

Module 3

ADA Design Standards, Self-Evaluation and Barriers to Access Training



Lead Presenter

- Travis Helmkamp, PE, ADAC, Project Manager at Oates Associates
- 12 years assisting municipalities with self-evaluations and transition plans
- Completed plans for communities from 5,000 to 300,000 residents



Presenter

- Robin Jones
- Director of Great Lakes ADA Center since 1991
- Professor in the Department of Disability and Human Development, University of Illinois at Chicago (UIC)
- Provides training throughout Illinois and the nation





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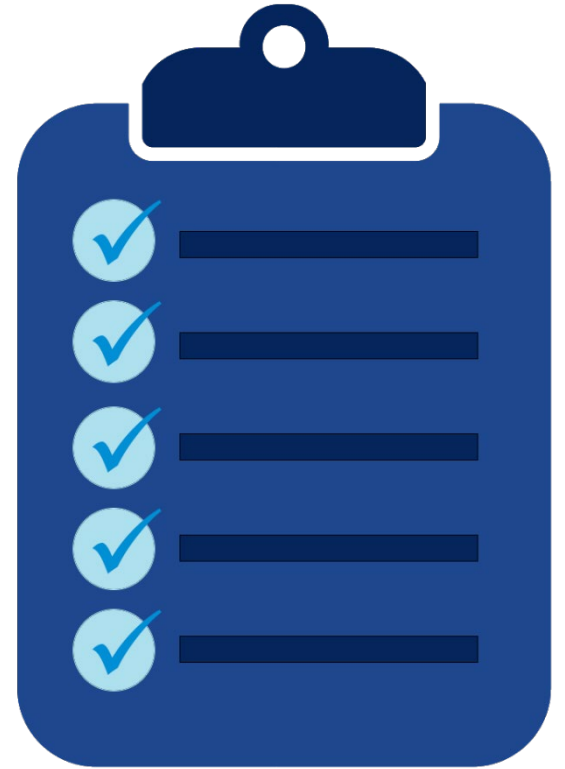
A Member of the ADA National Network

Presentation Goals



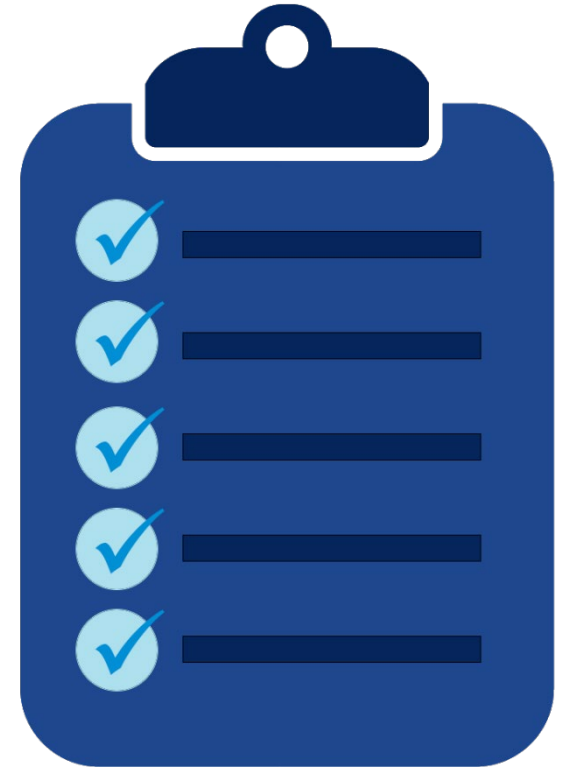
Goals for Presentation

- Appropriate design standards
- Application of design standards
- Completing a self-evaluation
- Planning process for identifying barriers to access in Public ROW



Goals for Presentation (cont'd)

- Completing the identification of barriers to access
- Identifying future projects and developing costs
- Community engagement (**additional conversation in Module 4**)
- Resources





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Design Standards



2010 ADA Standards for Accessible Design



Federal Standards and Guidelines Americans with Disabilities Act

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- [Americans with Disabilities Act \(ADA\)](#)
 - Department of Justice (DOJ) adopted on July 26th, 1991
 - Establishes scoping and technical requirements for Title II entities
 - Title II entities include local municipalities



