

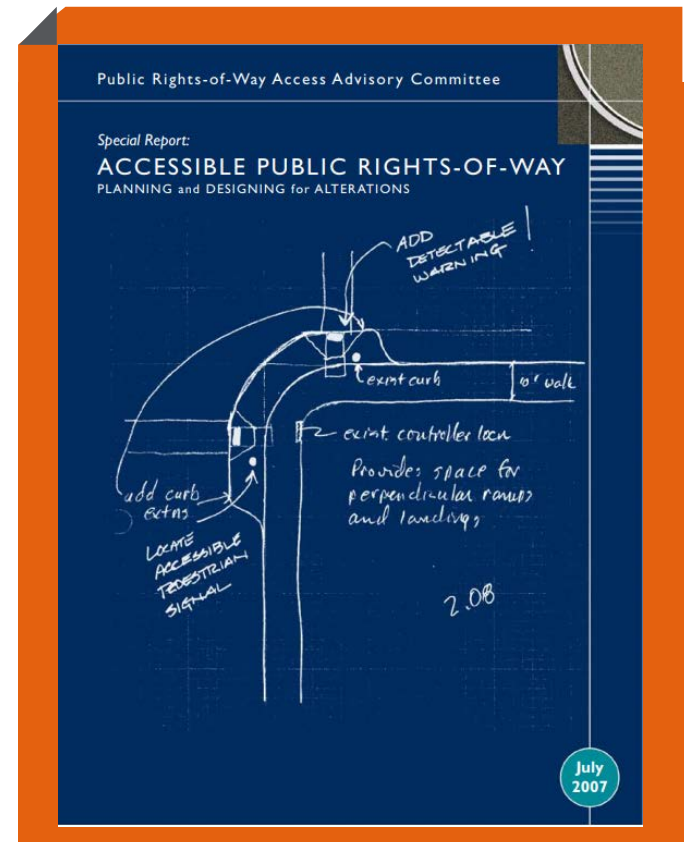
RETROFITTING ACCESSIBLE PEDESTRIAN DESIGN

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Introduction

- Will Focus on Transportation Retrofit Projects, Not Applicable to Many New Construction Projects
- ADA Guideline Desirables / Minimums Should be Used Wherever Feasible
- Will Focus on PROWAG—
Draft **Proposed Right-of-Way Accessibility Guidelines**
 - Issued by Access Board in 2002, last revised in 2007
 - The Draft PROWAG has been Identified as the Best Practice in Accessible Pedestrian Design under the Federal Highway Administration's Federal-aid Regulation



Designers Should be Familiar with Both ADA Guidelines and PROWAG

What is a Retrofit Project?

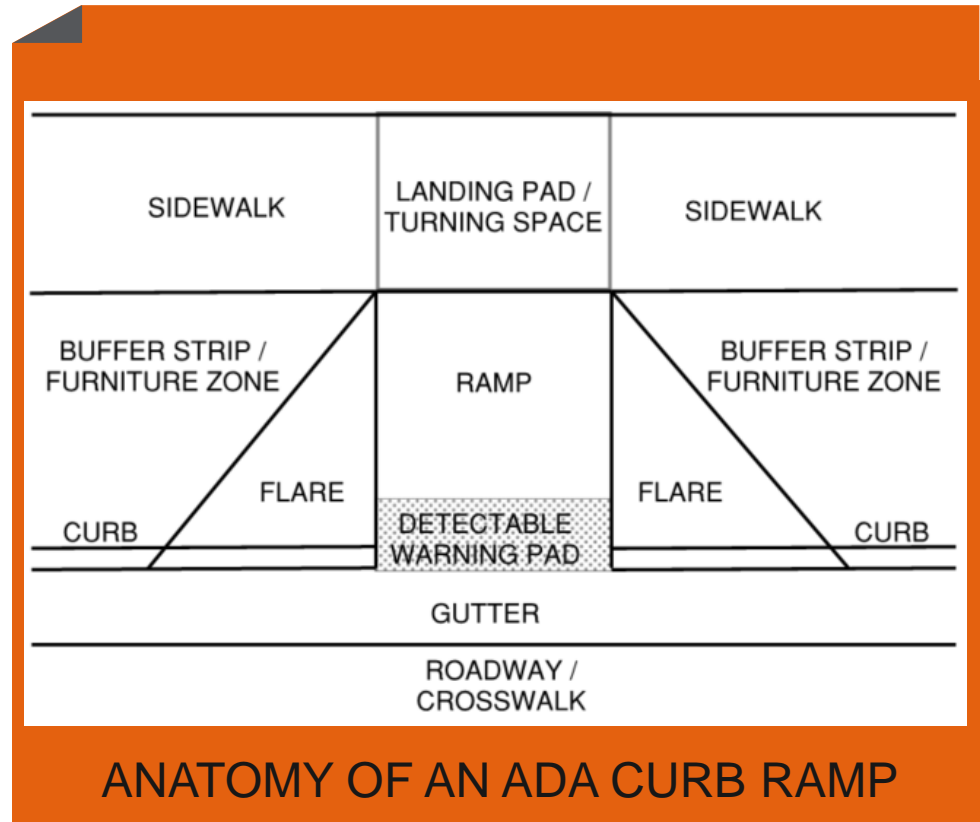
- Some examples include:
 - ADA Upgrade Projects
 - Resurfacing / “Between the Curb” Improvement Projects
 - Intersection Improvements
 - Widening Projects with One Side Maintained
- Does Not Include:
 - New Location Projects
 - Widening Projects with Both Side Impacted
 - Generally, Projects Requiring Right-of-way Acquisition and Utility Relocations



