May 3, 2007

ADA Best Practices Tool Kit for State and Local Governments

Chapter 6

Curb Ramps and Pedestrian Crossings Under Title II of the ADA

In this Chapter, you will learn about the requirements of Title II of the Americans with Disabilities Act (ADA) relating to curb ramps at pedestrian crossings. Questions answered include:

- What are curb ramps and what function do they serve?
- What does Title II of the ADA require with respect to curb ramps at pedestrian crossings?
- What are some key characteristics of accessible curb ramps?
- What are some common curb ramp designs?
- Where and when must state and local governments provide accessible curb ramps?
- What are detectable warnings, why must they be provided, and where are they required?
- How can you tell if a curb ramp is accessible?
- What steps can you take to ensure that your entity is in compliance with the ADA requirements for accessible curb ramps at pedestrian crossings?

A. Background

Under Project Civic Access (PCA), the Civil Rights Division works with local governments nationwide to help them achieve compliance with Title II of the ADA and Section 504 of the Rehabilitation Act of 1973 (Section 504). This Chapter discusses the ADA requirements for curb ramps at pedestrian crossings that are currently enforced by the Division under PCA.

Curb ramps are a small but important part of making sidewalks, street crossings, and the other pedestrian routes that make up the public right-of-way accessible to people with disabilities. But they are just one part.

The federal government has begun a rulemaking process to revise the accessibility requirements for public rights-of-way. The Architectural and Transportation Barriers Compliance Board (Access Board) is developing new accessibility guidelines. The new guidelines will cover pedestrian access to sidewalks and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other parts of the public right-of-way. The new guidelines will likely address issues such as access at street crossings for pedestrians who are blind or have low vision, wheelchair access to on-street parking, and constraints posed by space limitations, roadway design practices, slope, and terrain. On November 23, 2005, the Access Board published revised draft accessibility guidelines for public rights-of-way, which are available on its website at www.access-board.gov/prowac/index.htm. In developing these draft guidelines, the Access Board obtained recommendations from an Advisory Committee composed of representatives from disability organizations, public works departments, transportation and traffic engineering groups, the design and civil engineering professions, government agencies, and standards-setting bodies. The Advisory Committee's report is available on the Access Board's website at www.access-board.gov/prowac/commrept/index.htm. Although any ADA guidelines developed by the Access Board will not be enforceable under Title II of the ADA until the Department of Justice and the U.S. Department of

Transportation issue regulations adopting them as standards, the Access Board's website provides information discussing accessibility concerns relating to curb ramps, sidewalks, pedestrian crossings, and other pedestrian routes.

Another source of information about the federal accessibility requirements for public rights-of-way is the Federal Highway Administration (FHWA) of the U.S. Department of Transportation. As the agency that administers the federal funding used by many state and local governments to construct highways, roads, streets, and other elements of the public right-of-way, FHWA is also responsible for implementing and enforcing the federal accessibility requirements applied to the public right-of-way. The FHWA website includes the following materials, which should be of particular interest to those entities receiving federal funds from FHWA:

- "Questions and Answers About ADA/Section 504" (www.fhwa.dot.gov/civilrights/ada_qa.htm);
- a memorandum describing FHWA's oversight role on federal accessibility requirements (www.fhwa.dot.gov/civilrights/ada_memo_clarificationa.htm);
- FHWA's notice adopting the Access Board's draft accessibility guidelines for the public right-of-way as currently recommended best practices (www.fhwa.dot.gov/environment/bikeped/prwaa.htm); and,