Federal Standards and Guidelines

2010 ADA Standards

MODULE

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- [2010 ADA Standards for Accessible Design \(2010 ADA\)](#)
 - DOJ adopted on March 15, 2012
 - Minimum scoping and technical design requirements under the ADA of 1990
 - Areas Covered:
 - Accessible routes, site and building elements, plumbing elements, communication, built-in elements, recreational facilities



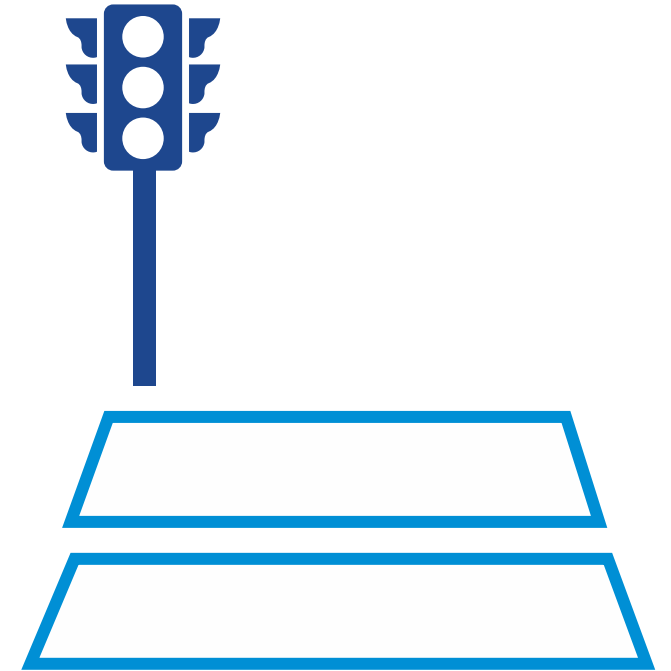
Federal Standards and Guidelines

PROWAG

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- [Public Rights-of-Way Accessibility Guidelines \(PROWAG\)](#)
 - Draft guidelines released in 2002
 - Proposed **guidelines** to address pedestrian components on public rights-of-way
 - Identified as current best practice by US DOT
 - Recommended for Local Public Agencies (LPAs) by IDOT



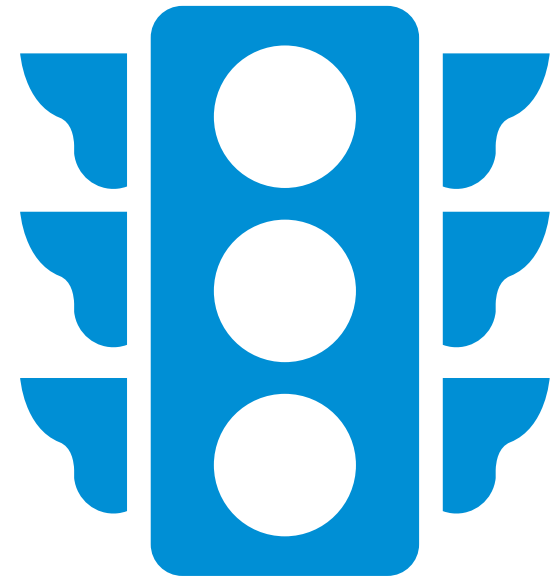
Federal Standards and Guidelines

MUTCD

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- [Manual on Uniform Traffic Control Devices \(MUTCD\)](#)
 - Issued by Federal Highway Administration (FHWA)
 - Standards for pedestrian signals
 - Accessible pedestrian signals and pedestrian pushbuttons



State Standards and Guidelines

Illinois Accessibility Code

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- [Illinois Accessibility Code \(IAC\)](#)
 - Minimum scoping and technical design requirements in the State of Illinois
 - Modeled on the 2010 ADA Standards
 - Several key differences
 - Areas Covered:
 - Public facilities and multi-family housing



Capital Development Board
2018 Illinois Accessibility Code
Effective October 23, 2018



