

ADA* for Roads & Bridges

Incorporating PROWAG**

* Americans with Disabilities Act
** Public Rights of Way Accessibility Guidelines



Transportation Accessibility - LAP:

Responsibilities of Local Agencies Under the ADA to Provide Accessible Services and Programs, Including the Design and Construction of Sidewalks, Curb Ramps, Detectable Warnings, Crossings and Other Pedestrian Facilities within Public Rights of Way



Dean Perkins, Architect, ADA Coordinator

Introduction

- Brief overview of ADA
- How ADA impacts roadway projects
- Features of Accessibility
- New Concepts
- Examples of roadway elements
 - Random images
 - Some good; some not so good
- How you can comply

Background of the ADA

- ADA - Civil Rights Law
 - 1964 - 1990 Federal Laws
 - 1964 Civil Rights Act
 - 1968 Architectural Barriers Act (federal buildings)
 - 1973 Rehabilitation Act (s. 504 - federal programs)



Background of the ADA

- 1990 Americans with Disabilities Act
 - July 26, 1990 - signed
 - January 26, 1992 - effective date
 - July 1, 1994 - Revised ADA Standards.
 - July 26, 2004 - new ADA guidelines (ADA/ABA)
 - Nov 23, 2005 - new PROW guidelines (PROWAG)
 - **Nov 26, 2006 - FHWA adopts ADA Standards for Transportation Facilities (ADASTF)**
 - **July 23, 2011 - Access Board proposes issues NPRM for PROWAG (public comments)**
 - *Comment period closed 2/2/2012*



Statutory language

Section 504:

"No otherwise qualified individual with a disability in the United States . . . Shall solely by reason of her or his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial Assistance."

29 USC § 794 (a) (1973)

ADA:

" . . . no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity."

42 USC § 12132 (1990)

CRA Title VI - 1964

No federal funding necessary

ADA - 1990

No federal funding necessary

504 - 1973

Federal funding necessary

ADA Requirements

- Under Title II...
- All state and local agencies must:
 - Issue a policy statement describing intent to comply with 504 and ADA.
 - NOTE: This may part of a Title VI policy

Title II Regulations - 28 CFR 35.106

ADA Requirements

- In addition...
- State and local agencies with 50 or more employees must:
 - Have an accessibility Complaint Process
 - Designate an ADA coordinator and publish their contact information, and
 - Conduct Self-Evaluations and develop Transition Plans . . .

Title II Regulations - 28 CFR 35.105 & 35.107

ADA Policy & Grievance Procedure



www.ada.gov/pcatoolkit/toolkitmain.htm

Self-Evaluations

- **You must:**
 - Review Policies and Procedures, etc. for obstacles that limit access for persons with disabilities.
 - Revise policies and procedures as appropriate to remove discriminatory language, practices that may limit ability of persons with disabilities to participate in programs, services or activities.
- **You must also:**
 - Provide opportunity for interested persons and groups to participate in self-evaluation(s) leading to transition plan(s).
 - Make self-evaluations available for public inspection.

Transition Plans

- **You must:**
 - Identify physical obstacles that limit access of persons with disabilities to public programs, services, activities or facilities, etc.
 - Describe in detail methods to be used to correct deficiencies.
 - Specify schedule for improving facilities by prioritizing needs of persons with disabilities in existing facilities.
 - Indicate official responsible for implementation of plan.
- **You must also:**
 - Provide opportunity for interested persons and groups to participate in transition plan process.
 - Make transition plans available for public inspection.

The Future of Facilities within Public Rights of Way(?)

USDOT / FHWA recommends using *PROWAG* criteria where *ADASTF* do not address an issue.

RECOMMENDATION:

Start learning *PROWAG!*

www.access-board.gov/prowac/nprm.htm



Transportation.....