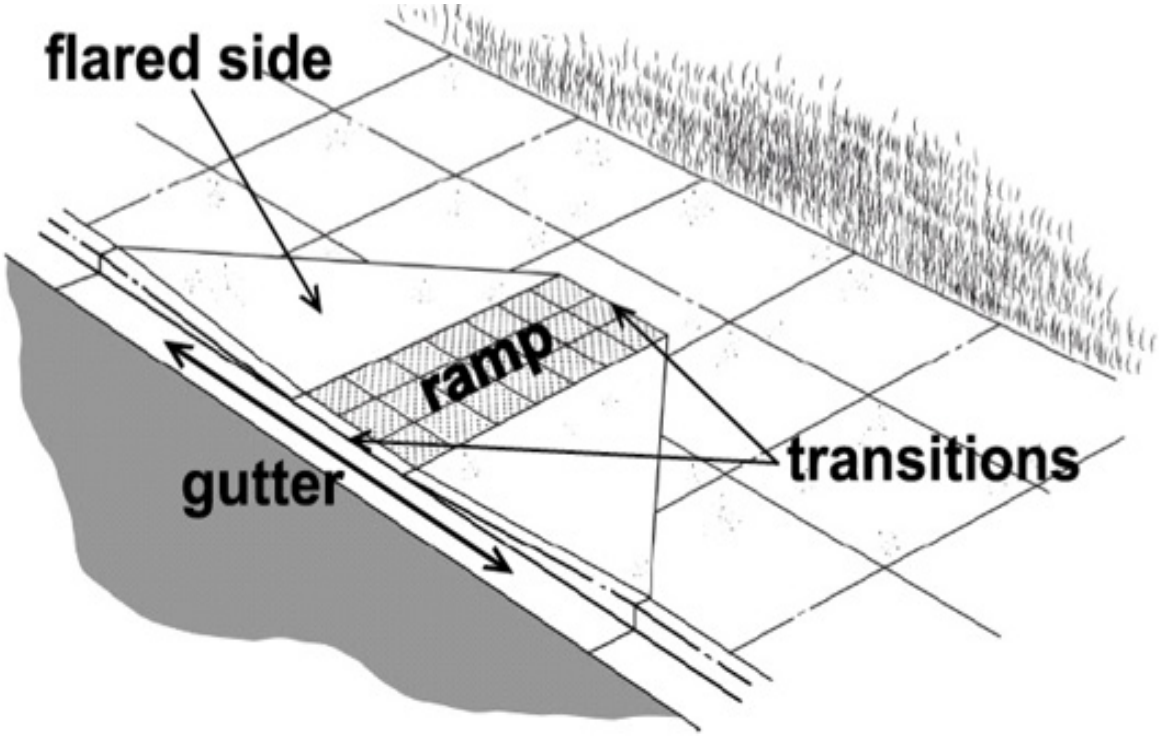
- FHWA's memorandum on detectable warnings (www.fhwa.dot.gov/environment/bikeped/dwm.htm).

The process of adopting revised federal accessibility standards for public rights of- way may be lengthy. In the meantime, many state and local governments will construct and alter highways, streets, roads, sidewalks, and pedestrian crossings. This Chapter is an effort to ensure that public entities do not create barriers to access by omitting curb ramps while the broader debate on accessibility requirements for public rights-of-way moves forward

B. What Is a Curb Ramp?

A **curb ramp** is a short ramp cutting through a curb or built up to it.[1] If designed and constructed to be accessible, a curb ramp provides an accessible route that people with disabilities can use to safely transition from a roadway to a curbed sidewalk and vice versa.

The different parts of the most common type of curb ramp, a perpendicular curb ramp, are labeled in the illustration below. The **ramp**, or **ramp run**, is the sloped section that individuals who use wheelchairs travel up and down when transitioning between the street and the sidewalk. **Transitions** between the ramp and the sidewalk, gutter and street are located at the top and bottom of the ramp run. **Flared sides**, or **flares**, bring the curb itself to the level of the street. The **gutter** is the roadway surface immediately next to the curb ramp that runs along the curb.



[1] 28 C.F.R. Part 36, Appendix A, § 3.4. Some people refer to curb ramps as “curb cuts" because most curb ramps cut through the curb.

C. Why are Curb Ramps at Pedestrian Crossings Required?

It is often difficult or impossible for a person using a wheelchair, scooter, walker, or other mobility device to cross a street if the sidewalk on either side of the street ends without a curb ramp. It is also dangerous. If curb ramps are not provided, these individuals are forced to make a difficult choice. They can either stay at home and not go to their chosen destination, or they can risk their personal safety by using their wheelchairs, scooters, or walkers to travel alongside cars and other vehicles in the streets. This is a choice that people with disabilities should not be required to make.