Resurfacing Projects are considered an alteration and require ADA retrofit

Accessible Design: More Art than Science

- Important for Designers to Understand the “Why” Behind the Guidelines
- ADA Ramps Usually are the Toughest Challenge
 - Need to Understand the Function of Each Component
 - Adjust Components to Meet Site Conditions While Still Providing ADA Accessibility
 - Designers Should Try to put Themselves “in the Shoes” of Disabled Pedestrians



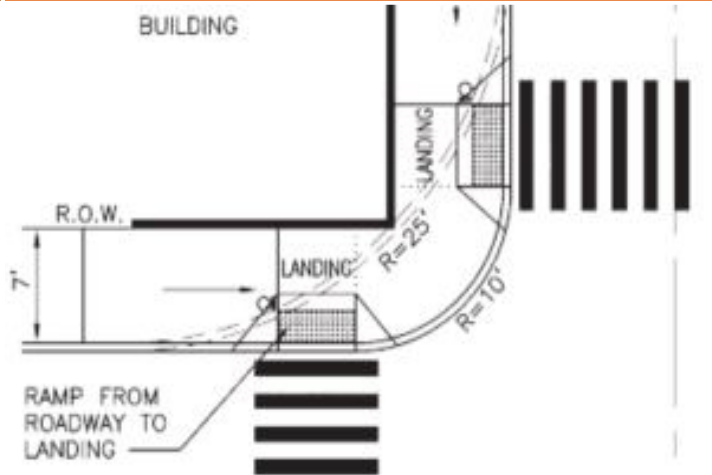
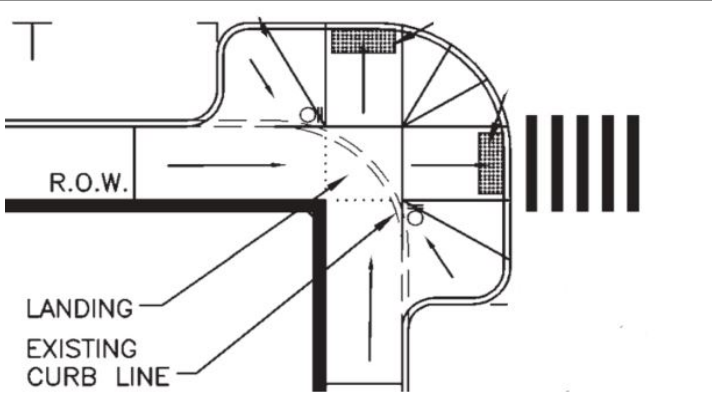
Understanding “Why” Enables Designers to be Creative and Flexible

