

Pedestrian Data Collection and Inventory Guidelines



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Pedestrian Measuring and Collection Guidelines

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Pedestrian Data Collection and Inventory Guidelines

Introduction

The purpose of the Pedestrian Data Collection and Inventory Guidelines is to provide consistent guidance to data collectors about how to collect pedestrian data within the Bannock Transportation Planning Organization planning area. There are too many variations in designs to show every possible ADA compliance measurement. Rather the guidelines provide a reference for data collectors and others updating the pedestrian network GIS inventory. The pedestrian inventory includes sidewalks, curb ramps, and hazard feature classes. Each feature class is one part of the pedestrian network. The pedestrian feature class lists pathways as paths.

Collection Devices and Measurement Standards

Data collection of the pedestrian network requires different tools. The following equipment is needed to conduct an inventory.

Mobile Data Device or Smartphone – Any mobile data device connected to the internet and compatible with ESRI ARC Collector is acceptable.

GPS Receiver – A GPS receiver with sub-meter accuracy is preferred.

Digital Level – BTPO prefers the Smart Tool by M-D Building products to evaluate and measure pedestrian facilities' slope. Any smart level that has an accuracy of 0.35% and has a self-calibration feature is acceptable.

Measuring Tape – A metal measuring tape is preferred, but a measuring wheel can be used.

The measurement standards are:

Slope measurements are recorded to the nearest tenth of a percent.

Sidewalk width measurements are recorded to the nearest foot.

Length measurements are recorded to the nearest inch.

Sidewalk Segments Inventory

A segment represents a continuous section of the sidewalk or crossing. Create a new segment when the type changes or the attributes of the adjacent segments are different.

Attributes

Width – The width of the sidewalk in feet

Buffer Zone - Is there a separation between the curb and the edge of the sidewalk?

- 1 = Buffer Zone
- 2 = No Buffer Zone



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Width – The average width of the sidewalk segment in feet. Create new sidewalk sections if the width varies by two feet or if a section is less than four feet wide.

Buffer Material – What type of material is used to create the buffer zone.

- 1 = Grass – Any turf
- 2 = Dirt – There is no material covering the buffer zone other than weeds.
- 3 = Gravel – Any rock material
- 4= Plants – Shrubs, flowers, or other plantings
- 5 = Tree – Is there a tree in the buffer zone anywhere in the segment.
- 6 = Paver – The buffer zone is made from bricks or other material.

Obstruction – Is there an object in the sidewalk which makes the sidewalk width less than four feet.

- 1 = No obstruction
- 2 = Pole
- 3 = Mailbox
- 4= Vegetation
- 5 = Other fixed Object

Type – The type of pedestrian facility.

- 1 = Sidewalk – a path along the side of a road. Often constructed of concrete but occasionally of asphalt, it is designed for pedestrians.
- 2 = Unmarked Crosswalk – a crossing of a public street that is not marked
- 3= Marked Crosswalk (Parallel) – A crossing of a public street bordered on both sides by markings.
- 4 = Marked Crosswalk (ladder) - A crossing of a public street where the pavement marking runs perpendicular to the street.
- 5 = Trail – Multi-use pathway or any sidewalk not located next to a roadway.
- 6 = Driveway – A driveway is an entrance to properties off the roadway. A driveway must have curb features on each side.
- 7 = Bridge- A sidewalk located on a bridge
- 8 = Alley – Alleys are sidewalks that cross an alley and is comprised of a different material.

Surface Type – The type of construction material used to build the sidewalk.

- 1= Cement
- 2 = Asphalt
- 3 = Wood



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Curb Cuts – The number of vehicle access points that cross the sidewalk section.

Parking – Does parking exist next to most of the sidewalk section.

- 1= Parking
- 2 = No Parking

Curb Type -What is the type of curb next to the street.

- 1= No Curb
- 2= Rolled Curb
- 3= Vertical Curb
- 4= Flush Curb (ribbon)

Condition – The condition of the sidewalk section on average.

