

Preventive Maintenance Refresher

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Providing Curb Ramps

- Title II of the Americans with Disabilities Act (ADA) requires that state and local governments ensure that persons with disabilities have access to the pedestrian routes in the public right of way.
- Whenever streets, roadways, or highways are altered, we are obligated to provide curb ramps where street level pedestrian walkways cross curbs.
- The key word here is “altered”.



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Alterations vs. Maintenance

- Alteration is a change that affects or could affect the usability of all or part of a building or facility.
 - Includes overlays of additional material to the road surface, without milling.
- Maintenance is a treatment that serves solely to seal and protect the road surface, improve friction, and control splash and spray.
 - Includes treatments that do not significantly affect the public's access to or usability of the road.



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Alterations vs. Maintenance

Alteration

- Open-Grade Surface Course
- Mill and Fill, Mill and Overlay
- Hot-in-Place Recycling
- Microsurfacing, Thin-Lift Overlay
- Addition of New Layer of Asphalt
- Asphalt and Concrete Rehabilitation and Reconstruction
- New Construction

Maintenance

- Crack Sealing and Filling
- Surface Sealing
- Chip Seal
- Slurry Seal
- Fog Seal
- Scrub Seal
- Joint-Crack Seal
- Joint Repair
- Dowl Bar Retrofit
- Spot High-Friction Treatment
- Diamond Grinding
- Pavement Patch

IDM Figure 51-1D

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Alterations vs. Maintenance

412-3.01(04) *Americans with Disabilities Act (ADA)* [Rev. Mar. 2021]

1. Preventive Maintenance Project. Flexible and rigid overlays are considered alterations in accordance with the Department of Justice/Department of Transportation Joint Technical Assistance on the Title II of the ADA. When an overlay is included in a Preventive Maintenance project, ADA-compliant curb ramps must be included in the scope of work. A Determination of Technical Infeasibility is required for curb ramps which cannot be constructed compliantly due to an existing constraint. See Section 40-8.04.
2. Rehabilitation Project. For a Rehabilitation project, ADA requirements are evaluated with other Level One criteria.



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ADA Requirements for Curb Ramps

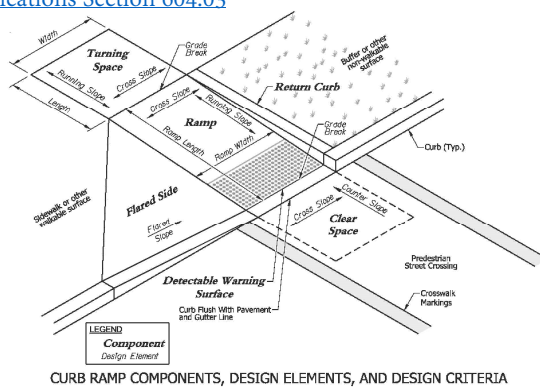
- When a curb ramp does not meet the current ADA Standards, the curb ramp must be updated to meet the current ADA Standards.
- This includes locations where no ramp currently exists & locations where an existing ramp does not meet current ADA Standards.
- At the time of scoping, the public entity should identify whether the public entity owns sufficient right-of-way, and if not, seek to acquire the necessary right-of-way.



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ADA Requirements for Curb Ramps

- Curb ramps design criteria
 - [The Public Rights-of-Way Accessibility Guidelines \(PROWAG\)](#)
 - [INDOT Standard Drawings 604-SWCR](#)
 - [Indiana Design Manual Chapter 51](#)
 - [INDOT Standard Specifications Section 604.03](#)



CURB RAMP COMPONENTS, DESIGN ELEMENTS, AND DESIGN CRITERIA

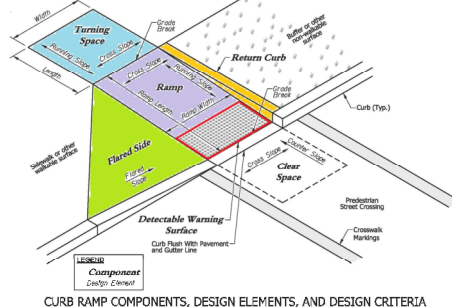
Figure 51-1C
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ADA Requirements for Curb Ramps

- Curb ramps design criteria
 - Ramp or Blended Transition: Component that lowers the sidewalk to roadway elevation.
 - Turning Space: Level area for a wheelchair to maneuver.
 - Clear Space: Area at bottom of the ramp to allow a wheelchair user to align with the crosswalk.
 - Flared Side: Required where the curb ramp intersects a sidewalk or other walkable surface.
 - Return Curb: Required where the curb ramp intersects a buffer or other non-walkable surface.
 - Detectable Warning Surface: Warns a visually-impaired pedestrian that they are entering the roadway.



