the rails (see Figure 16)?
- Where the PAR crosses rails at grade, is the surface between the rails aligned with the top of the rail (see Figure 16)?

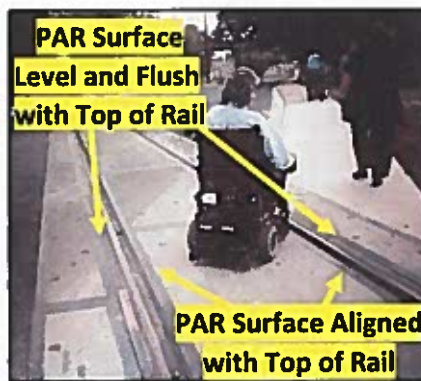


Figure 16: PAR Crossing Rails at Grade

2.1.4.2. Vertical surface discontinuities

- Where vertical surface discontinuity is more than 0.5 inch, is it treated as a ramp (see section 2.15 in this field guide)?
- Where vertical surface discontinuity is between 0.25 inch and 0.5 inch, is it beveled with a slope not steeper than 50% (see Figure 17)?

Note: Vertical surface discontinuities 0.25 inch or less are permitted (see Figure 17).



Figure 17: Vertical Surface Discontinuity

2.1.4.3. Horizontal openings

- ❑ Do horizontal openings in gratings and joints prevent the passage of a sphere more than 0.5 inch in diameter (see Figure 18)?
- ❑ Are elongated openings in gratings placed so that the long dimension is perpendicular to the dominant direction of travel (see Figure 18)?

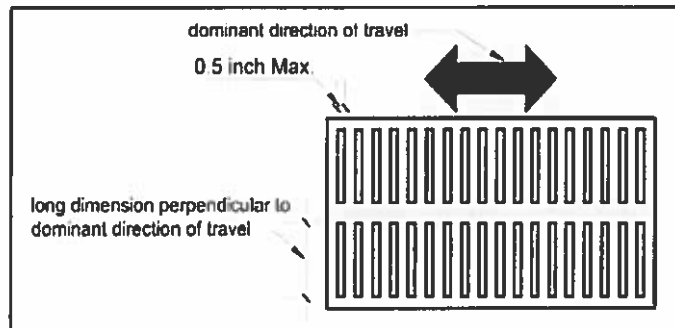


Figure 18: Horizontal Openings

2.1.4.4. Flangeway gaps

- ❑ Are flangeway gaps at pedestrian at-grade rail crossings 2.5 inches or less on non-freight rail track (see Figure 19) and 3 inches or less on freight rail track (see Figure 20)?



Figure 19: Flangeway Gaps on Non-Freight Rail Track



Figure 20: Flangeway Gaps on Freight Rail Track

2.1.5. Protruding Objects

- Is the PAR clear width 4 feet or more excluding protruding objects such as sign-posts and planters (see Figure 21)?



Figure 21: PAR Clear Width Excluding Protruding Objects

2.1.5.1. Protrusion limits

- Where there are objects with leading edges between 27 and 80 inches above the finish surface, do they protrude 4 inches or less horizontally into the PCP (see Figure 22)?

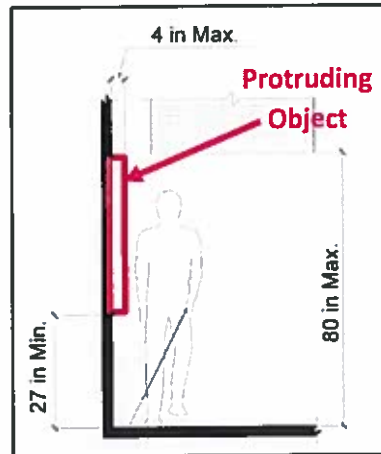


Figure 22: Protrusion Limits

2.1.6. Post-Mounted Objects

- ❑ Where objects are mounted on free-standing posts or pylons and the objects are between 27 and 80 inches above the finish surface, do they overhang the PCP 4 inches or less measured horizontally from the post or pylon base (see Figure 23)?
- ❑ Is the base dimension of free-standing posts or pylons 2.5 inches thick or more (see Figure 23)?

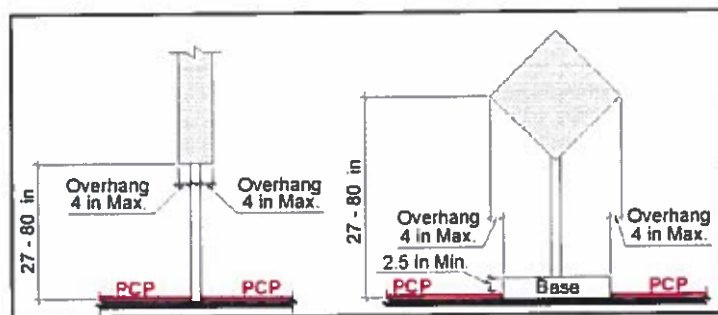


Figure 23: Post-Mounted Objects—Overhang and Base Dimension

- Where objects are mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches, is the lowest edge of the object 27 inches or less (see Figure 24-a), or 80 inches or more above the finish surface (see Figure 24-b)?

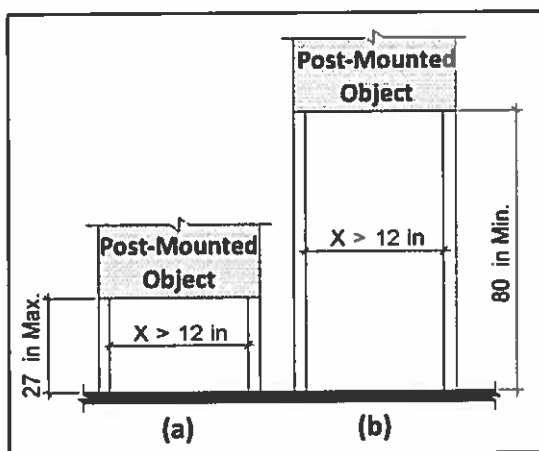


Figure 24: Post-Mounted Objects—Lowest Edge Requirement

2.1.7. Reduced Vertical Clearance

- Where the vertical clearance is less than 80 inches high, are guardrails or other barriers to pedestrian travel provided (see Figure 25)?

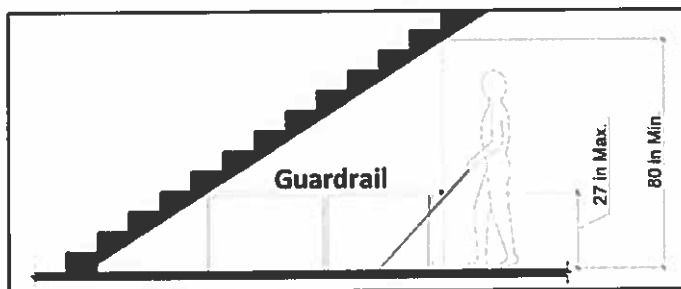


Figure 25: Reduced Vertical Clearance

- Is the leading edge of the guardrail or barrier located 27 inches or less above the finish surface (see Figure 25)?

2.2. Alternate Pedestrian Access Routes (APAR)

When a PAR is temporarily closed by construction, alterations, maintenance operations, or other conditions, an alternate pedestrian access route (APAR) complying with sections 6D.01, 6D.02, and 6G.05 of the MUTCD shall be provided. These MUTCD requirements of APAR are listed in the following pages of this section (2.2) of the field guide.

- Is there a provided APAR where the PCP closure affects the movement of pedestrians (see Figure 26)?



Figure 26: Temporary Pedestrian Facilities

- Is the APAR detectable and accessible?
- Does the APAR provide at least the same level of accessibility as the original PAR?

- Are there advanced notifications of the PAR closure (see Figure 27)?



Figure 27: Advanced Notification of PAR Closure

- Does the APAR maintain access to transit stops (see Figure 28)?



Figure 28: APAR Maintain Access to Transit Stop

- Does the APAR have a smooth, continuous, and hard surface throughout its entire length (see Figure 29)?
- Is the APAR free of any curbs or abrupt changes in grade (see Figure 29)?

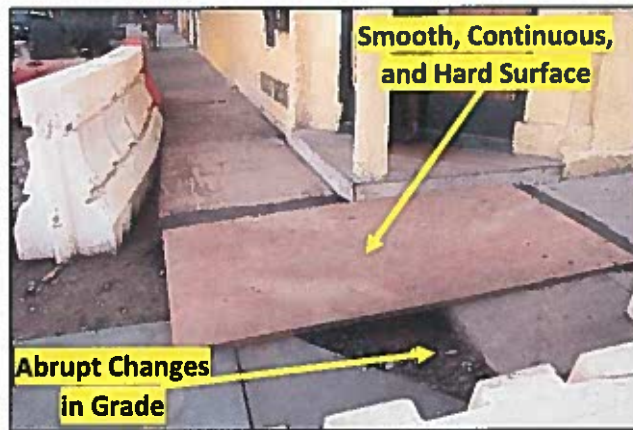


Figure 29: APAR with Abrupt Grade Changes and Treatment

- Does the APAR provide at least the same width as the original PAR (see Figure 30)?



Figure 30: APAR Width

- Does the APAR width comply with the PAR width requirements (see section 2.1.1 of this field guide)?
- In case of channelizing pedestrians, is there a continuous detectable edging (such as curbs, barricades with lower edge 27 inches or less from finish surface, or continuous buffers that can be detected using a cane) provided throughout the length of the APAR (see Figure 31)?



Figure 31: Detectable Edge Provided Throughout the Length of the APAR

- Where detectable edges are not continuous, does the APAR provide communication to pedestrians with visual disability (such as audible alerts or voice messages)?
- Does the APAR comply with the PAR protruding objects requirements?
- In case of rerouting pedestrian and vehicular traffic to a closer proximity, are they separated by a temporary traffic barrier that is detectable by a cane?

2.3. Curb Ramps and Blended Transitions

2.3.1. General

- Is the clear width of the curb ramp excluding any flared sides 4 feet or more (see Figure 32)?



Figure 32: Curb Ramp Width

- Are grade breaks perpendicular to the direction of travel (see Figure 33 and Figure 34)?

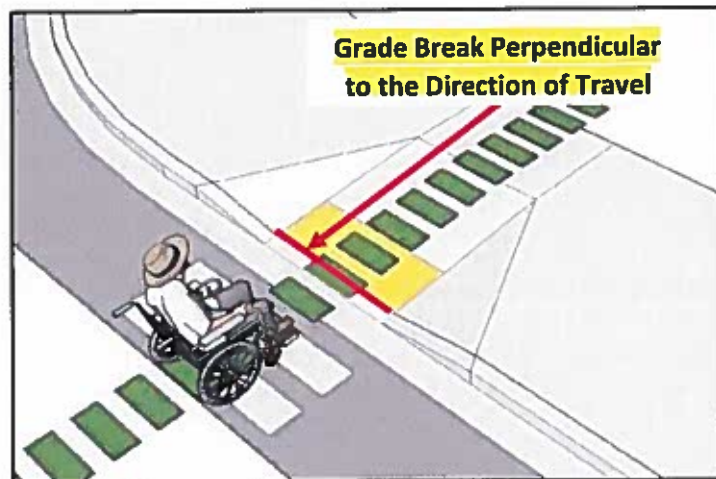


Figure 33: Grade Break

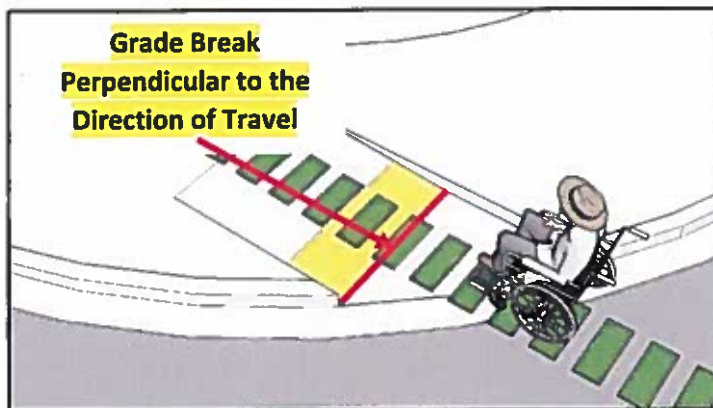


Figure 34: Grade Break

- Are grade breaks flush (see Figure 35 and Figure 36)?

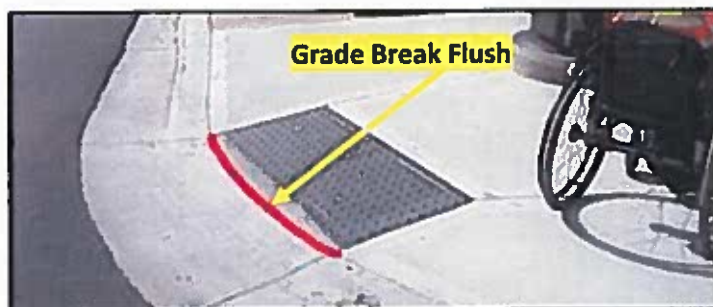


Figure 35: Complying Grade Breaks

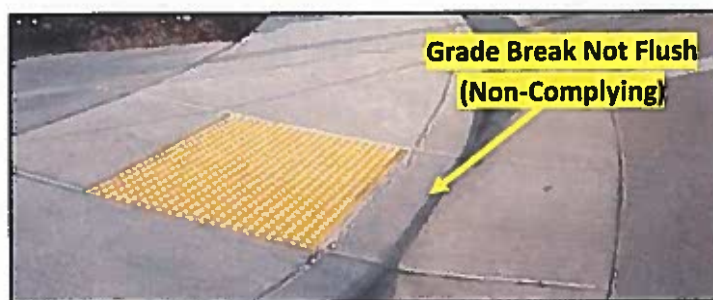


Figure 36: Non-Complying Grade Breaks

- Is the cross slope measured perpendicular to the direction of travel 2% or less (1.5% recommended), as shown in Figure 37?