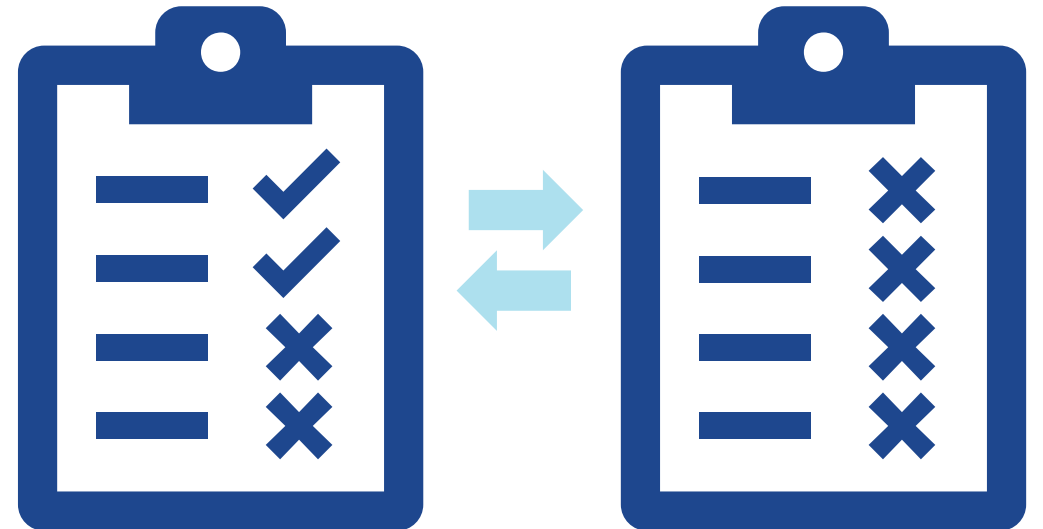
State Standards and Guidelines

IDOT Standards

- Illinois Department of Transportation (IDOT)
 - [Chapter 48-2.04 of the Design and Environment Manual](#)
 - State highway network and interstates
 - [Chapter 41-6 of the Bureau of Local Roads](#)
 - Local streets including functionally classified roadways
 - [Highway Standards](#)
 - [District Design Standards](#) (District 1)
 - [District Design Standards](#) (District 3)

Local Standards and Guidelines

- Local municipalities can establish their own guidelines if they exceed federal and state standards
- How do we compare all these standards?





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Design Standards

Applying appropriate design standards



Applying Design Standards Excerpt from ADA

- Americans with Disabilities Act
 - Technical Requirements – *To ensure compliance with all codes, know your state and local codes and use the more stringent technical requirement....the requirement that provides greater access for individuals with disabilities.*

Applying Design Standards

Excerpt from Illinois Accessibility Code

- Illinois Accessibility Code is the umbrella standard for all construction in the state
- Illinois Accessibility Code
 - *101.7 –Pursuant to Section of the, Environmental Barriers Act, and governmental unit may enact more stringent requirements to increase and facilitate access to the built environment by individuals with disabilities.*

Applying Design Standards

Local Standards

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- Adoption of municipal standards
 - Establish minimum standards for all development
 - PROWAG on public rights-of-way
 - [Accessible Electric Vehicle Charging Stations](#)
 - Develop additional standards to meet City goals
 - Example: Number of ADA parking spaces



Applying Design Standards Protection for Local Agencies

- Include a statement such as
 - “that the applicable federal, state, or local standards or guidelines that provide the highest level of accessibility shall govern”
- Protects in instances where federal or state standards are enhanced

Questions?



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15-Minute Break #1





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Case Study #1

Sidewalk Behind Back of Curb



Case Study #1

Sidewalk Behind Back of Curb

- Existing Conditions
 - 5'-wide concrete sidewalk directly behind the back of curb
 - Roadway is functionally classified as an arterial route
 - Parking meters and light standards limit width to 4'

