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ADA Compliance for Municipalities

Presented by:

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Outline

- ADA Legal Background
- ADA Overview
- Transition Plan Development
- PROWAG Overview
- PROWAG Technical Requirements
- Data Collection

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Legal Background

- Architectural Barriers Act (ABA – originated 1968)
- Rehabilitation Act (1973) – Section 504 (49 CFR Part 27)
- Civil Rights Restoration Act (1987)
- Americans with Disabilities Act (ADA) (1990)
  - DOJ Implementing Regulations (28 CFR 35)

Five Titles of ADA

Title I Employment

Title II State & Local Governments (28 CFR Part 5)

Title III Public Accommodations (retail, commercial, sports complexes, movie theaters, et al) (28 CFR Part 36)

Title IV Telecommunications

Title V Misc., including requirements for the U.S. Access Board to develop design guidelines

Governing Authorities

Department of Justice – Overall authority

Department of Transportation – Governs Transportation related elements and has been given some governmental authority by Department of Justice (DOJ's version).

Federal Highway Administration – Oversight authority under both ADA Title II and 504

US Postal Service – Design, construction and operations of post office locations

Department of Defense – Military Installations

Federal Aviation Administration - Airports

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Be Aware …

Know where your risks are. Learn how you keep your agency protected. For instance:

DOJ has initiated

"Project Civic Access"

specifically for Title II entities

Every size agency is at risk

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What's That?

It's a concentrated effort to determine if Title II entities are in compliance. Any agency can be questioned by the Department of Justice at any time.

Your answers will determine what happens next.

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ADA (Federal) Enforcement

- 100% complaint driven
- Attorney's fees are built into the law
- Advance notification is NOT required

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The Federal Process

- DOJ chooses an agency to focus on
- A call is made to the entity
- They ask for the ADA Coordinator
- They ask for the Transition Plan
- A case is filed and three years are given for resolution

DOJ Action in Tennessee

Nashville/Davidson County, Tennessee	7/19/00
Loudon County, Tennessee	7/25/03
Madison County, Tennessee	7/25/05
Memphis, Tennessee	7/25/05

DON'T BE NEXT ON THEIR LIST!

DOJ Action in 2015

McLennan County, Texas	11/16/15
Galveston County, Texas	9/28/15
San Juan County, New Mexico	9/28/15
Cedar Rapids, Iowa	9/1/15
Robeson County, North Carolina	7/29/15
Lumpkin County, Georgia	7/29/15
Champaign County, Illinois	7/20/15
Merced County, California	7/20/15
Yakima County, Washington	7/20/15
Pennington County, South Dakota	6/1/15
Chaves County, New Mexico	5/12/15
Madison County, New York	4/22/15
Rapid City, South Dakota	3/2/15
Washington County, Missouri	2/18/15
Nueces County, Texas	1/30/15

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Why all of a sudden are we hearing so much about this?

In 2010, at the 20th anniversary of the signing of the ADA, all federal agencies recommitted to enforcing the ADA, so they are now withholding federal grants and federal funding from agencies who have not completed this important process.

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All federal agencies recommitted to enforcing the enforcement of the ADA in July, 2010

FAA – Airports

DOT – Bus and Train stations, Transit and para-transit operations

DOJ – Title II Entities through Project Civic Access, and teamed with HUD on multi-family and housing authority cases

DOE – K – 12s

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Private Litigation

Additionally, the disability community celebrated the 10th anniversary, in 2000, by filing about **600** cases nation wide.

The disability community celebrated the 20th anniversary, in 2010, by filing just under **1400** cases nation wide.

ADA lawsuits surge by over 300% to over **4400** in 2014.

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Private Litigation in Tennessee

Americans with Disabilities Act lawsuits against businesses in Tennessee

Two downtown Nashville establishments and a hotel are being sued for allegedly not complying with disability standards.

> Michael McGrath, who has muscular dystrophy and uses a powered wheelchair, filed lawsuits against Robert's Western World, B.B. King's Restaurant and Blues Club, and the airport-area DoubleTree Hotel on Thursday ….

A flurry of American Disabilities Act (ADA) lawsuits have been filed in federal court in Nashville since the 2010 ADA rules took effect March 15, 2012. More than 40 of these lawsuits have been filed by enterprising lawyers because it is often easy to show a violation ….

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Other Litigation in Tennessee

- Stephens v. University of Tennessee
- Seating plan for Oak Ridge Movies 14, Oak Ridge, Tennessee
- Tennessee v. Lane
- The Bette Bus Shuttle, Inc., a private provider of fixed route transportation between Memphis, Tennessee

. . . . And the list goes on

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Here's the reality

L.A. agrees to spend $1.3 billion to fix sidewalks in ADA case

The Private Process

- A violation is found
- A letter is sent to the owner
- Owner responds … nothing happens (might even get free assistance with the issue)

NO RESPONSE???

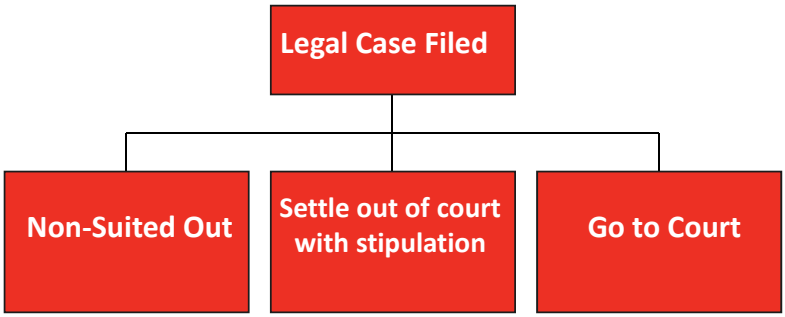
EITHER:

- A second letter will be sent, sometimes by an attorney

OR

- A case is filed

If Filed …



Take Control!

The city is considered the building owner and will be held responsible, but they can bring anyone they deem responsible into the case.

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Why Was ADA Necessary?

- At the time … 43,000,000 people with disabilities in the US (now, 59,000,000)
- Only 12% were employed
- Of the 88% unemployed, 80% wanted to work and were considered employable
- Develop sustainable communities

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Both ADA and 504 Cover:

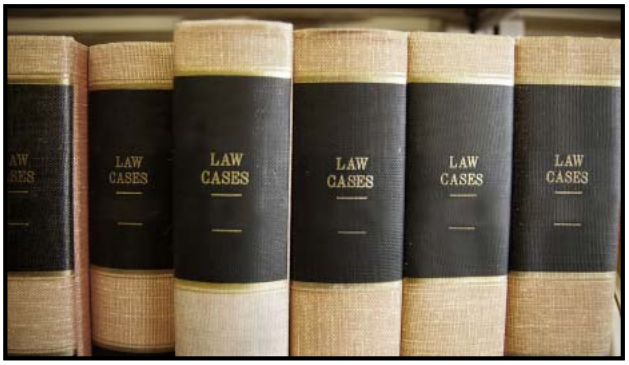
- Programs
- Services
- Activities

Make sure you understand what a "Program" is:

DOJ has Determined:

- Sidewalks are programs
- Curb ramps are programs

Legal Cases Have Confirmed It



Make sure you understand what a "Program" is:

"Programs" are any areas where what you do interacts with employees or the general public, either directly or indirectly.

It's a very broad area.