Note: The cross slope shall be permitted to match the street or highway grade at pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings (see section 2.1.3.2 in this field guide).

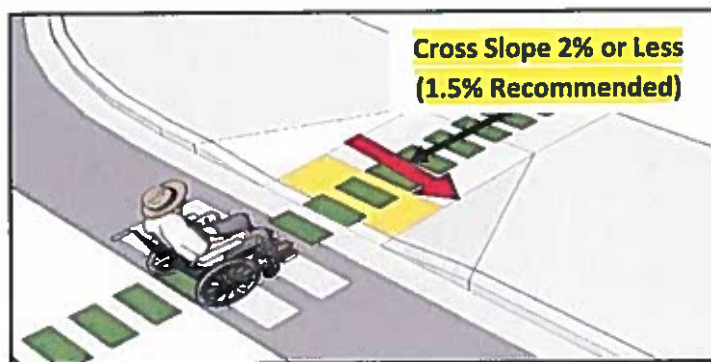


Figure 37: Curb Ramp Cross Slope

- Is the counter slope of the gutter at the foot of curb ramp 5% or less (see Figure 38)?

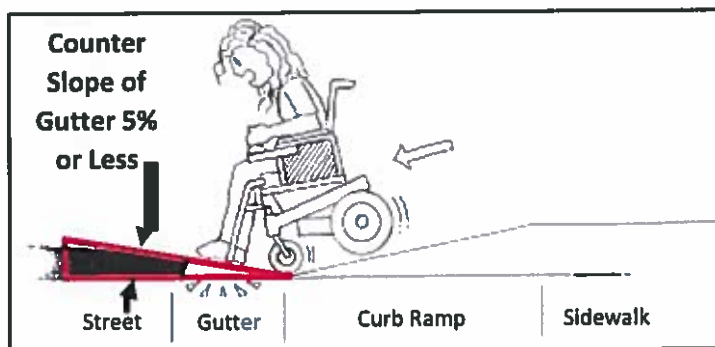


Figure 38: Counter Slope of the Gutter at the Foot of the Curb

Note: Utility covers, vault frames, or gratings should be avoided in gutter areas, curb ramps, and turning spaces (see Figure 39).



Figure 39: Non-Complying Utility Covers

- ❑ Is there a clear space at the bottom grade break of the curb ramp (see Figure 40)?
- ❑ Are the clear space dimensions 4 feet x 4 feet or more (see Figure 40)?
- ❑ Is the clear space within the width of the pedestrian street crossing (see Figure 40)?
- ❑ Is the clear space wholly outside the parallel vehicle travel lane (see Figure 40)?

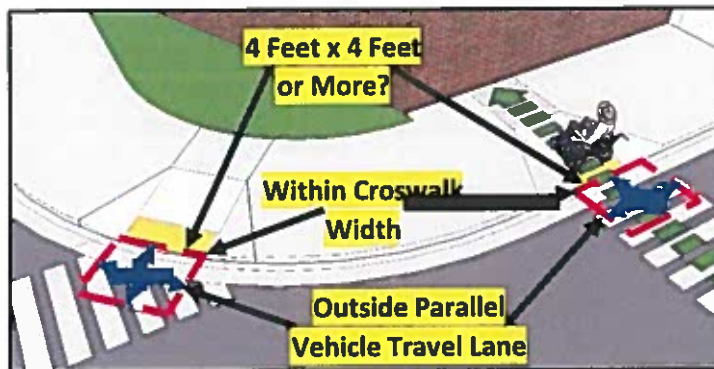


Figure 40: Clear Spaces at the Bottom of Curb Ramps

- Curb ramp lengths can be limited to 15 feet to prevent “chasing grade” indefinitely. When a curb ramp 15 feet long with a running slope of 8.3% would not make up the elevation difference between the bottom of the curb ramp and the existing sidewalk at the top of the ramp, is the curb ramp constructed according to one of the following two options (see Figure 41 and Figure 42)?

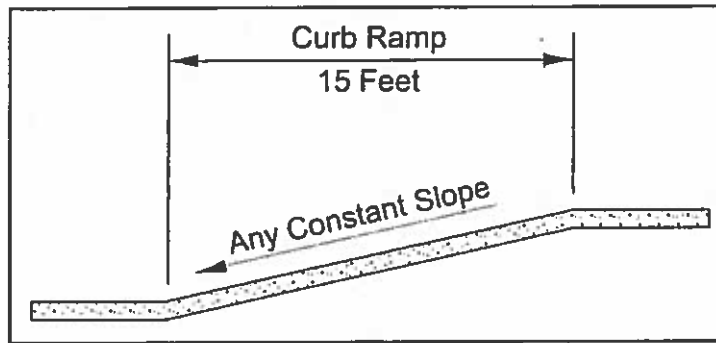


Figure 41: Option 1—Curb Ramp Length of 15 Feet

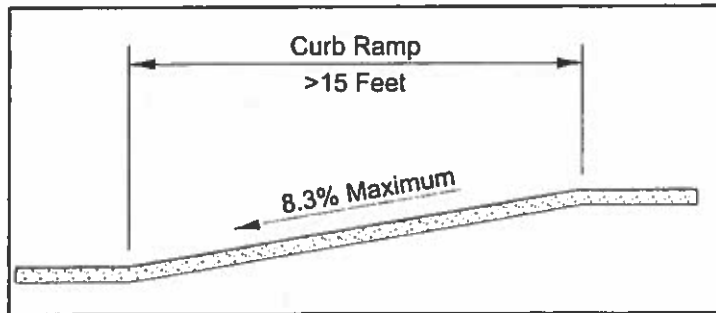


Figure 42: Option 2—Curb Ramp Length of More Than 15 Feet

2.3.2. Perpendicular Curb Ramps

- Is there a turning space at the top of the curb ramp (see Figure 43)?

- Are the turning space dimensions 4 feet x 4 feet or more (see Figure 43)?
Note: Turning spaces can overlap other turning and clear spaces.

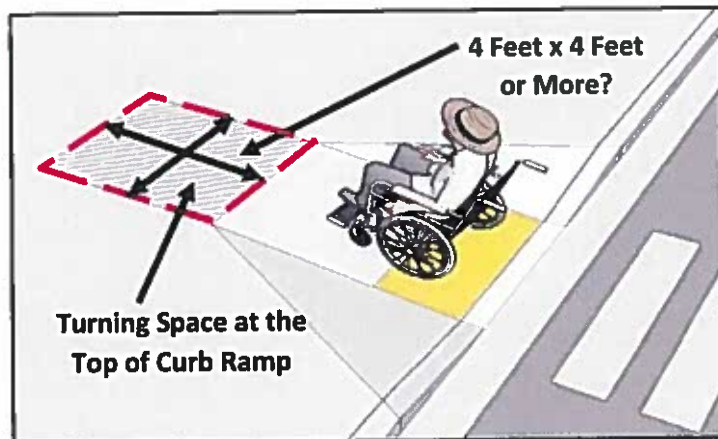


Figure 43: Turning Spaces Dimensions

Note: If the turning space is constrained at the back of the sidewalk, the dimension in the direction of the ramp run shall be 5 feet minimum (see Figure 44).

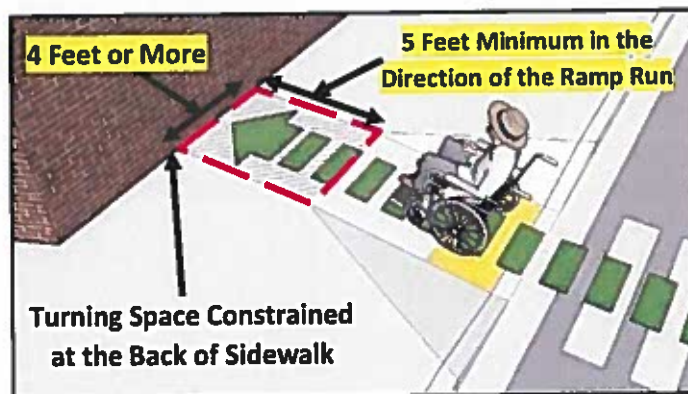


Figure 44: Constrained Turning Spaces

- Is the slope of the turning space 2% or less in all directions (1.5% recommended), as shown in Figure 45?
- Where the ramp cuts through a PCP, is the slope of flared sides 10% or less, measured parallel to the curb line (see Figure 45)?

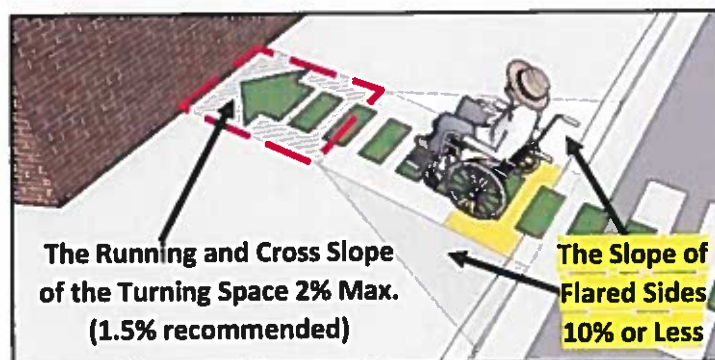


Figure 45: Turning Spaces and Flared Sides Slopes

- Does the curb ramp running slope meet the gutter break and the curb at right angles (see Figure 46)?
- Is the running slope of the curb ramp less than 8.3% (see Figure 46)?

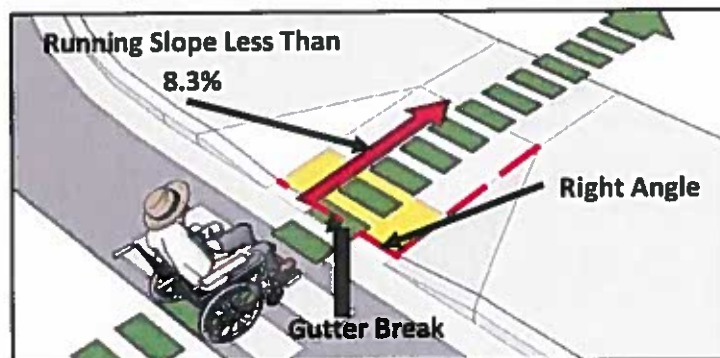


Figure 46: Curb Ramp Running Slope

2.3.3. Parallel Curb Ramps

- Are the grade breaks at the top and bottom of the curb ramp perpendicular to the direction of travel (see Figure 47)?

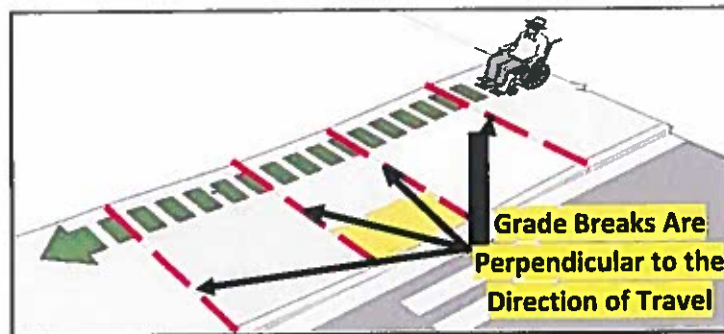


Figure 47: Sidewalk Width for Parallel Curb Ramps

Note: Grade breaks are not allowed on the surface of the ramp runs or turning spaces.

- Is there a turning space at the bottom of the curb ramp?
- Are the turning space dimensions 4 feet x 4 feet minimum (see Figure 48)?

Note: Turning spaces can overlap other turning and clear spaces.

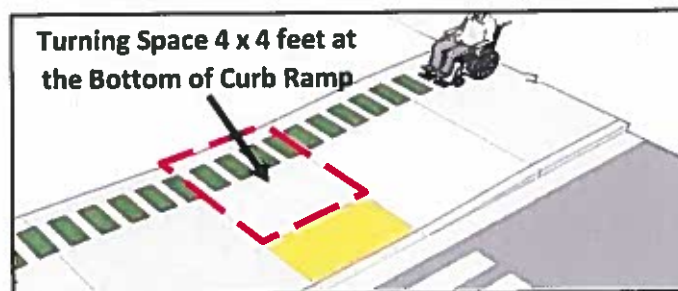


Figure 48: Turning Spaces Dimensions

- Is the slope of the turning space 2% or less in all directions (1.5% recommended)?
 Note: Where the turning space is constrained on two or more sides, the minimum dimensions shall be 4 feet x 5 feet (the 5 feet are measured in the direction of the pedestrian street crossing), as shown in Figure 49.