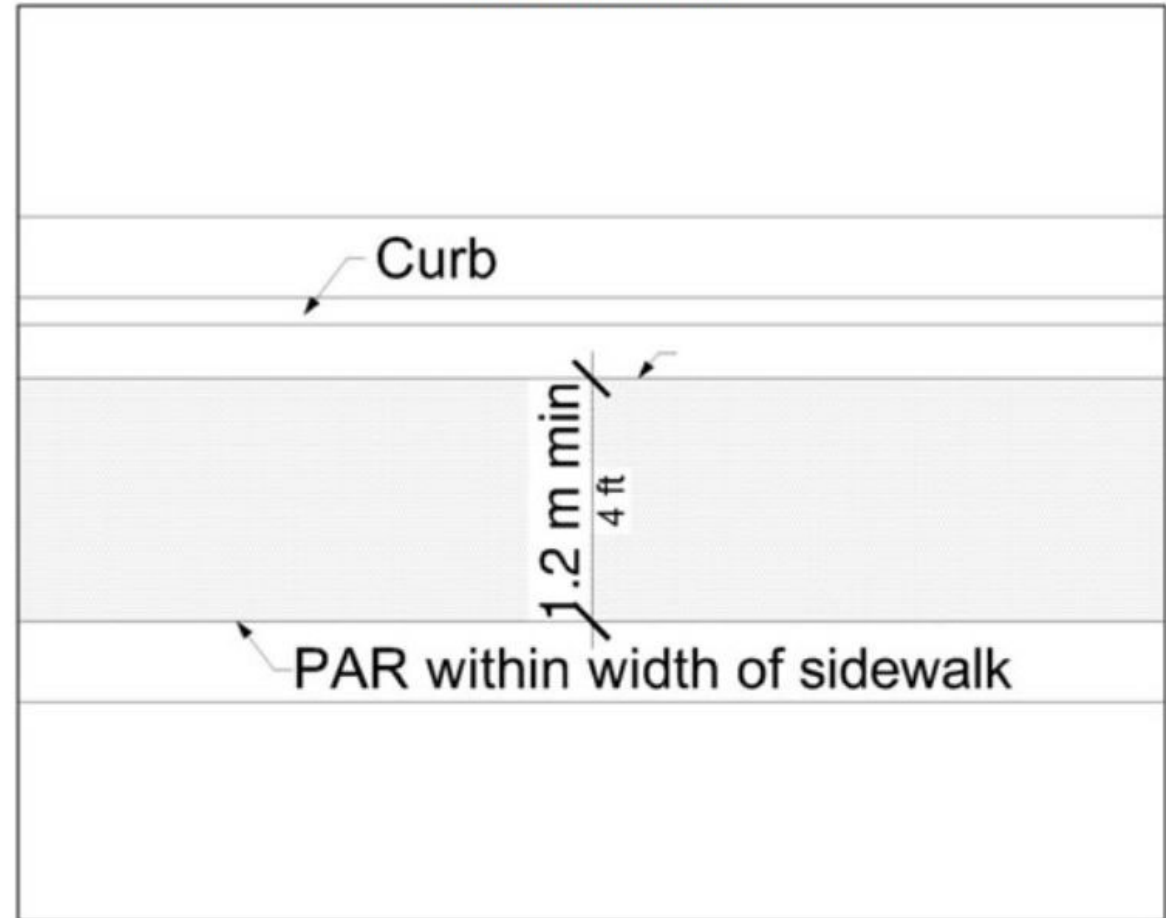


Case Study #1

Federal Standards - PROWAG

- Pedestrian access route (PAR) is the portion of the sidewalk that meets accessibility requirements
- The minimum width of the pedestrian access route is 4'

Figure R302.3 Continuous Width

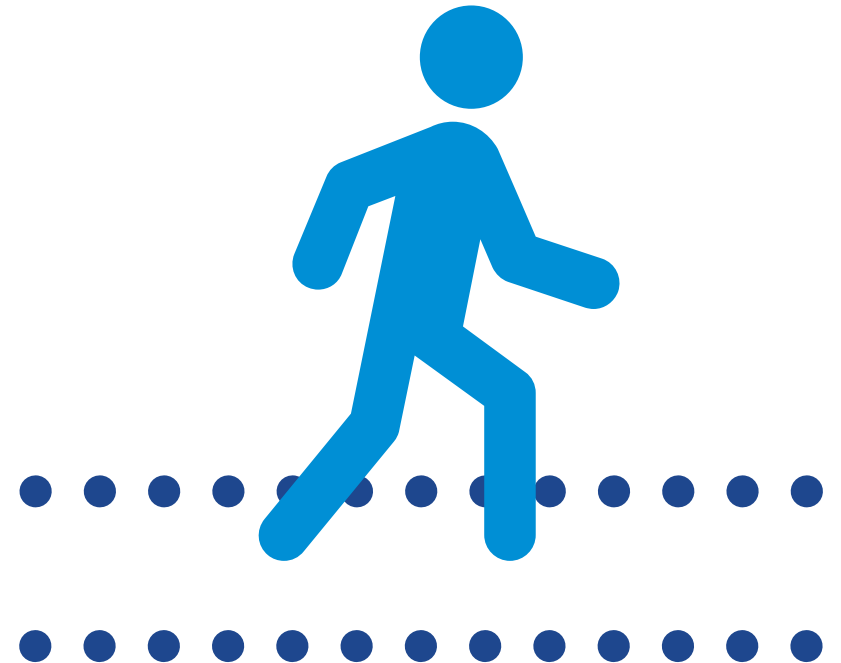


PROWAG FIGURE R302.3

Case Study #1

Comparisons

- What is the minimum standard?