CURB RAMP COMPONENTS, DESIGN ELEMENTS, AND DESIGN CRITERIA

Figure 51-1C
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ADA Requirements for Curb Ramps

• Curb ramps design criteria

- Width: Minimum clear width is 4 ft.
- Running Slope: Parallel to direction of travel. Maximum is 8.33% with 8.00% preferred;
- Cross Slope: Perpendicular to direction of travel. Maximum is 2.00% with 1.50% preferred.
- Counter Slope: Opposite to running slope. May not exceed 5%.
- Grade Break: Perpendicular to the running slope. Not permitted on surface of the ramp.
- Flared Slope: Maximum of 10.00%.

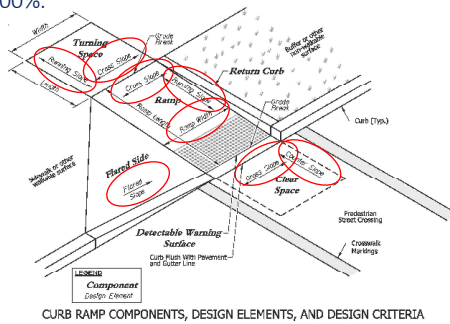


Figure 51-1C
(page 1 of 3)

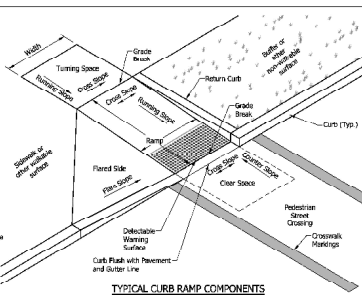
ADA Requirements for Curb Ramps

• Recommend reading Standard Drawing 604-SWCR-01 "General Notes"

SHEET NO.	INDEX	SUBJECT
1	1	Curb Ramp Design Index and General Notes
2-3	2-3	Perpendicular Curb Ramps (Typical Placement)
4	4	Perpendicular Curb Ramps (Corner) Details
5	5	One-Way Directional/Perpendicular Curb Ramp (Typical Placement)
6	6	One-Way Directional/Perpendicular Curb Ramp Component Details
7	7	Parallel Curb Ramps (Typical Placement)
8	8	Parallel Curb Ramp Component Details
9	9	Blended Transition Curb Ramps, Blended Curb Ramps and Diagonal Curb Ramps (Typical Placement)
10	10	Blended Transition Curb Ramp Component Details
11	11	Blended Transition and Parallel Curb Ramps (Corner) Details
12-13	12-13	Detectable Warning Surface Placement and Configuration
14	14	Detectable Warning Surface Details

GENERAL NOTES:

