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Americans with Disabilities Act (ADA)
Curb Ramp Inspection

January 2020

What we'll cover:

Curb Ramps

- **ADA Background & Terminology**
- **Requirements of ADA/NYSDOT**
- **Field Inspection**
- **Common Issues**
- **Q & A**

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1990 Americans with Disabilities Act (ADA)

- Wide-ranging civil rights law that prohibits discrimination based on disability (*not just permanent or physical disabilities)*
- Includes accessibility requirements for public facilities

ADA Guidelines

- Actual criteria for ensuring "access to the built environment for people with disabilities"
- Developed by U.S. Access Board
- Enforced by U.S. Department of Justice
- USDOJ designates USDOT/FHWA to handle compliance for highways

UNITED STATES ACCESS BOARD
Advancing Full Access and Inclusion for All

U.S. Department of Transportation Federal Highway Administration

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ADAAG and PROWAG

- 1991 Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- 2011 (Proposed) Public Rights-of-Way Accessibility Guidelines (PROWAG)

ADAAG and PROWAG

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NYSDOT Standard for New Construction

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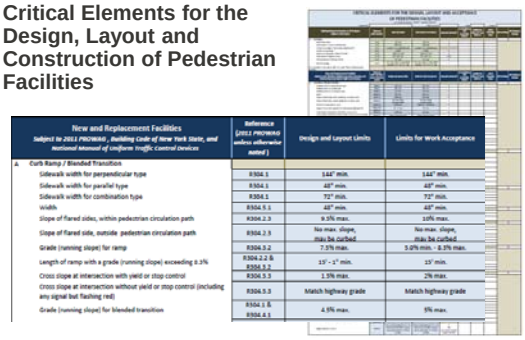
Critical Elements for the Design, Layout and Construction of Pedestrian Facilities



www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-18
or Google "NYSDOT HDM 18"

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Examples of NYSDOT Design and Layout Values vs. ADA Acceptance Values

Element	Design and Layout	ADA Acceptance
Curb ramp running slope	7.5%	8.3%
Curb ramp cross slope	1.5%	2.0%
Sidewalk running slope	4.5%	5.0%
Sidewalk cross slope	1.5%	2.0%

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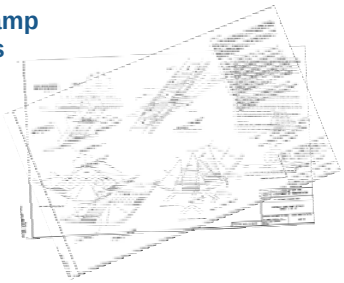
608 "Pedestrian Facilities" Standard Sheets

- 14 standard ramp configurations
- Transitions
- Sections
- Detectable warning placement
- Ramp side options



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Anatomy of a Curb Ramp - Terminology

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Anatomy of a Curb Ramp - Terminology

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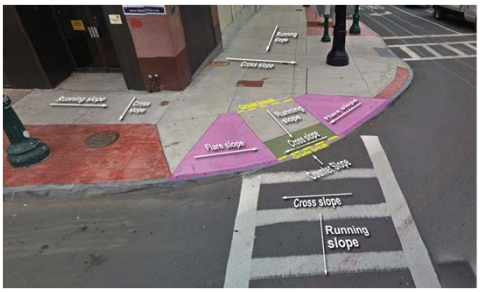
Anatomy of a Curb Ramp - Terminology



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Blended Transition

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Sidewalks - Terminology

Pedestrian Access Route vs. Pedestrian Circulation Path

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Sidewalks - Terminology

Pedestrian Access Route vs. **Pedestrian Circulation Path**

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Field Inspection

- 4 foot digital level
- 25 foot tape measure
- Digital camera (GPS enabled is useful to capture coordinates)
- Critical Elements Sheet
- Plan/aerial location map