- 1 = Very Poor
 - Steep cross-slope
 - small dips/heaves
 - Unlevel over most of the section
 - Over 50% or sections have a hazard
 - Large cracks over 1 inch
 - Large sections (two to three feet) of broken sidewalk
- 2 = Poor
 - Steep cross-slope
 - small dips/heaves
 - Unlevel over most of the section
 - Over 50% or sections have a hazard
 - Large cracks over 1 inch
 - Large sections (two to three feet) of broken sidewalk
- 3 = Average
 - Multiple cracks with minimal dips/heaves
 - Some large cracks
 - Slight non-uniform cross-slope
 - Few holes
 - Less than 50% of segments has small cracks (less than 1/2 ")
- 4 = Good
 - Multiple cracks with minimal dips/heaves
 - Some large cracks
 - Slight non-uniform cross-slope



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- Few holes
- Less than 25% of segments has small cracks (less than 1/2 ")
- 5 = Very Good
 - Some small cracks with minimal dips/heaves
 - Some large cracks
 - Slight non-uniform cross-slope
 - Few holes
 - Less than 25% of segments has small cracks (less than 1/2 ")

Functional Classification – The classification of the road next to the sidewalk

- 1 = Local
- 2 = Collector
- 3 = Minor Arterial
- 4 = Principal Arterial
- 5 = Path

Agency – The name of the agency where the street is located

- Pocatello = 1
- Chubbuck=2
- Bannock County = 3

Owner – The name of the agency who has jurisdiction of the street

- Pocatello = 1
- Chubbuck=2
- Bannock County = 3
- Idaho Transportation Department (ITD) =4

Street Name – The name of the street next to the sidewalk

Inspection – The date the sidewalk was inspected

Ramps

Detectable warnings –

- 1= None
- 2 = Curb
- 3= Sensory grooves narrow
- 4= Sensory grooves wide
- 5 = Truncated domes (no color)



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- 6 = Truncated domes (color)



No Warning



Sensory Groove Narrow



Sensory Groove Wide



Truncated Dome Color



Truncated Dome No-Color



Curb

Figure 1 Examples of Curb Ramp Warning Devices



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Curb Condition

- 1 = Poor
- 2 = Good
- 3 = Excellent

Ramp Location – Where is the ramp located

- 1 = Intersection
- 2 = Mid-block
- 3 = Driveway or another access point

Located in Intersection – Where is the ramp located in the intersection.

- 1 = North
- 2 = South
- 3 = East
- 4 = West
- 5 = Northeast
- 6 = Northwest
- 7 = Southeast
- 8 = Southwest

Curb Ramp Type (R304.1) (Examples are provided on page #).

- Parallel – Parallel curb ramps have a running slope in-line with the sidewalk travel direction and lower the sidewalk to a level turning space. The landing area is usually at the bottom of the ramp.
- Perpendicular – Perpendicular curb ramps have a running slope that cuts through or is built up to the curb at right angles or meets the gutter break. The curb ramps are perpendicular to the road the pedestrian intends to cross)
- Combination – Combination curb ramps are perpendicular ramps intended to allow crossing of both sides of the street.
- Blended – Blended curb ramps cover the entire arc of the curb and serve crossing in both directions.



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Ramp Width (R304.5.1)– Width of the ramp in feet.

Ramp Width (Only one ramp at the location)

Left Ramp Width (The direction is facing the curb from the Street)

Right Ramp Width (The direction is facing the curb from the Street)

Running Slope (R304.2.3) – The running slope of the ramp in the direction of Travel. The ramp runs from the grade brake of the sidewalk to the grade brake of the turning space. The slope of the ramp measured in percent to the 10th place. The measurement is taken where the ramp meets the sidewalk or Landing Area at the top of the ramp near the center.

Ramp Slope (only one ramp at the location)

Left Ramp Running Slope (The direction is facing the curb from the Street)

Right Ramp Running Slope (The direction is facing the curb from the Street)

Cross Slope (R304.5.3) – the slope perpendicular to the direction the ramp is running. (this is the cross slope of perpendicular ramps (measures in degrees to the 10th place). The measurement is taken perpendicular to the top of the ramp in the middle of the ramp.