Key Factors to Consider

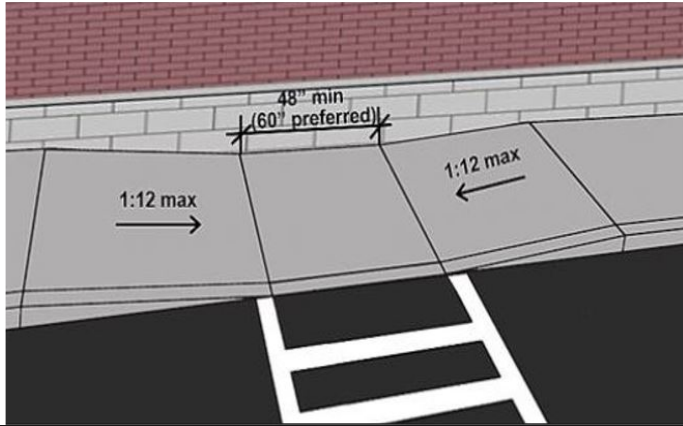
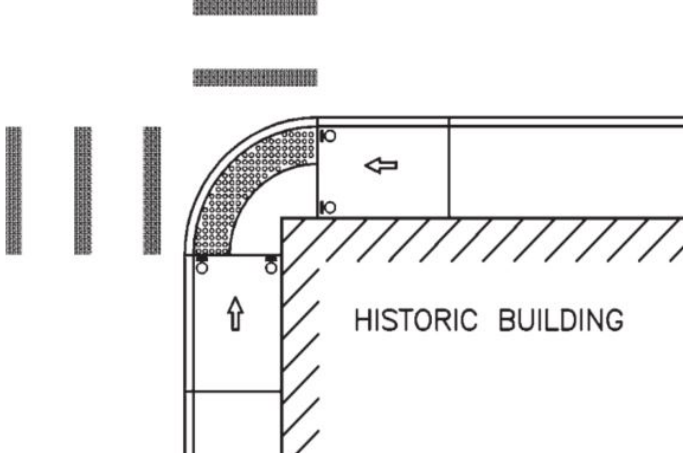
Factor	Minimum Guidance	Notes
Continuous Clear Width	48" Minimum	Provide Passing Space at Max. 200' Intervals if Using Minimum
Width at Obstruction	32" Min. for a 24" Max. Length	This is Bare Min. - Use Sparingly
Running Slope	5% Maximum 8.33% with Landings	Exempt if Following Existing Roadway Grade
Cross Slope	2% Maximum	Controls Over Running Slope if Wheelchair Needs to Turn
Wheelchair Ramp Flares	10% Max. Slope 8.33% Max. Slope if Used as Ramp	Only Applicable if Ramp can be Approached from the Side
Landing Pad / Turning Space	48" Min. Diameter or 32" X 54" Rectangle	Both Running & Cross Slopes Should be 2% Max at Pad
Access to Pedestrian Push Buttons	36" – 48" Height and within 24" Horiz. from Top of Ramp	Button Needs to be Adjacent to Landing Pad / Turning Space

ADA desirable guidelines should be used in lieu of minimums when possible

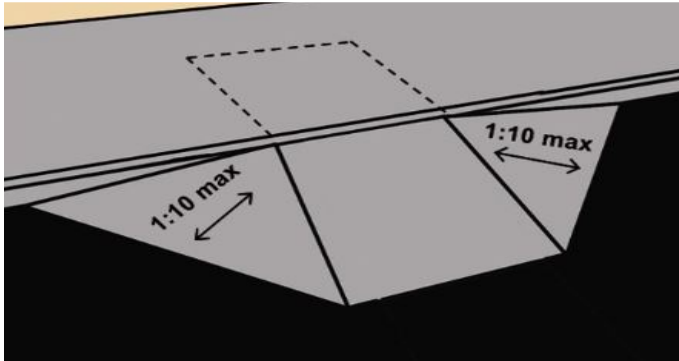
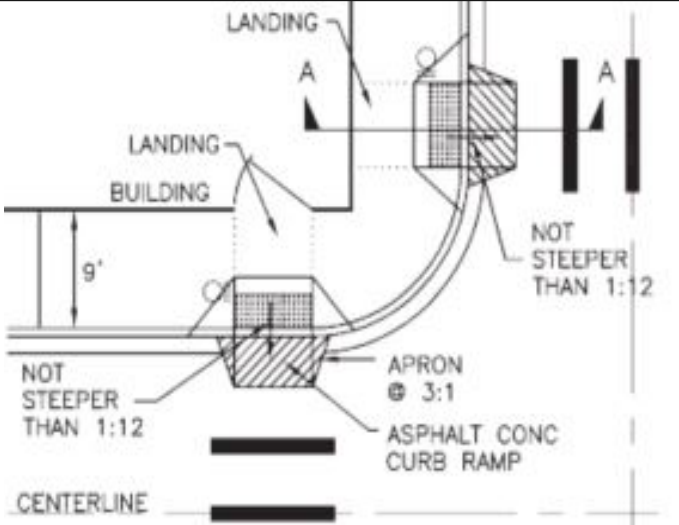
Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
<p>Insufficient Space for a Wheelchair Landing Pad and / or ADA Ramp</p>	<p>Tighten Intersection Radius to Provide Space Needed for ADA Ramp and Landing</p>	
	<p>Add Bulb-out to Provide Space Needed for ADA Ramp and Landing</p>	

Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
<p>Insufficient Space for a Wheelchair Landing Pad and / or ADA Ramp</p>	<p>Incorporate Landing Pad in Wheelchair Ramp Itself (Parallel Ramp)</p>	
	<p>Use Parallel Ramp and Combine Ramps</p>	

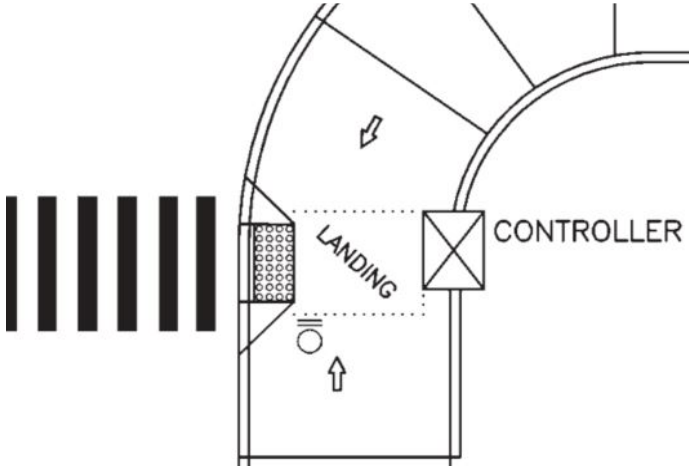
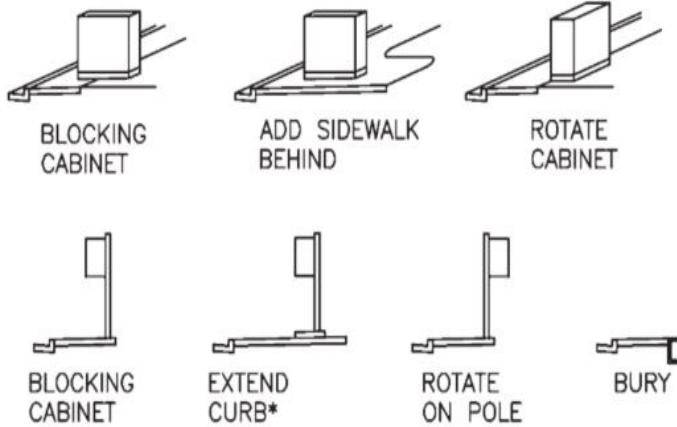
Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
<p>Insufficient Space for a Wheelchair Landing Pad and / or ADA Ramp</p>	<p>Consider Built-up Curb Ramps</p>	 <p>A cross-sectional diagram of a built-up curb ramp. It shows a sidewalk on the left, a curb, and a ramp leading to a street. The ramp is labeled with a slope of '1:10 max'. A dashed line indicates the original ground level. The ramp is built up from the curb side.</p>
	<p>Consider Combination Traditional Ramp with Built-up Curb Ramp</p>	 <p>A detailed cross-sectional diagram of a combination ramp system. It shows a sidewalk on the left with a height of 9 inches. A ramp leads to a 'LANDING BUILDING' area. From there, a ramp goes down to a 'LANDING' area. The ramp from the landing to the street is labeled 'ASPHALT CONC CURB RAMP' and has a slope of 'NOT STEEPER THAN 1:12'. An 'APRON @ 3:1' is shown at the base of the curb ramp. The 'CENTERLINE' of the street is indicated at the bottom. A vertical line 'A' is shown on the right side of the diagram.</p>


