Introduction
The Equal Opportunity for Individuals with Disabilities Act (better known as the Americans with Disabilities Act, or ADA) was signed into law July 26, 1990 as 42 U.S.C., Chapter 136, Section 12101, et seq. Its predecessors included:

- The Architectural Barriers Act (ABA, 1968) applies to facilities designed, built, altered, or leased with federal funds.
- The Rehabilitation Act of 1973 prohibits discrimination on the basis of disability in programs conducted by federal agencies and those receiving federal financial assistance, as well as in federal employment and in federal contractor employment practices. If you have heard the term “508 Compliance,” dealing with equal access to communications (among other things) it originates in that section of the Rehabilitation Act.

ABA and the Rehabilitation Act essentially extended certain civil rights to people with disabilities, building off of the Civil Rights Act of 1964. Like its predecessors, ADA is a civil rights law. And while not specific to transportation, it is difficult to find a more far reaching transportation policy for the disabled within or outside of the U.S. Unlike its predecessors, ADA applicability is not tied to whether federal funding was involved in the construction of the facility; hence, it applies broadly to any facility open to public use (and even multi-family residential facilities).

Enforcement is vested primarily in the U.S. Department of Justice, but targeted authority is also shared with other agencies (e.g., the Department of Transportation). In the arena of transportation, agencies such as the Federal Highway Administration can withhold federal funding when ADA standards are not met. The civil courts have also been a key enforcement tool, affecting public and private groups large and small.

Standards
Standards for ADA compliance (including those related to roadways, sidewalks, and other pedestrian pathways) originate with the U.S. Access Board.

In 1973, Section 502 of the Rehabilitation Act established the Architectural and Transportation Barriers Compliance Board (subsequently known as the Access Board) because Congress believed compliance with ABA in 1968 was uneven and one central agency was needed. In 1982, the Access Board established minimum guidelines for accessible design. In 1990, ADA expanded the Access Board’s role to develop accessibility guidelines, provide training, and conduct research to support and maintain guidelines. In 1991, the ADA Accessibility Guidelines (ADAAG) were published and have since been the central guidelines.
In 1999, the Public Rights of Way Access Advisory Committee was established by the Access Board and PROWAAC presented its first recommendations in 1991 at the TRB Annual Meeting. Guidelines were published for comment in 2002 and then revised in 2005, but none of these have been finalized. Meanwhile, the 2005 draft PROWAG has been identified by USDOT as the Best Practice in accessible pedestrian design, meaning that, even in draft form, PROWAG is an appropriate minimum standard for accessibility in the public right of way. The Access Board expects a Final Rule in 2011, with a Notice of Proposed Rulemaking in March 2011.

ADAAG
At least generally speaking, the ADA Accessibility Guidelines (ADAAG) were developed with buildings and building sites in mind. Special challenges and conflicts associated with sidewalks along and across roadways (e.g., there aren’t usually utility poles in building hallways) were not completely addressed, and rehabilitation (versus new construction) of street-related pedestrian pathways has relied on adaptations and interpretations of ADAAG. The not-yet formally adopted PROWAG (see next section) will resolve most, if not all, of the shortcomings of ADAAG relative to the public right of way. But for now, a sample platter of ADAAG is instructive.

- Sidewalk width – 36” continuous, but 32” for obstruction lasting no more than 24” in length (e.g. a utility pole or parking meter) (Section 4.2 and Figure 1)
- Space between obstructions (i.e., a series of parking meters or poles such that the sidewalk width is less than 36” in some locations) must be at least 48” (Section 4.13.7)
- Passing space 60” x 60” at least every 200’ (Section 4.3.4)
- Curb ramps required “wherever an accessible route crosses a curb” (Section 4.7.1)
- Ramps – 36” wide exclusive of flare sides (Section 4.7.3)
- Detectable warnings (raised truncated domes) required (Section 4.7.7 – ADAAG says full width and depth, but DOT policy has pulled that back to full width)
- Ramp running slope – maximum 8.33% and no more than 30” rise (Section 4.3.7 and 4.8)
- Cross slopes – 2% maximum (Section 4.3.7)
- Longitudinal (running ) slopes – keep below 5% or it is a ramp (Section 4.8.1), which then means that you have to stay under 8.33% and provide a 60”x60” landing area at each 30” rise or fall in elevation (moral – stay under 5%)
- Railroad crossing gap – maximum 2½” gap permitted (Section 10.3.1(13))

PROWAG
Because the U.S. Department of Transportation has identified the draft PROWAG as a Best Practice, it is an appropriate design standard for streets and sidewalks, even though it has not yet been formally adopted as a Final Rule (the current hope is later in 2011). Hence, let’s look closer at PROWAG, recognizing that there is much beyond these simple bullet points.

- §R202 – Alterations – renovation, rehabilitation, reconstruction, historic restoration, resurfacing, etc.
  - Refers to USDOJ at 28 CFR 35.151(e) and Kinney v. Yerusalim
  - Pavement patching, liquid applied sealants, restriping, short term maintenance activities are not alterations
- §R202 – Conflicts with historic structures
§R205 – Maintaining accessible route during construction – i.e., pedestrian maintenance of traffic; see also §R302 – Alternate circulation paths

§R216 – On-street parking – minimum 4% must be accessible

§R221 – Detectable warning devices (truncated domes)

§R301.3 – Width
   o Continuous width – 4.0 feet
   o Unlike ADAAG, PROWAG does not provide for occasional obstructions
     ▪ [Width of sidewalk is always measured from back of curb]
   o Passing spaces – 5.0 feet wide x 5.0 feet long @ <= 200 feet intervals