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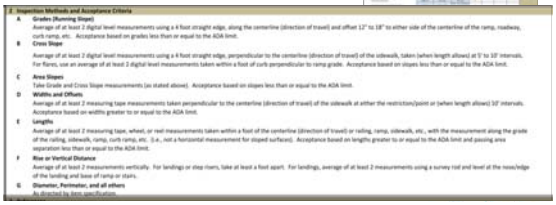
Field Inspection

- Standard methods of measurement on back of "Critical Elements" sheet



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Critical Measurements

- Ramp width
- Flare slopes
- Running slope
- Counter slope
- Joint widths/cracks
- Vertical changes
- Detectable warning placement
- Turning space dimensions and slopes

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Curb Ramp Flares

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Curb Ramp Flares

No maximum slope outside of Pedestrian Circulation Path

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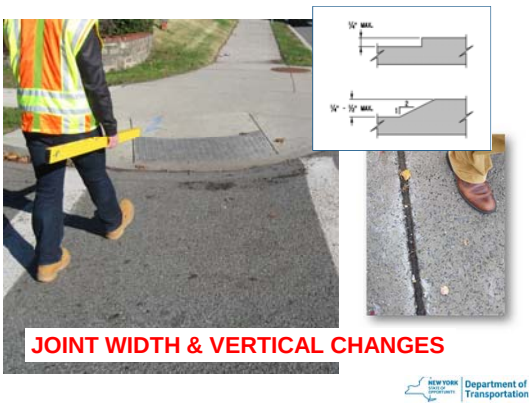

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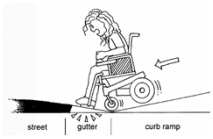
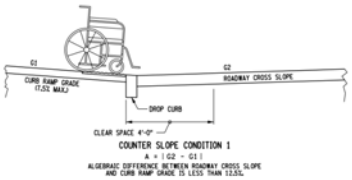
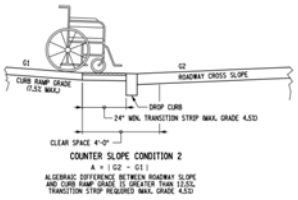
Counter Slope







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Detectable Warnings

- Replace the curb as a cue for visually impaired pedestrians
- DWs do not indicate correct direction of travel
- DWs are not a universal "danger" warning

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Detectable Warnings

Must cover entire width of curb ramp or Pedestrian Access Route for 24 in. in direction of pedestrian travel

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Detectable Warnings

Placement depends on the location of the lower grade break relative to the curb

Grade break is > 5 ft. from back of curb

DW is placed at back of curb

Grade break is < 5 ft. from back of curb

DW is placed on ramp above lower grade break

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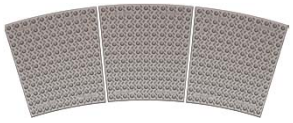
Detectable Warnings

- DW placed at back of curb must be within 2 in. of back of curb
- DW placed on ramp must be within 2 in. of lower grade break



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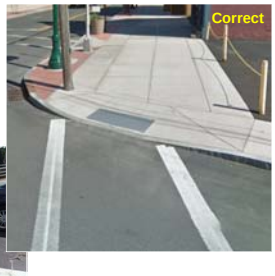
Detectable Warnings

For running slopes over 5%, dome rows are oriented perpendicular to bottom grade break



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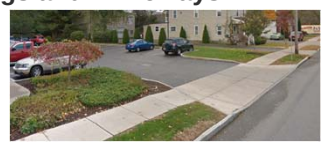
Detectable Warnings and Driveways

- DWs not needed for most driveways



- DWs are used at signal, stop- or yield-controlled commercial driveways

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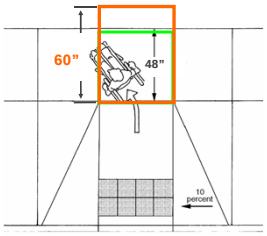
Turning Space

- Required where a turning maneuver is needed to orient to ramp run
- 60” min. in direction of pedestrian crossing when constrained
- Turning spaces can overlap or serve multiple ramps