Cross Slop (only one ramp at the location)

Cross Slope Ramp Right (The direction is facing the curb from the Street)

Cross Slope Ramp Left (The direction is facing the curb from the Street)

Left Flare Slope – The flared sides are part of the sidewalk crosses the curb ramp. The slope of the left flare (direction as looking to the curb from the street). Measurement is taken at the curb.

Right Flare Slope – The flared sides are part of the sidewalk crosses the curb ramp. The slope of the right flare (direction as looking to the curb from the street). Measurement is taken at the curb.

Detectable Warning Width (**Measurements in taken for only truncated dome warning**) – The width of the warning material in inches.

Detectable warning Length (**Measurements in taken for only truncated dome warning**) – The length of the warning material in inches.

Turning Space or Landing Area (R304.2) - A turning space 4 feet by 4 feet shall be provided at the top of the curb ramp or bottom of the curb ramp in parallel curb ramps. The turning space includes the detectable warning.

Grade Breaks (R304.5.2) – The perpendicular transition of the curb ramp from the sidewalk to the ramp and from the ramp to the and street shall be flush (less than 1/2 inch vertical separation.)



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Counter Slope (R304.5.3) – The slope from the curb edge (Flow Line) towards the street.

Flow Line Slope – The flow line is located at the ramp's base, where the curb meets the gutter pan. Measure the slope in the middle of the ramp in percentage to the 10th place.

Date – The date of the inventory

Objects – Any object within the curb ramp or in the transition from the curb ramp to the street limits the ramp's width to less than four feet. A storm drain in the landing area is considered an object.

- 1 = Yes
- 2 = No



Ramp Measurements Elements and Location

Parallel Curb Ramps

Parallel curb ramps come in many styles. Figure 2 provides an example of measuring a parallel ramp. Figure 3 provides examples of parallel curb ramps from the BTPO planning area. Figure 4 on page 11 provides examples of parallel curb ramps from the BTPO planning area. The turning space is located at the bottom of the parallel curb ramps. A parallel curb ramp has two ramps that require a width, cross slope, and running slope. The turning space measurements of width and length include the detectable warning surface. The cross slope and running slope for turning space are taken near the top of the detectable warning.