- All slopes are absolute rather than relative to the sidewalk or roadway grade. Slopes at least 0.50% less than the maximum are preferred.
- Ramp or blended transition, or ramp or blended transition shall be used to cross a curb or other non-walkable surface, such as the street or highway.
- Turning Space: A turning space shall be provided at the top of a perpendicular ramp, bottom of a parallel ramp, or where the pedestrian travel requires a change in direction. A common turning space may be shared by adjacent ramps. The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is perpendicular to the back of the sidewalk, the curb, existing walk, building, or feature over 2 inches in height, the minimum clear dimension shall be 4 ft x 8 ft, with the 5 ft dimension in the direction of the ramp running slope.
- Flared Side: A flared side shall be used adjacent to a walkable surface. A flared side may be used adjacent to a non-walkable surface. A flared side shall have a maximum slope of 10.00%, measured parallel to the back of the curb.
- Return Curb: A return curb is placed perpendicular to the roadway curb. A return curb may be used adjacent to a non-walkable surface. A return curb shall not be used adjacent to a walkable surface. The return curb may be omitted where the non-walkable surface is flared and the curb adjacent to the roadway is tapered to meet the flush curb at the bottom of the ramp.
- Clear Space: A clear space shall be provided beyond the bottom grade break of a curb ramp wholly contained within the crosswalk and wholly outside the parallel vehicular travel path. The clear space shall have a minimum clear dimension of 5 ft x 6 ft.
- Detectable Warning Surface: A detectable warning surface shall consist of truncated domes and be placed at each street, highway, or railroad crossing. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and be placed on the curb, blended transition, or turning space.
- Running Slope: The running slope of a ramp, blended transition, or turning space shall be measured parallel to the direction of pedestrian travel.
 - A ramp shall have a maximum running slope of 8.33%, but shall not require a ramp length to exceed 15 ft.
 - A blended transition shall have a maximum running slope of 5.00%.
 - A turning space shall have a maximum running slope of 3.00%.
- Width: Unless otherwise noted, minimum width of a ramp, blended transition, or turning space, including flared side or return curb, shall be 4 ft.
- Grade Break: A grade break at the top and bottom of a ramp, blended transition, or turning space shall be perpendicular to the running slope. Grade breaks shall not be within the ramp, blended transition, turning space, or detectable warning surface. Grade breaks shall be flush. Vertical discontinuities shall not be greater than 1/4 in. Where an obstruction to passage (such as a curb or other non-walkable surface) is present, the maximum height shall not exceed 2 inches.
- Cross Slope: The cross slope of a ramp, blended transition, or turning space shall be measured perpendicular to the direction of pedestrian travel.
 - The maximum cross slope at a pedestrian street crossing without posted yield or stop control shall be 5.00%.
 - The maximum cross slope at a pedestrian street crossing with posted yield or stop control shall be 2.00%.
 - The maximum cross slope at a roadblock crossing shall be the established grade of the adjacent roadway.
- Counter Slope: A counter slope is the cross slope of the gutter or street adjacent to the running slope of the ramp, blended transition, or turning space. See Standard Drawing 604-SWCR-01 for counter slope details.
- Objects such as utility covers, vault frames, and grates shall be placed outside the curb ramp.
- Curb ramps shall be placed within the established crosswalk area.
- Drainage inlets should be located uphill from a curb ramp to prevent ponding in the path of pedestrian travel.



INDIANA DEPARTMENT OF TRANSPORTATION
CURB RAMP DRAWING INDEX
AND GENERAL NOTES
SEPTEMBER 2018

STANDARD DRAWING NO. E 604-SWCR-01

	A/John Leckie PE DATE: 03/20/18
	A/John Leckie PE DATE: 04/23/18

Pedestrian Pushbutton Assembly

- An accessible pedestrian signal (APS) is a device that communicates information about the WALK and DON'T WALK intervals at signalized intersections in visual and non-visual format.
- APS will always be used, except in rare cases where there is a determination of technical infeasibility by INDOT's ADA Technical Advisory Committee.
- [Design Memo 20-20](#) covers changes in design procedures for pedestrian push buttons.

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Pedestrian Pushbutton Assembly

- Placement and configuration ([Standard Drawing 805-PPBA-01](#)):
 - Pushbutton Clear Space: Provided adjacent to ped. Pushbutton assembly; must be level
 - Placement: Outside back of sidewalk is preferred.
 - Grade Break: Offset the nearest face of the ped. Pushbutton assembly 1.5 ft. from the grade break.
 - Spacing: 2 assemblies spaced 10' apart.
 - Mounting Height: Between 42" and 48"
 - Side Reach: 10" max. unobstructed side reach
 - Orientation: Parallel to direction of pedestrian travel.
- Indiana Design Manual 502-3.03(02) Pedestrian Control

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Pedestrian Maintenance of Traffic

- When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities or detours must be provided.
- Pedestrian MOT options in order of preference (**Tentative**):
 - Sidewalk detour, around intersection
 - Sidewalk by-pass, outside the sidewalk
 - Sidewalk by-pass, within a buffer strip
 - Sidewalk detour, around the block
 - Sidewalk by-pass, onto road shoulder
 - Sidewalk by-pass, onto road lane (roadway capacity would need to be considered)
 - Short-term closure (in conjunction with USP)