ADA Is an Employment Based,

Civil Rights Law

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ADA Standards History

- Original ADA Law, (1990)
- Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG, 2004)
- 2010 ADA Standards for Accessible Design (ADA Standards, 2010)
- Proposed Accessibility Guidelines for Pedestrian Facilities in the Public-Right-of-Way (PROWAG, 2011)

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New Sections

- **Section 11** -Judicial, Legislative and Regulatory Facilities
- **Section 12** -Detention and Correctional Facilities
- **Section 13** -Residential Housing
- **Section 14** -Public Rights of Way (RESERVED)
- **Section 15** -Recreational Facilities
- **Section 16** -Children's Environments

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Amusement Rides

Fishing Piers

Boating Facilities

Swimming Pools

Golf Facilities

Miniature Golf

Sports Facilities

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These Were Added As Supplements to the 2004 standard …

Adopted fully in the 2010 Standards

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How Are These Laws Compiled?

- Selected group studies the issues
- Recommendations are forwarded to the Access Board
- An ANPRM is issued for public comment
- Comments are incorporated into the next phase, an NPRM

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How Are These Laws Compiled?

- An NPRM is issued for public comment
- Comments are again incorporated into the third phase, the Proposed Rule
- A Proposed Rule is issued for public comment
- Comments are incorporated into the Final Rule

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OOOOPPPPS!

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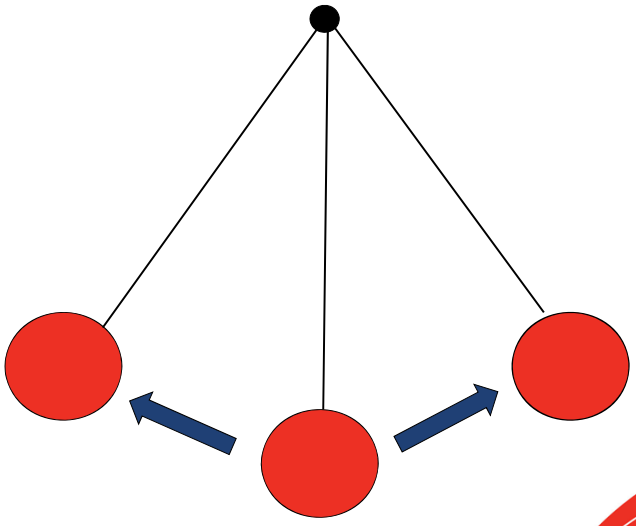
80% of the comments from all three comment phases came from the disability community

The Pendulum Swung



The Reaction

- 1995 Committee was put together
- Recommendations were made
- Standards were reopened
- New standards were published in the Federal Register July 23, 2004

New standards were ADOPTED July 23, 2010

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RESPONSIBILITIES

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Title II – Public Entities

Basic Requirement – Must ensure that individuals with disabilities are not excluded from programs, services, and activities (pedestrian facilities are an example of a program)

How can you make sure?

That's what the Transition Plan process is for …

To develop an internal process to review everything.

EVERYTHING …

Steps to Compliance

Step 1 Designating an ADA Coordinator

Step 2 Providing Public Notice about ADA Requirements & Establishing a Grievance Procedure.

Step 3 Gather where you are!

Step 4 Developing internal design standards, specifications, details

Step 5 Developing Self Evaluation and Transition Plan

Step 6 Approving a schedule and budget to implement the Transition Plan

Step 7 Monitoring progress on implementation of the Transition Plan

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STEP 1: Designating an ADA Coordinator

- Person Must be familiar with agency operations
- Person must be trained or knowledgeable in ADA and other nondiscrimination laws (Title VI, Title VII)
- Person must have sufficient authority, time, and resources to accomplish the duties
- Possible needs for others to have ADA responsibilities, but **ONE PERSON IN CHARGE**.
- Suggested position locations – Office of CEO, Civil Rights Office, Legal Department, Planning, Public Information…
  - Regardless of where…must have authority to impact programs

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TDOT has Designated an ADA Coordinator

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Step 2:
Providing Notice about the ADA Requirements

- The public must be notified about rights under the ADA and the responsibility of the agency under the ADA.
- Notice should be on-going/continuous.
- Each entity must decide what is effective
  - Accessible website is recommended at a minimum
- Provide the ability to offer comments and follow-up
- Public outreach should involve activists, advocacy groups, general citizens, organizations that support the rights of the disabled, elected official, Governor's Council, as well as other agencies (local and State).

TDOT has Provided our Public Notice about the ADA Requirements

To get a copy of the TDOT public notice as a reference, please go to the following link:

https://www.tn.gov/tdot/topic/transportation-americans-with-disabilities-notice

Step 2: Establishing a Grievance Procedure

The grievance procedure should include:

- A description of how and where a complaint under Title II may be filed with the government entity;
- a description of the time frames and processes to be followed by the complainant and the government entity;
- information on how to appeal an adverse decision; and,
- a statement of how long complaint files will be retained.

The procedure should enable the filing of complaints in a variety of forms and formats.

Once a state or local government establishes a grievance procedure under the ADA, it should be distributed to all agency heads.

TDOT's Grievance Procedure

To get a copy of the TDOT Grievance Process as a reference, please go to the following link:

https://www.tn.gov/tdot/topic/transportation-americans-with-disabilities-complaint-procedure

Step 3:
Gather Where You Are

No doubt work has been done in the past 25 years …

- Was there an original Transition Plan?
- How complete was it?
- Is ADA a line item in the budget?
- Has anyone reviewed new construction for compliance?

Has HR updated job descriptions and hiring/firing practices?

Have programs ever been reviewed?

When was the last Emergency Plan put in place?

- Does it include people with disabilities?

Step 3:
Gather Where You Are

Do you have any of the following programs:

- Housing Program
- Transit Programs
- Arts and cultural programs
- Parks and Recreation programs
- Senior programs
- Kids programs
- Sports programs
- Land use programs

Step 3:
Gather Where You Are

Have you reviewed:

- Job Descriptions (for both format and discriminatory language)
- Lease agreements
- Contracts
- Employment practices
- Promotions/benefits/awards
- Parking agreements
- Etc.

Step 4:
Developing Internal Design Standards, Specifications and Details

- Use the ADAAG, IBC, and PROWAG
- Have a written policy on Detectable Warnings
- Have a written policy on use of Accessible Pedestrian Signals
- Have a written policy on City owned Transit/Para-transit operations & access to stations
- Have a written policy on Furniture/Landscaping Zones
- Have a written policy on shared Use Paths
- Ensure all City owned or operated trails comply

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Step 4:
Developing Internal Design Standards, Specifications and Details

Tolerances should enable compliance

- Don't spec at the limit!

Ensure temporary pedestrian facilities/detours are fully compliant with ADA as well as:

- MUTCD
- PROWAG

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Step 5:
Developing Self-Evaluation & Transition Plan

Implementation Plan Components:

- A list of physical barriers that limit accessibility to services/programs
- A detailed outline of the methods proposed to address the barriers
- A schedule for achieving compliance
- The name of the official responsible for the plan's implementation (likely department level)

Anything less is not a PLAN ….

