

# Scenarios

Where are the pedestrian facilities?

What are the pedestrian needs?

How would you provide access to the maximum extent feasible?

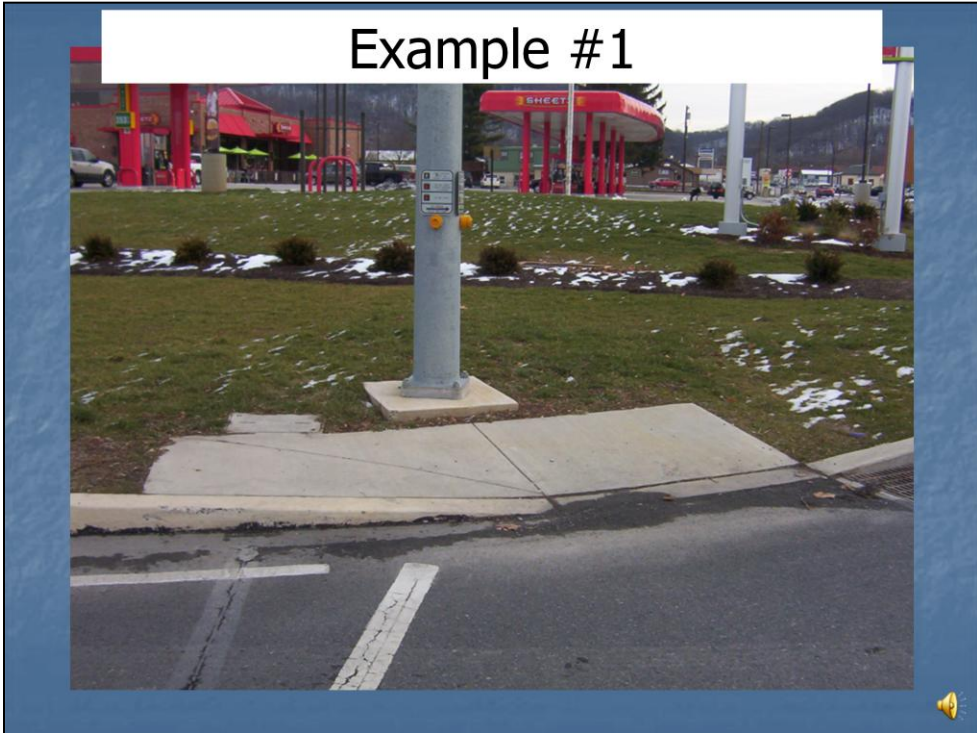


Scenarios.

The following slides will show existing pictures that deny access, followed by a retrofitted picture that provides access.

For the following slides assume an overlay project and provide pedestrian access. First, identify the facilities, then investigate need, and then decide how access is provided if needed.

## Example #1



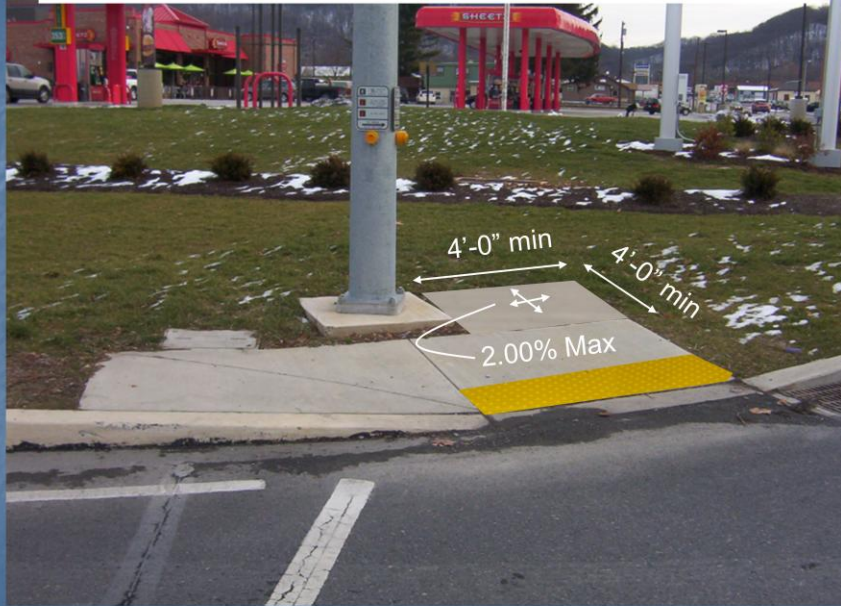
### Example 1

Step 1 - Locate pedestrian facilities. For this slide they are pedestrian push buttons and a marked crosswalk.

Step 2 - Investigate pedestrian need. If the need for these seems low, perform a pedestrian study to conclude that they are not needed and remove or continue to step three.

Step 3 - Provide access. In this picture access to the push buttons are not from a level landing. What would you construct?

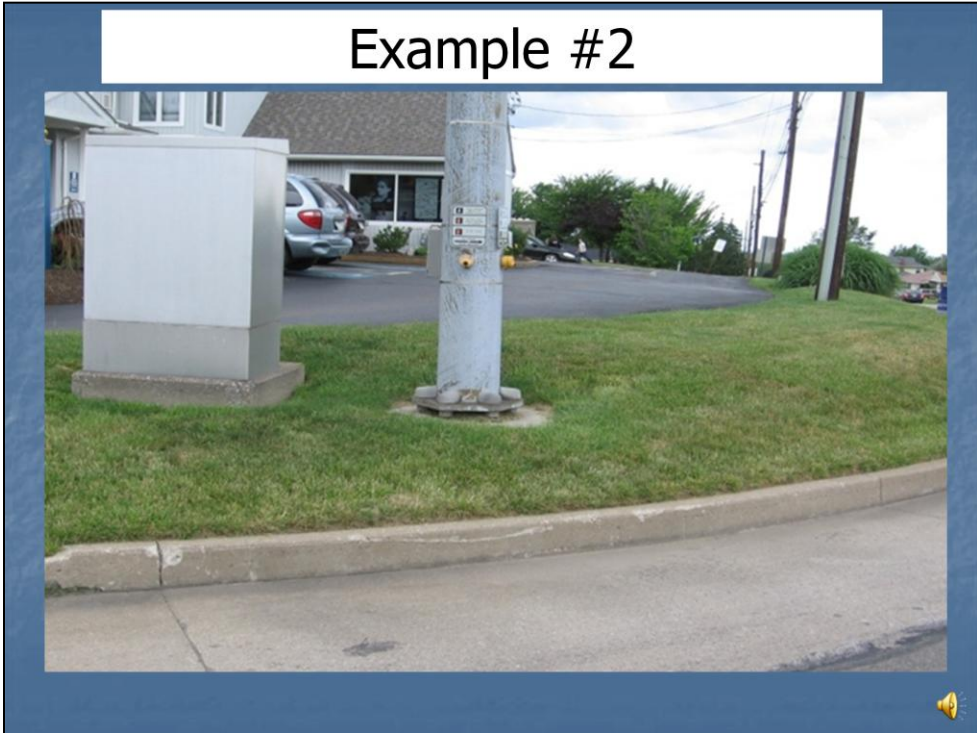
## Example #1



At a minimum, a level landing would be needed. A pedestrian pushbutton may also have to be installed at the back of the landing if the lateral reach exceeds 10".

You may be thinking: "But this does not go anywhere? Why are we installing this landing?" As per ADA law, existing facilities must be accessible by everyone. PennDOT may not deny access, therefore if the push button stays, it must be accessible by everyone, period.