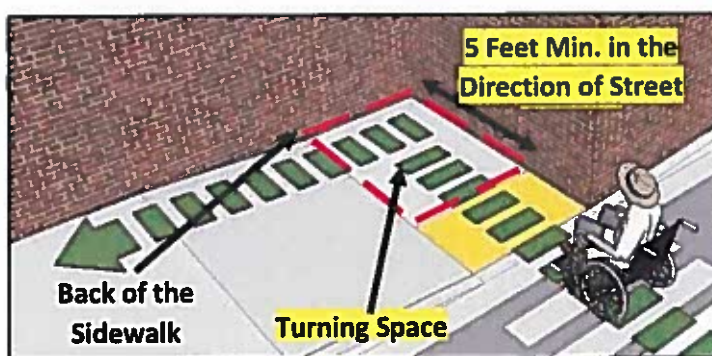


Figure 49: Constrained Turning Spaces

- Is the running slope of the curb ramp less than 8.3% (see Figure 50)?

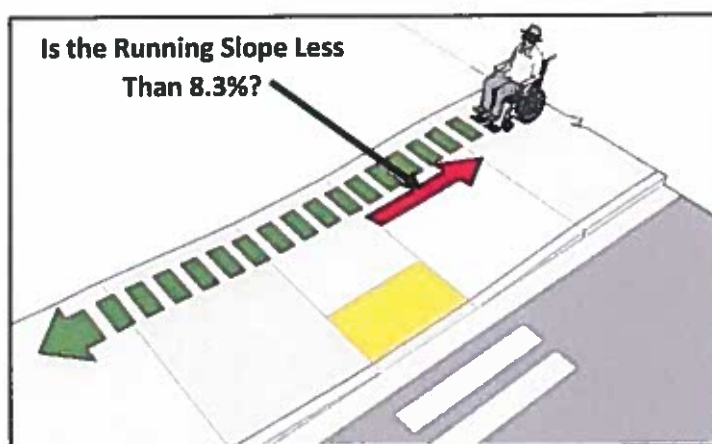


Figure 50: Running Slope and Ramp Length

2.3.4. Blended Transitions

Note: If the running slope of a ramp is less than 5%, it is considered a blended transition (see Figure 51).

Note: A 4 feet x 4 feet clear space is required at the bottom of all curb ramps and blended transitions.

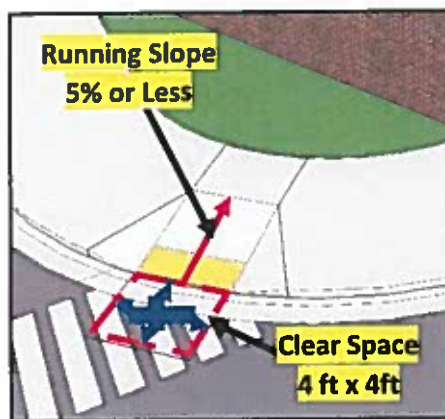


Figure 51: Blended Transitions Running Slope

2.4. Driveways

- Where PAR is contained within driveways, is the PAR clear width 4 feet minimum (see Figure 52)?
- Is PAR cross slope measured perpendicular to the direction of the pedestrian travel within driveways 2% or less (1.5% recommended), as shown in Figure 52?
Note: Driveway cuts in a PAR can comply with PAR accessibility requirements using one of the following suggested methods:

- **Method 1:** Maintain PAR location, width, slope, and cross slope and locate driveway ramp in the adjacent continuous buffer (see Figure 52).

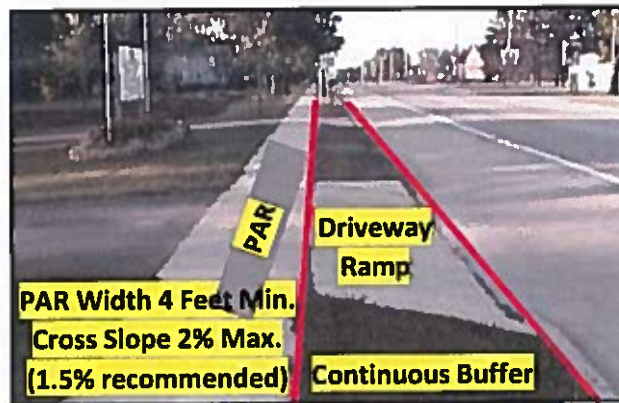


Figure 52: Maintain PAR Location and Place Driveway in Adjacent Buffer

- **Method 2:** Shift PAR location to provide adequate space between PAR and curb for a driveway ramp while maintaining PAR width, slope, and cross slope (see Figure 53).

Note: Entire PAR must be within roadway ROW.

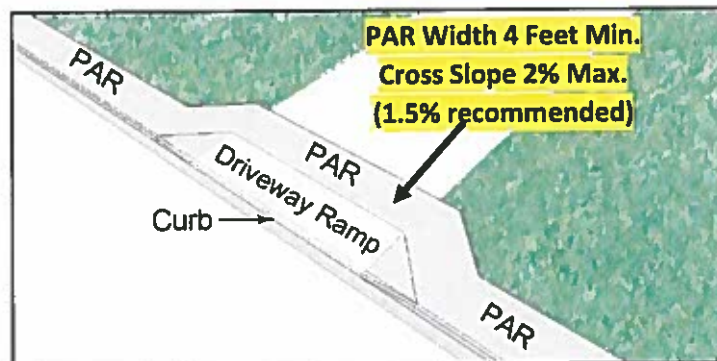


Figure 53: Shift PAR Location to Provide Space for Driveway Ramp

- **Method 3:** Change PAR level to street level and locate driveway ramp after the PAR while maintaining PAR width and cross slope (see Figure 54).

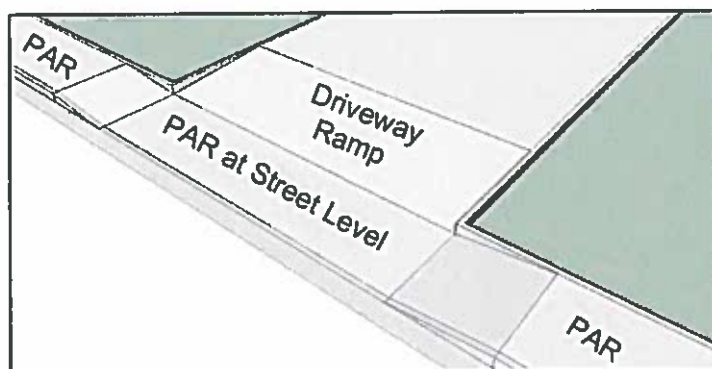


Figure 54: Change PAR Level to Street Level

2.5. Detectable Warning Surfaces (DWS)

Note: DWS shall be placed at curb ramps, blended transitions, pedestrian refuge islands, pedestrian at-grade rail crossings not located within street or highway, top of stairways, boarding platforms, or boarding and alighting areas at sidewalk or street-level transit stops.

Note: DWS shall be installed only at entrances/alleys with permanent traffic control devices (i.e., stop signs, signals).

2.5.1. DWS Size

- Is the width of DWS 2 feet or more, measured in the direction of pedestrian travel (see Figure 55)?

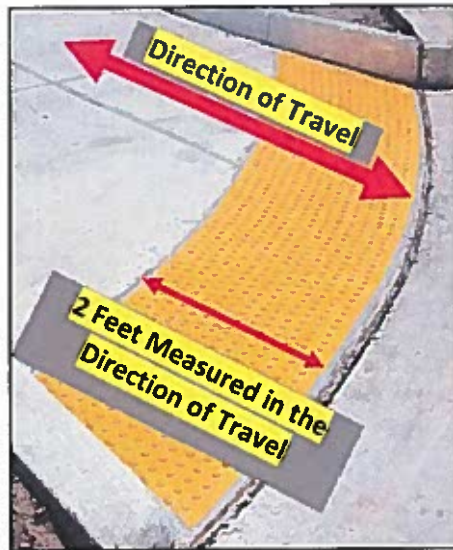


Figure 55: DWS Width

- Does DWS cover the full width of curb ramps (excluding any flared sides, see Figure 56), blended transitions, and landing/turning spaces (see Figure 57)?

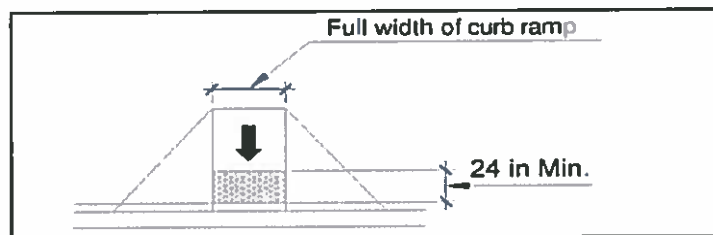


Figure 56: DWS Covers Full Width of Curb Ramp

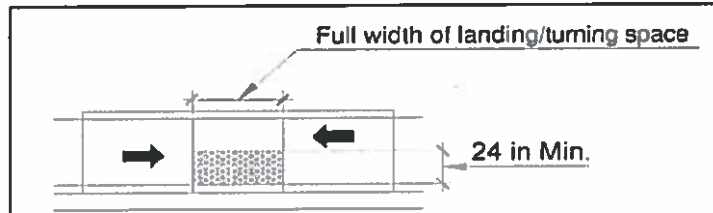


Figure 57: DWS Covers Full Width of Turning Space

- Does DWS cover the full width of pedestrian at-grade rail crossings?
- Does DWS cover the full length of the public use area of boarding platforms for buses and rail vehicles (see Figure 58)?



Figure 58: DWS at Boarding Platforms

- Does DWS cover the full length of boarding and alighting areas at sidewalk or street transit stops for rail vehicles (see Figure 59)?



Figure 59: DWS at Boarding and Alighting Areas

- Are the surfaces of DWS visually contrasting (either light on dark or dark on light) with adjacent gutter, street or highway, and PAR surface (see Figure 60)?



Figure 60: DWS Visual Contrast with PAR Surface

2.5.2. DWS Placement

2.5.2.1. Perpendicular curb ramps

- Where the ends of the bottom grade break are at the back of the curb, is DWS placed at the back of the curb (see Figure 61)?

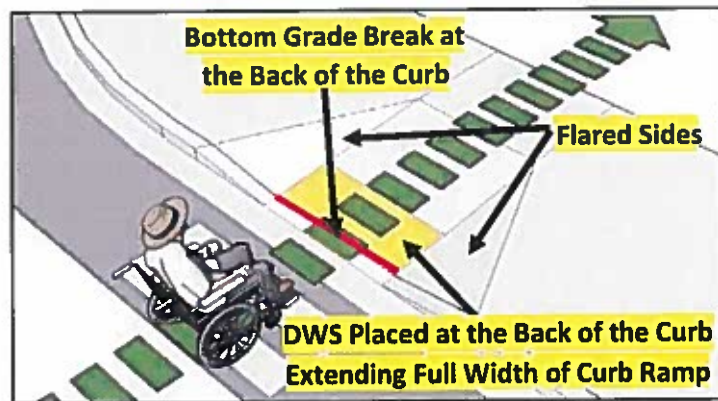


Figure 61: DWS Placement at the Back of the Curb

- Does DWS cover the full width of the curb ramp excluding any flared sides (see Figure 61)?
Note: A border of 2 inches or less around the DWS is acceptable if required for proper installation of DWS product.
- Where ends of the bottom grade break are behind the back of the curb and the distance from either end of the bottom grade break to the back of the curb is 5 feet or less, is DWS placed on the ramp within one dome spacing of the bottom grade break (see Figure 62)?

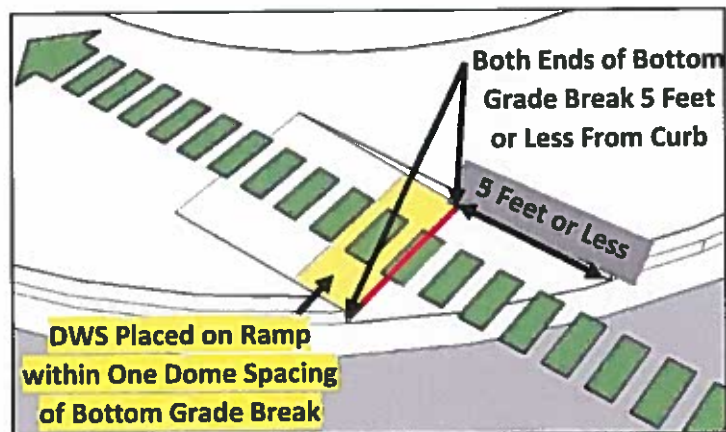


Figure 62: DWS Placement at Bottom Grade Break

- Where ends of the bottom grade break are behind the back of the curb and the distance from either end of the bottom grade break to the back of the curb is more than 5 feet, is DWS placed on the lower landing at the back of the curb (see Figure 63)?

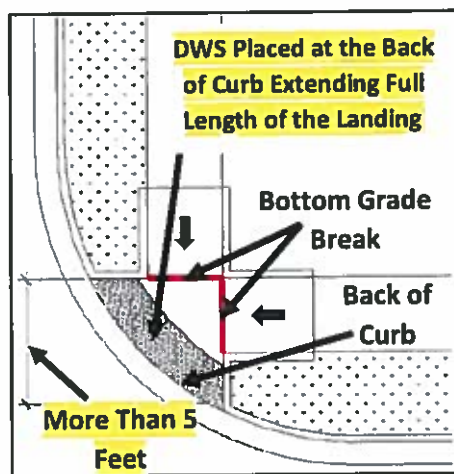


Figure 63: DWS Placement on Lower Landing

- Does DWS cover the full width of the landing (see Figure 63)?
 Note: Rows in DWS should be aligned perpendicular to the dominant direction of pedestrian travel (see Figure 64).