ADA and Sidewalks

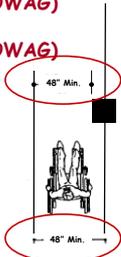
- ADA is a federal civil rights law
 - Enacted July 1990 - Effective January 1992
 - **Title II - Public Services** (of 5 Titles)
 - ADA: 'Public services' must be accessible
 - ADA: Public sidewalks along roadways *ARE* public services
 - ADA: Public sidewalks are public access routes
 - Curb ramps are part of public access route
 - Features along sidewalks must be accessible

Roadside Accessibility

- Accessible Route Requirements (*PROWAG - Pedestrian Access Route*)
 - Widths
 - Running slopes
 - Cross Slopes
 - Surfaces
 - Changes in Level
 - Gaps / Grates
 - Protruding Objects
 - Signs & Equipment
 - Landscape Materials

Accessible Route (AR) & Pedestrian Access Route (PAR)

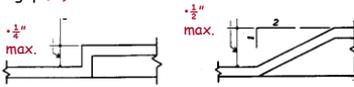
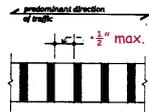
- AR = 36" continuous unobstructed path
 - PAR = 48" (FDOT Stds. & PROWAG)
- AR = 32" min. at a 'point' (24" max.)
 - PAR = 48" (FDOT Stds. & PROWAG)
- 60" x 60" passing space @ 200'
- Slopes:
 - $\leq 1:20$ ($\leq 5\%$) is not a ramp
 - $> 1:20$ ($> 5\%$) is a ramp
 - 1:12 (8.33%) max. allowed *
- Cross-slope
 - 1:50 (2%) max. allowed *
 - 1:75 (1.5%) preferred



* Exceptions in PROWAG

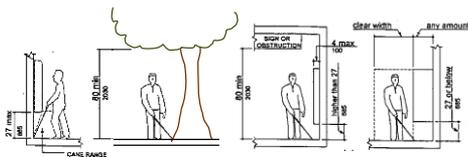
Surfaces

- Firm, stable, slip-resistant
 - Dry or wet!
- Changes in level
 - $\leq \frac{1}{4}"$ - Vertical
 - $> \frac{1}{4}" \leq \frac{1}{2}"$ - 1:2 slope
 - $> \frac{1}{2}"$ - 1:12 slope (ramp)
- Gratings
 - $\frac{1}{2}"$ max. gap (!!!)



Protruding Objects

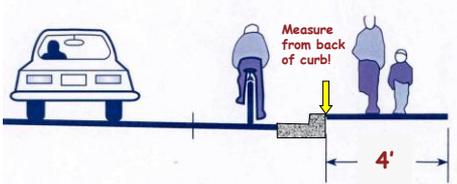
- 27" - 80" range above grade
- Post-mounted ($\leq 12"$ offset) ($\leq 4"$ in PROWAG)
- Wall mounted ($\leq 4"$ offset)
- Overhanging ($\leq 80"$ above grade)



Pedestrian Access Route (PAR)

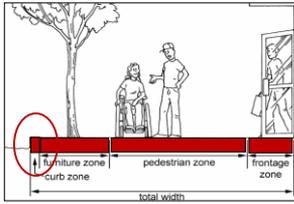
R302.3 Continuous Width

- The minimum continuous and unobstructed clear width of a pedestrian access route shall be 4 ft., exclusive of the width of the curb



The Sidewalk 'Zone' System

- Curb Zone
- Furniture Zone
- Pedestrian Zone (PAR)
- Frontage Zone



Zone System: Residential

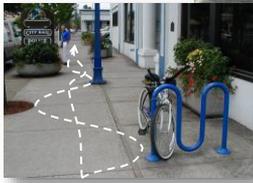


Zone System: Commercial



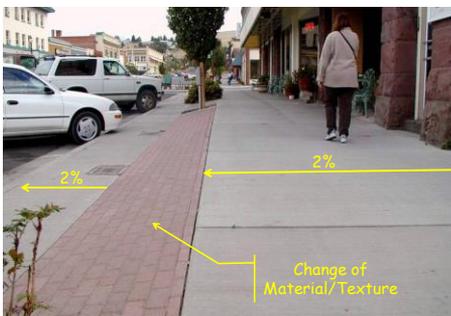
Furniture Zone

Carefully arranged street furniture leaves the sidewalk clear



Randomly arranged street furniture clutters the sidewalk and creates an 'obstacle course'

A Cross Slope Solution



Another...



A difference between AR & PAR!

For sidewalks within the public right of way . . .