## Example #2



Step 1 - Locate pedestrian facilities.

Step 2 - Investigate pedestrian need. If there is not a need, do the study to verify and remove or...

Step 3 - Provide access. What would you construct?

## Example #2



The landing is needed for surface requirements and the DWS is needed for pedestrians with visually disabilities.



## Example #3

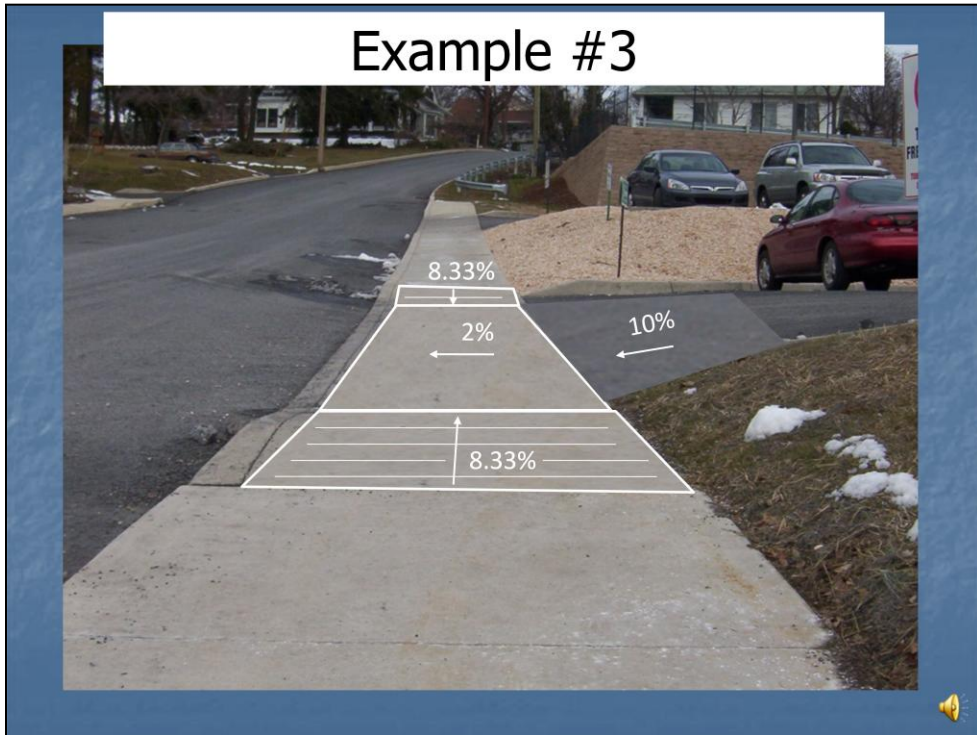


Step 1 - Locate pedestrian facilities. For an overlay project, if the sidewalk is not altered, we would not have to address the steep cross slope. But for discussion, let's assume this is a street scope project.

Step 2 - Investigate pedestrian need. Here the sidewalk was installed due to pedestrian needs. The cross slope is the problem.

Step 3 - Provide access. What would you construct?

## Example #3



A possible solution would be to ramp the sidewalk down to the depressed curb and provide a 2% cross slope.

Keep in mind a cross slope adjustment from 6% cross slope to 2% cross slope over a 5' width produces only a 2.4" change in elevation at the back of the sidewalk. This may seem like a minor change in elevation but this is a very noticeable difference for a pedestrian who uses a wheelchair.

## Example #4



Step 1 - Locate pedestrian facilities.

Step 2 - Investigate pedestrian need. If there is not a need, do the study to verify and remove or...

Step 3 - Provide access. What would you construct?



## Example #4



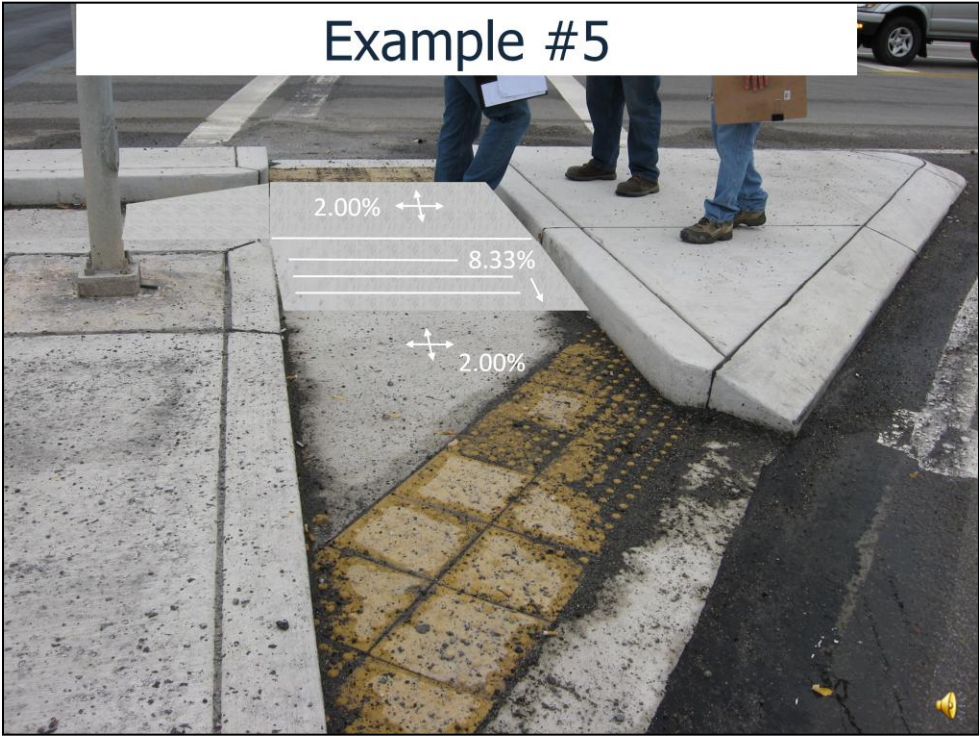
The retrofit depicted ramps the sidewalk down to a level landing. This provides access to the push buttons. DWS is added at the back of the curb.

## Example #5



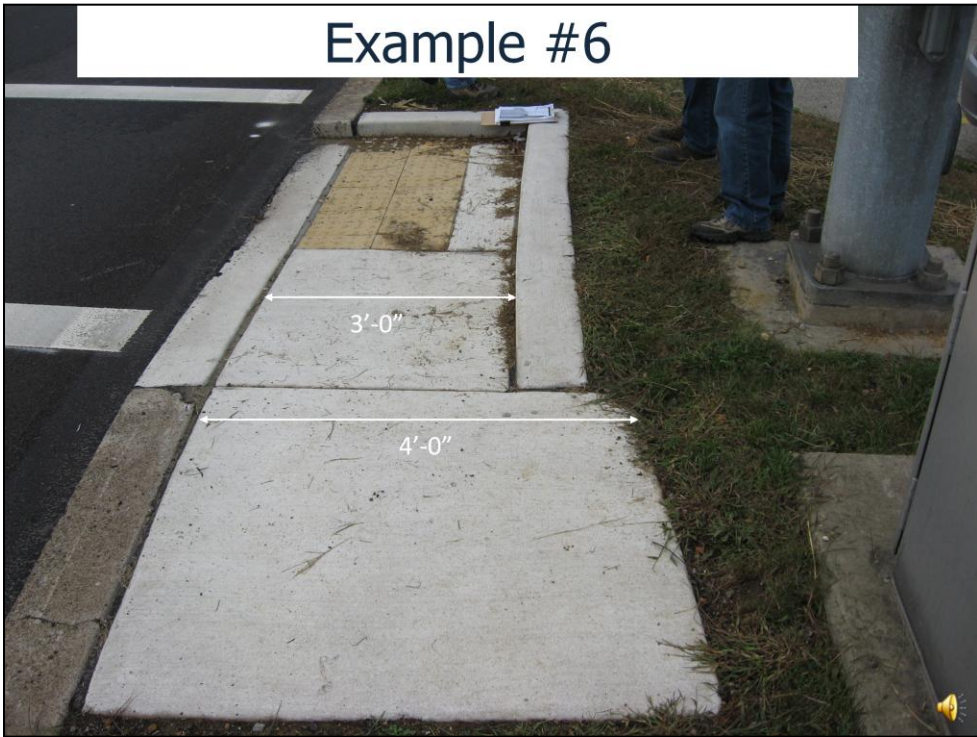
This slide depicts a median opening in an island. This is totally fine, however surface runoff is going through the island and anti-skid is collecting in the median opening.