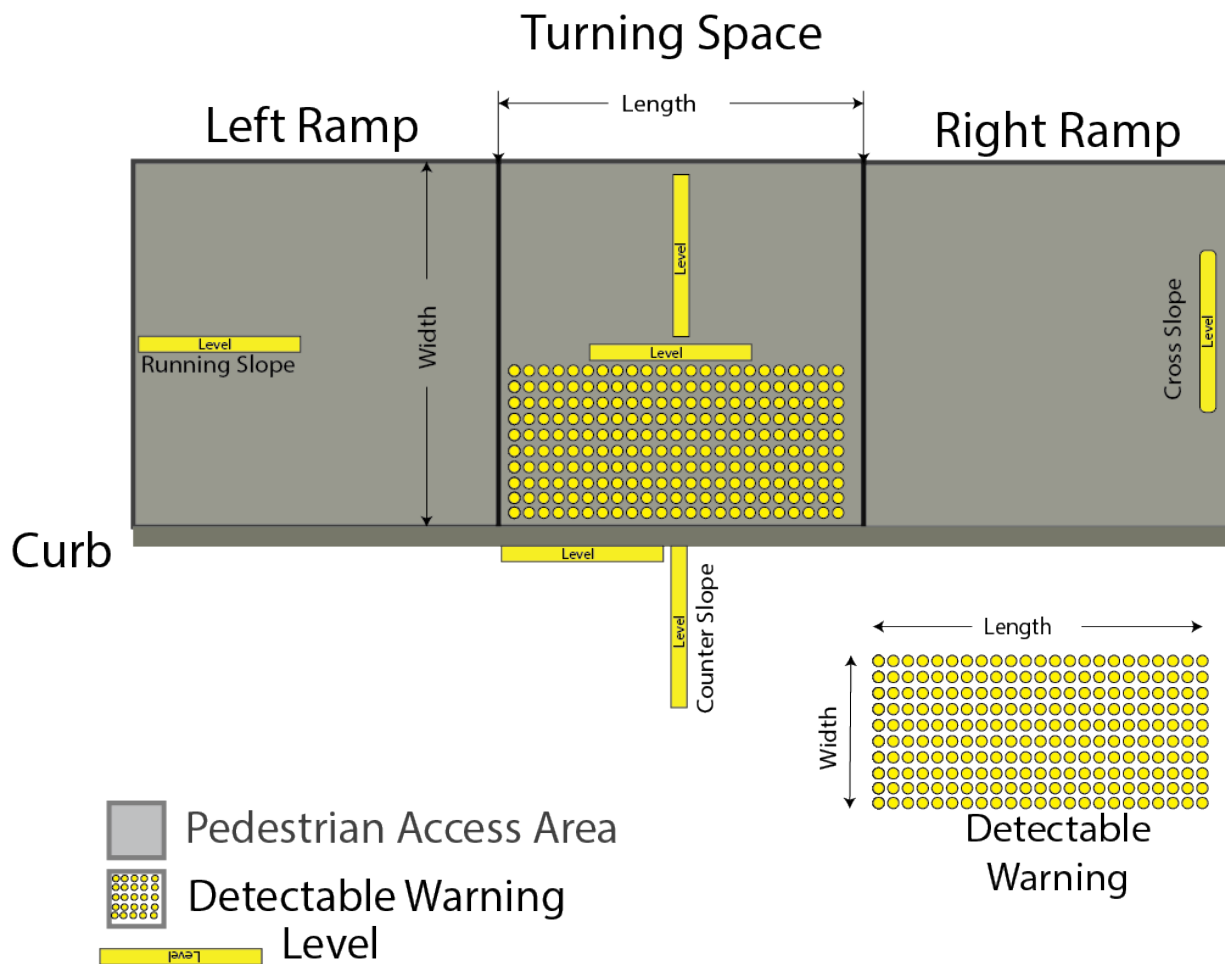


Figure 2 Parallel Ramp Measurement Locations



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Figure 3 Example of Parallel Curb Ramps



Perpendicular

Figure 4 provides an example of where to measuring a perpendicular ramp. Figure 5 provides examples of perpendicular curb ramps from the BTPO planning area. The turning space is located at the top of the perpendicular curb ramps. Perpendicular curb ramps have one ramp. A measurement of the width, cross slope, and running slope is required. The turning space measurements of width and length are taken where the ramp transitions to a flat area. Some turning spaces are not rectangles. For non-rectangle turning spaces provide the longest measurement from the ramp to the end of the turning space. The cross slope and running slope for turning space are taken near the top of the ramp.