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Pedestrian Maintenance of Traffic

- Pedestrian Maintenance of Traffic items are being added to the INDOT Qualified Products Lists (QPL) for:
 - Temporary Curb Ramp
 - Temporary Accessible Pedestrian Path
 - Temporary Pedestrian Channelizer
 - Audible Information Device
- Recurring Special Provisions, Pay Items, & Standard Drawings for these devices are being developed, finalized in mid-2022.
- Indiana Design Manual will be updated later with guidance on these devices.



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Pedestrian Maintenance of Traffic

- New Standard Drawings are being created for Pedestrian MOT, based on the IMUTCD, with additional details to be added.
- The drawing shown below is a draft of one being developed for Crosswalk Closure and Sidewalk By-Passes.

PROJECT: COUNTY: DISTRICT: SHEET NO.: SHEET TOTAL:	TITLE: DATE: DRAWN BY: CHECKED BY: IN CHARGE:	INDOT: DIVISION: SECTION: PROJECT NO.: SHEET NO.: SHEET TOTAL:
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Pedestrian Maintenance of Traffic

- The additional detail for the pedestrian by-pass has been proposed for the new MUTCD, which would be adopted into the IMUTCD.
- The designer is still obligated to show the pedestrian MOT scheme and phasing in the construction plans.

PROJECT: COUNTY: DISTRICT: SHEET NO.: SHEET TOTAL:	TITLE: DATE: DRAWN BY: CHECKED BY: IN CHARGE:	INDOT: DIVISION: SECTION: PROJECT NO.: SHEET NO.: SHEET TOTAL:
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Pedestrian Maintenance of Traffic

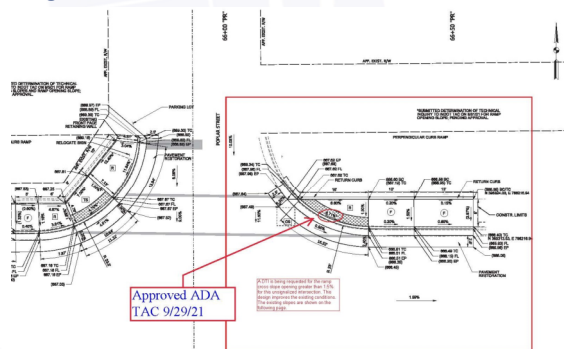
- Sidewalk By-Pass Video:



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Technical Infeasibility or Inquiry

- An approved Determination of Technical Infeasibility or Inquiry must accompany each curb ramp that does not meet the PROWAG requirement.
- Examples of non-compliance:
 - Missing components, e.g. detectable warning surface or turning space
 - Design element falling outside of the minimum or maximum criteria



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Technical Infeasibility or Inquiry

- Technical infeasibility: An element of the public access route (PAR) cannot fully comply due to an existing constraint that cannot be removed or adjusted.
 - These will be rare occurrences.
- Example of constraints (R 202.3.1):
 - Structural (Buildings)
 - Historic features (per 106 reviews)
- Alteration to be made to the maximum extent feasible.
 - Goal is to make the existing ramp better.



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Technical Infeasibility or Inquiry

- Technical inquiry: An existing physical constraint makes it impractical, within the scope of work, for an element of the public access route to fully comply.
- Example of constraints (R 202.3.1):
 - Underlying terrain
 - Right-of-way availability
 - Underground structures
 - Drainage
 - Natural or historic features
- Alteration to be made to the maximum extent feasible.
 - Goal is to make the existing ramp better.

NextLevel INDIANA

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Technical Infeasibility or Inquiry

- A final note on Technical Infeasibility/Inquiry



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Technical Infeasibility or Inquiry

- A request for determination of technical infeasibility or inquiry should be sent to the ADA Technical Advisory Committee (TAC).
- Procedure to submit as outlined in IDM 40-8.04(01) under ADA Compliance section.
- Send to: ADA@indot.in.gov 

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Questions?

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