D. What Does Title II of the ADA Require with Respect to Curb Ramps at Pedestrian Crossings?

Title II of the ADA requires state and local governments to make pedestrian crossings accessible to people with disabilities by providing curb ramps.[2] This requirement applies if your state or local government has responsibility or authority over highways, streets, roads, pedestrian crossings, or walkways. Some public entities have extensive responsibility for the highways, streets, roads, pedestrian crossings, and walkways in their area, but most public entities have at least limited responsibility for them.

To allow people with disabilities to cross streets safely, state and local governments must provide curb ramps at pedestrian crossings and at public transportation stops where walkways intersect a curb. To comply with ADA requirements, the curb ramps provided must meet specific standards for width, slope, cross slope, placement, and other features.[3] In constructing facilities such as walkways and pedestrian crossings, state and local governments can choose between two sets of standards – the ADA Standards for Accessible Design (ADA Standards) and the Uniform Federal Accessibility Standards (UFAS).[4] Both of these standards have been deemed to comply with the requirements of Title II.[5] However, state and local governments cannot pick and choose between particular portions of the ADA Standards and UFAS as they construct or alter the pedestrian crossings on a street and the curb ramps that provide access to the adjacent sidewalks. Only one of these two standards may be used for a particular facility. In the construction or alteration of roadways and walkways, this typically means that only one standard may be used for a particular construction or alteration project, and all features of that project typically must comply with the chosen standard.

Departures from particular requirements of either standard by the use of other methods are permitted when it is clearly evident that equivalent access is provided.[6]

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[2] 28 C.F.R. §§ 35.150(d)(2), 35.151(2 (e).
[3] 28 C.F.R. Part 36, Appendix A, § 4.7; 41 C.F.R. Part 101 - 19.6, Appendix A, § 4.7.
[4] The ADA Standards are located at 28 C.F.R. Part 36, Appendix A. They are also available on the ADA Home Page at www.ada.gov. UFAS is located at 41 C.F.R. Part 101 - 19.6, Appendix A, and at the Access Board's website at www.access-board.gov/ufas/ufas-html/ufas.htm.
[5] 28 C.F.R. § 35.151(c).
[6] 28 C.F.R. § 35.151(6 (c).

E. What are the General Requirements for Curb Ramps in the ADA Standards for Accessible Design?

One way to make curb ramps compliant with Title II of the ADA is to build them in accordance with the ADA Standards.[7] Following are the key characteristics of an accessible curb ramp according to the ADA Standards:

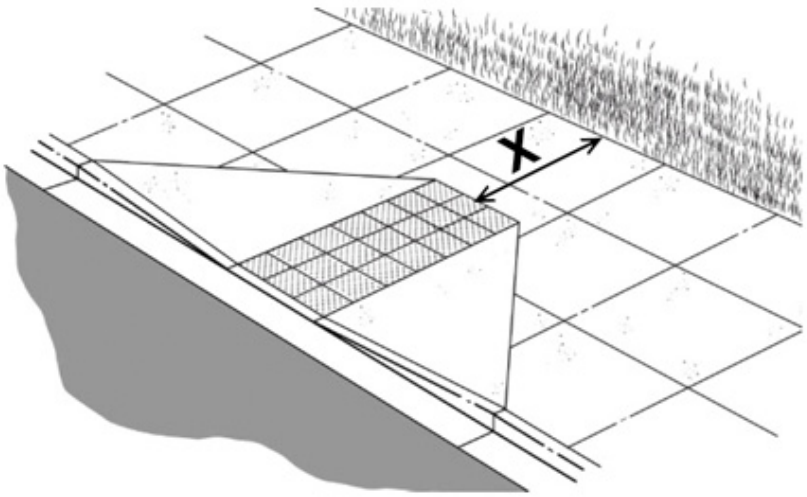
- The ramp run has the least running slope possible. (On a curb ramp, the running slope is the slope in the direction of pedestrian travel on the ramp run.) [§ 4.8.2]
    - For curb ramps constructed after January 26, 1992 (post-ADA), the slope must be 8.33 percent (1:12) or less. [§ 4.8.2]
    - For curb ramps constructed before January 26, 1992 (pre-ADA), including those that have since been altered, the running slope must generally be 8.33 percent (1:12) or less. However, ramp runs with greater slopes are allowed for pre-ADA curb ramps in the two following instances where space limitations prohibit the use of a slope of 8.33 percent (1:12) or less:
        - The ramp run may have a running slope of up to 10 percent (1:10) if the rise is no more than six inches. [§ 4.1.6(3)(a)(i)]
        - The ramp run may have a running slope of up to 12.5 percent (1:8) if the rise is no more than three inches. [§ 4.1.6(3)(a)(ii)