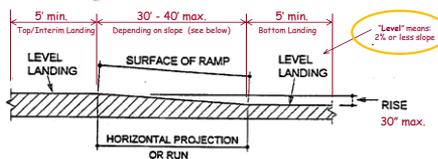
- Sidewalk grade - **ADASTF** vs. **PROWAG**
- ADASTF: Provide accessible route (AR)
 - PROWAG: Match roadway grade (PAR)

ADASTF

PROWAG



Ramps - "supported slopes" i.e., Bridges

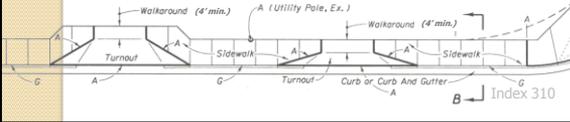


SLOPE	MAXIMUM RISE		MAXIMUM HORIZONTAL PROJECTION	
	IN	MM	FT	M
1:12 TO < 1:16	30	760	30	9
1:16 TO < 1:20	30	760	40	12

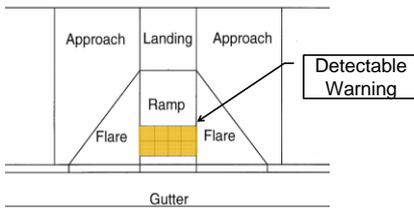
Fig 16
Components of a Single Ramp Run and Sample Ramp Dimensions

Sidewalks

- Are Pedestrian Access Routes (PAR)
 - 48" min. width
 - FDOT Design Standards - Index 310
 - PROWAG - Section R302
- Cross-slopes - 1:48 / 2% max.
- Check Surfaces - "*Firm, Stable, Slip-resistant*"
- Look for Level changes - $\frac{1}{4}$ " / $\frac{1}{2}$ "
- Look for Protruding Objects - 27" - 80"

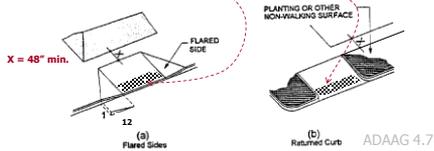


Curb Ramps R207 & R304



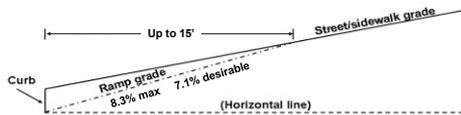
Curb Ramps

- Running Slopes (1:12 / 8.3% max.)
- Cross-slopes (1:48 / 2% max.)
- Landing at top (48" min.)
- Detectable Warnings



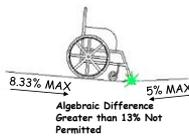
Curb Ramp Grade R304

- Least slope possible is preferred
- Maximum grade - 8.3%
- Recommended maximum grade to allow for construction tolerance - 7.1%
- Exception: when "chasing grade," ramp length need not exceed 15', but slope must be uniform



Change of Grade (Counterslope) R303.3.5

- PROWAG allows 8.3% ramp and 5% grade at the adjacent street = 13.3%
- Recommendation:
 - 11% maximum
 - Provide 2' level area if greater than 11%



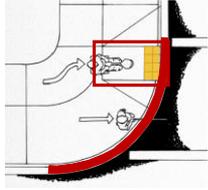
See notes in Index 304

Transportation.....



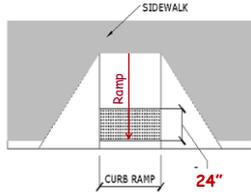
Curb Ramps and Detectable Warnings

- Curbs are an 'edge cue' for pedestrians who are blind or have low vision
- Curbs are a barrier for persons in wheelchairs
- Curb ramps remove the barrier for wheelchairs
- Curb ramps remove edge cue for peds with vision impairments
- Detectable warnings are a replacement cue to indicate location of the street



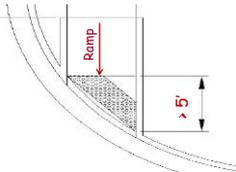
Perpendicular Curb Ramps R305.2.1

- Perpendicular Curb Ramp
 - Place DW at back of curb or at grade break



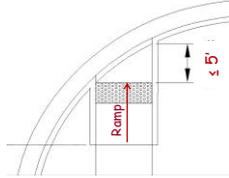
Directional/Linear Ramps R305.2.1

- Greater than 5 feet setback . . .
 - Place DW on bottom landing if level landing is more than 5' deep at any point