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Conduct Self-Evaluation

A complete plan will include a FULL evaluation of the following:

- Programs, Policies and Practices
- Design standards
- All Sidewalks, curb ramps and intersections
- Public Rights of Way
- Pedestrian facilities including Accessible Ped Signals
- Transit Stops/operations

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Conduct Self-Evaluation

- Buildings/facilities
- Parks and all park programs and amenities including swimming pools, playgrounds, areas of sports activity
- Parking lots
- Housing Programs
- Emergency Planning
- Hiring/firing practices and Job Descriptions
- Boards and Commissions
- Website
- Other forms of Communication

Infrastructure

- Pedestrian right-of-way facilities
- Buildings
- Transit stops
- Parks

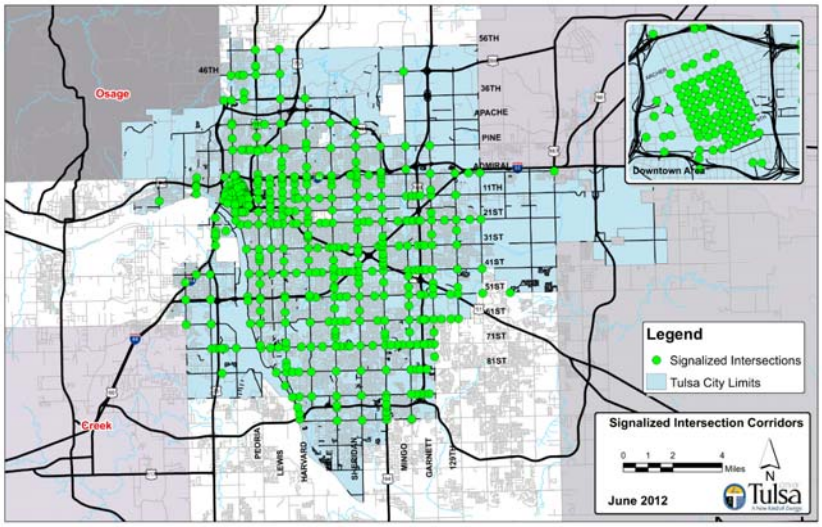
Infrastructure

Pedestrian right-of-way facilities

- Pedestrian signals
- Curb ramps (special emphasis in regulation)
- Sidewalks
- Parking lots
- Transit stops
- Shared use trails
- Parks/recreational facilities and amenities

SAMPLE DATA

Signalized Intersections



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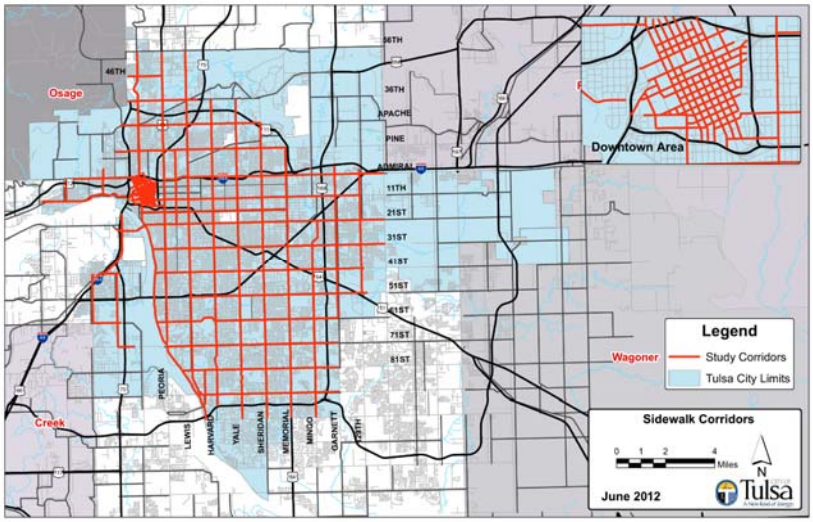
Sidewalk Corridors



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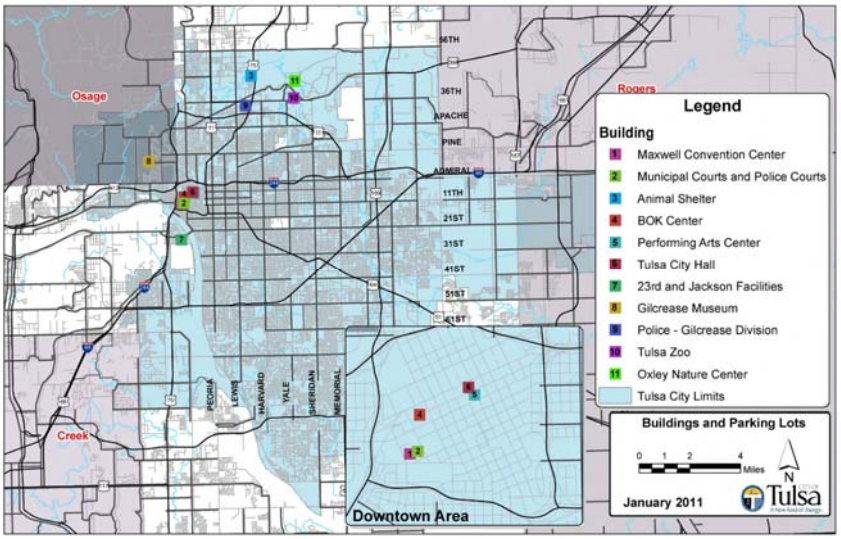
Buildings & Parking Lots



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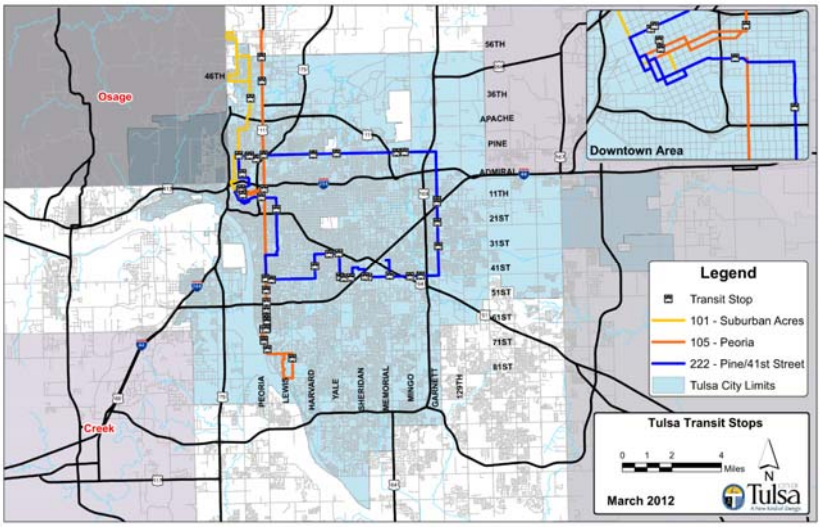
Transit



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When Conducting the Self-Evaluation

Field Investigations Must Include:

- Extensive photos of site investigations
- Detailed data collection forms
- Data management / GIS based system

All public facilities should be included

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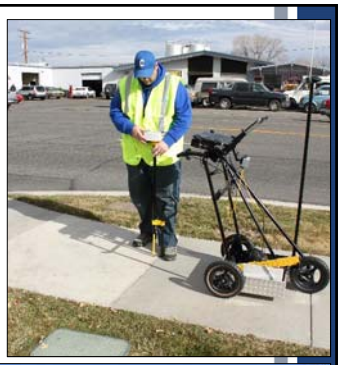
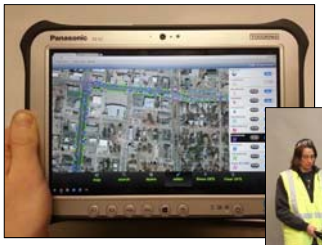
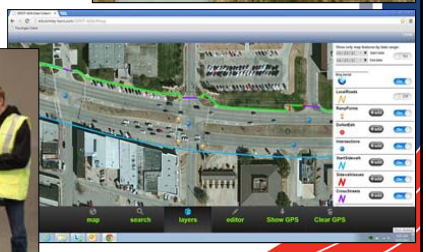
ArcGIS / GPS based Data Collection