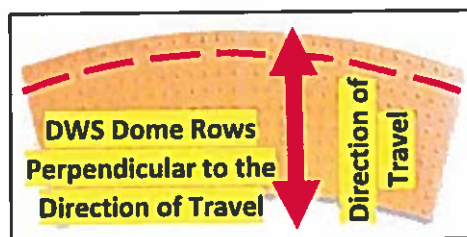


Figure 64: DWS Truncated Domes Alignment

2.5.2.2. *Parallel curb ramps*

- Is DWS provided on the turning space at the bottom of the curb ramp (see Figure 65)?
- Is DWS placed at the flush transition between the turning space and the street (see Figure 65)?

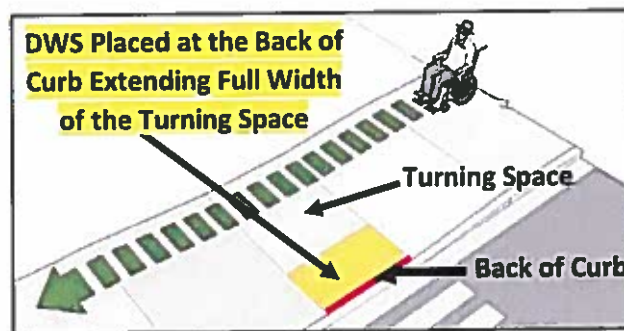


Figure 65: DWS Placement on Parallel Curb Ramps

2.5.2.3. *Blended transitions*

- Are DWS placed at the back of the curb (see Figure 66)?

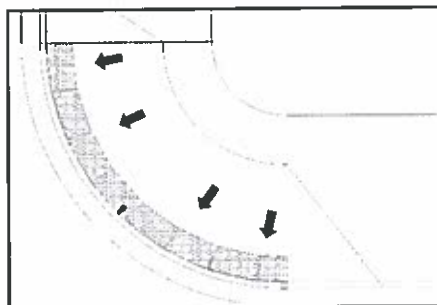


Figure 66: DWS Placement in Blended Transitions

- In case of raised pedestrian street crossings, depressed corners, or other level pedestrian street crossings, is

DWS placed at the flush transition between the street and the sidewalk (see Figure 67)?

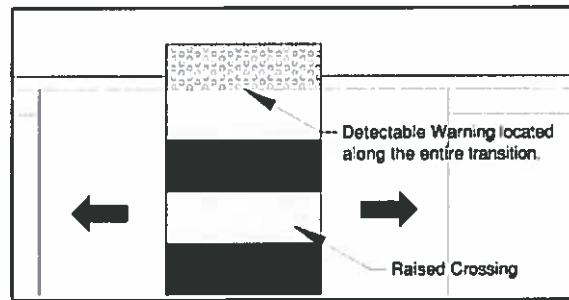


Figure 67: Detectable Warning Surfaces on Blended Transitions

2.5.2.4. Pedestrian refuge islands

- Where a PAR cuts through a pedestrian refuge island and the total width of the island measured in the direction of pedestrian travel is 6 feet or more, is DWS provided at both ends of the island (see Figure 68)?

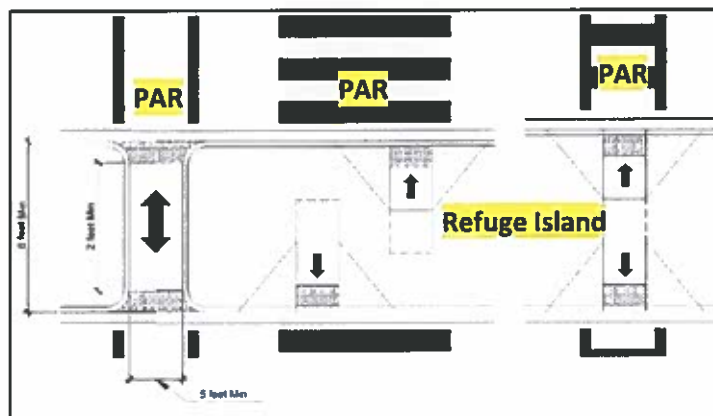


Figure 68: DWS Placement in Pedestrian Refuge Islands

Note: Where the total width of the island is less than 6 feet, no DWS is required.

2.5.2.5. Pedestrian at-grade rail crossings

Note: Where PAR is contained within pedestrian at-grade rail crossings that are not located within a street or highway, DWS shall be provided on both sides of the rail crossing (see Figure 69).

- Is the nearest DWS edge between 6 feet and 15 feet from the centerline of the nearest rail (see Figure 69)?
- Where pedestrian gates are provided, is DWS placed on the side of the gates opposite the rail (see Figure 69)?

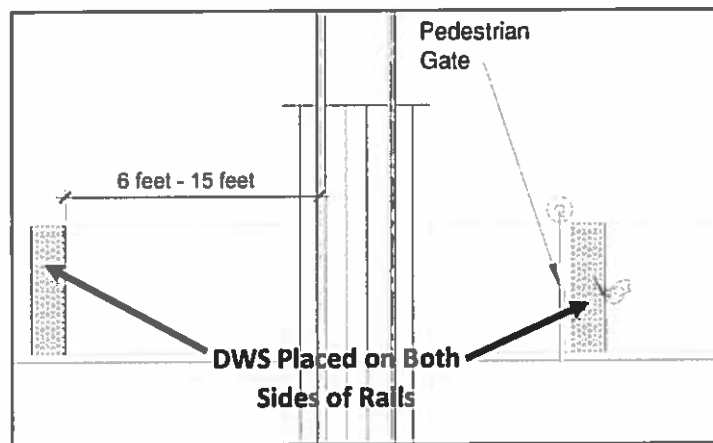


Figure 69: Detectable Warning Surfaces in Pedestrian At-Grade Rail Crossings

2.5.2.6. Boarding platforms

- Is DWS provided at boarding platforms for buses and rail vehicles (see Figure 58)?
- Is DWS placed at the boarding edge of the platform (see Figure 58)?

2.5.2.7. Boarding and alighting areas

- ❑ Is DWS provided at boarding and alighting areas at sidewalk or street-level transit stops for rail vehicles?
- ❑ Is DWS placed at the side of the boarding and alighting area facing the rail vehicle (see Figure 59)?

2.6. Pedestrian Street Crossings

- ❑ Is the clear width of the PAR within medians and pedestrian refuge islands 5 feet or more (see Figure 70)?



Figure 70: PAR Width within Pedestrian Street Crossings

- ❑ Where PAR is contained within pedestrian street crossing without yield or stop control, PAR cross slope shall be 5% or less (see Figure 71).



Figure 71: Pedestrian Street Crossing without Yield or Stop Control

- Where PAR is contained within midblock pedestrian street crossings, PAR cross slope shall not exceed the street or highway grade (see Figure 72).



Figure 72: Pedestrian Street Crossing at Midblock

2.6.1. Pedestrian Signal Phase Timing

- All pedestrian signal phase timing shall comply with section 4E.06 of the MUTCD. These MUTCD requirements of pedestrian signal phase timing are listed in the following pages of this section (3.1.1.) of the field guide.
- Is the intersection equipped with pedestrian signal heads (see Figure 73)?



Figure 73: Pedestrian Signal Heads

- Are pedestrian signal indications displayed (see Figure 74)?
- Pedestrian signal indications shall not be displayed when the vehicular traffic control signal is being operated in the flashing mode.



Figure 74: Pedestrian Signal Display

- Are the signals designed to show a steady or flashing red light to any vehicular traffic that intersects with any crosswalk when that crosswalk is displaying a "WALK" signal or a flashing "HAND" signal?
- Are the signals designed to display the "WALK" signal only when pedestrians are permitted to leave the curb or shoulder?
- Are the signals designed to include a pedestrian change interval, where pedestrian change interval consists of a flashing "HAND" signal indication that begins immediately following the "WALK" signal indication (see Figure 75)?
- Are the signals designed to include a buffer interval following the pedestrian change interval (see Figure 75)?
- The buffer interval consisting of a steady "HAND" signal indication shall be displayed for at least 3 seconds prior to the release of any conflicting vehicular movement.

- The buffer interval shall not begin later than the beginning of the red clearance interval, if used.
- Is the sum of the time of the pedestrian change interval and the buffer interval more than or equal to the calculated pedestrian clearance time (see Figure 75)?
- The pedestrian clearance time should be sufficient to allow a pedestrian who left the curb at the end of the "WALK" signal to travel at a speed of 3.5 feet per second to the far side of the traveled way or to a median of sufficient width for pedestrians to wait.
- If a median is used in calculating pedestrian clearance time, the median shall be equipped with accessible pedestrian signals.
- A walking speed of up to 4 feet per second may be used at locations where a pushbutton has been installed to provide slower pedestrians an opportunity to request and receive a longer pedestrian clearance time (see Figure 75).

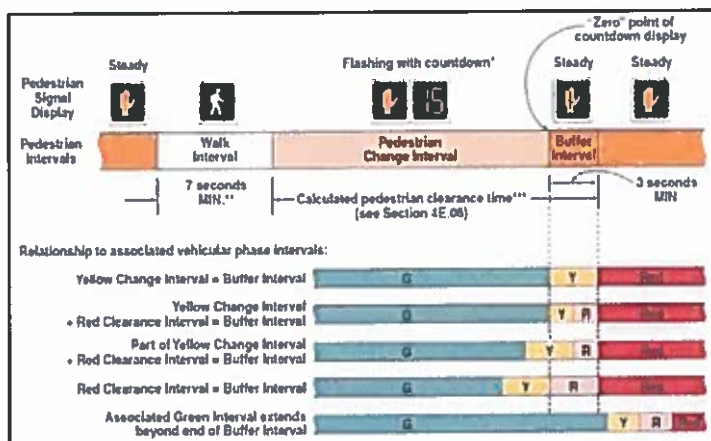


Figure 75: Pedestrian Intervals (MUTCD 2009)

- Do pedestrian street crossings comply with cross slope requirements (see section 2.1.3.2 of this field guide)?

2.6.2. Roundabouts

2.6.2.1. Separation

Note: Where sidewalks are flush against the curb and pedestrian street crossing is not intended, a continuous and detectable edge treatment shall be provided along the street side of the sidewalk. Examples of edge treatment include chains, fencing, stamped brick patterns, or railings.

Note: Detectable warning surfaces shall not be used for edge treatment.

Note: Where chains, fencing, or railings are used for edge treatment, they shall have a bottom edge 15 inches or less above the sidewalk.

2.6.2.2. Pedestrian-activated signals

- Where roundabouts include a multi-lane pedestrian street crossing, is there a pedestrian-activated signal provided for each multi-lane segment, including the splitter island?
- Does every signal clearly identify which pedestrian street crossing segment the signal serves?
- Are pedestrian-activated signals provided at pedestrian street crossings at multi-lane channelized turn lanes?

2.7. Accessible Pedestrian Signals and Pedestrian Pushbuttons

- Where pedestrian signals and pedestrian pushbuttons are provided at pedestrian street crossings, they shall comply with sections 4E.08 through 4E.13 of the MUTCD. These

MUTCD requirements of pedestrian signals and pedestrian pushbuttons are listed in the following pages of this section (2.7) of the field guide.

- Are there signs mounted adjacent to or integral with pedestrian pushbuttons to explain their purpose and use (see Figure 76)?

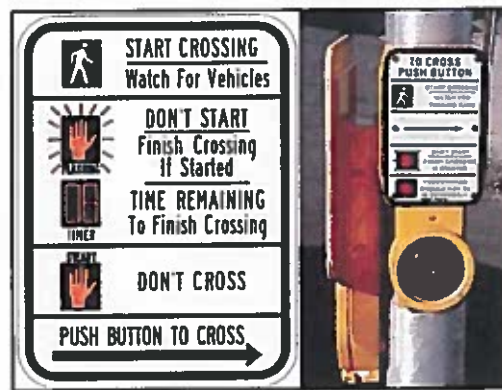


Figure 76: Pedestrian Pushbutton Signs

- Do the positioning and legends on the pedestrian pushbutton signs clearly indicate which crosswalk signal is actuated by each pedestrian pushbutton?
- In locations where the pedestrian clearance time is sufficient only to cross from the curb or shoulder to a median, is there an additional pedestrian detector provided on the median?
- If a pilot light is used (see Figure 77), is the pilot light designed to be illuminated from the time it is actuated until the "WALK" signal is displayed?

- If a pilot light is used (see Figure 77), is each actuation accompanied by a speech message that says “Wait”?



Figure 77: Pedestrian Pushbuttons with Pilot Light

- Are accessible pedestrian signals used in combination with pedestrian signal timing (see Figure 78)?



Figure 78: Pedestrian Signals Combined with Pedestrian Signal Timing

- Are accessible pedestrian signals not limited in operation by the time of day or day of week?
- Does each pushbutton activate both the walk interval and the accessible pedestrian signals?

2.7.1.1. Location

- Where two pedestrian pushbuttons are provided on the same corner of a signalized location, are the pushbuttons separated by a distance of at least 10 feet?

Note: Where there are physical constraints on a particular corner that make it impractical to provide the 10-foot separation between the two pedestrian pushbuttons, the pushbuttons may be placed closer together or on the same pole.

- Where there are two or more pushbuttons placed less than 10 feet apart, is each of them equipped with the following four features?
 - A pushbutton locator tone.
 - A tactile arrow.
 - A speech walk message for the “Walk” signal.
 - A speech pushbutton information message.