# Example #5



A possible better design would include ramps to keep the runoff from traveling through the island.

## Example #6



This slide depicts a partial Type 2 curb ramp. However the width is reduced to 3'. Also, the cheek wall should be behind the sidewalk, not in the sidewalk.



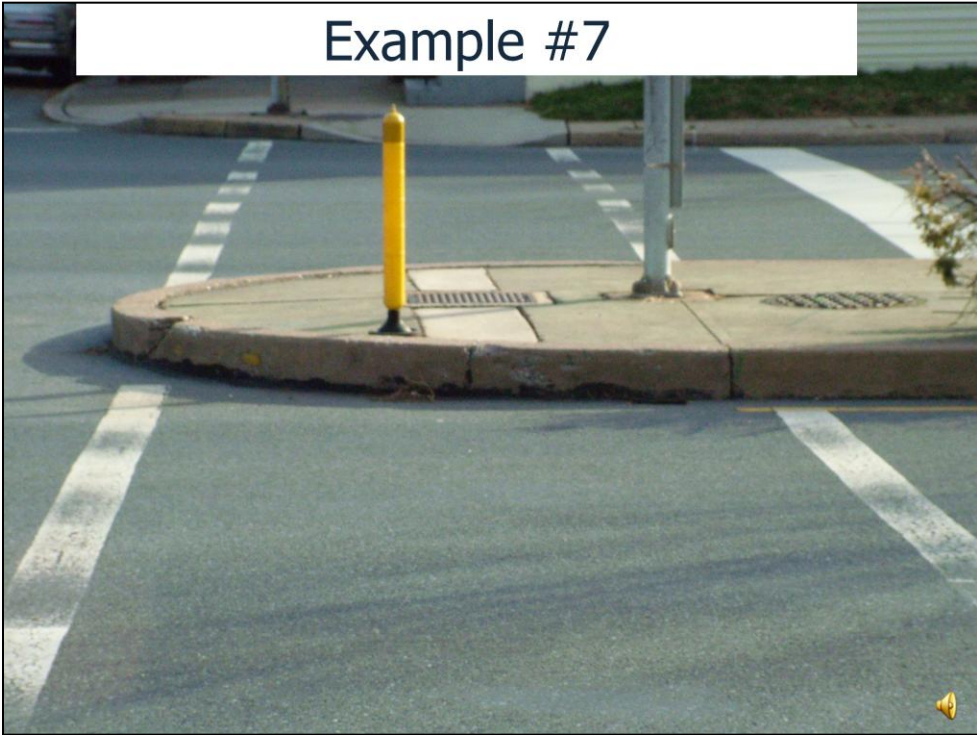
## Example #6



A better design would place the cheek wall behind the sidewalk and keep the sidewalk at a consistent 4' width . However, a 5' width would have been desirable.

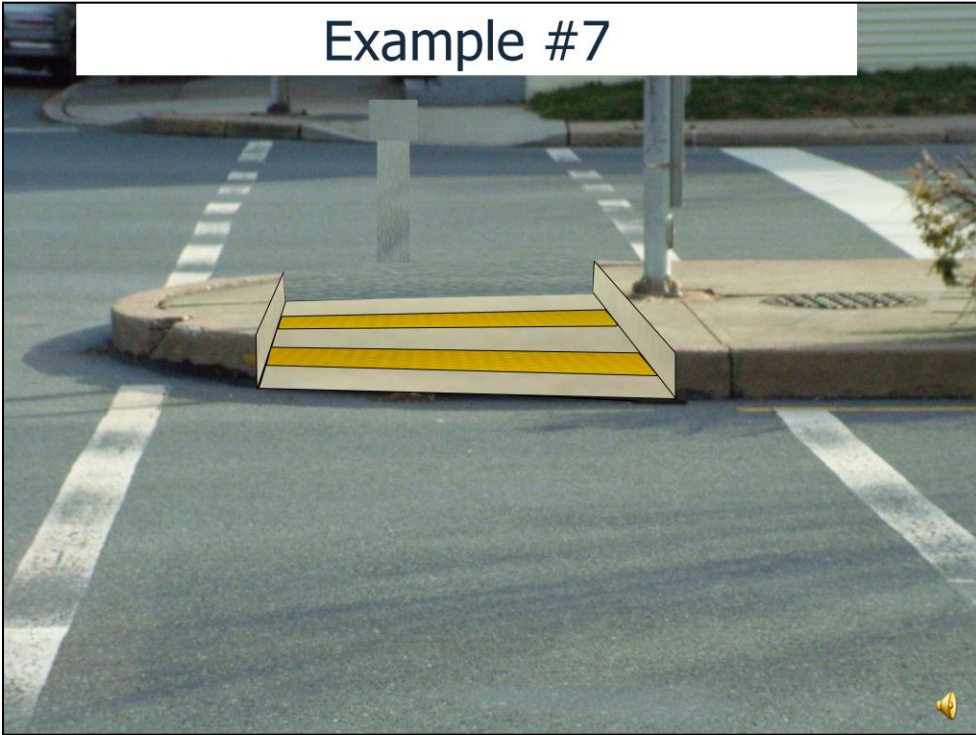


## Example #7



Here you can see the crosswalk crosses a raised median with a utility in the median.