- Integrated data collection system
- Fully customizable field forms
- Integrated digital video camera
- Field data and photos/videos sync with ArcGIS







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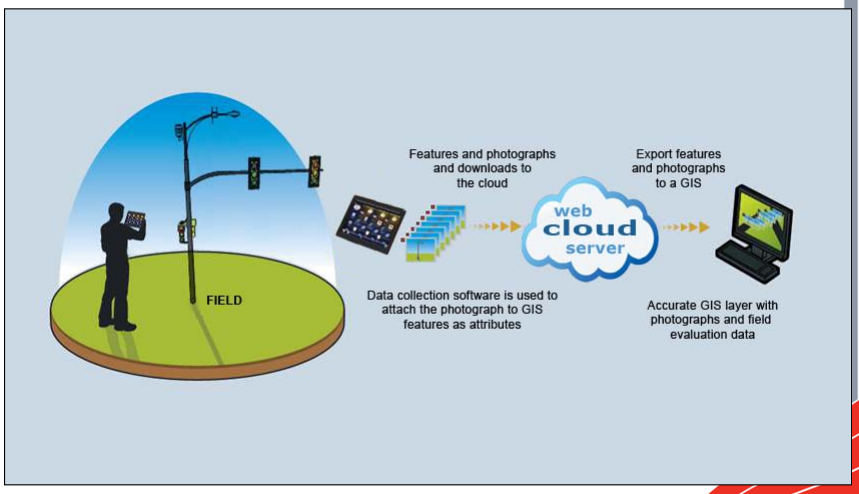
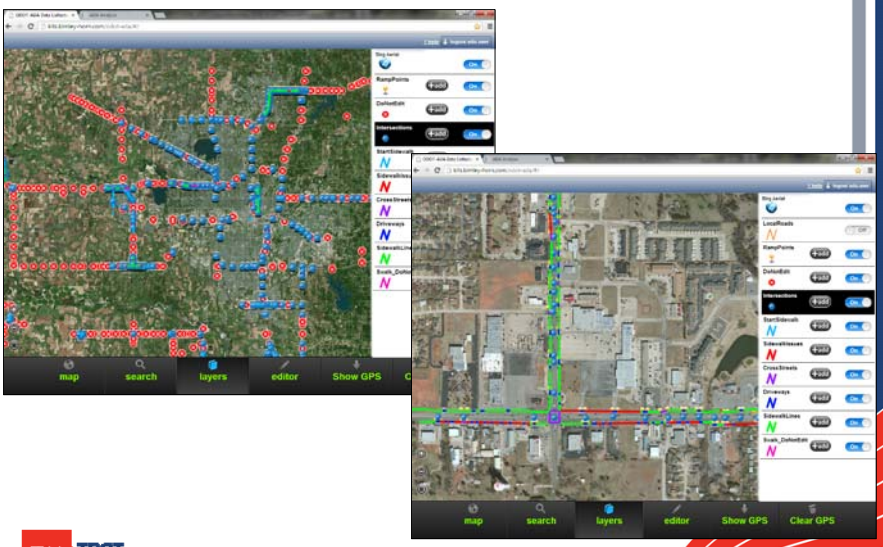
Data Collection Process



In-Field Application Display



In-Field Application Display

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GIS – ArcMap Display

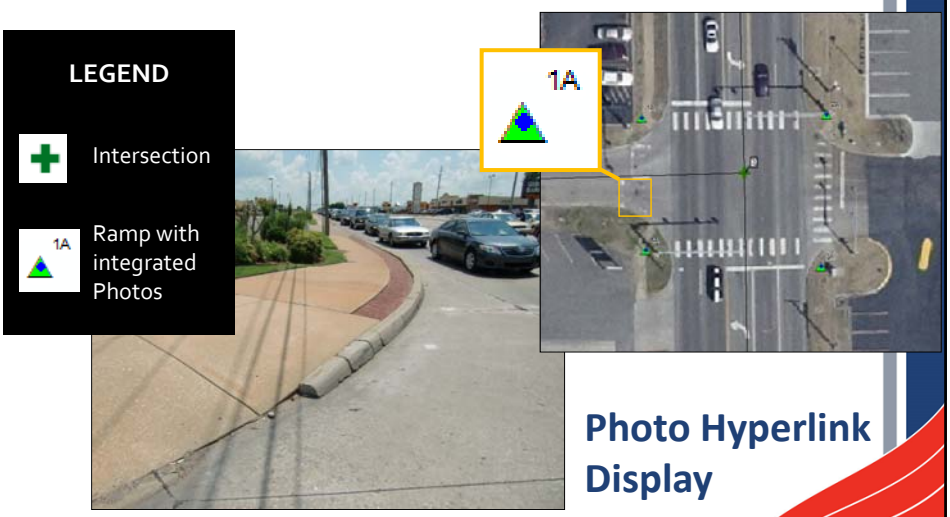

Photo Hyperlink Display

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Step 6:
Approving Schedule and Budget

Schedule actions each year to address barriers until all barriers are removed:

Regularly occurring programs

- Say XX buildings per year for X years
- Renovation projects…others
- Ensure elements are properly prioritized
- Government Centers/Transit/Public Services…
- Pedestrian Level of Service
- Citizen requests/complaints
- Population Density
- Presence of Disabled Community

Evaluation Criteria

Prioritization Factors:

- Severity of issue
- Element design
- Height of highest operable part
- Compliant clear floor space
- Compliant signage
- Pavement markings

Ranking Factors:

- Proximity to attractors
- Proximity to residential population
- Number of existing complaints
- Age of element
- Funding availability

Develop Cost Projections

Be sure to include ALL costs, including:

- Improvement construction costs
- Engineering and surveying costs
- Project contingency

Step 7:
Monitoring the Progress

If you're spending the money to collect all of the necessary data, don't let it go to waste:

- Use the Transition Plan in annual planning cycle
- Establish baseline from initial inventory
- Make the Transition Plan a **"Living Document"**
  - UPDATE regularly (annually recommended)
- Develop a tracking system to monitor progress

BREAK

ADA was just a start

Several other guidelines are either in development, or in final form. Those are:

1. Final Guidelines for Emergency Transportable Housing - Published in the *Federal Register* May 7, 2014.
2. Final Guidelines for Outdoor Developed Areas - Published in the *Federal Register* September 26, 2013
3. Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way - Published in the *Federal Register* on July 26, 2011. (Referred to as PROWAG)

ADA was just a start

Several Transportation related guidelines are also in development or in final form. Those are:

1. Transportation Facilities
2. Transportation Vehicles
3. Passenger Vessels

Additional standards are being finalized for medical diagnostic equipment.

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Who is subject?

All state and local government entities are covered by this requirement. Regardless of whether state or local governments directly or indirectly manage or delegate the development of facilities in the public right of way to the private sector, the same obligations apply.

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What is a "Public Right of Way"?

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"Public land or property, usually in interconnected corridors, that is acquired for or dedicated to transportation purposes."