Case Study #1

Field Conditions

- Consider clear widths when retroactively altering sidewalks
- What is the impact of not providing accessibility?



Case Study #1

Prioritize Usability

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Case Study #2

Outdoor Dining



Case Study #2

Outdoor Dining

- Existing Conditions
 - 10'-wide concrete sidewalk between curb line and buildings
 - 4' pedestrian access route provided
 - Street parking and community parking lots
 - Multiple restaurants offer outdoor dining

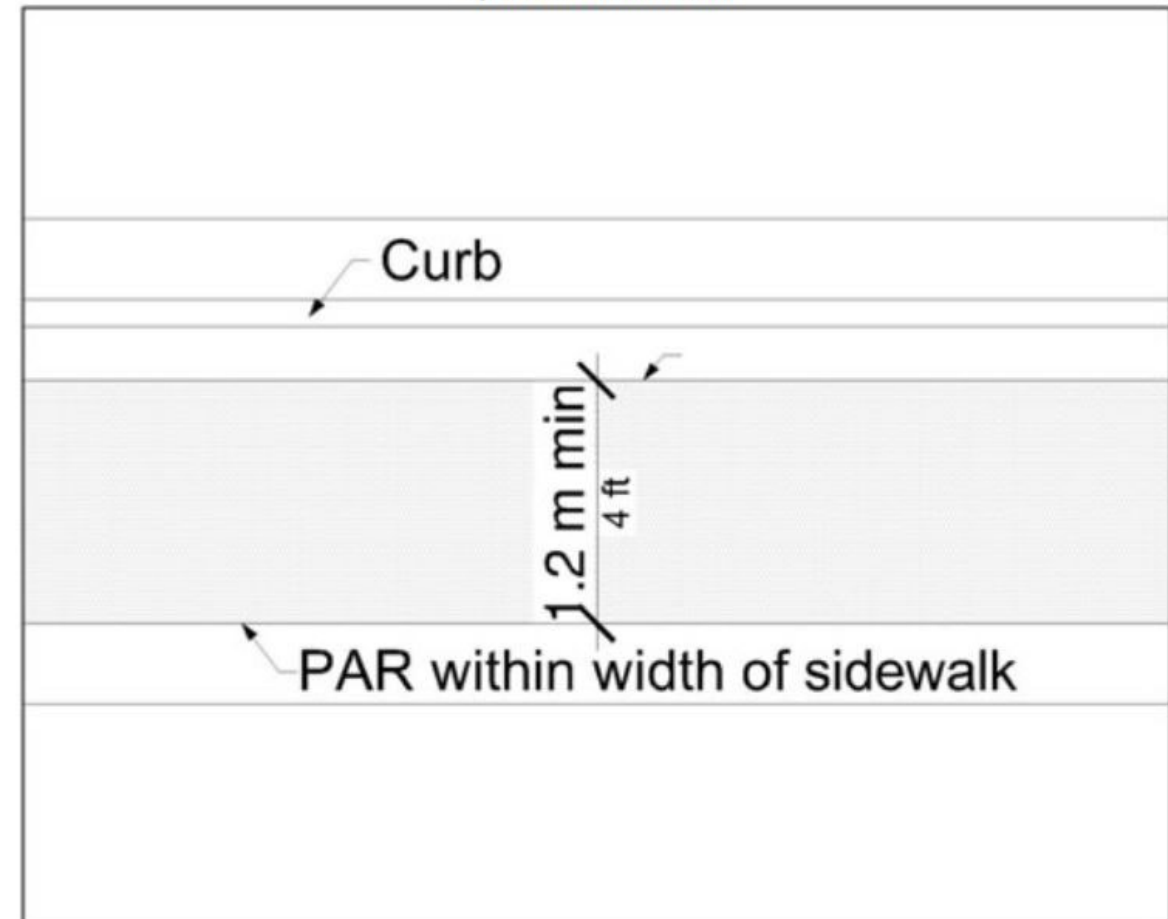


Case Study #2

Federal Standards - PROWAG

- 4' minimum pedestrian access route is provided

Figure R302.3 Continuous Width



PROWAG FIGURE R302.3

Case Study #2

Field Conditions

- Outdoor dining is located within the pedestrian access route
- Cold Weather entrances are constructed within the pedestrian access route
- Who in your community is maintaining the accessible route?