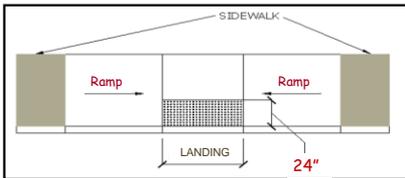


Directional/Linear Ramps R305.2.1

- Equal to or less than 5 feet setback from bottom of curb ramp . . .
 - Place DW at grade break if level landing at bottom of ramp is 5' deep or less



Parallel Ramps R305.2.2



Blended Transitions R305.2.3 - "Full Width!"



Detectable warning = 'Stop sign'

- Delineates the edge of the street
 - Does not designate the best crossing location for a pedestrian who is blind or visually impaired
 - Does not provide alignment information

Detectable Warning Alignment *To align or not to align . . .*

- Detectable warnings 'warn' of roadway edge
- DW alignment *NOT* used as directional cue
 - Other methods: traffic sounds, APSs, etc.
- In a perfect world, all detectable warnings would be aligned with crossing
 - Easier to construct
 - Easier to use
- However . . .
 - Not all curb ramp configurations and site conditions permit DW alignment

Detectable Warning Alignment *To align or not to align . . .*

- So...
 - Dome alignment is desirable, *but not required*

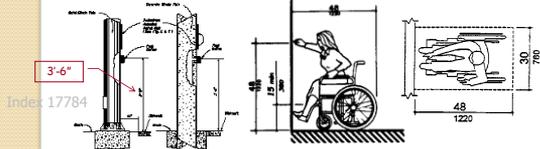


Perfect World

Real World

Pedestrian Controls R306 & MUTCD 4E.06

- In reach ranges (48" max.)
 - **42" FDOT Standard**
 - 15" max. reach - over obstruction/edge of sidewalk
 - 2" dia. raised buttons
- Maneuvering space (30" x 48" min., level)

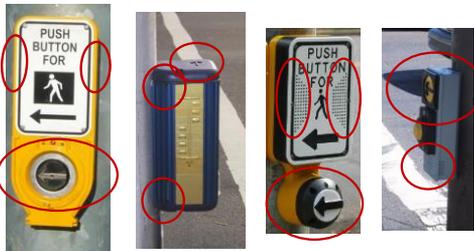


Accessible Pedestrian Signals MUTCD 4E-09

- For pedestrians with vision impairments
- Used in conjunction with pedestrian signal timing
- Add "non-visual" information:
 - Tactile features
 - Audible tones
 - Vibrating surfaces
 - Speech messages
- Must indicate which crossing is served by each device



Accessible Pedestrian Signals



•Speakers Tactile Arrows

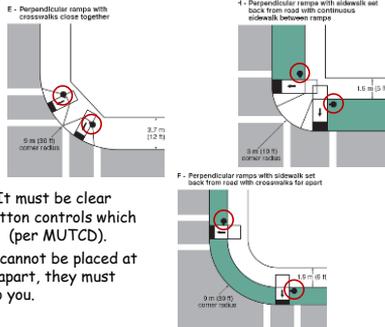
Accessible Pedestrian Signals



Blum Street @ Alamo Dr.,
San Antonio, TX

- Locator Tone - **DON'T WALK** light is on:
 - *"Beep... Beep... Beep..."*
- Button is pressed to activate
- **DON'T WALK** light stays on:
 - *"Wait... Wait... Wait..."*
- **WALK** light comes on for Blum St.:
 - *"Blum, Walk sign is on across Blum..."*
- Countdown - Flashing **DON'T WALK** light comes on:
 - *"Six, Five, Four, Three, Two, One"*
- Back to Locator Tone - **DON'T WALK** light comes on
 - *"Beep... Beep... Beep..."*

Pushbutton Locations R403 & MUTCD 4E



- NOTE: It must be clear which button controls which crossing. (per MUTCD).
- If APSs cannot be placed at least 10' apart, they must 'speak' to you.