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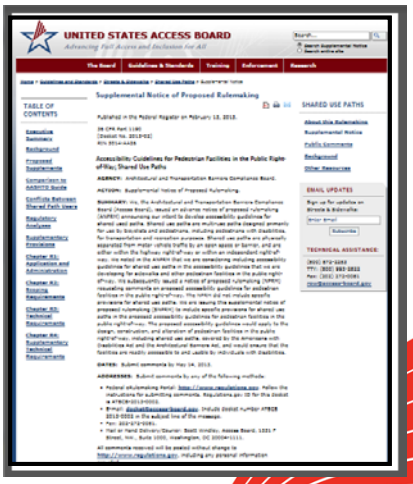
Supplemental Notice of Proposed Rulemaking

Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way; Shared Use Paths (2013)

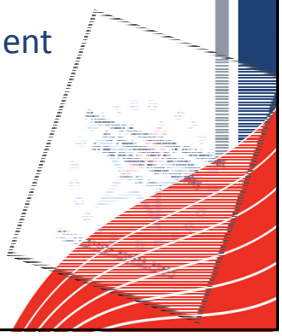
Incorporates shared use path guidelines into the 2011 PROWAG (web only)



Rulemaking Update

- Draft of the Final Rule has been presented to the Board
- Will be submitted to the Office of Management and Budget for review
- Goal is to publish the Final Rule in 2016

The Department of Justice and Department of Transportation must both adopt it.



No Standards for the Right of Way??

FHWA Memo 1/23/06

Public Right of Way Accessibility Guidelines (PROWAG)

"recommended best practices, and can be considered the state of the practice that could be followed for areas not fully addressed by the present ADAAG standards"

What can State and Local Agencies do in the meantime?

- Policy
- Standards
- Education
- Enforcement at local level

TDOT has already adopted PROWAG and must be followed on all projects within TDOT ROW or using TDOT funding.

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PROWAG RULEMAKING

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PROWAG Overview

- Originally intended to supplement the ADAAG to provide standards specific to public rights-of-way; most recently formatted as a stand-alone document
- Applicable to new construction and alterations (of existing facilities)
- Undergoing the rulemaking process (2011 Notice of Proposed Rule Making published w/ updated guidelines)
- Adopted as a "Best Practice"

Rulemaking Process for PROWAG

- The Access Board started the process in 1992 & 1994.
- Through the comment period they felt they needed more input from transportation authorities and municipalities, so the process was put on hold.

Rulemaking Process for PROWAG

During the delay they developed a series of helpful information including:

- Videos
- Checklists
- Design guidelines
- Research on tactile warnings

Rulemaking Process for PROWAG

Most importantly ……

They chartered the 33 person "Public Rights of Way" committee

Rulemaking Process for PROWAG

As a result ……

Public Rights of Way draft guidelines were issued in 2002

Rulemaking Process for PROWAG

Over 1400 Comments were received

- Over 900 from the disability community- most of whom are visually impaired
- Only 200 came from the transportation community, including engineers architects and municipalities

10 Key elements were highlighted

- Crosswalk width
- On street parking
- Walking speed and pedestrian signal phase timing
- Elevators at overpasses and underpasses
- Same side alternate circulation routes

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10 Key elements were highlighted

- Cross slope in crosswalks
- Detectable Warnings
- Accessible pedestrian signals
- Round abouts and round about signalization
- Alterations

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These issues were addressed in the 2nd draft:

- Reference manual on uniform traffic control devices (MUTCD) for crosswalk width
- Reduced scoping in on street parking to be consistent with parking lots
- Set walking speed at 3.5 fps
- Increase vertical access allowances at overpasses and underpasses (ramps, lifts or elevators)

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These issues were addressed in the 2nd draft:

- Modified the technical requirements to be more consistent with MUTCD.
- Provided relief for maximum cross slope limits in pedestrian cross walks at mid block and through street locations.
- Clarified the placement of detectable warnings on curb ramps landings and blended transitions.

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These issues were addressed in the 2nd draft:

- Clarified the new construction requirements for APS installation.
- Limited pedestrian signalization at roundabouts and channelized turn lanes.
- Clarified the scope or alterations and what is required.

ALTERATIONS

Exterior Alterations:

What triggers what?

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Reality Check

Municipal funds are more often used to repair, alter or maintain existing elements

... Not build new ones.

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Each altered element must be accessible to and usable by people with disabilities, to the **maximum extent feasible.**

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What is "Technically Infeasible"?

With respect to an **alteration** of a building or a facility, that it has little likelihood of being accomplished because existing structural conditions would require removing or altering a load bearing member which is an essential part of the structural frame;

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What is "Technically Infeasible"?

or because other existing physical or **site constraints** prohibit modifications or addition of elements, spaces, or features which are in full and strict compliance with the minimum requirements.

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NOTE:

Cost is NOT a trigger of infeasibility in alterations!

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ALTERATIONS:

Alterations are discretionary changes, which the entity chooses to fund, to existing facilities within an already-developed right of way where the work affects, or could affect, the usability of that facility.

Alterations vs. Maintenance

Alterations

- Open-graded surface course
- Cape seals
- Mill & Fill / Mill & Overlay
- Hot in-place recycling
- Microsurfacing / Thin lift overlay
- Addition of new layer of asphalt
- Reconstruction
- New construction

Maintenance

- Crack filling and sealing
- Surface sealing
- Chip seals
- Slurry seals
- Fog seals
- Scrub sealing
- Joint crack seals
- Joint repairs
- Dowel bar retrofit
- Spot high-friction treatments
- Diamond grinding
- Pavement patching

Alteration Requirements

Alteration Type	Address Ramps? *	Address Sidewalks?
Addition of a new layer of asphalt	Yes	No
Cape seals (combo of chip / slurry)	Yes	No
Hot in place recycling (HIPR)	Yes	No
Microsurfacing / thin-lift overlay	Yes	No
Mill & Fill / Mill & Overlay	Yes	No
Reconstruction	Yes	Yes
New construction	Yes	Yes

**** Curb ramps are needed wherever a sidewalk or other pedestrian walkway crosses a curb.***

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When is resurfacing considered an alteration?

Resurfacing triggers installation of curb ramps when it spans from intersection to intersection

Includes:

- Overlays (with or without milling)
- New layer of asphalt
- Reconstruction
- Concrete rehabilitation

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When is resurfacing considered an alteration?

Includes:

Open graded surface course

- Micro-surfacing
- Thin lift overlays
- Cape seals
- In place asphalt recycling

What treatments are maintenance?

Treatments that:

- Seal and protect the road surface
- Improve friction
- Control splash and spray

What treatments are maintenance?

Projects that include:

- Painting or striping
- Crack filling and sealing
- Surface sealing
- Chip seals, slurry seals, fog seals
- Scrub seals, joint crack seals
- Joint repairs

What treatments are maintenance?

Projects that:

- Joint repair
- Dowel bar retrofit
- Spot high friction treatments
- Diamond grinding
- Pavement patching

Planning is KEY!

Compliance is measured by the governing standards …

- ADA
- IBC
- 504
- Civil Rights Restoration Act
- State or local codes

PROWAG TECHNICAL REQUIREMENTS

PROWAG - Table of Contents

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Chapter R1: Application and Administration

Chapter R2: Scoping Requirements

Chapter R3: Technical Requirements

Chapter R4: Supplementary Technical Requirements

TODAY'S FOCUS: Chapter R3: Technical Requirements

PROWAG Overview

R302: Pedestrian Access Routes

R303: Alternate Pedestrian Access Routes

R304: Curb Ramps and Blended Transitions

R305: Detectable Warning Surfaces

R306: Pedestrian Street Crossings

R307: Accessible Pedestrian Signals and Pedestrian Pushbuttons

PROWAG Overview

R308: Transit Stops and Transit Shelters

R309: On-Street Parking Spaces

R310: Passenger Loading Zones

Remember:

Complaints are measured by function, usability and willingness:

Equivalent Facilitation is recognized

Equivalent Facilition:

Allows a departure to the standard when EQUAL or GREATER access can be provided.