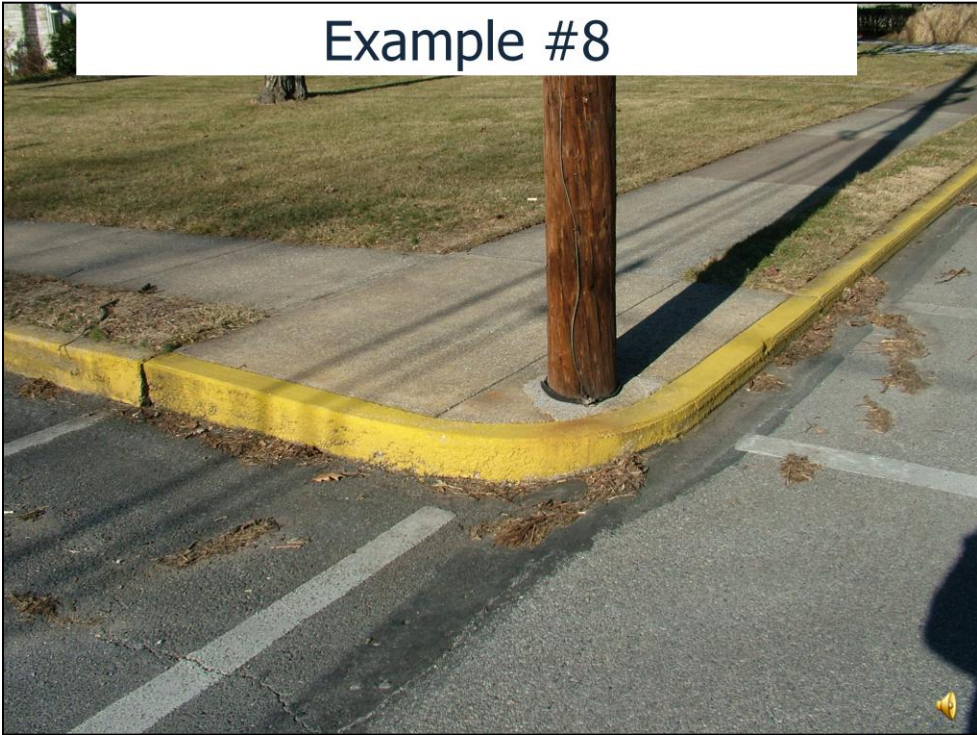
## Example #7



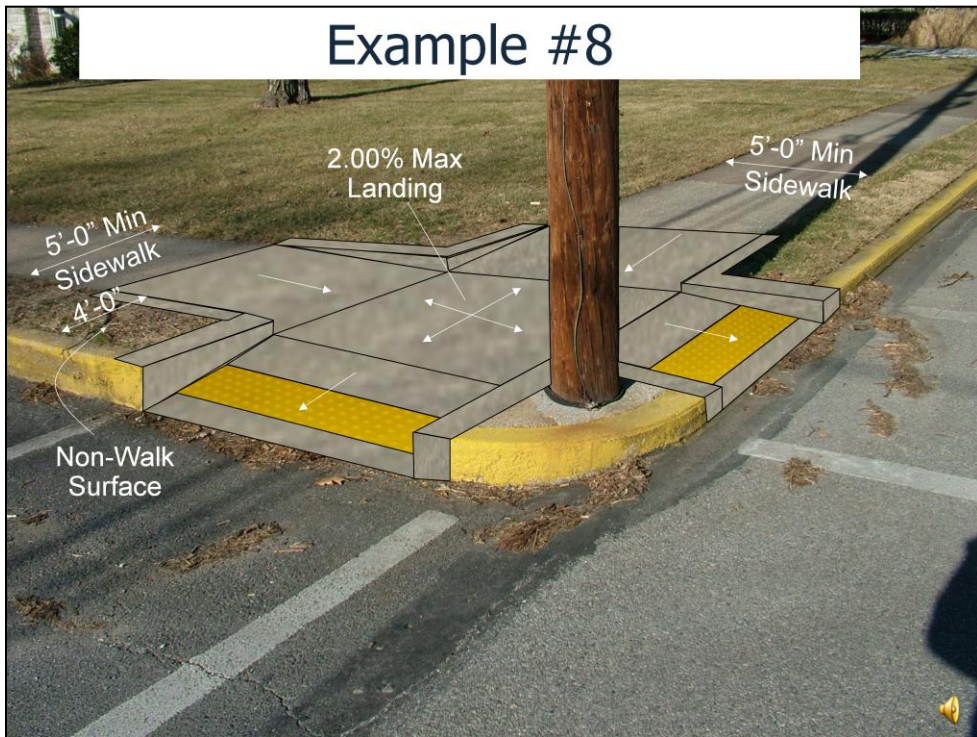
Possible solution - Type A Median Opening.

A different solution could be to nose down the median after the utility to provide an accessible 4' path width.

## Example #8



Here two sidewalks intersect and neither have a curb ramp.  
What would you construct?



Since the grass strip is not wide enough to transition the curb height, a Type 1 or Type 4 curb ramp will not work.

However, a Type 6 curb ramp can be installed to ramp the sidewalk down to an intermediate landing then a second ramp will ramp down to the street.



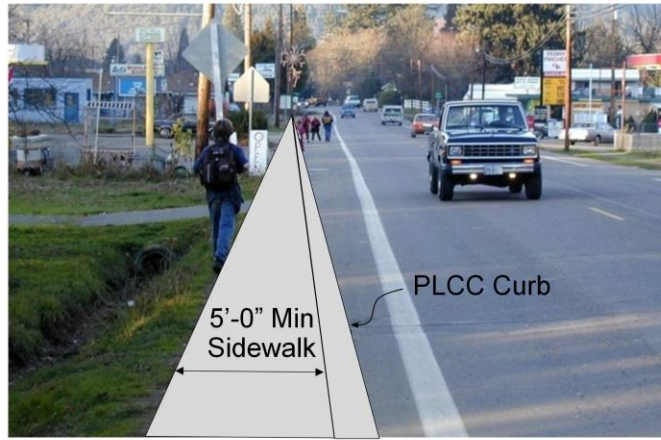
## Example # 9



This is not an ideal scenario. If children are walking to school via the use of a shoulder. Any project along this route must incorporate pedestrian needs.