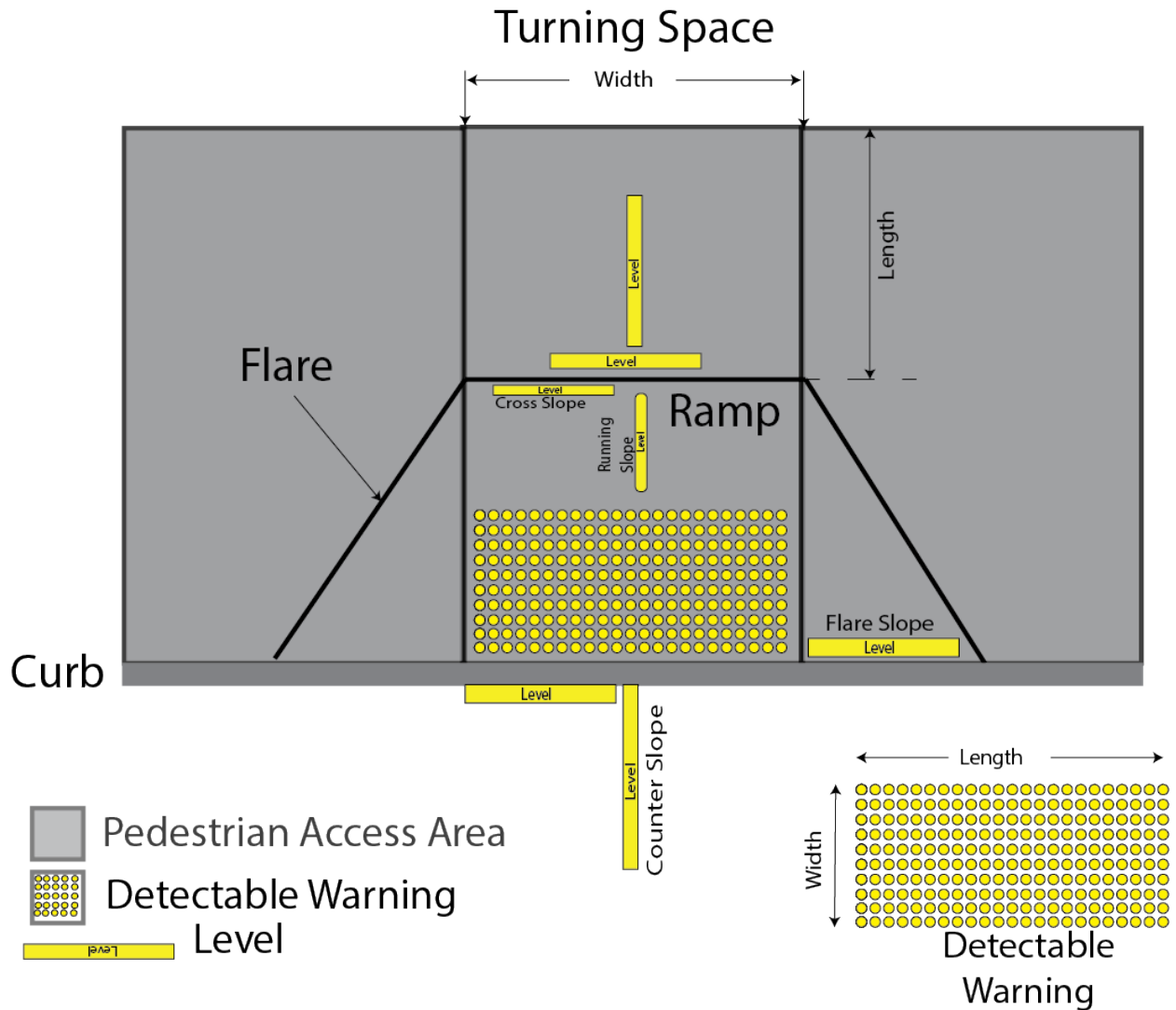


Figure 4 Perpendicular Ramp Measurement Locations



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Figure 5 Example of Perpendicular Curb Ramps



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Blended Curb Ramps

Blended curb ramps are located at the intersection with a large radius. Figure 6 provides an example of measuring a blended curb ramp. Figure 7 provides examples of perpendicular curb ramps from the BTPO planning area. The blended curb ramps can be either parallel or perpendicular. The most recognizable characteristic of a blended curb ramp is the detectable warning covering the entire curb radius. See Figure 3 for specific measurement details.