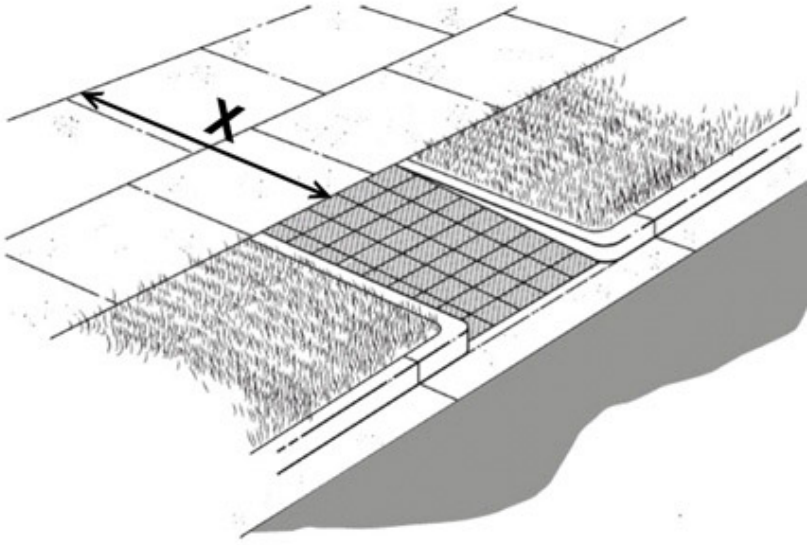
> The rise is the vertical change measured from the low point at the base of the curb ramp to the high point at the other end where the sloped portion of the curb ramp transitions with the sidewalk. Since sidewalks often have a 2 percent or less cross slope (which is the slope perpendicular to the direction of pedestrian travel along the sidewalk) to direct water toward the street for drainage, the rise of a curb ramp is often greater than the height of the curb.;

- The cross slope of the ramp run itself may not exceed 2 percent (1:50). (On a curb ramp, the cross slope is the slope perpendicular to [across] the direction of pedestrian travel on the ramp run.) [§ 4.3.7]
- The ramp, or ramp run, must be at least 36 inches wide, not including the flared sides. [§ 4.7.3]
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- The ramp run must have detectable warnings – i.e., dome-shaped bumps – that extend the full width and depth of the ramp. [§ 4.7.7]
- Transitions from the ramp to the walkway, gutter, and street must be flush (level) and free of abrupt level changes. [§ 4.7.2]
- The gutter must have a slope of no more than 5 percent (1:20) toward the ramp. [§ 4.7.2]

Flared Sides or Returned Curbs?

The most common type of curb ramp is the **perpendicular curb ramp**, which intersects the curb at a 90-degree angle. Curb ramps must have flared sides if people are required to walk across them. [§ 4.7.5] The slope requirements for the flared sides depend on the width of the sidewalk at the top of the ramp, "**x**" in the illustration to the right. If "**x**" is less than 48 inches, then the slope of the flared sides must be no more than 8.33 percent (1:12). If "**x**" is 48 inches or more, then the flared sides may slope up to 10 percent (1:10) but not more. [§ 4.7.5; Fig. 12(a)]





When pedestrians are not required to walk across the ramp, such as where there is a non-walking surface (grass, for example) or obstructions on both sides of a curb ramp, curb ramps are allowed to have **returned curbs**. A curb ramp with returned curbs is required to have a landing with maneuvering space at the top of the ramp ("**x**" in the illustration to the left) that is at least 48 inches because people using mobility devices need an area to turn when getting on and off the ramp. [§ 4.7.5; Fig. 12(b)]

F. What are Pedestrian Crossings and Where Must Curb Ramps be Provided?

Where and when curb ramps are required depends on the location and the age of streets and sidewalks.