Note: Pedestrian pushbuttons should be located to meet all of the following criteria (see Figure 79):

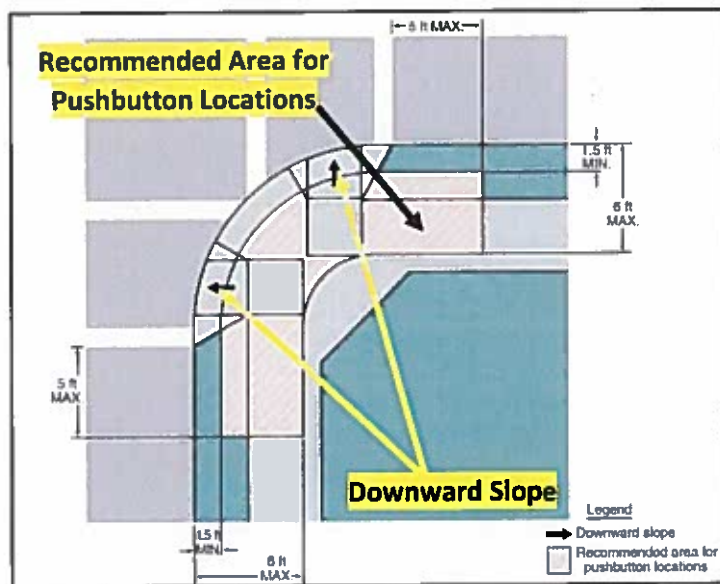


Figure 79: Recommended Area for Pushbutton Location

- A. Unobstructed and adjacent to a level, all-weather surface to provide access from a wheelchair (see section 2.12 of this field guide);
- B. Where there is an all-weather surface, a wheelchair-accessible route from the pushbutton to the ramp;
- C. Between the edge of the crosswalk line (extended) farthest from the center of the intersection and the side of a curb ramp (if present), but not greater than 5 feet from said crosswalk line;
- D. Between 1.5 and 6 feet from the edge of the curb, shoulder, or pavement;
- E. With the face of the pushbutton parallel to the crosswalk to be used; and
- F. At a mounting height between 30 and 42 inches (IDOT standards), and as close to 36 inches as possible, as shown in Figure 80.



Figure 80: Pedestrian-Activated Signals and Pedestrian Pushbuttons

- Is the pedestrian pushbutton adjacent to a firm, stable, and slip-resistant surface, with a running slope

consistent with the grade of the adjacent pedestrian access route and cross slope of 2% maximum?

- Where there are physical constraints that make it impractical to place the pedestrian pushbutton between 1.5 and 6 feet from the edge of the curb, shoulder, or pavement, is it not farther than 10 feet from the edge of curb, shoulder, or pavement?

Note: Suggested typical pushbutton locations are shown in Figure 81-A to Figure 81-H.

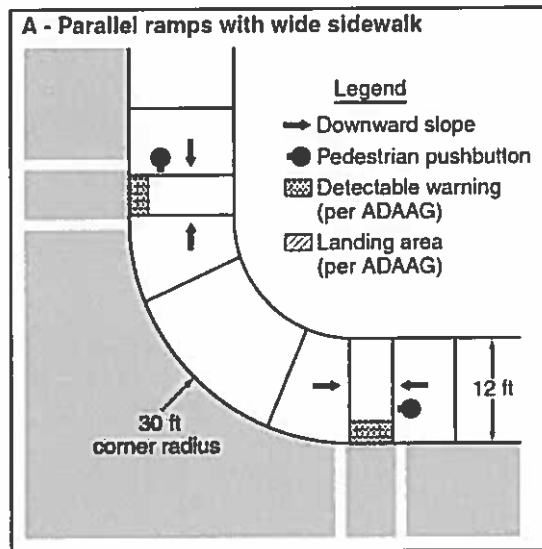


Figure 81-A: Typical Pushbutton Locations (MUTCD 2009)

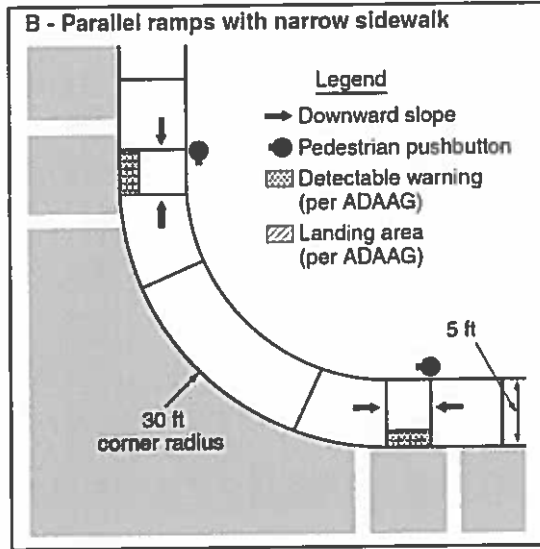


Figure 81-B: Typical Pushbutton Locations (MUTCD 2009)

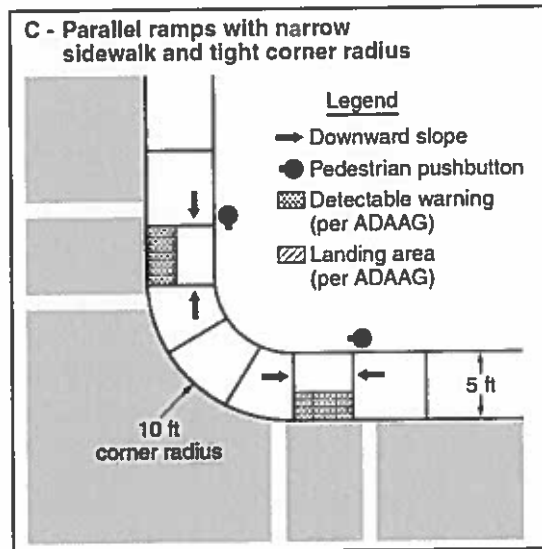


Figure 81-C: Typical Pushbutton Locations (MUTCD 2009)

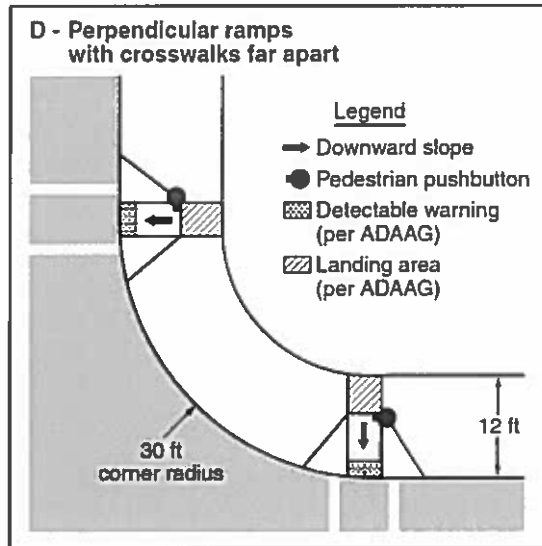


Figure 81-D: Typical Pushbutton Locations (MUTCD 2009)

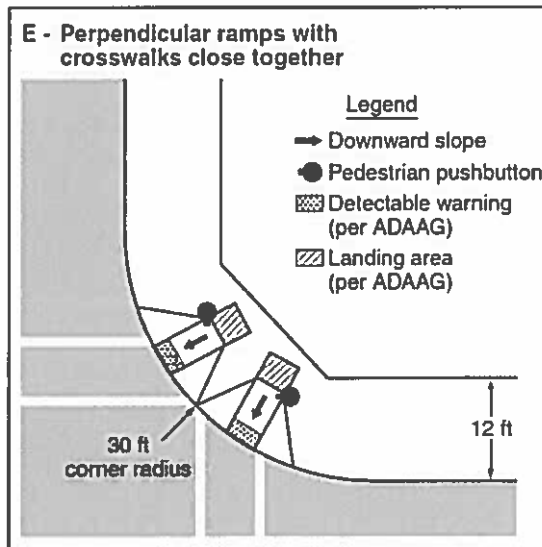


Figure 81-E: Typical Pushbutton Locations (MUTCD 2009)

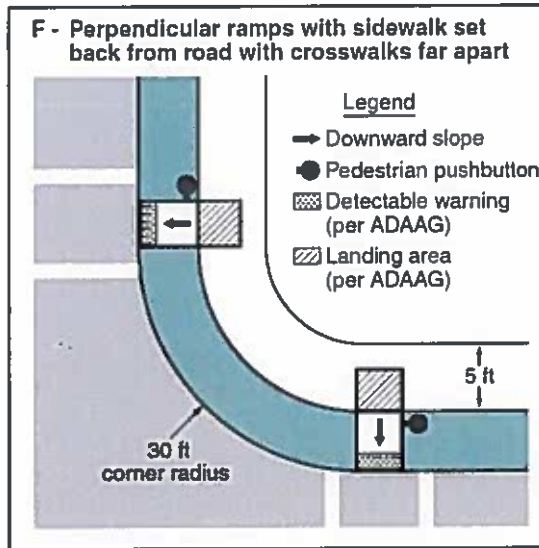


Figure 81-F: Typical Pushbutton Locations (MUTCD 2009)

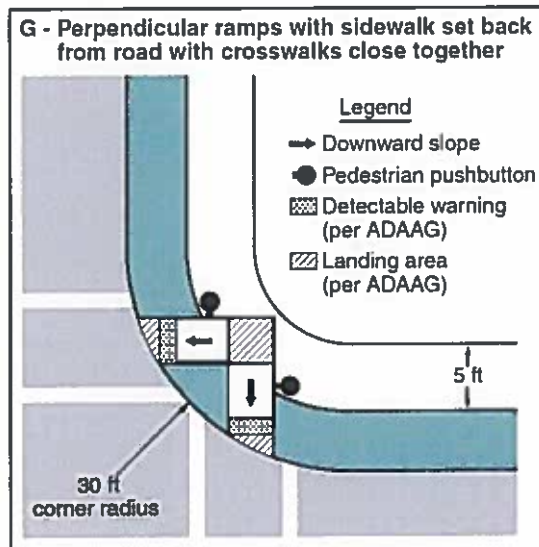


Figure 81-G: Typical Pushbutton Locations (MUTCD 2009)

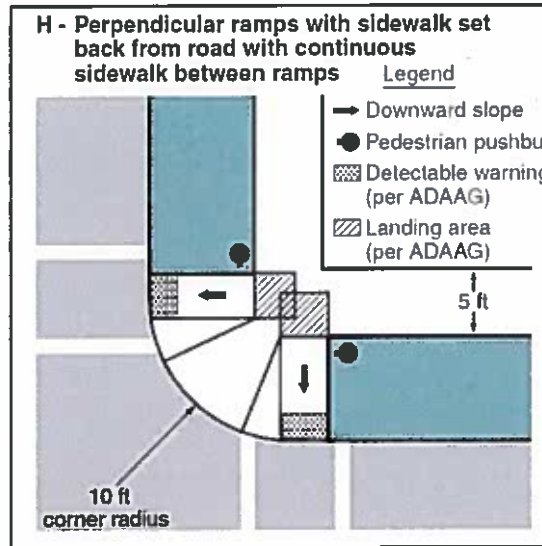


Figure 81-H: Typical Pushbutton Locations (MUTCD 2009)

2.7.1.2. Walk indicators

- Are accessible pedestrian signals equipped with both audible and vibro-tactile walk indications?
- Does the pushbutton include a tactile arrow that vibrates during the walk interval (see Figure 82)?



Figure 82: Vibro-Tactile Walk Indicators

- Does the accessible pedestrian signal include an audible walk indication that can be heard from the beginning of the associated crosswalk?
Note: Where there are two accessible pedestrian signals at the same corner and the distance between them is 10 feet or more, walk indication shall be a percussive tone.
Note: Where it is technically infeasible to separate the two accessible pedestrian signals by 10 feet, the audible walk indication shall be a speech message. The speech message shall clearly indicate that the walk interval is in effect and to which crossing it applies.
 - Does audible tone walk indication repeat at 8 to 10 ticks per second?
 - Does the accessible pedestrian signal include automatic volume adjustment in response to ambient traffic sound level up to 100 dBA?
Note: Where intersections have pedestrian phasing that is concurrent with vehicular phasing, the speech message shall be patterned after the model "Broadway. Walk sign is on to cross Broadway."
Note: Where intersections do not have pedestrian phasing that is concurrent with vehicular phasing, the speech message shall be patterned after the model "Walk sign is on for all crossings."
 - Do the accessible pedestrian signals revert to the pushbutton locator tone after the audible walk indication?
- 2.7.1.3. Tactile arrows and locator tones*
- Do pushbuttons clearly indicate by means of tactile arrows which crosswalk signal is actuated by each pushbutton?

- Are the tactile arrows located on the pushbuttons?
- Do the tactile arrows have high visual contrast (light on dark or dark on light), as shown in Figure 83?



Figure 83: Tactile Arrow Visual Contrast with Pushbutton

- Are tactile arrows aligned parallel to the direction of travel on the associated crosswalk?
- Does every pushbutton incorporate a locator tone?
- Does the locator tone have the duration of 0.15 seconds or less and repeat at 1-second intervals?
- Are the pushbutton locator tones intensity responsive to ambient sound?
- Are pushbutton locator tones audible 6 to 12 feet from the pushbutton, or to the building line, whichever is less?