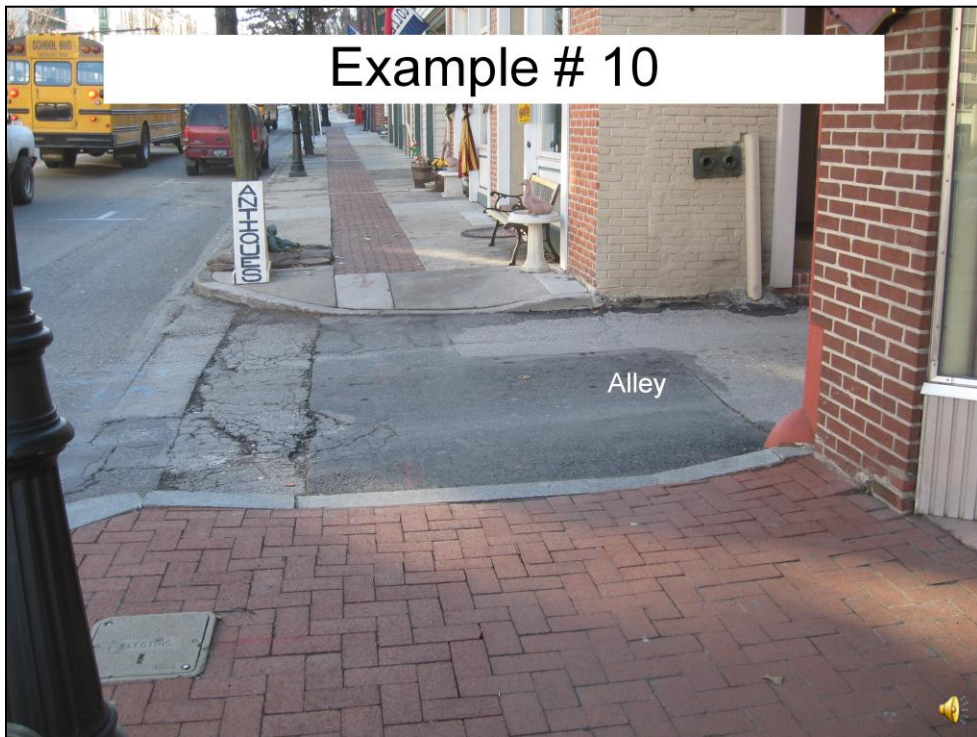


## Example # 9



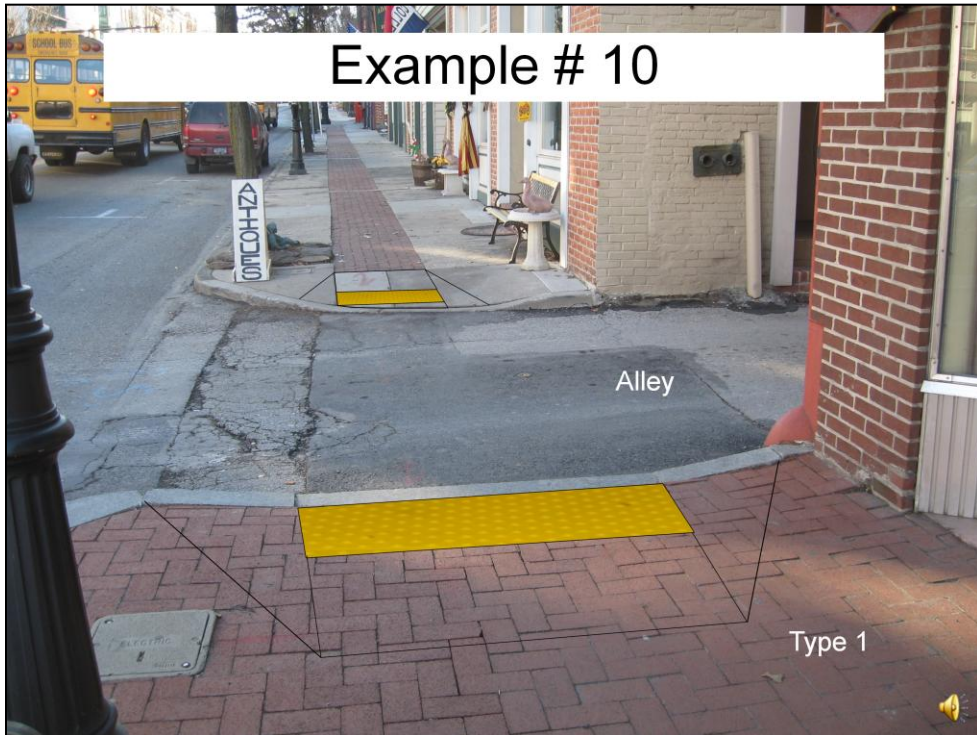
Depending on the project type, installing a sidewalk to meet the needs of pedestrians could be a possible solution.

## Example # 10



The quick question for this slide is, "Do alley crossings need DWS?"

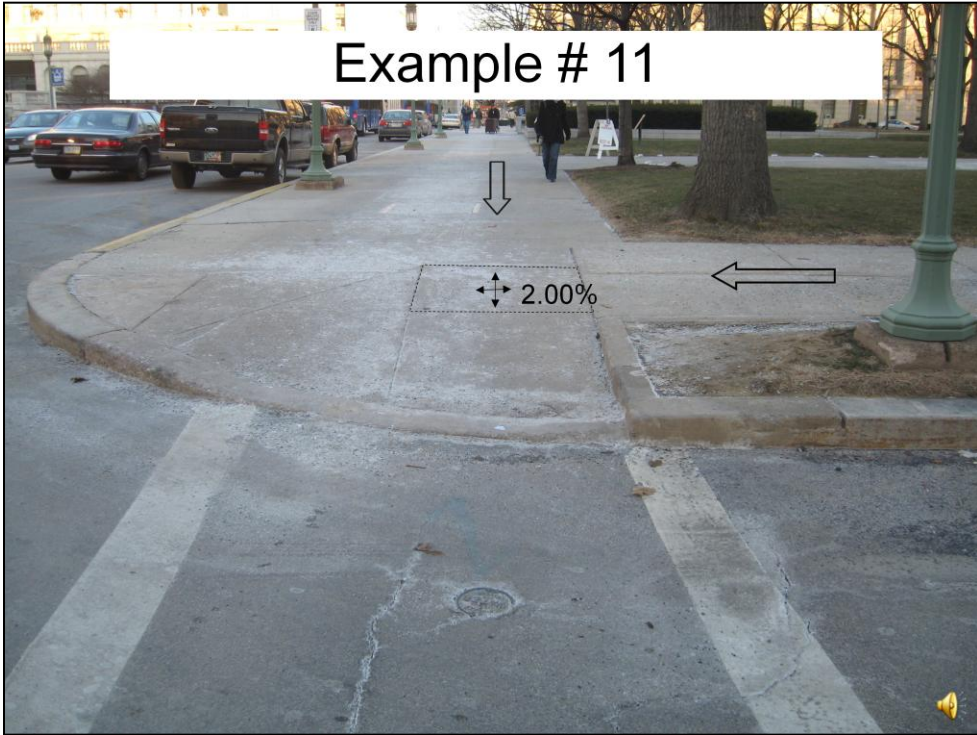
## Example # 10



The answer is yes.

DWS is required where pedestrians are likely to encounter traffic. Driveways normally do not produce enough vehicle traffic to warrant DWS, however high volume driveways such as a hotel, may warrant DWS.

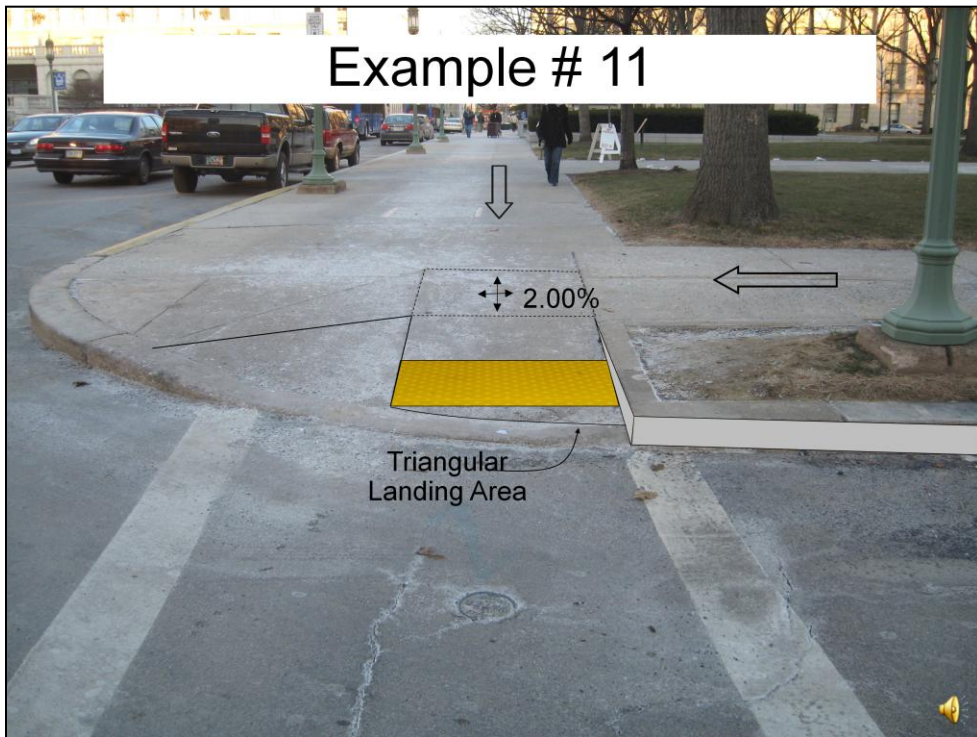
## Example # 11



For this slide, can hybrid curb ramps be used?