1. Location

Generally, you must provide curb ramps wherever a sidewalk or other pedestrian walkway crosses a curb. Curb ramps must be placed to enable a person with a mobility disability to travel from a sidewalk on one side of the street, over or through any curbs or traffic islands, to the sidewalk on the other side of the street. Remember, walkways include areas where people must walk to access bus stops and other public transportation stops, so, where necessary, curb ramps must also be provided to enable people with disabilities to board and exit public transportation.

2. Age of Streets and Sidewalks

In addition, the requirements vary depending on the age of a highway, road, street, or sidewalk, and depending on when and whether it was paved, repaved, resurfaced beyond normal maintenance, or otherwise altered.

"**Pre-ADA**" streets, sidewalks, roads, and highways are those that were built before January 26, 1992, and have not since been altered.

"**Alterations**" are another category of construction under the ADA. A street or sidewalk falls into this category if it was constructed pre-ADA (construction began before January 26, 1992), and has since been altered. What does "altered" mean? An alteration is a change that affects usability. Resurfacing a roadway beyond normal maintenance is an alteration. By contrast, filling potholes is not.[8]

For purposes of the ADA, any street or sidewalk is "**new**" or "**post-ADA**" if its construction commenced after January 26, 1992.[9]

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[7] The bracketed references in this section refer to the applicable sections of the ADA Standards
[8] 28 C.F.R. § 35.151(8 (b).
[9] 28 C.F.R. § 35.151(a).

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3. New Construction vs. Alterations

The requirements in the ADA Standards for curb ramps newly constructed post- ADA (construction commenced after January 26, 1992) can be found in § 4.7. The requirements for curb ramps that have been altered post-ADA are the same, except for in the following cases.

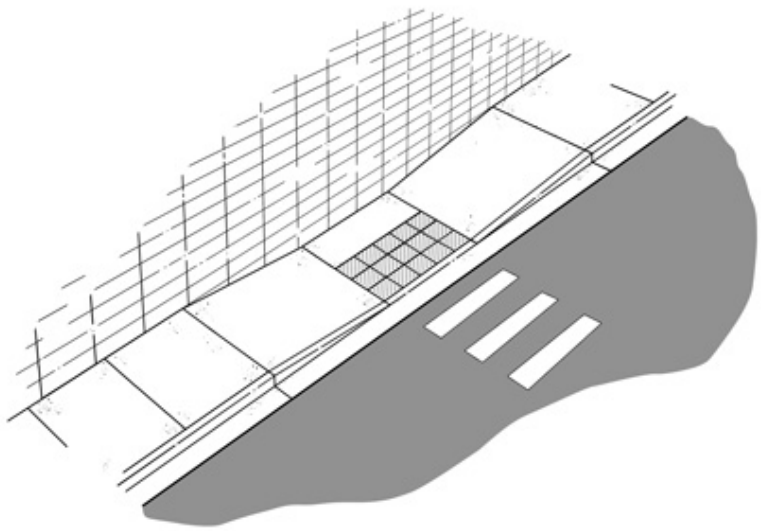
When pre-ADA streets or sidewalks are altered, there may be space limitations that restrict how much they can be altered to install accessible curb ramps. In these cases, the curb ramps installed must meet the accessibility requirements of the ADA to the maximum extent feasible.[10] Scoping requirements in the ADA Standards establish limitations for the running slope of the ramp run of curb ramps installed during alterations to pre-ADA streets and walkways.[11]

The Civil Rights Division recognizes that there will be very rare instances when it will be technically infeasible for a curb ramp installed during alterations to pre-ADA roadways and walkways to be constructed in full and strict compliance with the requirements of ADA Standards § 4.1.6(3)(a) and § 4.7 because of physical or site constraints. In such circumstances, state and local governments must install curb ramps that provide accessibility to the maximum extent feasible.[12] Before reaching a conclusion about technical infeasibility, state and local governments need to consider the extent to which physical or site constraints can be addressed by **alternative curb ramp designs**. The burden of proving technical infeasibility lies with the state or local government that constructed it.