APS Location



Good placement of APSs



Not-so-good placement

Pedestrian Crossings R306



- Slope of crossing = cross-slope of roadway
- Cross-slope of crossing = grade of roadway
- Cross Slope of crossing:
 - 'STOP'-'YIELD'-controlled: 2% max.
 - Non-'STOP'-controlled: 5% max.
 - i.e., **signal** or no control
 - Mid-block: Match grade of roadway





This is who we are working for



Strobe lights

Push button

RRFB
Rectangular Rapidly
Flashing Beacon



RRFB

Upon activation of push button...

HAWK Pedestrian Hybrid Beacon

• Stays dark for vehicles and solid 'hand' for pedestrians until activated, then:

• **For vehicles:**

1. Flashing Yellow light,
2. Solid Yellow light,
3. Solid Red lights
4. Alternating Red lights,
5. Then dark

• **For pedestrians:**

1. Solid Hand,
2. Solid Hand,
3. Solid Walk,
4. Flashing Hand
5. Solid Hand



Bus Stops R308

• When siting a new bus stop...

- **Must** be on PAR
 - 48" min.
 - 60" recommended
 - This may be sidewalk or paved shoulder
- **Must** have accessible approach to bus stop
 - 48" min. width - 60" recommended
 - Leads to / part of boarding & alighting area
 - Meets running slope/cross slope criteria
 - Firm, stable & slip-resistant
- **Must consider** potential construction of boarding and alighting area & other features

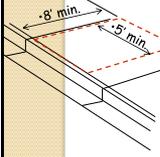


Bus Stops

- **If provided** - Boarding & Alighting area:

- Place for bus lift/ramp to deploy
- "Firm, stable and slip-resistant" surface (ADAS & PROWAG)
- "Firm and stable" surface (ADASTF)
- Must connect to streets, sidewalks, etc.
 - Sidewalk, curb ramps, etc.
- 5' min. width - parallel to roadway
- 8' min. depth - perpendicular to roadway

5' x 8' B&A area

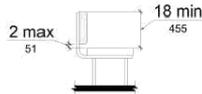


NOTE: If low-floor, ramp-equipped bus is used, the B&A area should be raised (curb height).

Bus Stops

- **If provided** - bus bench:

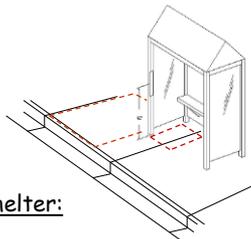
- Must be on PAR
- Must not block PAR
 - 48" min. clearance - 60" recommended
- Must have maneuvering space adjacent to bench
 - 30" x 48" min.: firm, stable & slip-resistant surface
 - Allow shoulder-to-shoulder seating for companion
- Allow transfer to bench (if desired)
 - Seat length: 42" min.
 - Seat height: 17"-19"
 - Seat back: 2"-18" above seat
 - Armrest recommended



Bus Stops

- **If provided** - bus shelter:

- Must be on PAR
- Must not block PAR
 - 48" min. clearance - 60" recommended
- 30" x 48" min. clear floor area within shelter
- 48" min. approach to clear floor area
- 48" min. approach to boarding & alighting area



Rural bus stops

- Primary Issues:
 - Flush shoulder - No curb/gutter
 - Shoulder is sloped away from the roadway
 - Most 'kneeling' buses are designed to deploy front ramps onto 6" high curbs
 - 1:6 slope allowed on ramp deployed on curb (ADAAGBV*)
 - Use on flush shoulder causes ramp to be too steep for safe use.

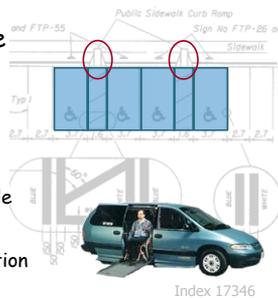
* ADAAGBV = ADA Accessibility Guidelines for Buses and Vans

Rural bus stops



Parking

- Accessible space
 - Width = 12'-0" min.
- Access aisle
 - Width = 5'-0" min.
- Curb ramp
 - Outside space & aisle
- Slopes
 - 1:50 max. any direction