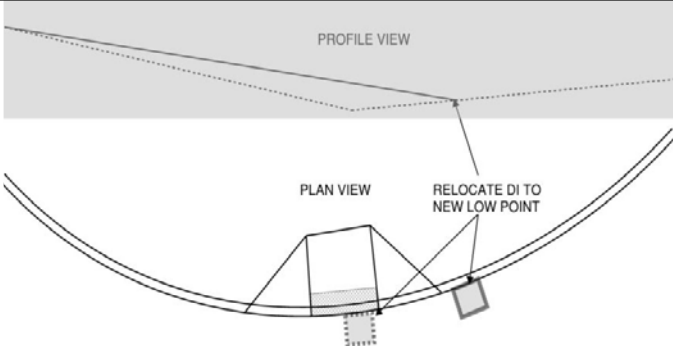
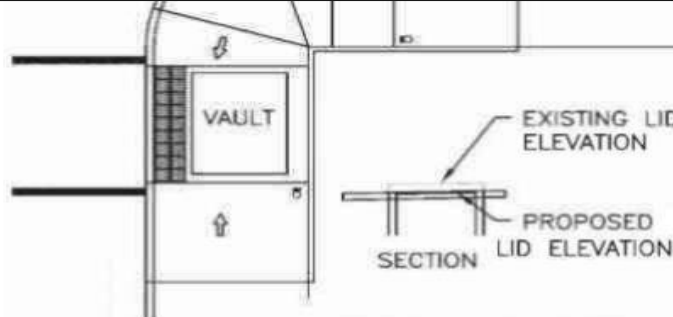
Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
Horizontal Conflict with Obstruction	Relocate Obstruction	
Provide Bulb-out	Provide Bulb-out	


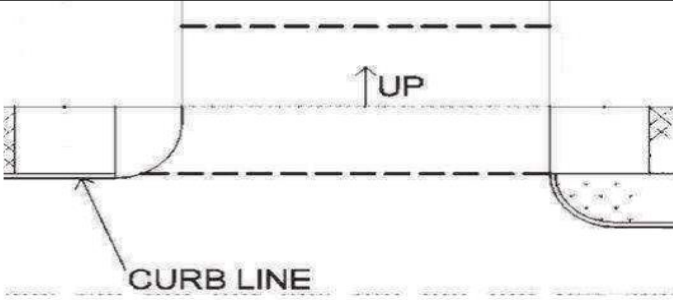
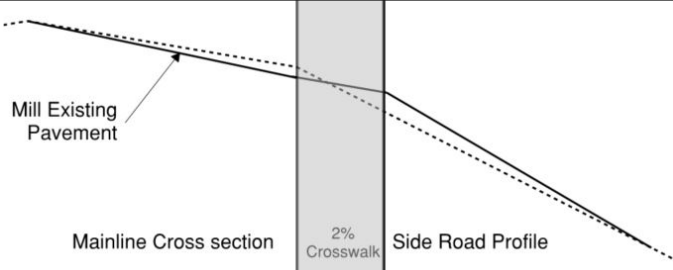
Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
Horizontal Conflict with Obstruction	Consider Combination Traditional / Parallel Curb Ramps	
Rotate, Bury, or Adjust Sidewalk Around Obstruction		

Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
<p>ADA Ramp Conflicts with Underground Utility / Drainage Structure</p>	<p>Relocate, Combine or Separate Ramps</p>	
	<p>Adjust Curb Radius Profile to Relocate Low Point Drainage Structure</p>	
	<p>Use ADA Compliant Top And Adjust To Grade</p>	

Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
<p>Maintain 2% Cross Slope Across Side Roads & Driveways</p>	<p>Use Alternative Driveway Valley Gutter Design</p>	
	<p>Adjust Cross Walk Location Where a 2% Cross Slope can be Provided</p>	
	<p>Adjust Side Road / Driveway Provide To Provide a Min. 3' Wide Section of 2% Slope</p>	

Accessible Pedestrian Design Strategies

Challenge	Strategy	Example
Sidewalk Cracking or Settling Exceeding ¼ inch	Shaving Trip Hazards	
	Patch Replacement	

Questions/Discussion