Alternative Curb Ramp Designs

A **parallel curb ramp** consists of two ramps joined in the middle by a landing that is level with the roadway. Parallel curb ramps run parallel to the curb and usually take up the whole width of the sidewalk.

Combined curb ramps are a combination of the perpendicular and parallel curb ramp designs. The combined curb ramp breaks the



elevation change between the curb and the street into two parts, and uses a separate ramp to bridge each part: a parallel ramp from the sidewalk to a level landing, and a perpendicular ramp from the level landing to the roadway.

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[10] 28 C.F.R. § 35.151(10 (b).
[11] ADA Standards § 4.1.6(3)(a).
[12] ADA Standards § 4.1.6(1)(j).

When highways, streets, and roads are built or altered **post-ADA**, they must have curb ramps at certain locations. Curb ramps must be located wherever there are curbs or other barriers to entry from a pedestrian walkway or sidewalk, including any intersection where it is legal for a pedestrian to cross the street, whether or not there is any designated crosswalk. Curb ramps must also be located wherever there are curbs or other barriers to entry at any designated pedestrian crosswalks that are located mid-block. Likewise, when sidewalks or walkways are built or altered **post-ADA**, they must include curb ramps or other sloped areas wherever they intersect with highways, streets, or roads and pedestrians may legally cross the vehicular way as well as at public transportation stops.

By contrast, for **pre-ADA** highways, streets, roads, and sidewalks that have not been **altered**, state and local governments may choose to construct curb ramps at every point where a pedestrian walkway intersects a curb. However, they are not necessarily required to do so. **Under a more flexible standard called "program access," alternative routes to buildings may be acceptable where people with disabilities must travel only a marginally longer route than the general public.**

4. Example: Installing Curb Ramps for Program Accessibility

Consider a case where the streets and sidewalks in a small town were built **pre-ADA** and have not been altered since. Some intersections have curb ramps; most do not. The town is trying to figure out where to install curb ramps to provide access to the town hall. The accessible entrance to the town hall is located on North Street, which is on the north side of the building. The parking garage that serves the town hall is located on North Street, directly across the street from the town hall's accessible entrance. Public transportation stops serving the town hall are in a residential neighborhood on East Street, two blocks east of the town hall. The town is evaluating where it needs to install curb ramps to comply with Title II requirements.

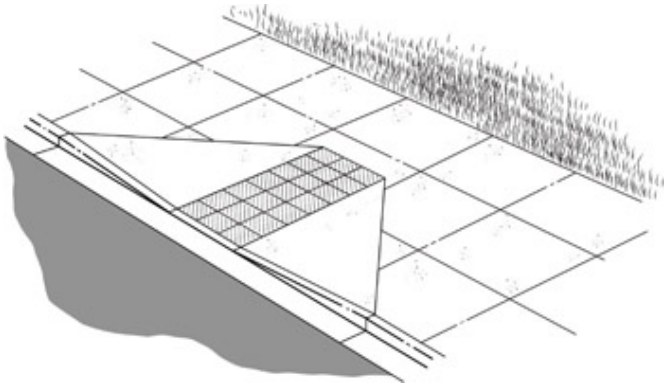
Since the town hall and its surrounding streets and sidewalks were built pre-ADA and have not since been altered, the town must install curb ramps in compliance with Title II's **program access** requirements for pre-ADA facilities. Under these requirements, the town may choose to install curb ramps at all pedestrian crossings on the sidewalks surrounding the town hall, but it is not necessarily required to do so. A program access approach would require the town to install

curb ramps at key pedestrian crossings. To provide access to the town hall, curb ramps would need to be installed at the pedestrian crossings and transportation stops along North and East streets so people with disabilities can travel along a pedestrian route between (1) the accessible entrance to the town hall and the accessible entrance to the parking garage and (2) the accessible entrance to the town hall and the public transportation stops on East Street. In this instance, installing curb ramps at the pedestrian crossings on the south side of the townhall are not needed from a program access perspective to enable people with disabilities to access the town hall. However, they may be needed from a program access perspective for other reasons, such as providing access to other town facilities served by the parking garage or to the town's business district. The town should seek input from people with mobility disabilities regarding the other key locations where curb ramps need to be installed to provide program access.