2.7.1.4. Extended pushbutton press feature

- Where the accessible pedestrian signal includes extended pushbutton press to provide additional feature(s), does a pushbutton press of less than 1 second actuate only the pedestrian timing and any associated accessible walk indication?
- Does a pushbutton press of 1 second or more actuate the pedestrian timing, any associated accessible walk indication, and any additional feature(s)?

- Where additional crossing time can be provided by pressing the pushbutton for extended time, is there a plaque mounted adjacent to or integral with the pedestrian pushbutton (see Figure 84)?

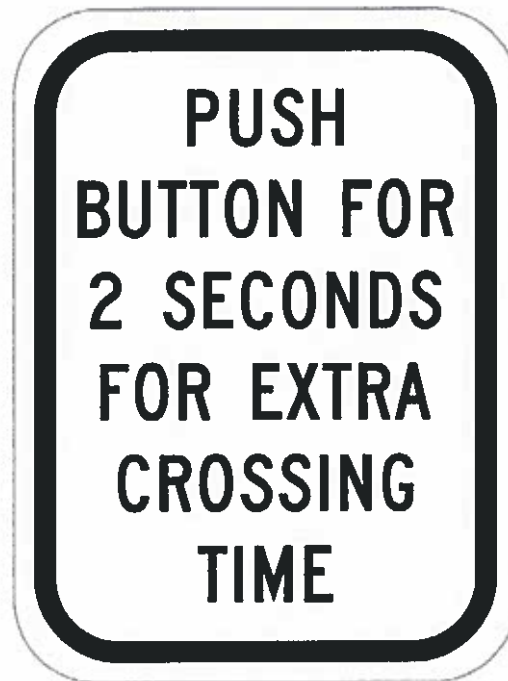


Figure 84: Extended Pushbutton Press Feature Sign

2.8. Transit Stops and Transit Shelters

2.8.1. Transit Stops

2.8.1.1. Boarding and alighting areas

- Is DWS provided at boarding and alighting areas for rail vehicles and at boarding platforms for buses and rail vehicles (see section 2.5 of this field guide)?

2.8.1.1.1. Dimensions

- Does the boarding and alighting area measure 8 feet or more (perpendicular to the curb or street) by 5 feet or more (parallel to the curb or street), as shown in Figure 85?

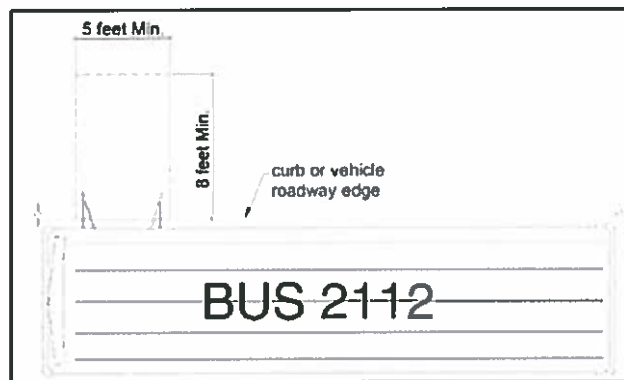


Figure 85: Boarding and Alighting Areas

2.8.1.1.2. Grade

- Is the slope of boarding and alighting areas parallel to the street or highway less than or equal to the general grade of the adjacent street or the highway (see Figure 86)?



Figure 86: Slope of Boarding and Alighting—Parallel to Street

- Is the slope of the boarding and alighting area perpendicular to the street or highway less than or equal to 2% (1.5% recommended), as shown in Figure 87?



Figure 87: Slope of Boarding and Alighting Areas—Perpendicular to Street

2.8.1.1.3. Surface

- Do boarding and alighting areas have firm, stable, and slip-resistant surfaces?

2.8.1.1.4. Connection

- Are boarding and alighting areas connected to streets, sidewalks, or pedestrian paths by a PAR?
- Are both heights of the vehicle floor and station platform coordinated to minimize the vertical and horizontal distance?
- Is the slope of the boarding platform 2% or less (1.5% recommended) in all directions?

2.8.2. Transit Shelters

- Are transit shelters connected to a PAR, a boarding and alighting area, or a boarding platform (see Figure 88)?

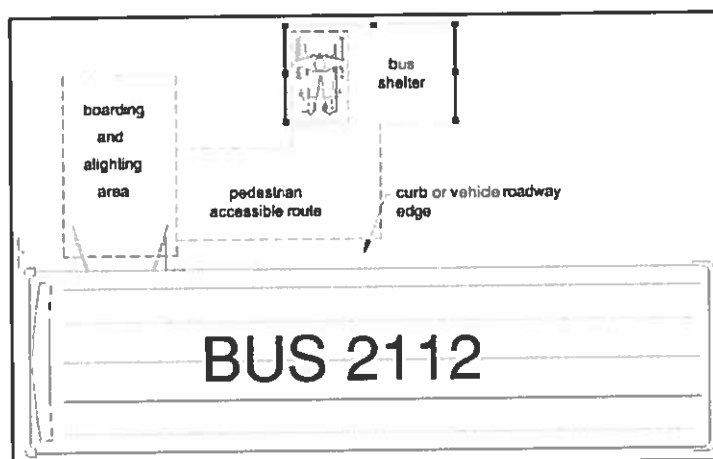


Figure 88: Transit Shelter Connection Requirement

- Is a clear space provided entirely within the shelter (see section 2.12 of this field guide)?
- Where the transit shelter is equipped with seating, is the clear space located at one end of the seat?
Note: The clear space shall not overlap the area within 1.5 feet from the front edge of the seat.
- Are environmental controls within the transit shelter proximity-actuated?
- Do all protruding objects within the transit shelter comply with PAR protruding objects requirements?

2.9. On-Street Parking Spaces

- Where marked or metered on-street parking is provided on a block, are accessible parking spaces provided that comply with Table 1?

Table 1: On-Street Parking Spaces

Total Number of Marked or Metered Parking Spaces on the Block Perimeter	Minimum Required Number of Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 and over	4 percent of total

Note: Where parking is not marked and parking pay stations are provided, each 20 feet of the block perimeter where parking is permitted shall be counted as one parking space.

Note: Where an alteration project’s scope includes altering part of the parking on a block perimeter, the minimum number of accessible parking spaces required is based on the total number of marked or metered parking spaces on the block perimeter, including any unaltered parking spaces.

2.9.1. Parallel Parking Spaces

2.9.1.1. Wide sidewalks

- Where the width of the adjacent sidewalk or available right-of-way exceeds 14 feet, is there a provided access aisle at street level the full length of the parking space that connects to a PAR (see Figure 89)?

- Access aisles are not allowed to overlap the adjacent vehicular travel lane.

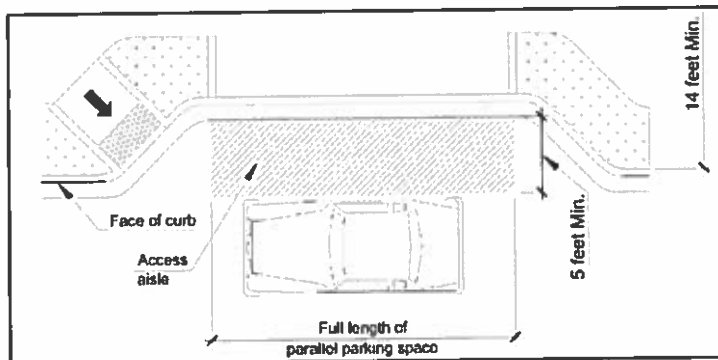


Figure 89: Parallel On-Street Parking Space Next to a Wide Sidewalk

Note: Where a parking space is located at the end of the block face and the street or sidewalk adjacent to the parking space not altered, an access aisle is not required.

2.9.1.2. Narrow sidewalks

- Where the adjacent sidewalk or right-of-way has a width less than 14 feet, is the accessible parking space located at the end of the block face (see Figure 90)?

Note: No access aisle is required in this case.

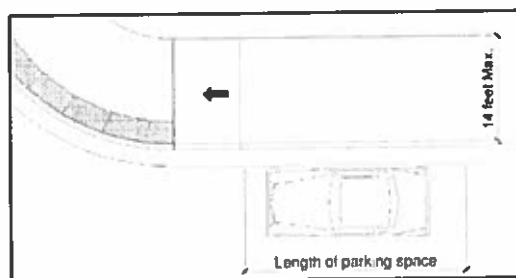


Figure 90: Parallel On-Street Parking Space Next to a Narrow Sidewalk

2.9.2. Perpendicular or Angled Parking Spaces

- Where perpendicular or angled parking is provided, is there an access aisle 8 feet wide provided at street level for each parking space (see Figure 91)?
- Is the access aisle connected to a PAR (see Figure 91)?
- Is the access aisle marked (diagonally striped with high-quality yellow paint), as shown in Figure 91?

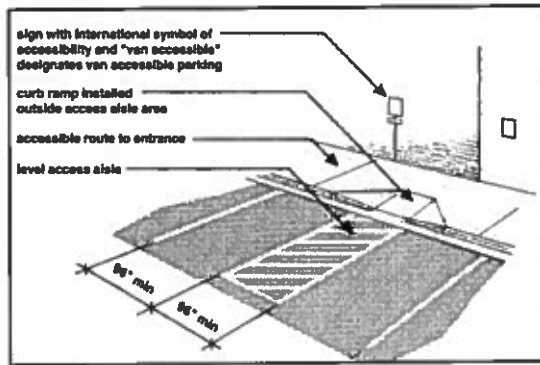


Figure 91: Perpendicular or Angled Parking Spaces

Note: An access aisle cannot be shared by two parking spaces (see Figure 92).

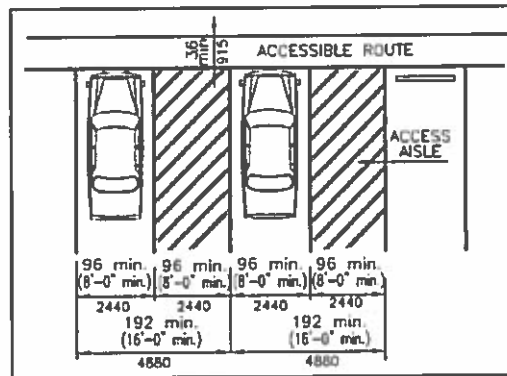


Figure 92: Perpendicular Parking Spaces (IAC 1997)

2.9.3. Curb Ramps or Blended Transitions

- Are curb ramps or blended transitions provided to connect the access aisle to a PAR (see Figure 91)?
 Note: Curb ramps shall not be located within the access aisle (see Figure 91).

2.9.4. Signs

- Are the accessible parking spaces identified by signs (R7-8) displaying the International Symbol of Accessibility (see Figure 93) and R7-1101 displaying \$250 fine (or up to \$350)?



Figure 93: Accessible Parking Sign (IAC 1997)

- Are the signs vertically mounted on a post or wall at front center of the parking space?
- Are the signs placed at least 5 feet measured from the finish grade to the bottom of the sign?
- Are the signs placed so they cannot be obscured by a vehicle parked in the space?

2.9.5. Parking Meters and Parking Pay Stations

- Are parking meters at accessible parallel parking located at the head or foot of the parking space?
- Are displays and information visible from a point located 3.3 feet or less above the center of the clear space in front of the parking meter or parking pay station (see Figure 94)?



Figure 94: Visibility Requirement for Displays at Parking Pay Stations

- Do parking meters comply with operable parts requirements (see section 2.11 of this field guide)?

2.10. Passenger Loading Zones

- Are passenger loading zones identified by a sign displaying the International Symbol of Accessibility (see Figure 93)?
- Is there an accessible passenger loading zone for each 100 feet of continuous loading zone space?
- Is there a vehicular pull-up space 8 feet wide x 20 feet long or more (see Figure 95)?

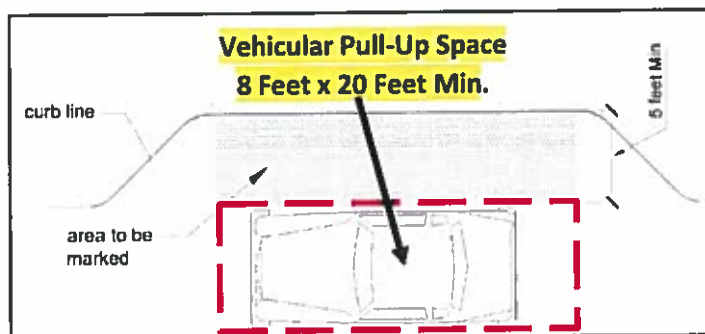


Figure 95: Passenger Loading Zones—Vehicular Pull-Up Space

2.10.1. Access Aisle

- Is there an access aisle adjacent to the vehicle pull-up space (see Figure 96)?
- Are access aisles provided at the same level as the vehicle pull-up space they serve?
Note: Access aisles shall not overlap the vehicular travel lane.
- Is there a curb ramp or blended transition connecting the access aisle to a PAR?
Note: Curb ramps are not permitted within the access aisle.
- Is the width of the access aisle 5 feet or more?

- Does the access aisle extend the full length of the vehicle pull-up spaces it serves (see Figure 96)?
- Is the access aisle marked (see Figure 96)?
- Does the access aisle have a firm, stable, and slip-resistant surface?