§R301.4 – Slope and grade
   o Cross slope shall be 2% maximum
   o Street/highway grade – sidewalk can mimic but not exceed (so, for a street with a running slope of 7%, you are not constrained to a 5% sidewalk running slope, but you were with ADAAG)

§R301.5 – Surface discontinuities
   o ¼”-½” vertical rise – bevel 1:2
   o No more than ½” vertical discontinuity (rise)

§R301.7 – Joints and gratings – no more than ¼” diameter openings

§R302 – Alternate circulation paths (including detours); most of us have historically overlooked this, but it is getting much better attention these days

§R303 – Curb ramps and blended transitions
   o §R303.2.1 – Perpendicular curb ramps
     ▪ Running slope >5% & <8.3% BUT shall not require ramp length to exceed 15’
     ▪ Maximum 2% cross slope (can warp at mid block crossings to meet grade)
     ▪ Landing – 4’x4’ minimum at top of curb ramp
   o §R303.2.2 – Parallel curb ramps
     ▪ Running slope >5% & <8.3% BUT shall not require ramp length to exceed 15’
     ▪ Maximum 2% cross slope (can warp at mid block crossings to meet grade)
     ▪ Landing – 4’x4’ minimum at bottom of curb ramp
     ▪ Diverging sidewalks – if the parallel ramp does not occupy entire width of sidewalk, protect drop offs
   o §R303.3 – Common elements
     ▪ 4’ minimum width
     ▪ Detectable warning surfaces where ramp or landing meets street
     ▪ No grates, access covers, other appurtenances in ramps or landings
     ▪ No grade breaks in ramps
     ▪ Counter slopes 5% maximum
     ▪ Minimum 4’x4’ clear space beyond curb face & wholly outside travel lane

§R304 – Detectable warning surfaces
   o Truncated domes aligned in a square or radial grid pattern
   o Dimension and spacing of domes
   o Visual contrast with adjacent material (light on dark/dark on light)
   o Full width of ramp and 24” minimum in direction of travel
   o Intended to provide tactile equivalent underfoot of the visible curb line

§R305.2 – Crosswalks
   o 6’ wide minimum
   o Cross slope – 2% maximum with Stop control; 5% max w/out Stop control
- Running slope (measured parallel to pedestrian travel direction) – 5% maximum

- §R305.2 – Medians/Pedestrian Refuge Islands

- §R305.6 – Roundabout intersections

- §R306 – Accessible pedestrian signals (APS)

- §R306.2 – Pedestrian signals
  - Vertical and horizontal locations very specific in PROWAG and MUTCD
  - Audible tones or speech messages; volume

- §R306.3 – Pedestrian pushbuttons
  - Locator tone
  - Size and visual contrast

- §R306.3 – Directional information/signs
  - Tactile and visual signs/guides

- §R305.6 – Street furniture
  - Drinking fountains, telephones, toilets, tables, counters, benches

- §R308 – On-street parking
  - Access Isles (for ingress/egress into/from vehicles)
    - If wide adjacent sidewalk (>14’) – 5’ street level access isle
    - If narrow sidewalk (<14’) – no access isle required but locate space at block ends
    - If perpendicular or angled parking – 8’ access isle at street level
  - Signs designating parking spaces
    - Locate at head or foot of spaces
  - Parking meters
    - Meters at spaces
    - Remote meters
    - Displays and information

- §R401 – Protruding objects

- §R402 – Clear space

- §R403 – Knee and toe clearance

- §R404 – Reach ranges

- §R406 – Ramps (not just curb ramps)
  - Running slope – between 5% min and 8.3% max
  - Cross slope – 2% maximum
  - Vertical rise – 30” maximum
  - Landings
  - Handrails – required for rise >6” (Access Board has verified no handrails are required for curb ramps)
  - Edge protection – each side of ramp runs (but not curb ramps or landings)

- §R409 – Signs
  - Raised characters, Braille, height and location, visual characters

- §R409 – Bus stop boarding/alighting areas
  - Surface – firm, stable, slip resistant
  - Dimensions – 5’ min along curb x 8’ min wide
  - Connectivity to accessible route
  - Cross slope – 2% max
  - Shelters – must meet R402 clear space requirements
Resources
Here are some resource links on the Internet that can be of help.

- **Acts/Laws**

- **Regulations**

- **Standards**
  - U.S. DOT’s Standards for Transportation Facilities - [http://www.access-board.gov/ada-aba/ada-standards-dot.cfm](http://www.access-board.gov/ada-aba/ada-standards-dot.cfm)

- **Guidance**
  - FHWA Notice on use of draft PROWAG - [http://www.fhwa.dot.gov/environment/bikeped/prwaa.htm](http://www.fhwa.dot.gov/environment/bikeped/prwaa.htm)
  - Title II Technical Assistance Manual (for state and local government programs and services) - [http://www.ada.gov/taman2.html](http://www.ada.gov/taman2.html)
  - DelDOT Road Design Manual (primarily Section 10.8) - [http://www.deldot.gov/information/pubs_forms/manuals/road_design/](http://www.deldot.gov/information/pubs_forms/manuals/road_design/)
A Cautionary Note (aka “Disclaimer”)
Like many topics, ADA and its standards is a large topic and does not lend itself well to a handout for anything greater than an overview or awareness-raising. The summary herein is not a substitute for a more fundamental understanding of how ADA should play into our planning, budgeting, design, construction, and maintenance activities. Now the good news – the Delaware T² Center is a free resource for Delaware municipalities, offering periodic training on this and other transportation topics, as well as one-on-one assistance through our Municipal Engineering Circuit Rider, Matheu J. Carter, P.E. To learn more, contact Matt at matheu@udel.edu or (302) 831-7236.