G. What are Detectable Warnings, Why are They Required, and Where Must They be Provided?

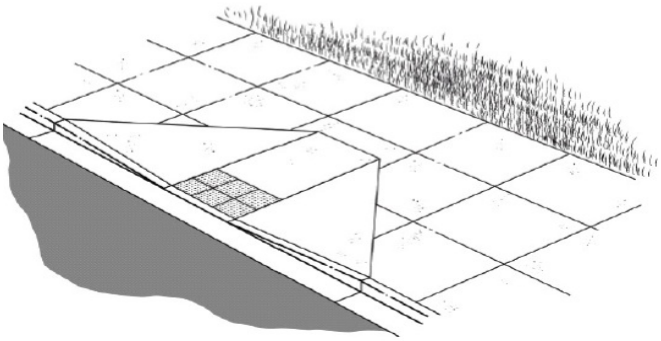
The ADA Standards require that curb ramps include features called "detectable warnings." Detectable warnings consist of a series of small domes that contrast in color with the surrounding sidewalk or street They must be integrated into the walking surface, and there are specific measurements for the size and spacing of the domes.13

What is the function of detectable warnings? Detectable warnings are intended to function much like stop signs for pedestrians who are blind or have low vision. The warnings, which are intended to be felt with pedestrians' feet, alert blind individuals and those with low vision that they are about to enter a street or other area where cars pass. A detectable warning alerts pedestrians who are blind or have low vision that they need to stop and determine the nature of the hazard – such as whether there is passing traffic – before continuing on their way.



Under the ADA Standards, curb ramps are required to have detectable warnings that extend the full width and depth of the curb ramp.14 An example of a perpendicular curb ramp that complies with this requirement can be seen to the left.

The U.S. Department of Transportation (DOT), however, is encouraging the use of a different design for detectable warnings.[15] Under this design, detectable warnings extend the whole width of the ramp, but cover only the two feet of the ramp closest to the street. DOT has deemed this departure from the ADA Standards to be permitted under Title II of the ADA.[16] An example of a curb ramp that complies with the DOT's design can be seen above.



H. How Can You Tell if a Curb Ramp is Accessible?

The best way to determine if a curb ramp is accessible is to survey it to determine the extent to which it complies with ADA accessibility requirements. To assist you, the next installment of this Tool Kit will include instructions on how to survey curb ramps for compliance with the ADA Standards and a Curb Ramps survey form for use in conducting your surveys. The instructions, which will be located in Appendix 1, are keyed to the Curb Ramps survey form, which will be located in Appendix 2, and will provide an explanation of how to obtain the information needed to answer each question

on the survey form. The instructions will also include photographs and illustrations showing how and where to take measurements. The Curb Ramps survey form and instructions will help you identify the most common accessibility problems with curb ramps, but they will not necessarily identify all problems.

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[15] DOT's memorandum encouraging use of this alternate design for detectable warnings 15 ngs is available on its website at www.fhwa.dot.gov/environment/bikeped/dwm.htm.
[16] 28 C.F.R. § 35.151(c

I. Ensuring Compliance Now and In the Future

Now that you know some of the basic ADA requirements for providing curb ramps at pedestrian crossings, you can assess whether your entity is in compliance with these requirements. Here are some steps you can take:

- **Assess the extent to which your entity has complied with ADA requirements for providing curb ramps at pedestrian crossings and transportation stops**. Use the Checklist in the Addendum to this Chapter to guide you in conducting a preliminary assessment. To survey curb ramps in your community, use the Curb Ramps survey form and instructions that will be included in the Appendices to this Tool Kit, which will be released soon.

- **After conducting your assessment to figure out where ADA compliant curb ramps are needed, prioritize the locations**. If locations constructed or altered post-ADA do not have ADA-compliant curb ramps, they must be installed at all of those locations. Other priorities include, in descending order, curb ramps at pre-ADA locations with pedestrian crossings providing access to local government facilities, bus stops and other transportation services, public accommodations, business districts, and residential areas.