PEDESTRIAN ROUTES

The Pedestrian Environment

TN TDOT Department of Transportation

Pedestrian Access Routes
(Section R302)

TN TDOT Department of Transportation

Types of Pedestrian Facilities

Sidewalks

Shared-use Paths

Shoulders

PAR vs. SUP vs. Trails

Pedestrian Access Route
Pedestrians only

Trail Pedestrian
recreation

Shared Use Path
Pedestrians and bikes

Accessible Design Principles

- Construct the built environment to be usable by a broad spectrum of users
- Enable users to travel independently
- Integrate pedestrian facilities in planning and design - not as an afterthought

Title II – Existing Facilities

Undue Burden 28 CFR 35.150(a)(3)

- Based on all resources available for a program
- Claims must be proven and accompanied by a written statement of reasons and signed by the head of the public entity
- What constitutes undue burden will often be decided in courts

BEFORE

AFTER

Title II – Maintaining Accessibility (28 CFR 35.133)

- State & local governments must maintain the accessible features of facilities in operable working conditions
- Maintenance examples: sidewalks that are in disrepair; overgrown landscaping, snow accumulation; broken elevator; work zone accessibility (if construction activity affects pedestrian facilities – provide alternate route if more than temp. disruption)

Alterations (R209.2)

- Alterations to existing facilities that could affect pedestrian access are required to be brought into compliance (see DOJ/FHWA memo for definitions of "alteration")
  - DOJ/FHWA Alterations Memo
  - Glossary of Terms
- Where elements are altered or added to existing facilities but pedestrian path is not altered, pedestrian path is not required to comply and may remain as-is

Continuous Width
(R302.3)

Sidewalk:

- PROWAG: 4.0'min., exclusive of curb
- Some Local Codes (including TDOT):
  - 5.0' min., exclusive of curb
  - 6.0' preferred when adjacent to back of curb

Medians/Pedestrian Refuge Islands: 5.0' min.

Continuous Width
(R302.3)

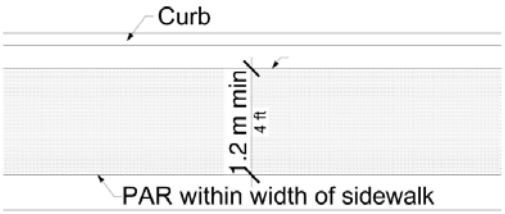
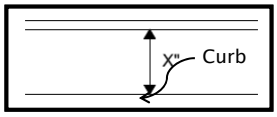


Figure R302.3
Continous Width



Clear Width
(2010 ADA 403.5.1)

Sidewalk:

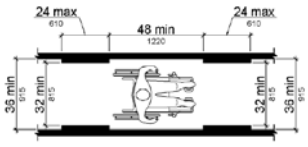


Figure 403.5.1
Clear Width of an Accessible Route

- 2010 ADA
- 36” min. (accessible route)
- Exception: 32” (24” max. distance and 48” min. separation)

PROWAG: Not addressed; comments have been submitted to include this requirement

Clear Width
(2010 ADA 403.5.1)

Source: civilnews.com

Source: streetblog.org

Pedestrian Access Route (PAR) Width

Maintaining Access is just as important as providing it!

Maintaining Access is just as important as providing it!

Passing Spaces
(R302.4)

- If clear width < 5.0’, required every 200.0’ max.
- Passing space dimensions: 5.0’ x 5.0’
- May overlap pedestrian access routes

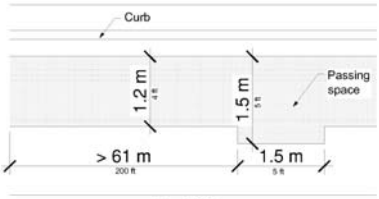


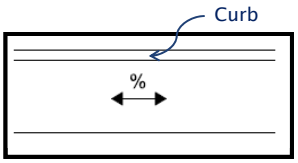
Figure R302.4
Passing Spaces

Grade (Running Slope) (R302.5)

Measured parallel to the direction of pedestrian travel

Sidewalk

- If inside ROW, may follow grade of adjacent street or highway
- If outside ROW, 5% max.



Street Crossings

- 5.0% max.

Grade (Running Slope) (R302.5)

Sidewalk within the ROW

Back of Curb

Offset

Pedestrian Access Route (PAR) Running slope

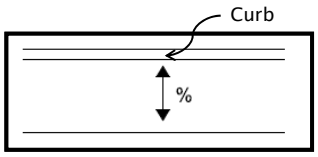
Running slope - can follow adjacent roadway grade

Cross Slope (R302.6)

Measured perpendicular to direction of pedestrian travel

Sidewalk, Curb Ramps, and Blended Transitions

- Max: 2%



Cross Slope
(R302.6)

Street Crossings

With Yield or Stop Control: 2% max.

- Unsignalized, yield control approaches
- Unsignalized, stop control approaches

Without Yield or Stop Control: 5% max.

- Unsignalized, free-flow approaches

Midblock: may equal grade of street or highway

Surfaces
(R302.7)

Must be firm, stable, and slip resistant:

Applies to:

- Sidewalks and other pedestrian circulation paths
- Pedestrian street crossings and at-grade rail crossings
- Curb ramps and blended transitions

Surfaces

TN TDOT Department of Transportation

3-141

Surfaces

Surface requirements:

- Firm, stable, and slip-resistant
- No large openings or gaps

Desired:

- Smooth and free of rough textures

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3-142

Properly installed and well maintained brick can work.

TN TDOT Department of Transportation

3-143

Surfaces

Sometimes it is all about how its installed or the material choice

TN TDOT Department of Transportation

Shared Use Paths and Trails

National Trails Surface Study

- Loose surface materials:
- Generally need special treatment (e.g., binders, consolidants, compaction, and grid forms)
- Frequent maintenance

NCA's website - http://www.ncaonline.org/

Surfaces
(R302.7)

- Clear spaces at street furniture, pushbuttons, and transit shelters
- Boarding and alighting areas and boarding platforms at transit stops
- Access aisles at accessible parking space and accessible passenger loading zones and ramp runs and landings

Surfaces
(R302.7)

Vertical Alignment

- Generally planar (easy "rollability")
- Consider vibrations when choosing surface material
- Flush grade breaks
- At rail crossings, level and flush with rails

Surfaces
(R302.7)

Vertical Surface Discontinuities

- PROWAG with beveled edge: 0.5" max.
- PROWAG without beveled edge: 0.25" max.
- TDOT: 0.25" max.