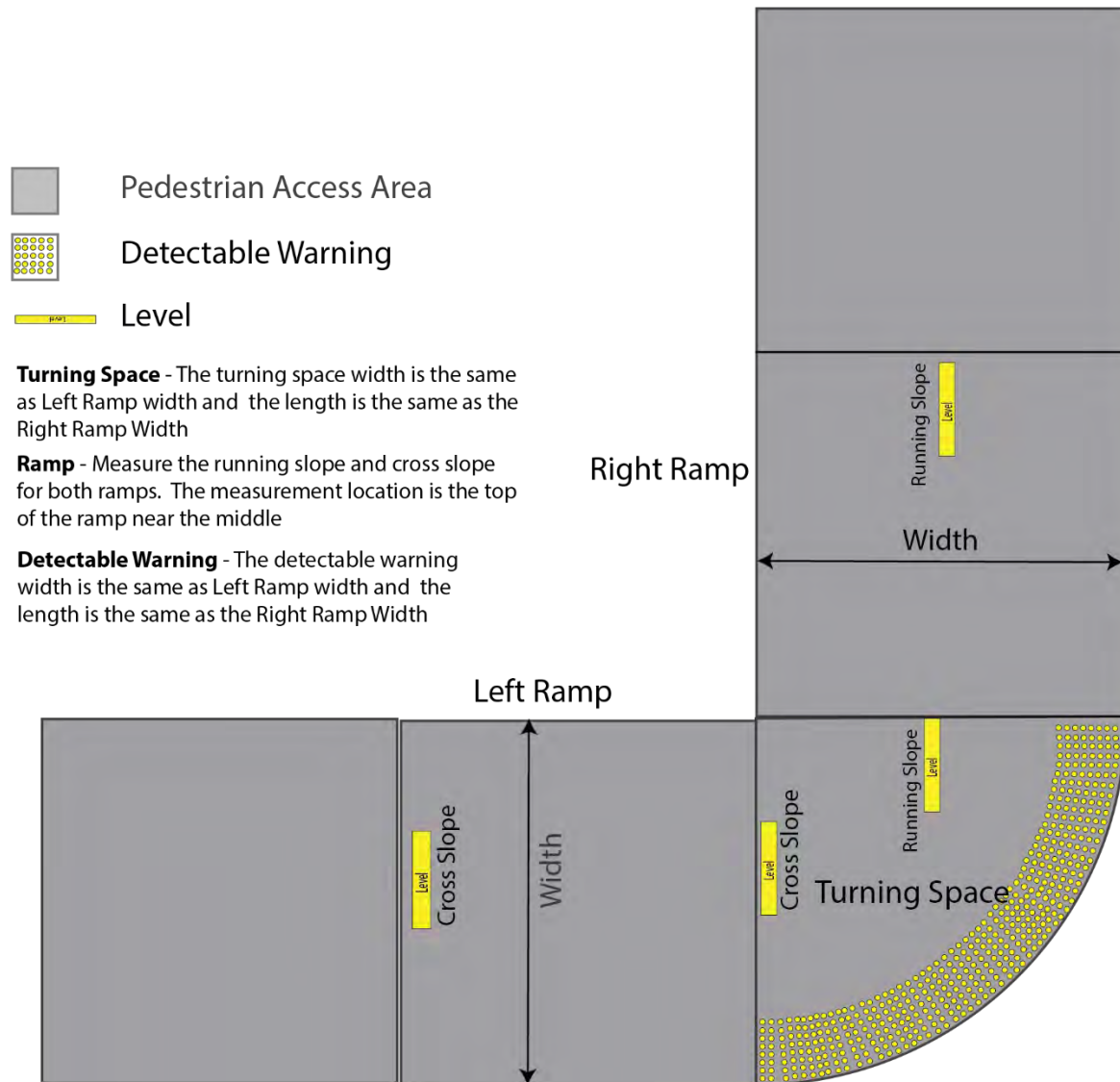


Figure 6 Blended Curb Ramp Measurement Locations





Figure 7 Examples of Blended Curb Ramps

Combination Curb Ramps

Combination curb ramps are any ramp type that serves both directions of pedestrian travel. To determine the measurement locations for combination curb ramp, determine the type of ramp (parallel or perpendicular), and measure the ramp according to that type's requirements. Figure 8 provides examples of combined curb ramps in the BTPO planning area.



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Figure 8 Examples of Combination Curb Ramps




Hazards

Plant/shrub – A plant or shrub that makes the width of the walk less than 48 inches

Pole – A pole that makes the width of the walk less than 48 inches

Mailbox – A mailbox which makes the width of the walk less than 48 inches

<p>Uneven segments (Fall/Rise) - A vertical offset in the surface between two sections is greater than ½ inch.</p>	
<p>Horizontal Cracks - Cracks greater than ½ inch wide but does not extend across the entire sidewalk.</p>	



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<p>Transverse Cracks - Cracks greater than ½ inch wide. The crack extends across the sidewalk. The crack can run diagonally across the sidewalk.</p>	
<p>Vertical Cracks - Cracks greater than ½ inch wide. The crack is perpendicular to the sidewalk and less than 3 feet</p>	
<p>Longitudinal Cracks - Cracks greater than ½ inch wide. The crack runs along the sidewalk. The crack is perpendicular to the sidewalk and greater than 4 feet.</p>	



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<p>Holes - Holes in the surface are more than 3" X 3" X 1"</p>	
<p>Plant -Vegetation which protrudes into the sidewalk and does not allow 4 feet width.</p>	
<p>Tree</p>	