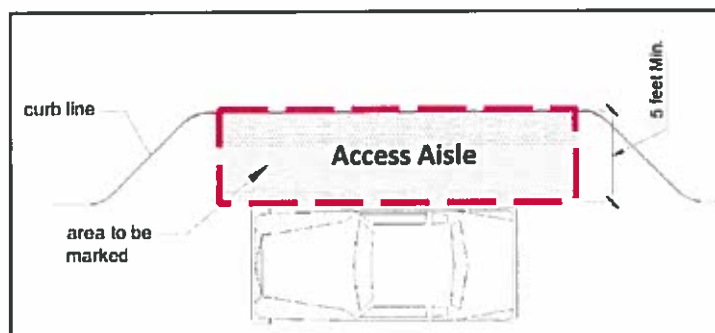


Figure 96: Passenger Loading Zones—Access Aisle

2.11. Operable Parts

- Is there a provided clear space at operable parts (see section 2.12 of this field guide)?
- Are the operable parts placed within one or more of the accessible reach ranges (see section 2.14 of this field guide)?
- Are the provided operable parts operable with one hand?
Note: Operable parts shall not require tight grasping, pinching, or twisting of the wrist.
- Is the force required to operate operable parts 5 pounds or less?

2.12. Clear Spaces

Note: Clear spaces are required at operable parts, accessible pedestrian signals, parking meters, parking pay stations, and benches within transit shelters.

- Are clear space surfaces firm, stable, and slip resistant?
- Are the dimensions of the clear space 2.5 feet x 4 feet or more (see Figure 97)?

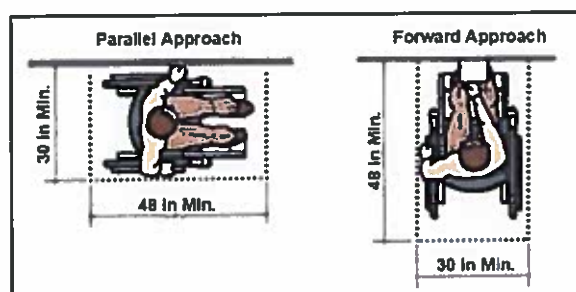


Figure 97: Clear Space Dimensions

- Is the running slope of the clear space consistent with the adjacent PAR?
- Is the cross slope of the clear space 2% or less (1.5% recommended)?
- Is the clear space positioned for forward approach or parallel approach or both approaches to an element?
- Is one full unobstructed side of the clear space adjoining a PAR or another clear space?
- Where clear space is confined on all or part of three sides, is additional maneuvering space provided?

Note: For forward approach, the clear space and additional maneuvering space shall be 3 feet wide or more where the depth exceeds 2 feet (see Figure 98).

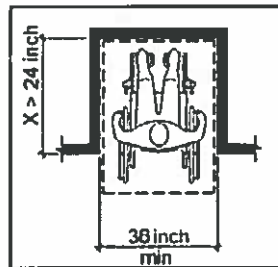


Figure 98: Clear Space for Forward Approach

Note: For parallel approach, the clear space and additional maneuvering space shall be 5 feet wide or more where the depth exceeds 1.25 feet (see Figure 99).

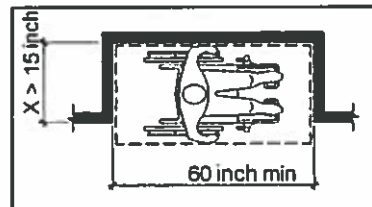


Figure 99: Clear Space for Parallel Approach

2.13. Toe and Knee Clearance

2.13.1. Toe Clearance

Note: Space under an element between the finish surface and 9 inches above the finish surface shall be considered toe clearance (see Figure 100).

- Does the toe clearance depth extend between 1.4 feet and 2.1 feet under an element (see Figure 100)?

- Is toe clearance 2.5 feet wide or more (see Figure 100)?

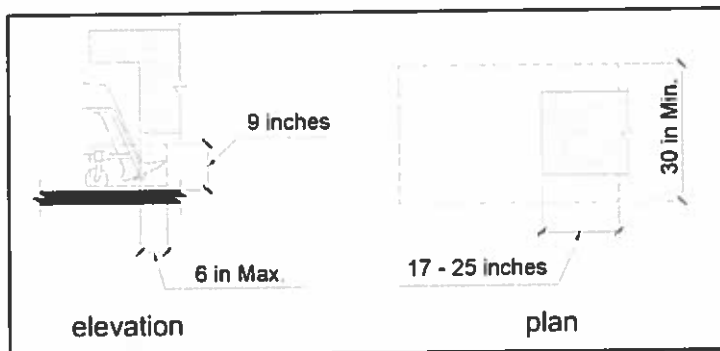


Figure 100: Toe Clearance

2.13.2. Knee Clearance

Note: Space under an element between 9 inches and 2.25 feet above the finish surface shall be considered knee clearance (see Figure 101).

- **Minimum Depth:** Where knee clearance is required under an element as part of a clear space, is the knee clearance 11 inches deep or more at 9 inches above the finish surface, and 8 inches deep or more at 2.25 feet above the finish surface (see Figure 101-a)?
- **Maximum Depth:** Does knee clearance extend 25 inches or less under an element at 9 inches above the finish surface (see Figure 101-b)?

Note: Between 9 inches and 27 inches above the finish surface, the knee clearance shall be permitted to reduce at a rate of 1 inch in depth for each 6 inches in height (see Figure 101-a).

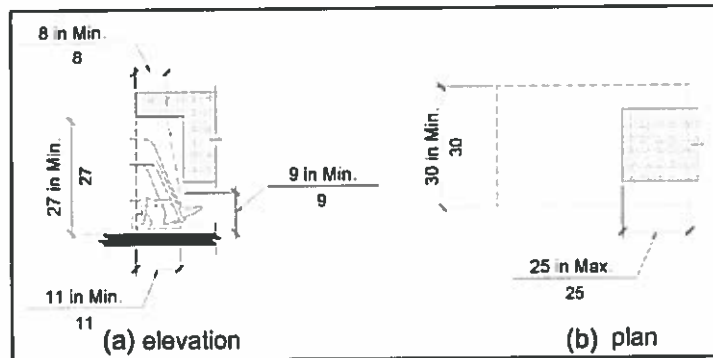


Figure 101: Knee Clearance

2.14. Reach Ranges

2.14.1. Unobstructed Forward Reach

- Is the range of unobstructed forward reach between 15 inches and 48 inches above the finish surface (see Figure 102)?



Figure 102: Unobstructed Forward Reach

2.14.2. Unobstructed Side Reach

Note: Side reach is used when a clear space allows a parallel approach to an element.

- Is the range of unobstructed side reach between 15 inches and 48 inches above the finish surface (see Figure 103)?

Note: An obstruction with a depth of 10 inches or less between the clear space and the element is permitted (see Figure 103).

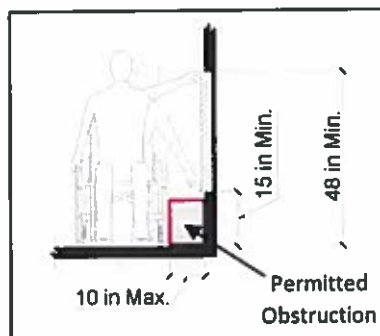


Figure 103: Unobstructed Side Reach

2.15. Ramps

- Is the ramp running slope 8.3% or less (see Figure 104)?



Figure 104: Ramp Running Slope

- Is the ramp cross slope 2% or less (1.5% recommended)?
- Is the rise of each ramp run 2.5 feet or less?
- If the rise of the ramp run is more than 6 inches, are handrails provided?
- Are landings provided at both the top and bottom of each ramp run (see Figure 105)?

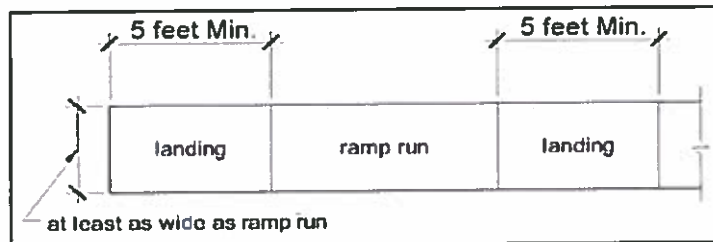


Figure 105: Landing Dimensions—Straight

- Is the slope of the landing 2% or less in all directions (1.5% recommended), as shown in Figure 106?
- Is the length of the landing 5 feet or more (see Figure 106)?
- Is the width of the landing more than or equal to the width of the ramp (see Figure 105)?

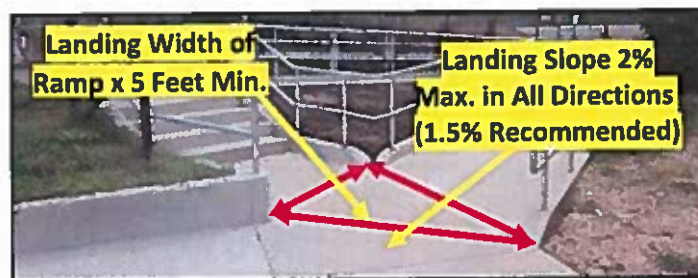


Figure 106: Landing Slope and Dimensions

- Where the ramp changes direction, is the landing between the two directions 5 feet x 5 feet or more (see Figure 107)?

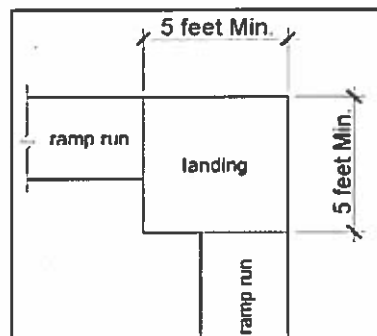


Figure 107: Landing Dimensions—Changing Direction

- Is the ramp surface stable, firm, and slip resistant?

2.15.1. Edge Protection

- Is edge protection such as either extended ramp surface, or curb or barrier provided on each side of ramp runs and ramp landings?

2.15.1.1. Extended ramp surfaces

- Does the surface of the ramp extend 1 foot or more beyond the inside face of the handrail (see Figure 108)?

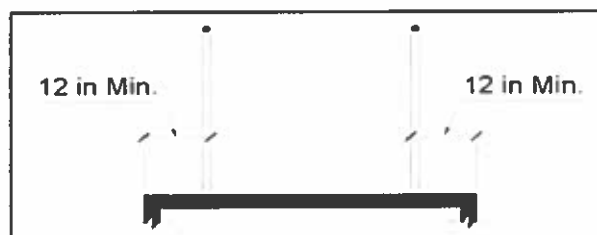


Figure 108: Extended Ramp Surfaces—Section

2.15.1.2. *Curb or barrier*

- Is there a curb or barrier provided that prevents the passage of a 4-inch diameter sphere, where any portion of the sphere is within 4 inches of the finish surface?

2.16. Stairways

2.16.1. **Treads and Risers**

- Do all steps on each flight of stairs have uniform riser heights and uniform tread depths (see Figure 109)?



Figure 109: Uniform Riser Height and Tread Depth

- Is the riser height between 4 inches and 7 inches (see Figure 110)?
- Are the treads 11 inches deep or more (see Figure 110)?



Figure 110: Riser and Tread Dimensions

Note: Open risers are not permitted.

Note: Stairway treads shall have a stable, firm, and slip-resistant surface.

Note: Changes in level are not permitted within a tread.

- Are DWS provided at the top of the stairway?

2.16.2. Nosing

- Is the radius of curvature at the leading edge of the tread 0.5 inch or less (see Figure 111)?

Note: Risers are permitted to slope under the tread at an angle of 30 degrees or less from vertical (see Figure 111).

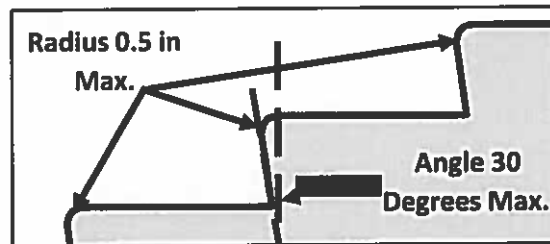


Figure 111: Nosing Detail—Slope and Radius

Note: Nosing that projects beyond risers shall have the underside of the leading edge curved or beveled (see Figure 112).

Note: The permitted projection of the nosing shall extend 1.5 inches or less over the tread below (see Figure 112).

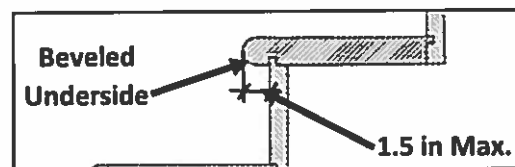


Figure 112: Nosing Detail—Projection beyond Riser

Note: Stairways shall have handrails.

2.17. Handrails

- Are handrails provided on both sides of stairways?
- Are handrails provided on both sides of ramps where the rise of the ramp run is more than 6 inches?
- Is handrail continuous within the full length of each ramp run or stair flight?
- Are inside handrails on switchback or dogleg ramps continuous between ramp runs or stair flights (see Figure 113)?