- **Next, make a long-range plan to provide curb ramps in locations that need them**. When making the plan, include other local government staff who will be involved, such as employees from the transportation department and employees in charge of budget matters. Set a series of progress dates for curb ramp compliance based on priorities and reasonable time frames. The actual number of curb ramps installed in any given year may be limited by fiscal constraints, consistent with the fundamental alteration and undue burden limitations discussed in Chapter 1 of the Tool Kit. However, the plan should address the steps your entity will take over a specific time period to come into compliance with Title II requirements.

- **Establish written procedures for soliciting and receiving input on the accessibility of pedestrian crossings and transportation stops from people with disabilities**. As part of these procedures, establish an ongoing program for installing curb ramps upon request in both residential and nonresidential areas.[17] Integrate these requests into your long-range plan. This program will put your entity on the right track for the future.

- **Develop a written policy** ensuring that, effective immediately, ADAcompliant curb ramps will be provided at any intersection having curbs or other barriers to entry from a sidewalk whenever a street, road, or highway is constructed or altered. If your entity receives federal financial assistance, the policy should also address compliance with Section 504.

  Develop a written policy ensuring that, effective immediately, ADAcompliant curb ramps will be provided at all newly constructed or altered sidewalks and walkways where they intersect a street, road, or highway, including mid-block pedestrian crossings and public transportation stops. If pedestrians may legally cross a street at an intersection that you are constructing or altering, curb ramps must be provided.

- **Working with employees in the transportation department, review the designs for curb ramps and detectable warnings to ensure that they are ADA-compliant**. If your entity receives federal financial assistance, they also should be reviewed for compliance with Section 504. Many states and localities have standardized designs for common features such as curb ramps, and sometimes these designs do not comply with ADA and, if applicable, Section 504 requirements. If your curb ramp designs, including the details for detectable warnings, do not comply with Title II requirements your entity needs to change them immediately so they do.

- Many sidewalks and roads become the responsibility of public entities after they are built by private developers and deeded over to the public entity following construction. Often, in these circumstances, private developers

(who are not bound by Title II's requirements when acting on their own behalf) have not provided the curb ramps at pedestrian crossings, transportation stops, and other locations that the ADA requires public entities to provide. When these facilities are deeded over to them, public entities also receive the legal responsibility for installing ADAcompliant curb ramps which previously may not have existed. But **public entities can use their authority, under zoning and land use laws, as well as plan review processes to ensure that private developers comply with the accessibility requirements that public entities deem appropriate**. Some communities that understand the liability they can incur in receiving such property refuse to accept property that has not been built in compliance with ADA requirements.

- **Most public entities include provisions in their contracts for services with architects, engineers, and contractors requiring compliance with applicable federal, state, and local laws. However, many architects, engineers, and contractors do not understand that these provisions require compliance with ADA requirements. When preparing contracts for services by architects, engineers, and contractors involved in building and altering highways, streets, roads, sidewalks, other walkways, transportation stops, and curb ramps, consider including a provision specifically requiring compliance with Title II of the ADA, including compliance with the ADA Standards or UFAS**. Remember, public entities may not use the elevator exception contained in ADA Standards, § 4.1.3(5). While elevators will rarely be implicated in the design and construction of pedestrian crossings, they will be implicated in many other types of public facilities constructed by or on behalf of public entities. For this reason, a contractual provision requiring compliance with the ADA Standards should make clear that the elevator exception contained in § 4.1.3(5) of the Standards does not apply. If your entity receives federal financial assistance, consider a similar provision requiring compliance with Section 504 requirements as well.

- **Where compliance with federal law is contractually required, consider requiring your architects, engineers, and contractors to certify ADA compliance, including compliance with the ADA Standards (excluding the elevator exception in § 4.1.3(5) of the Standards) or UFAS, before accepting, and making final payments for, their work**. If your entity receives federal financial assistance, consider requiring architects, engineers, and contractors to certify compliance with Section 504 requirements as well.

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[17] 28 C.F.R. § 35.150(17 d)(2)

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