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Turning Space

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Turning Space

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Turning Space

The slope in either direction can’t exceed 1.5% for layout, or 2% for acceptance

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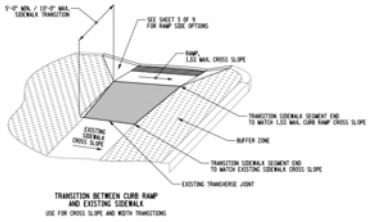
Curb Ramps – Tying In

- Transitions to existing sidewalks and highway grade
- 5’-10’ transition piece from old noncompliant sidewalk to new, compliant curb ramp



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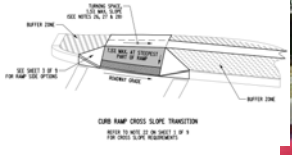
Curb Ramps – Tying In

Cross slope transitions

Highway grade exceeds 2% and isn't being adjusted



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Curb Ramps – Other Considerations

- **Curb ramps should generally be planar**
- **Grade breaks should be perpendicular to direction of travel**
- **Edges and joints should not be rounded**
- **Concrete should not be deeply scored. (Broom finish is fine.)**

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Curb Ramps – Other Considerations

- **Drainage!**
- **Ponded water, ice, or washed-in debris can make an otherwise compliant ramp inaccessible**

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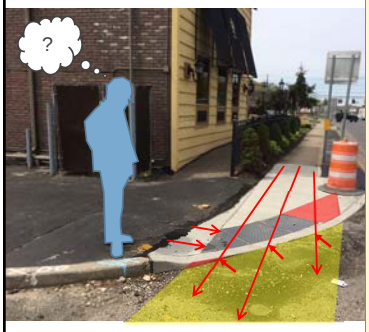
Example - Type 1 Ramp



- ✓ Running slope ≤ 8.3%
- ✓ Cross slope ≤ 2.0%
- ✓ Counter slope ≤ 13.3%
- ✓ Right flare (in a pedestrian circulation path) ≤ 10%
- ✓ Ramp width ≥ 48 in.
- ✓ No turning space needed
- ✓ Clear space outside of parallel vehicle travel lane
- × Grade flush throughout, or < ¼ inch or ½ inch with a 1:2 beveled edge
- × Detectable warning covers full width of ramp for 24 in. in direction of ped. travel

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Example - Type 7 Ramp

- ✓ Running slope ≤ 8.3%
- ✓ Cross slope ≤ 2.0%
- ✓ Counter slope ≤ 13.3%
- ✓ Both flares (in a pedestrian circulation path) ≤ 10%
- ✓ Ramp width ≥ 48 in.
- ✓ Clear space outside of parallel vehicle travel lane
- × Grade flush throughout, or < ¼ inch or ½ inch with a 1:2 beveled edge
- × 60 in. x 48 in. turning space (constrained at back)
- × Detectable warning covers full width of ramp for 24 in. in direction of ped. travel – *within 2 in. of back of curb*

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Documentation

CONSISTENT PHOTO VIEWS

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When one or more elements don't meet requirements:

- **Notify EIC**
- **Facility may need to be adjusted, redesigned, or formally justified as a nonstandard feature**
- **Nonstandard justifications include**:
  - Underlying Terrain
  - ROW Availability
  - Underground Structures
  - Adjacent Developed Facilities
  - Drainage
  - Presence of a Notable Natural Feature
  - Presence of a Notable Historic Feature
  - Other

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NYSDOT References

- **ED- 15-004** - Design, Construction and Inspection of Pedestrian Facilities in the Public Right of Way
- **608 Standard sheets and Regional CRDs**
- **HDM Chapter 2**
  - NSFJ Forms
- **HDM Chapter 7**
  - ADA Reporting Table w/ Additional info added by R10
- **HDM Chapter 18**
  - Critical Elements Table
  - ED 15-004 FAQs

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Questions?