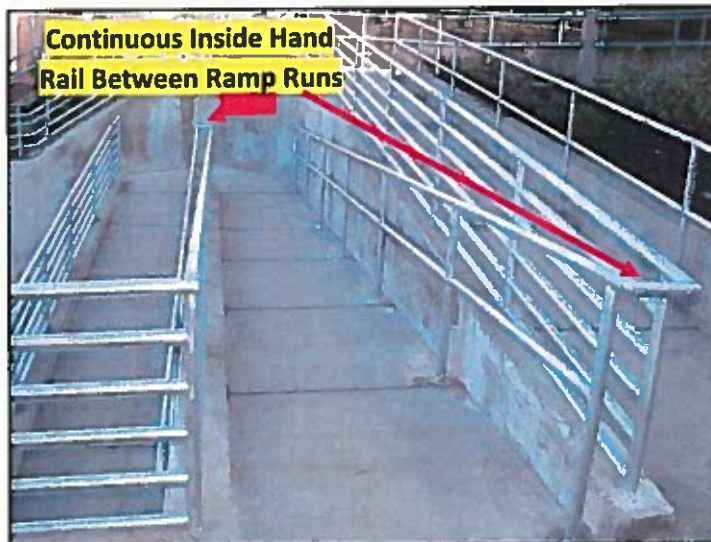


Figure 113: Handrail Continuity Requirement

2.17.1. Height

- Is the handrail height between 34 inches and 38 inches measured from the finish surface to the top of the handrail (see Figure 114)?

- Is the height constant throughout the entire handrail (see Figure 114)?

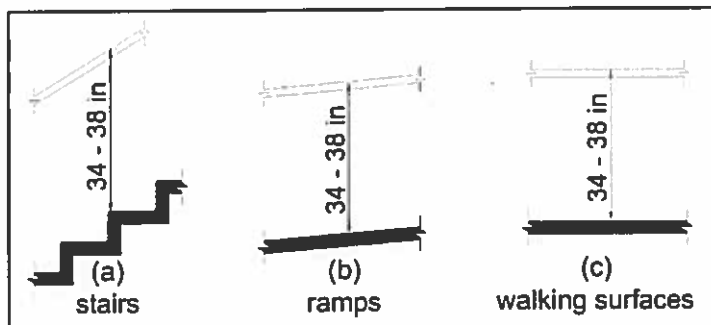


Figure 114: Handrail Height

2.17.2. Clearance

- Is there 1.5 inches or more of clearance between the gripping surface and any adjacent surface?

2.17.3. Gripping Surface

- Obstructions are not permitted on the top side of the handrail.
- Obstructions shall not exceed 20% of the bottom side of the handrail.
- A handrail should have a projection of 1.5 inches below the bottom of the handrail gripping surface.
- Sharp and abrasive elements are not permitted on the gripping surfaces and any surfaces adjacent to the gripping surfaces.
- Gripping surfaces and surfaces adjacent to them shall have rounded edges.
- Handrails shall not rotate within their fittings.

- Where expansion joints are necessary for large spans of handrails, the expansion joint is permitted to rotate in its fitting.

2.17.4. Cross Section

- Handrail cross section is either circular or non-circular.
- Does the circular cross section have an outer diameter between 1.25 inches and 2 inches?
- Does the non-circular cross section have a perimeter between 4 inches and 6.25 inches (see Figure 115)?
- Does the non-circular cross section have a cross section of 2.25 inches or less (see Figure 115)?

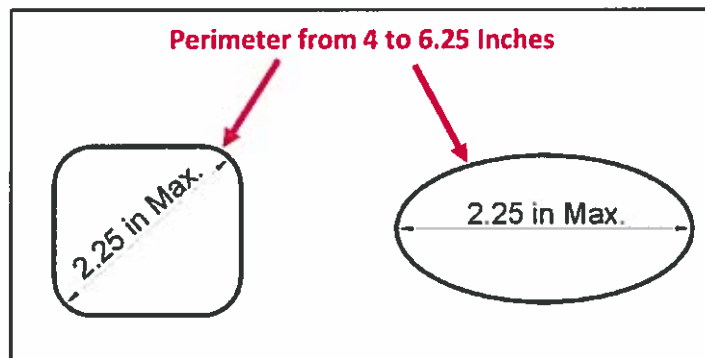


Figure 115: Non-Circular Cross-Section Examples

2.17.5. Extensions

- Do handrail gripping surfaces extend beyond and in the same direction of ramp runs and stair flights (see Figure 116)?
- Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg ramps and stairways.

- In alterations where handrail extensions would reduce the clear width required for pedestrian access routes, handrail extensions shall not be required.

2.17.5.1. Top and bottom extension at ramps

- Ramp handrails shall extend horizontally above the landing for 1 foot or more beyond the top and bottom of ramp runs (see Figure 116).
- Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.

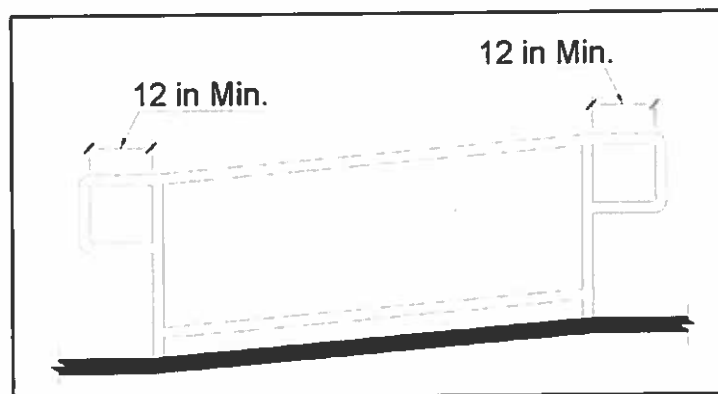


Figure 116: Handrails Extensions

2.17.5.2. Top extension at stairways

- At the top of a stair flight, handrails shall extend horizontally above the landing for 1 foot or more beginning directly above the first riser nosing (see Figure 117).
- Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

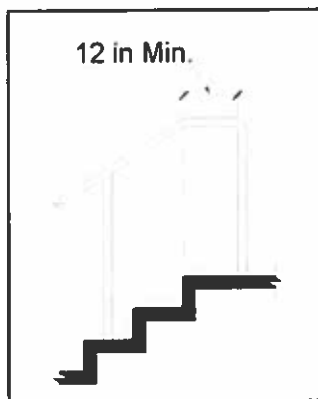


Figure 117: Top Extension at Stairways

2.17.5.3. Bottom extension at stairways

- At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing (see Figure 118).
- Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

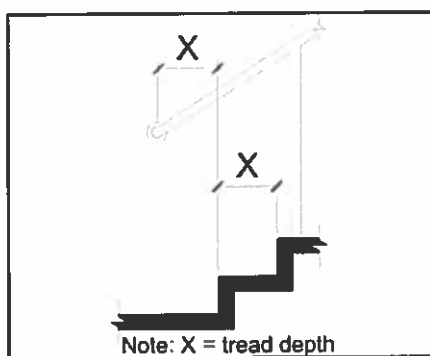


Figure 118: Bottom Extension at Stairways

2.18. Doors, Doorways, and Gates

- Where provided at pedestrian facilities, doors, doorways, and gates shall comply with section 404 of Appendix D to 36 CFR part 1191. These requirements of doors, doorways, and gates are listed in the following pages of this section (2.18) of the field guide.
- Does the door have a clear width of 32 inches or more (see Figure 119)?

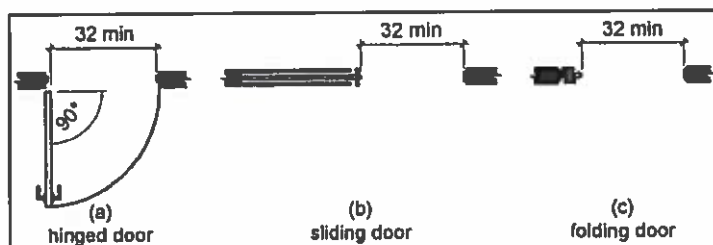


Figure 119: Clear Width of Doors

- Swinging doors and gates shall have maneuvering clearances complying with Table 2 (see Figure 120).

Table 2: Maneuvering Clearances for Manual Swinging Doors and Gates

Type of Use		Minimum Maneuvering Clearance	
Approach Direction	Door or Gate Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch side unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm) ¹
From hinge side	Push	60 inches (1525 mm)	38 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm) ²	22 inches (560 mm) ³
From latch side	Pull	48 inches (1220 mm) ⁴	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm) ⁴	24 inches (610 mm)

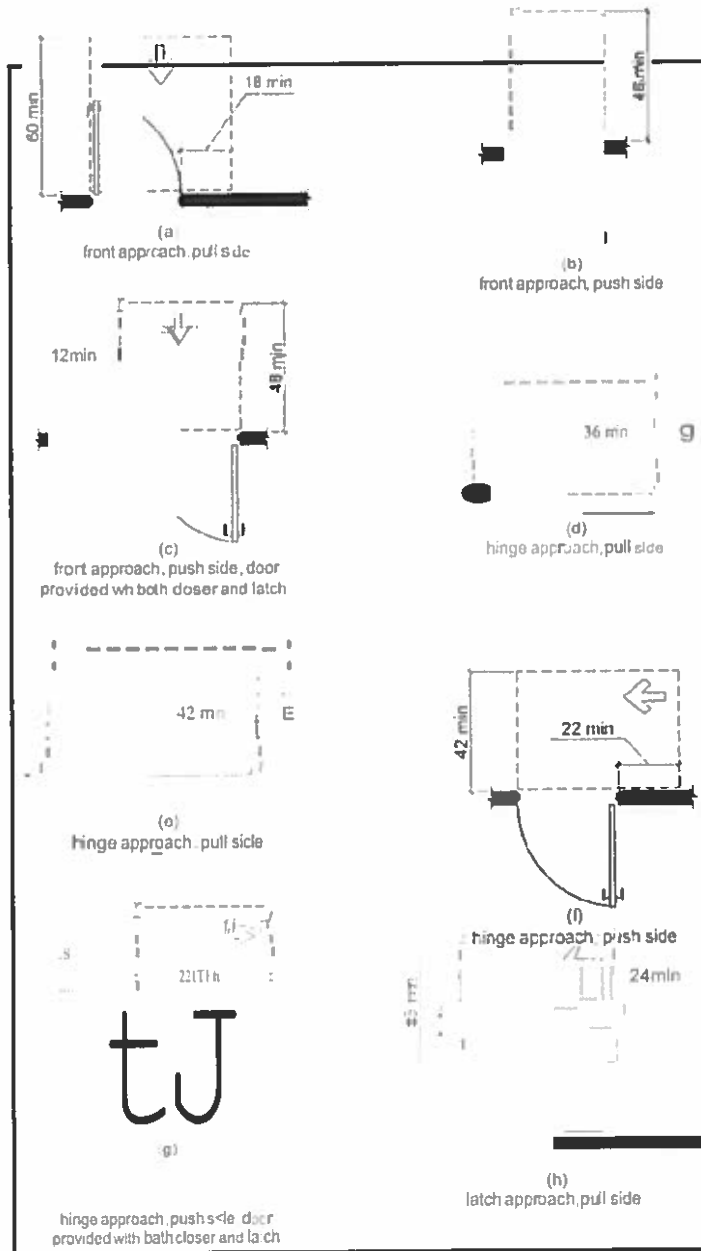


Figure 120: Maneuvering Clearances for Manual Swinging Doors and Gates

- Door closers shall be adjusted to take 5 seconds or more to move the door from the open position of 90 degrees to 12 degrees from the latch.
- Spring hinges shall be adjusted to take 1.5 seconds or more to move the door from the 70 degrees open position to closed position.

3. Defined Terms

Accessible. A facility that complies with applicable accessibility laws and regulations.

Alteration. A change to a facility in the public right-of-way that affects or could affect pedestrian access, circulation, or use. Alterations include, but are not limited to, resurfacing, rehabilitation, reconstruction, historic restoration, or changes or rearrangement of structural parts or elements of a facility.

Blended Transition. A raised pedestrian street crossing, depressed corner, or similar connection between the pedestrian access route at the level of the sidewalk and the level of the pedestrian street crossing that has a grade of 5% or less.

Cross Slope. The grade that is perpendicular to the direction of pedestrian travel.

Curb Line. A line at the face of the curb that marks the transition between the curb and the gutter, street, or highway.

Curb Ramp. A ramp that cuts through (or is built up to) the curb. Curb ramps can be perpendicular or parallel, or a combination of parallel and perpendicular ramps.

Detectable warnings. A distinctive surface pattern of domes detectable by cane or underfoot that alert people with vision impairments of their approach to street crossings and hazardous drop-offs.

Element. An architectural or mechanical component of a building, facility, space, site, or public right-of-way.

Facility. All or any portion of buildings, structures, improvements, elements, and pedestrian or vehicular routes.

Grade Break. The line where two surface planes with different grades meet.

Operable Part. A component of an element used to insert or withdraw objects, or to activate, deactivate, or adjust the element.

Parallel Curb Ramp. A ramp that is aligned so that the general pedestrian travel is parallel to the curb.

Pedestrian Access Route (PAR). A continuous and unobstructed path of travel provided for pedestrians with disabilities within or coinciding with a pedestrian circulation path.

Pedestrian Circulation Path (PCP). A prepared exterior or interior surface provided for pedestrian travel.

Perpendicular Curb Ramp. A ramp that is aligned so that the general pedestrian travel is perpendicular to the curb.

Public Right-of-Way. Public land or property, usually in interconnected corridors, that is acquired for or dedicated to transportation purposes.

Qualified Historic Facility. A facility that is listed in or eligible for listing in the National Register of Historic Places or designated as historic under an appropriate state or local law.

Running Slope. The grade that is parallel to the direction of pedestrian travel.

Vertical Surface Discontinuities. Vertical differences in level between two adjacent surfaces.