In the picture, the left side is a Type 1 and the right side is a Type 4.

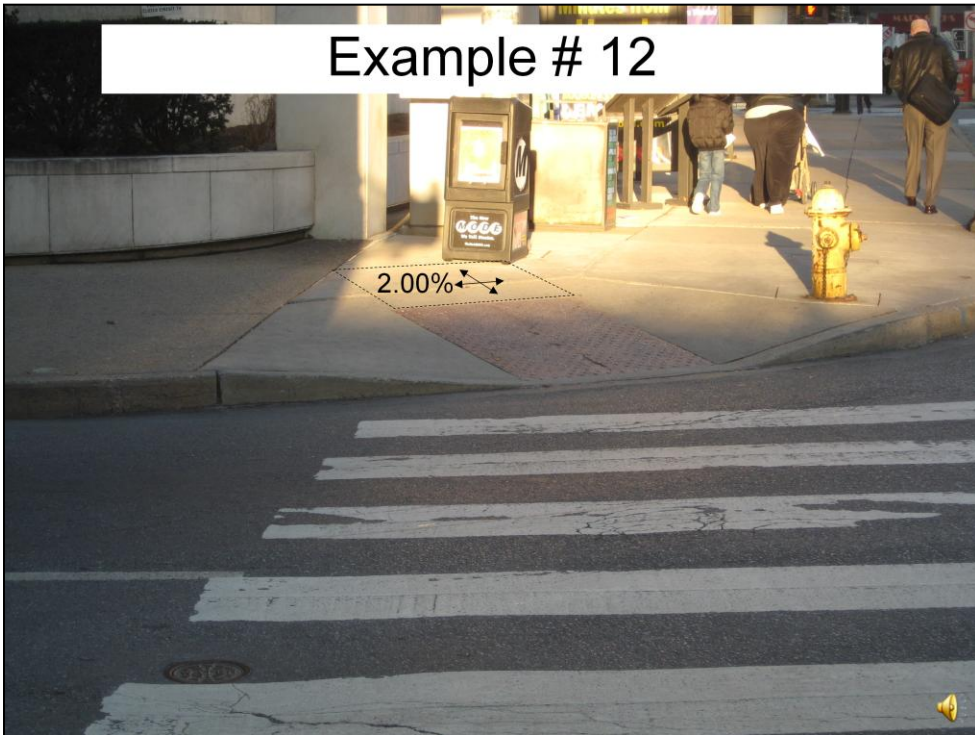




Combining ramp types is acceptable and the department recognizes that one ramp type does not fit all. The plans must have the appropriate detail so that modified curb ramp types can be constructed. For this situation, DWS would still be required.



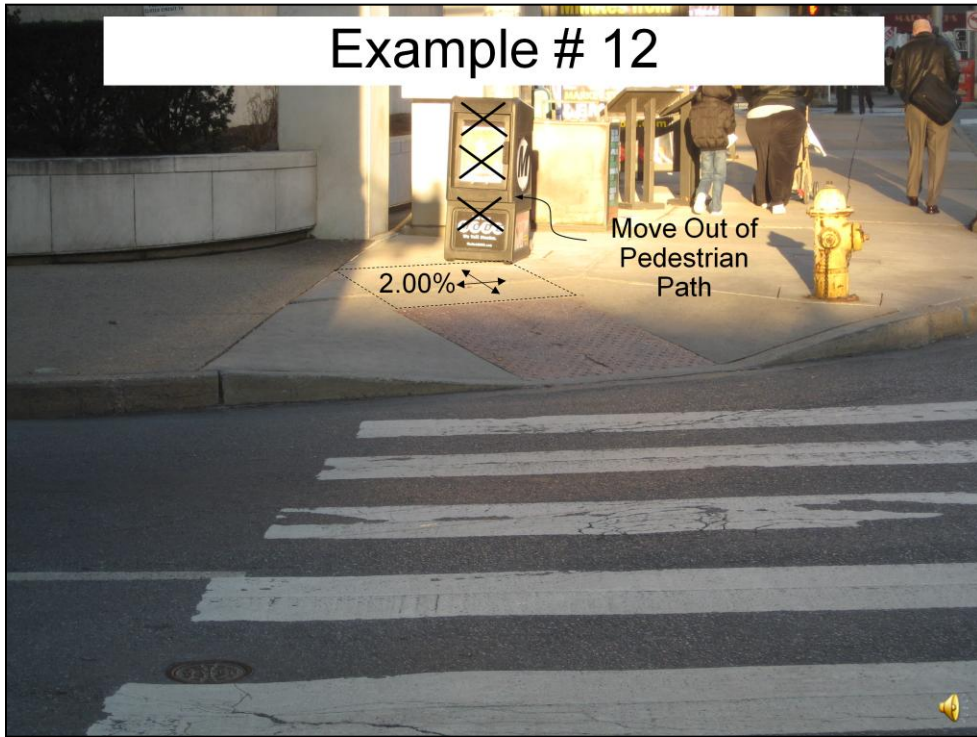
## Example # 12



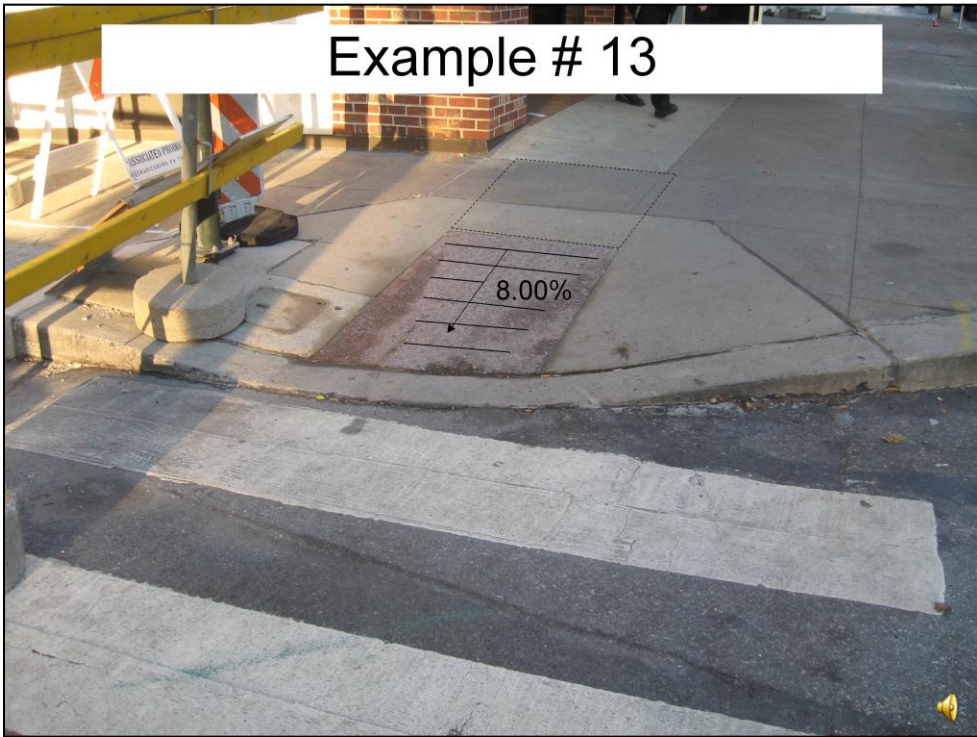
In this slide, the newspaper stand is encroaching onto the landing area. The fire hydrant placement keeps pedestrians from walking directly over a portion of the flare slope.