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Case Study #3

Detectable Warning Panels

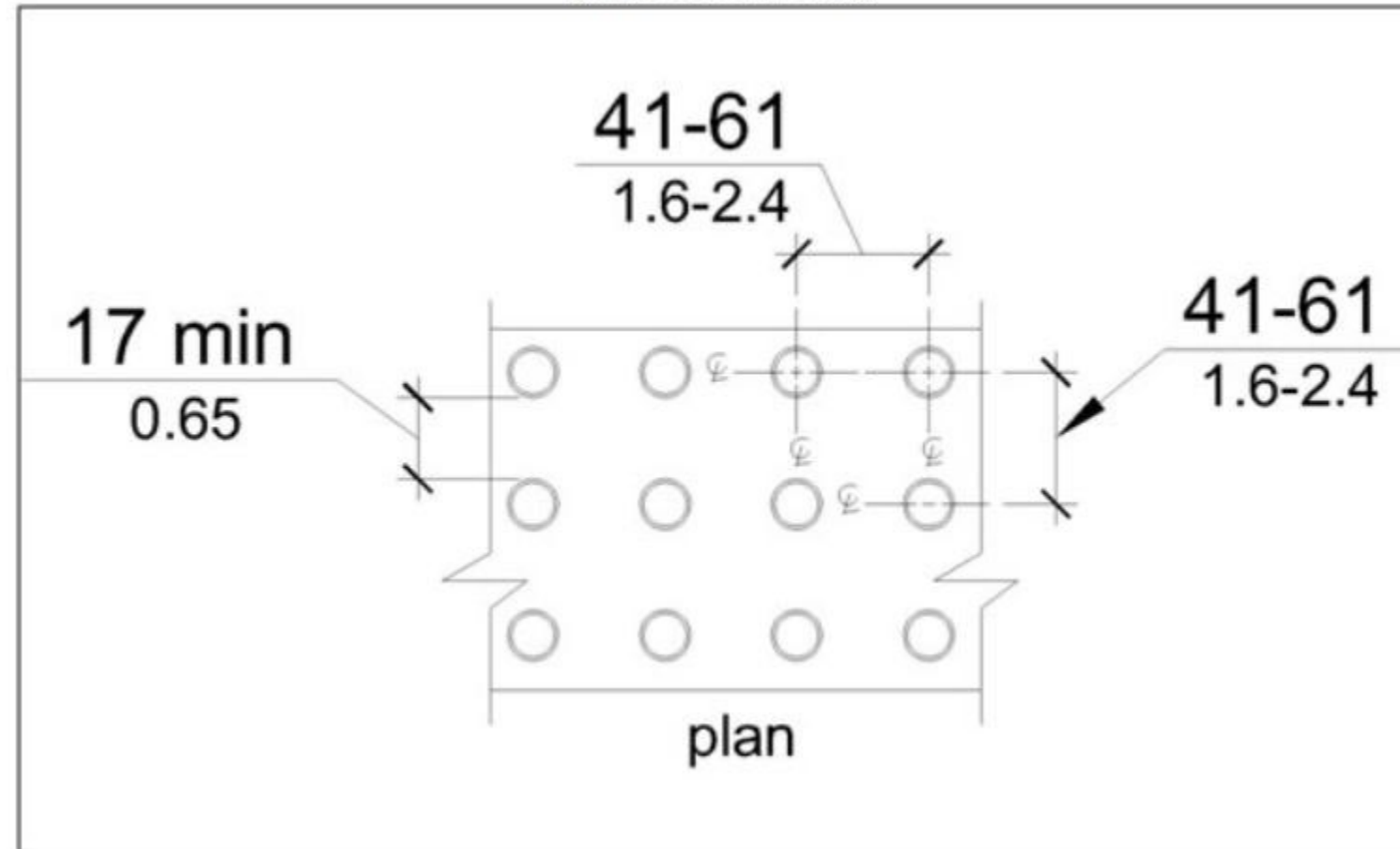


Case Study #3

Federal Standards - PROWAG

- PROWAG provides minimum requirements but does not provide approved manufacturers