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Other Examples

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Curb Ramp - *Direction*

The Good

New landing, acceptable slope, better direction.

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Curb Ramp Direction

The Bad

Intended design ignored, existing non-standard features maintained.

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Ramp Slopes/ Cross Slopes

The Good

New landing, acceptable slope, bigger flare.

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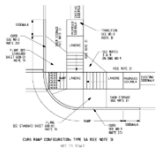
Ramp Slopes/ Cross Slopes

The Bad

Re built but the turning space (formerly landing) is too steep, should be 2% maximum



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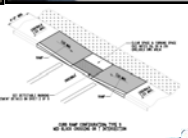
Ramp Slopes/ Cross Slopes

The Good

Acceptable slope and clear/turning space. Note, avoid exposed pole foundations.



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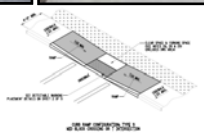
Ramp Slopes/ Cross Slopes

The Bad

Clear/turning space still **too steep**, they could have graded back slope.



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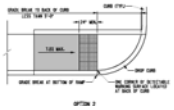
Curb Ramp Detectable Warnings

The Bad

*The detectable warning is back too far (>5 feet) from the **grade break to the back of curb**.*



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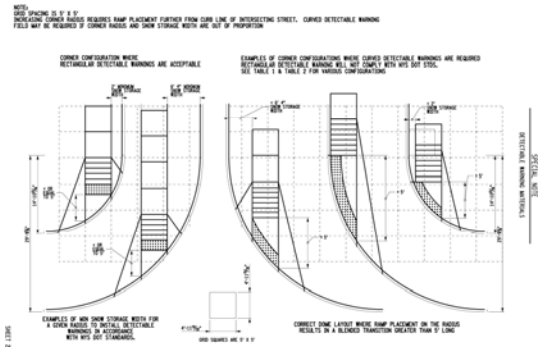

Small Radius Corner **Large Radius Corner**

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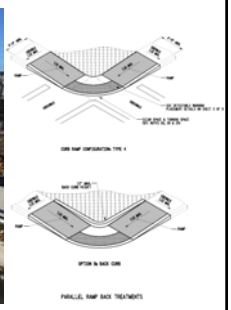

Good example of the use of radial detectable warnings

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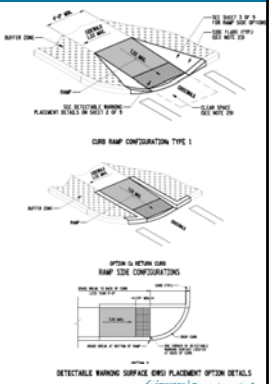

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Drainage - Ponding at base of ramp

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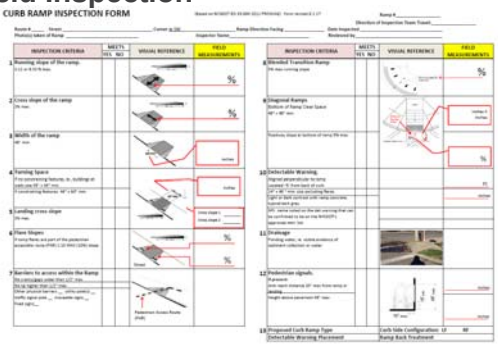
Field Inspection



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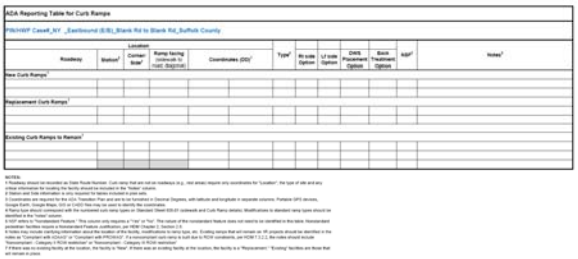
ADA Reporting Table



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