In this situation the flare in front of the fire hydrant may be technically infeasible to construct at 10.00%. The flare on the left side of the ramp should have a slope 10.00% flatter.

## Example # 12



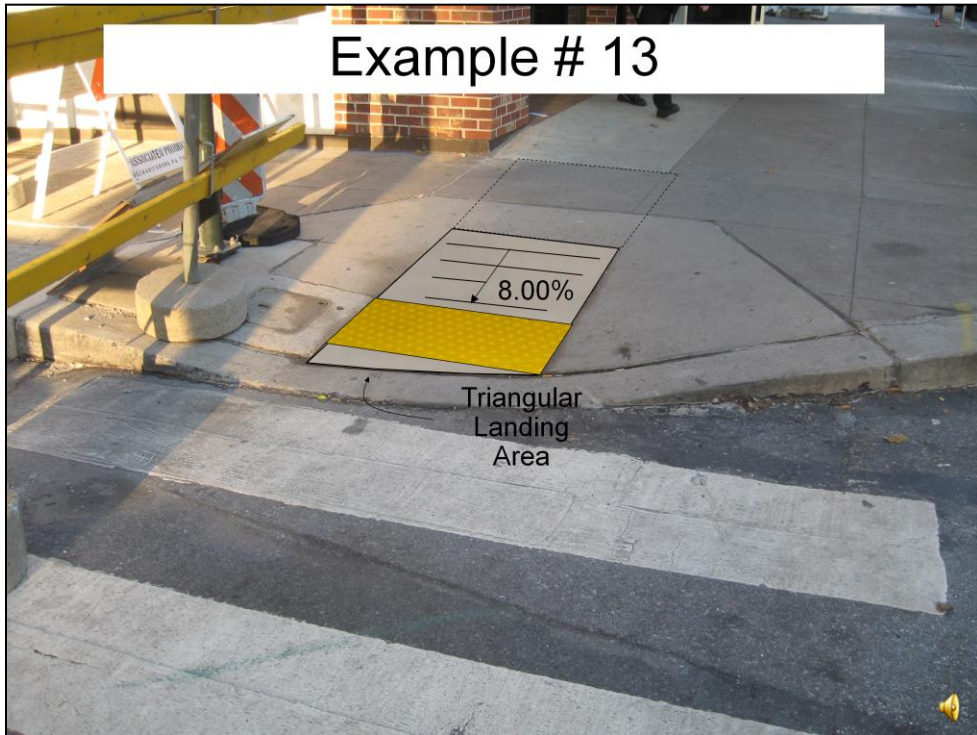
For this situation, assuming the left flare is OK, simply moving the newspaper stand will improve access.



Here is a ramp with a worn DWS surface. The overlay will remove the lip at the depressed curb.

What would you construct?

## Example # 13

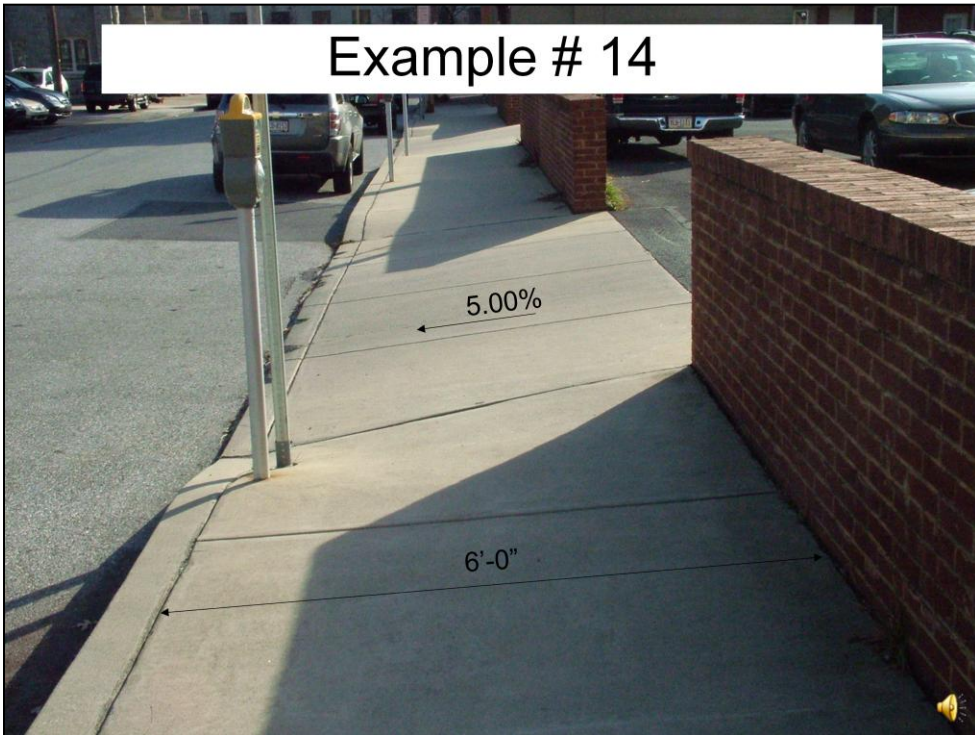


If the DWS surface is worn, use engineering judgment to determine if it is still functioning as a warning for pedestrians...is it still detectable by a person with visual disabilities?

Here the designer determined the surface was not functioning since many of the domes were missing and the contrast was not sufficient. Ramp portion was removed and re-poured and then a 24" strip of DWS was installed. Notice the triangular landing since the ramp is not perpendicular to back of curb.



## Example # 14



For an overlay project, is this driveway considered altered?

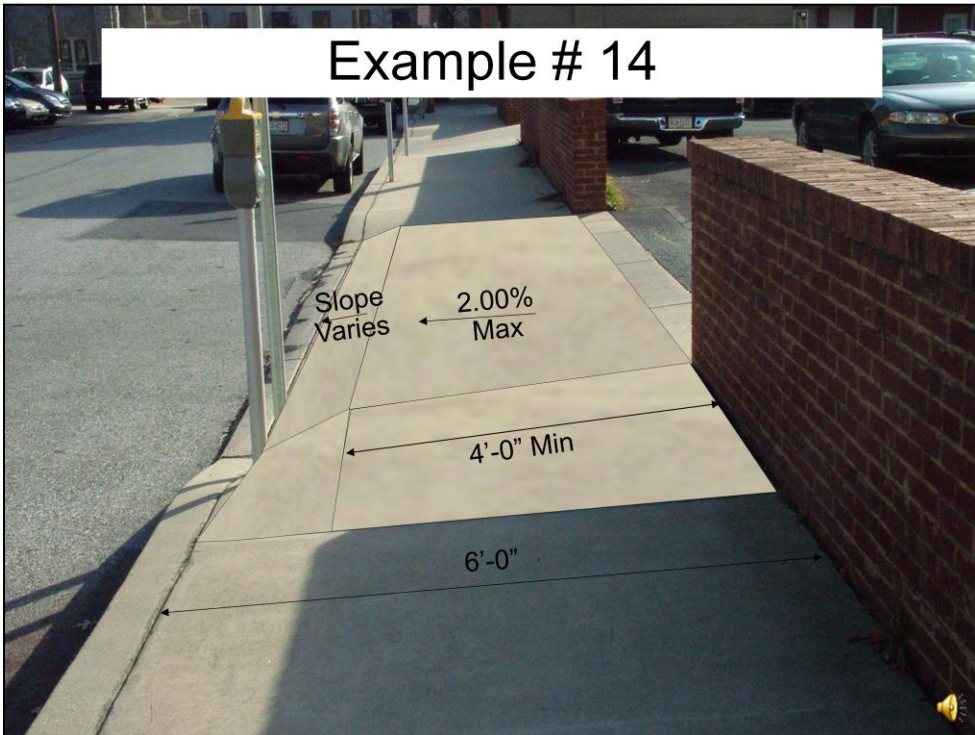
For a mill and fill, most likely the driveway will not be altered. However a thicker pavement section is placed and a driveway adjustment is needed, then the driveway would be altered and must be upgraded.