On-Street Parking Spaces R214 & R309

- Accessible on-street parking space per block perimeter - approx. 4% of total
 - Table R214
- Parking spaces are best located where the street has the least crown & grade and close to key destinations (i.e., near crosswalks)

Maintenance of PAR 28 CFR 35.133

- Title II of the ADA requires public entities to maintain equipment and features of facilities that are required to provide ready access to individuals with disabilities

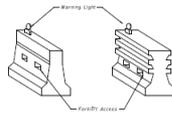
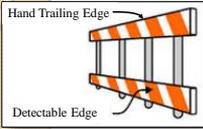


Potential Solutions

- Sidewalk Grinding
- Flexible Pavement
- Joint Materials



Longitudinal Channelizing Devices (LCDs)



LONGITUDINAL CHANNELIZING DEVICE

12. For pedestrian longitudinal channelizing devices, the device shall have a minimum of 8" continuous detectable edging above the walkway. A gap not exceeding a height of 2" is allowed to facilitate drainage. The top surface of the device shall be a minimum height of 32" and have smooth connection points between the devices to facilitate hand trailing. The bottom and the top surface of the device shall be in the same vertical plane. If pedestrian drop-off protection is required, the device shall have a footprint or offset of at least 2', otherwise the device must be 42" in height above the walkway and be anchored or ballasted to withstand a 200 lb. later point load at the top of the device.

FDOT Design Standards -Index 600

Temporary Barricades: Detectable Edging & Channelizing Devices



- Detectable edge @ 2"-8" above walking surface
- Hand-trailing edge @ 32-36"



Construction Work Zones

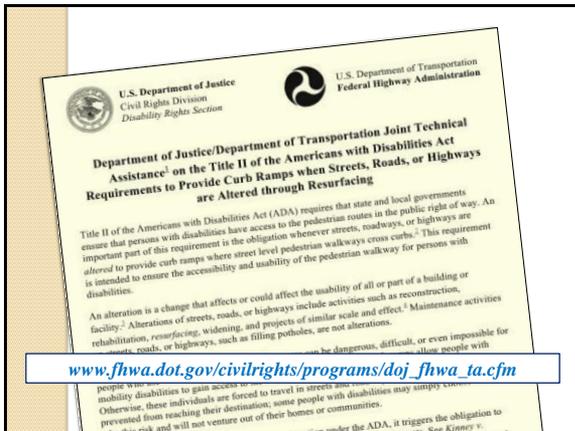
- Unfortunately, too many bad examples...



Latest from DOJ & DOT!

- Resurfacing and Curb Ramps
- Clarification of existing regulations:
 - 28 CFR 35.151, "alterations require the inclusion of accessible features"
- New "Joint Technical Assistance"
 - What is an 'alteration', and
 - What is 'maintenance'

Please Note: These are not new requirements, but clarification of current requirements.



Where Curb Ramps are Required?

- Generally, curb ramps are needed wherever a sidewalk or other pedestrian walkway crosses a curb.
- Curb ramps must be located to ensure a person with a mobility disability can 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.

www.dot.state.fl.us/rddesign/DS/14/STDs.shtm
• See: Index 304

Where Curb Ramps are NOT Required?

- ADA does not require installation of ramps or curb ramps in the absence of a pedestrian walkway with a prepared surface for pedestrian use.
 - *(i.e., Where there are no sidewalks)*
- Nor are curb ramps required in the absence of a curb, elevation, or other barrier between the street and the walkway.
- Detectable warnings?

Prior to DOJ/DOT Agreement...

MAINTENANCE

USDOJ
*Patching
Potholes*

USDOT
*"Non-structural"
resurfacing*

ALTERATION

USDOJ
*Everything
Else*

USDOT
*"Structural"
resurfacing*

When Curb Ramps are NOT Required - Maintenance

- Treatments that serve solely to seal and protect the road surface, improve friction, and control splash and spray are considered to be maintenance because they do not significantly affect the public's access to or usability of the road.
 - *Basically, if you're just protecting the asphalt surface and not adding asphalt material.*



Examples of Maintenance

- Painting or striping lanes
- Crack filling & sealing
- Surface sealing
- Chip seals
- Slurry seals
- Fog seals
- Scrub sealing
- Joint repairs
- Dowel bar retrofit
- Spot high-friction treatments
- Diamond grinding
- Pavement patching
- Pot-hole repairs
- Etc.