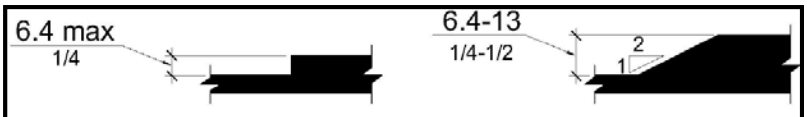


Figure R302.7.2
Vertical Surface Discontinuities

Surfaces:
Vertical Discontinuities (R302.7)

Cracking

Sinking

Heaving

Surfaces:
Vertical Discontinuities (R302.7)

Non-Flush Curb Ramp Transition

Surfaces
(R302.7)

Horizontal Openings

- Includes gratings and joints
- Shall not permit passage of a sphere 0.5” in diameter
- Elongated openings in gratings must be placed with long dimension perpendicular to dominant direction of travel

Surfaces
(R302.7)

Horizontal Openings

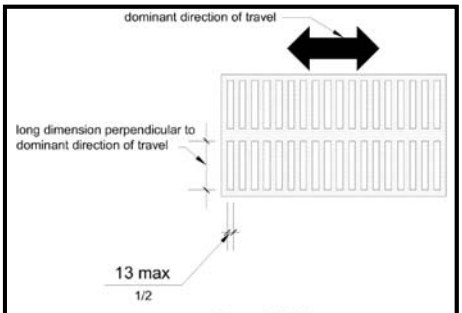


Figure R302.7.3
Horizontal Openings

Surfaces
(R302.7)

Horizontal Openings

Creative design to help high heel wearers

Source: thehairpin.com

Non-Compliant

Source: universaldesignstyle.com

Surfaces
(R302.7)

Flangeway Gaps

- Non-Freight rail track: 2.5” max.
- Freight rail track: 3” max.

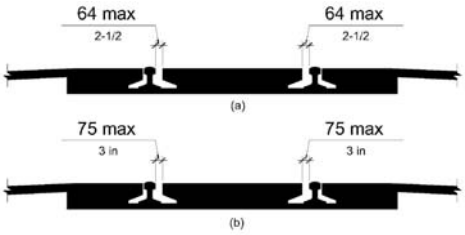


Figure R302.7.4
Flangeway Gaps

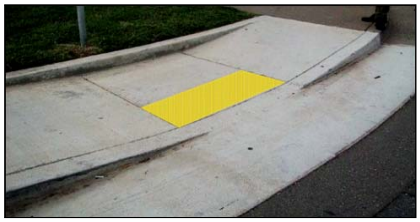
Curb Ramps and Blended Transitions

Section R304

Curb Ramps & Blended Transitions

Perpendicular

Blended Transition



Parallel

Perpendicular Curb Ramps (R304.2)

Turning Space (Landing)

- Located at top of curb ramp
- May overlap other turning spaces and clear spaces
- If not constrained by back of sidewalk
  - 4.0’ x 4.0’ min.

Perpendicular Curb Ramps (R304.2)

Turning Space (Landing)

- If constrained by back of sidewalk:
  - 4.0’ x 5.0’ min.
  - 5.0’ dimension provided in direction of ramp run

Perpendicular Curb Ramps (R304.2)

Turning Space (Landing)

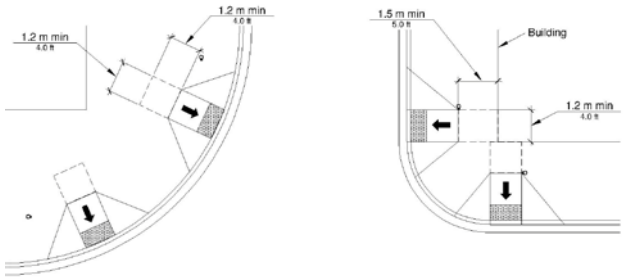
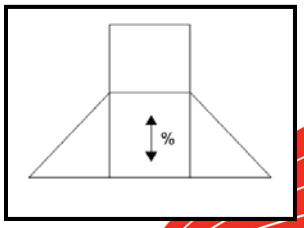


Figure R304.2.1
Turning Space

Perpendicular Curb Ramps (R304.2)

Running Slope

- Curb Ramps
- Cut through, built up to curb at right angles, or meets gutter grade breaks at right angles where curb is curved
- Min: 5% (for ramp length considerations)
- Max: 8.3%
- Ramp Length Max: 15.0’
- Turning Spaces
- Max: 2%

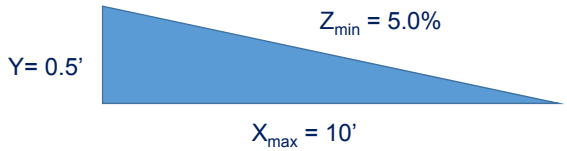


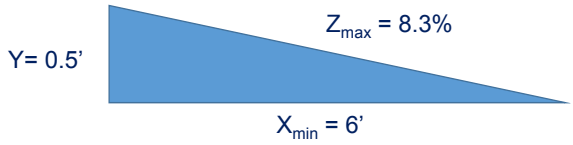
Perpendicular Curb Ramps (R304.2)

Non-compliant:
Sides not 90°

Perpendicular Curb Ramps (R304.2)

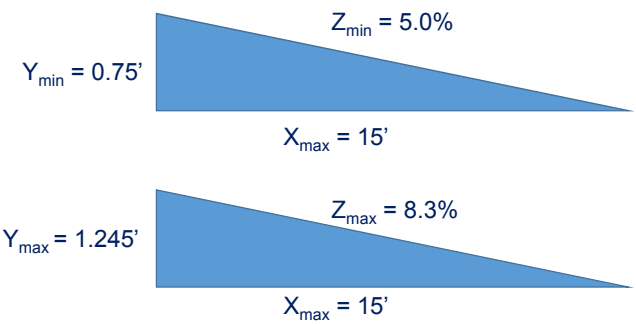
Example: Run limits for typical 6” curb





Perpendicular Curb Ramps (R304.2)

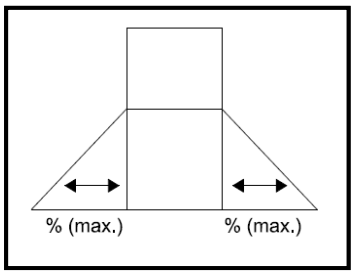
Example: Rise limits using max. run length



Perpendicular Curb Ramps (R304.2)

Flared Sides

- Required where pedestrian circulation path crossed curb ramp
- Max. cross slope: 10%
- Measured parallel to curb line



Perpendicular Curb Ramps (R304.2)

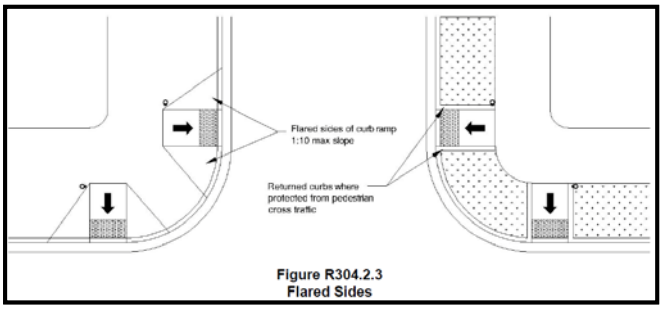


Figure R304.2.3
Flared Sides

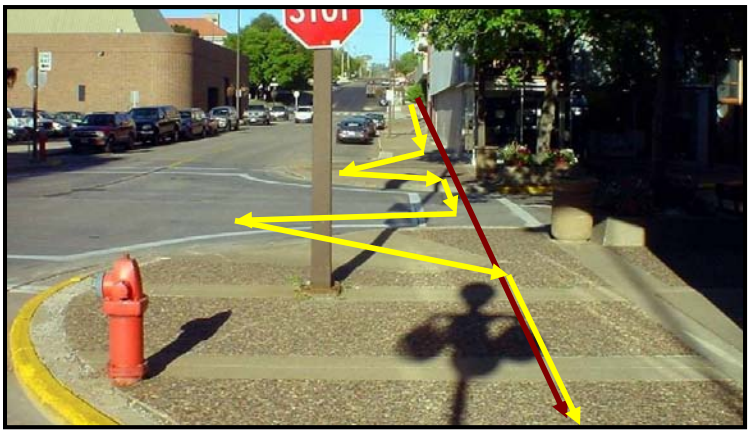
Perpendicular Curb Ramps (R304.2)

Unprotected
(traversable)

Perpendicular Curb Ramps (R304.2)

Protected with landscaping (non-traversable)

Curb Ramps & Blended Transitions



A ramp for each street crossing

Parallel Curb Ramps
(R304.3)

Turning Space (Landing)

- Located at bottom of curb ramp
- May overlap other turning spaces and clear spaces
- If not constrained on 2 or more sides:
  - 4.0’ x 4.0’ min.