Imagine a pedestrian using a wheelchair to cross this driveway. It is clear to see that the pedestrian will gravitate toward the street due to the cross slope.

If the driveway is altered, what would you construct?



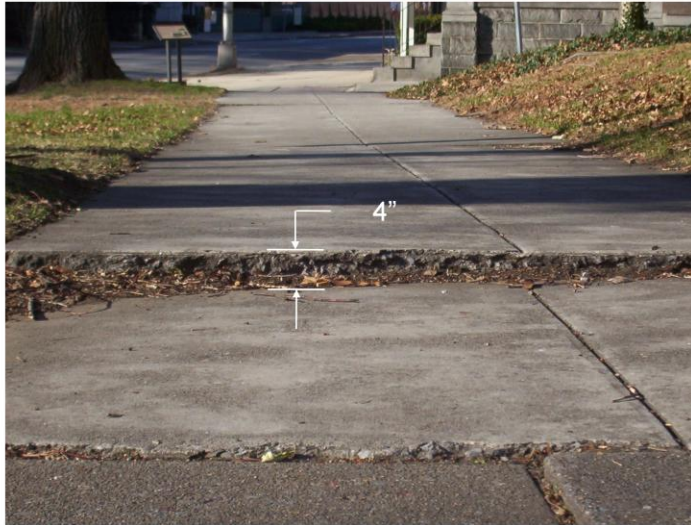
## Example # 14



Here is a possible solution.

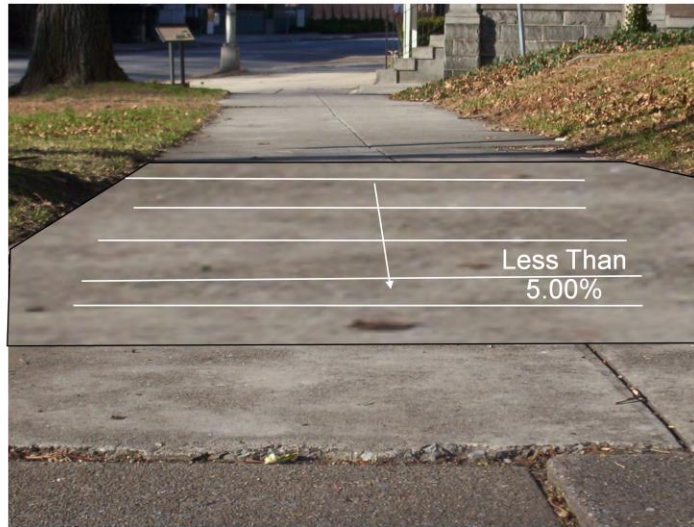
Your first reaction may be imagining a car dragging its under carriage as it enters the driveway. Keep in mind the maximum algebraic difference between the driveway and street is 8%. Also, the elevation difference at the back of sidewalk for this example would calculate out to be approximately 1.5".

## Example # 15



Vertical lips create obvious tripping hazards.  
How would you remove this one?

## Example # 15



Simply remove an appropriate section of concrete to transition the vertical lip. Slopes less than 5% would be ideal.

# ADA Links

United States Access Board  
<http://www.access-board.gov/>

United States Access Board - Sidewalk Videos  
<http://www.access-board.gov/news/sidewalk-videos.htm>

ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)  
<http://www.access-board.gov/adaag/html/adaag.htm>

Public Rights-of-Way (PROW) Draft Guidelines  
<http://www.access-board.gov/prowac/draft.htm>

Federal Highway Administration (FHWA)  
Designing Sidewalks and Trails for Access (Chapter 7 curb ramps)  
<http://www.fhwa.dot.gov/environment/sidewalk2/index.htm>

Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations  
<http://www.access-board.gov/prowac/alterations/guide.htm>

Armor Tile Installation Video  
[http://www.armor-tile.com/cutting\\_curb\\_ramps\\_video.html](http://www.armor-tile.com/cutting_curb_ramps_video.html)



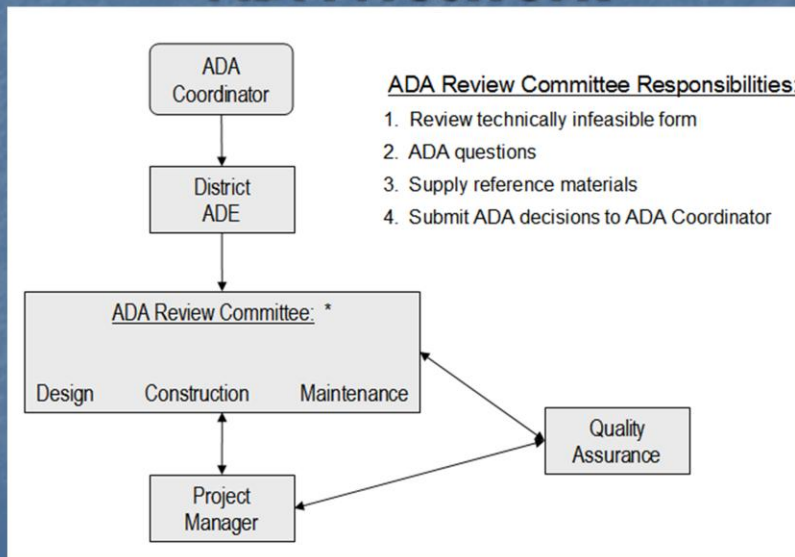
This slide contains multiple links from the US Access Board and FHWA.

The US Access board has videos available pertaining to providing access to persons with disabilities.

The last link is from an approved supplier. The link will take you to a video called "Cutting Curb Ramps Without Cutting Corners" This 15 minute video is very informative and worth watching.



# ADA Network



Each district will have an ADA Review Committee responsible for reviewing technically infeasible forms and provide assistance for designing and constructing accessible pedestrian facilities with support from the Quality Assurance Division.

An ADA Coordinator at Central Office will manage the transition plan and provide a high level of assistance to the districts as needed.

## Things to Remember:

1. Resurfacing and mill and fill projects trigger the need for updated curb ramps.
2. Diagonal ramps are not preferred. ADE of Design approval will be required when the turning maneuver is not entirely on the sidewalk.
3. New Construction must meet the RC's. Alterations must meet the RC's or meet the RC's to the maximum extent feasible with a technically infeasible form.



Things to remember from this training.

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2. Diagonal ramps are not preferred. ADE of Design approval will be required when the turning maneuver is not entirely on the sidewalk.
3. New Construction must meet the RC's. Alterations must meet the RC's or meet the RC's to the maximum extent feasible with a technically infeasible form.

In closing, we hope this presentation was informative and provided answers to many questions concerning ADA and pedestrian facilities.