• **Caution:** *In some cases, the combination of several maintenance treatments occurring at or near the same time may qualify as an alteration and would trigger the obligation to provide curb ramps.*

When Curb Ramps ARE required - Alterations

- Curb Ramps are required if resurfacing involves work on a street or roadway spanning from one intersection to another, and includes overlays of additional material to the road surface, with or without milling.
- *Basically, if you're adding or replacing asphalt.*



Examples of Alterations:

- New layer of asphalt
- Reconstruction & Rehabilitation
 - Mill-and-fill
 - Open-graded surface course
 - Micro-surfacing/Thin-lift overlays
 - Cape seals
 - In-place asphalt recycling
 - New construction
 - Etc.

•DOJ/DOT Joint Technical Assistance

MAINTENANCE

Chip Seals Fog Seals Scrub Sealing
Crack Filling and Sealing Joint Crack Seals → Slurry Seals
Diamond Grinding Joint repairs Spot High-Friction Treatments
Dowel Bar Retrofit Pavement Patching Surface Sealing

ALTERATION

Addition of New Layer of Asphalt Mill & Fill / Mill & Overlay
Cape Seals ← New Construction
Hot In-Place Recycling Open-graded Surface Course
Microsurfacing / Thin-Lift Overlay Rehabilitation and Reconstruction



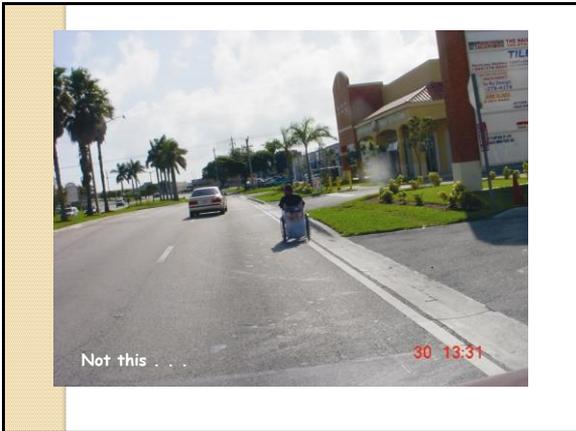
•Very good! Measure *before* you build
(Identity withheld)

Random Images

- Some good
- Some not so good



This is what we want...



Not this . . .

30 13:31



Nice!



Ummm...

APR 6 2005



This (sorta) works

01/12/2002



Maintenance please!!!

11/8/2000









Nice!



Close... DW needs to be full width



Very Good!









Creative path around large tree
up and over the roots



Combination return curb and flared side



Full Width ... Good!



















Summary

✦ **ADA Title II - Public Services**

- Public services must be accessible
- Public sidewalks are public services
- Public sidewalks are accessible routes
- Curb ramps are part of accessible route
- Features on sidewalks and curb ramps must be accessible

Help is available



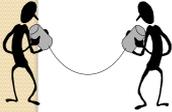
- Local
 - **YOUR** ADA Coordinator(s)
- State:
 - FDOT District ADA Coordinator
 - FDOT C.O. ADA Coordinator
- Federal:
 - U.S. Access Board
 - U.S. Department of Justice
 - U.S. DOT

Resources

-  U.S. Access Board
 - Accessibility Guidelines - ADAAG
 - www.access-board.gov
-  U.S. Dept. of Justice - ADA
 - Accessibility Standards for Facilities & Sites
 - www.ada.gov
-  U.S. Dept. of Transportation - FHWA
 - Accessibility Guidance & Standards for Public Rights of Way
 - www.dot.gov/citizen_services/disability/disability.html
-  Florida Dept. of Transportation - FDOT
 - ADA information on Website
 - <http://www.dot.state.fl.us/projectmanagementoffice/ADA/>

Contact us...

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Thank You!

*Merci! Todah Rabbah
Arigato!
Dhanya Vaad! Xie Xie!
Gracias!
Shokran! Danke!
LIVE LONG AND PROSPER!*





What WERE they thinking?!