Parallel Curb Ramps
(R304.3)

Turning Space (Landing)

- If constrained on 2 or more sides:
  - 4.0’ x 5.0’ min.
  - 5.0’ dimension provided in direction of pedestrian street crossing

Parallel Curb Ramps
(R304.3)

Turning Space (Landing)

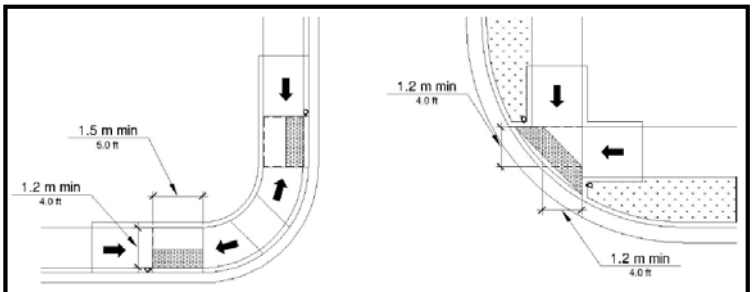


Figure R304.3.1
Turning Space

Parallel Curb Ramps
(R304.3)

Running Slope

Curb Ramps

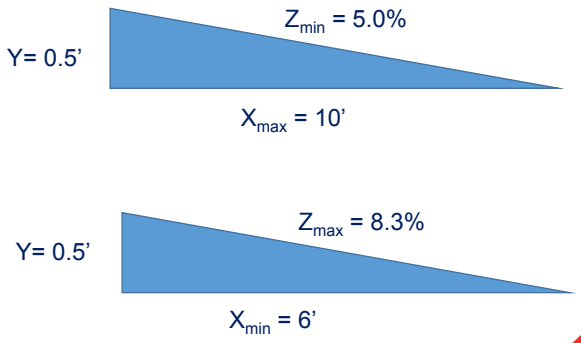
- In-line with direction of sidewalk travel
- Min: 5% (for ramp length considerations)
- Max: 8.3%
- Ramp Length Max: 15.0'

Turning Spaces

- Max: 2%

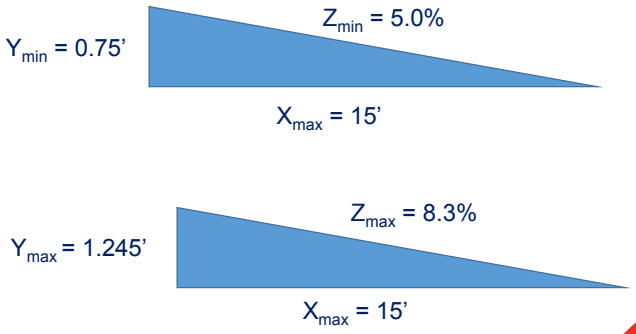
Parallel Curb Ramps
(R304.3)

Example: Run limits for typical 6” curb



Parallel Curb Ramps
(R304.3)

Example: Rise limits using max. run length



R304.4

Blended Transitions (R304.4)

Treatment type for entire curb radius

Running Slope

- PROWAG Max: 5%

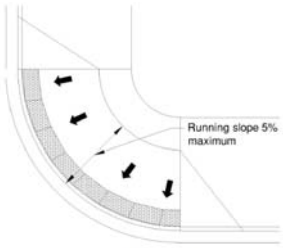


Figure R304.4.1
Running Slope

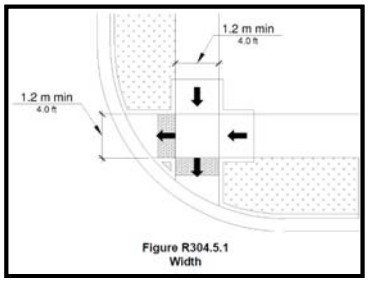
(PROWAG)

Common Requirements (R304.5)

Width

- For curb ramp runs, blended transitions, and turning spaces
- Excludes any flared sides
- PROWAG Min: 4.0’
- TDOT Min: 5.0’

Common Requirements
(R304.5)



(PROWAG)

Common Requirements
(R304.5)

Grade Breaks

- Must be perpendicular to direction of ramp run at top and bottom of curb ramps
- Not permitted on surface of ramp runs and turning spaces
- Surface slope that meet at grade breaks must be flush

Common Requirements
(R304.5)

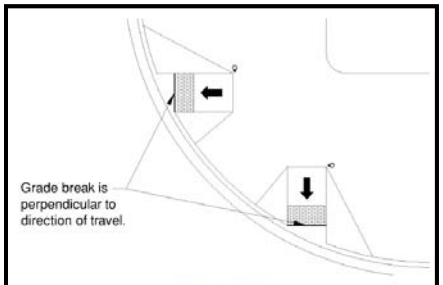


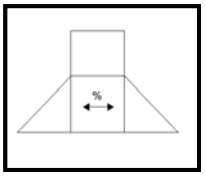
Figure R304.5.2
Grade Breaks

Common Requirements
(R304.5)

Cross Slope

- Curb ramp runs, blended transitions, and turning spaces
- Installed at intersections with yield or stop control (unsignalized): 2% max.
- Installed at intersections without yield or stop control (signalized): may match grade of adjacent street or highway

(**NOTE**: use 2% to be conservative)



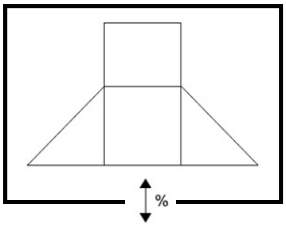
Perpendicular Ramp

Parallel Ramp

Common Requirements (R304.5)

Counter Slope

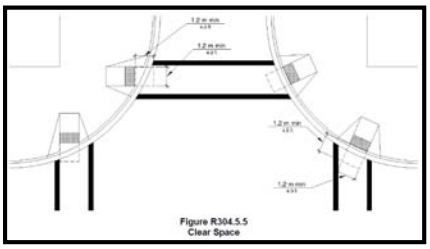
- Measured in gutter or street at foot of curb ramp runs, blended transitions, and turning spaces
- Max: 5%



Common Requirements (R304.5)

Clear Space

- Measure beyond the bottom grade break
- 4.0’ x 4.0’ min.
- Within the width of pedestrian street crossing
- Wholly outside the parallel vehicle travel lane



Sometimes it's tough!

Steps at Corner: Before

TN TDOT Department of Transportation

But it CAN be done!

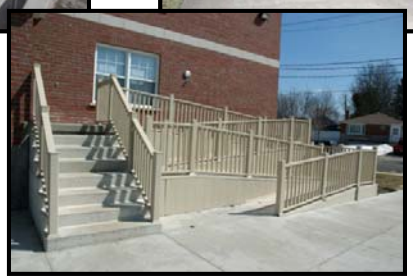
TN TDOT Department of Transportation

Ramps

Ramps
(R407)

Source: wikimedia.org

Source: portawalk.com



Source: charlesandhudson.com