Figure R305.1.2 Dome Spacing




PROWAG FIGURE R305.1.2

Case Study #3

Local Standards – City of Naperville

- Standard details established by the City of Naperville provide approved manufacturers

APPROVED ADA DETECTABLE WARNING TILES:		
1. ADA SOLUTIONS - CAST IN PLACE REPLACEABLE		
2. ARMOR TILE - CAST IN PLACE		
3. DETECTILE - SLIMTEK II		
	City of Naperville STANDARD DETAIL	CURB RAMPS
	REVISIED: 01/01/2013	SHEET 1 OF 1
		PAVEMENT 32 590.32

City of Naperville
Standard Details 590.32

Case Study #3

Comparisons

- Is this acceptable?
- Local agencies may develop additional standards as long as they do not limit accessibility as defined by the federal standards



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Case Study #4

Operating Force for Exterior Doors



Case Study #4

Federal Standards – 2010 ADA Standards

- Interior doors and gates have an allowable operating force of under 5 pounds.
- Sliding or folding doors have an allowable operating force of under 5 pounds.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:

1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors: 5 pounds (22.2 N) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

Advisory 404.2.9 Door and Gate Opening Force. The maximum force pertains to the continuous application of force necessary to fully open a door, not the initial force needed to overcome the inertia of the door. It does not apply to the force required to retract bolts or to disengage other devices used to keep the door in a closed position.

Case Study #4

State Standards- IAC

- In addition to federal standards there is an additional requirement for exterior hinged doors and gates to have an operating force under 8.5 pounds

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling opens a door or gate other than fire doors shall be as follows:

1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors: 5 pounds (22.2 N) maximum.
3. *Exterior hinged doors and gates: 8.5 pounds (37.8N)*

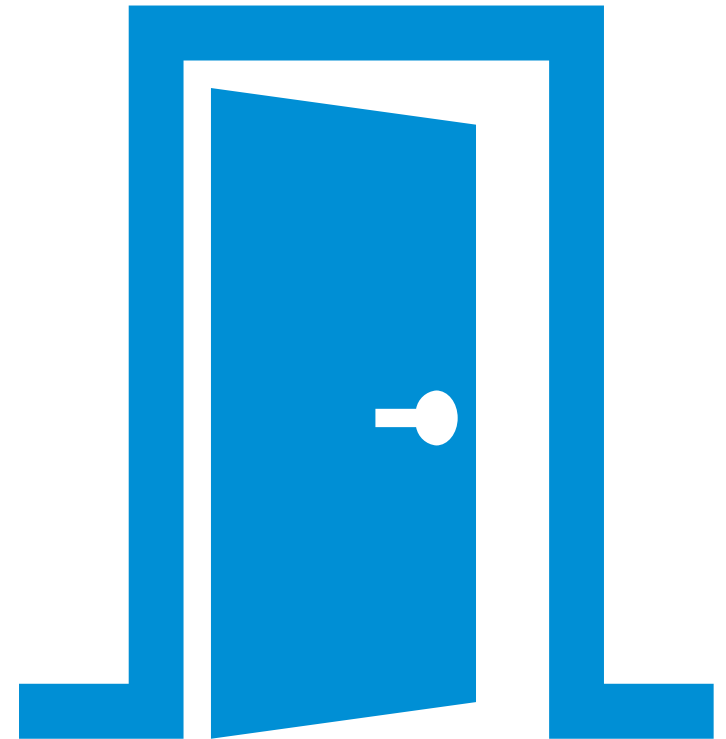
These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

IDOT ACCESSIBILITY CODE
SECTION 404.2.9

Case Study #4

Comparisons

- What are the City's obligations?
- The exterior door must have an opening force no greater than 8.5 pounds.





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Planning to complete a self-evaluation

Completing a Self-Evaluation



Completing a Self-Evaluation

Self-Evaluation vs Transition Plan

- Self-Evaluation vs. Barriers to Access vs. Transition Plan
- Self-Evaluation
 - Comprehensive review of all programs, activities, and services
 - Identify and correct barriers to access
 - Provides an opportunity for the public to participate in the process
 - Learn the challenges that residents face

Completing a Self-Evaluation Barriers to Access

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- Barriers to Access
 - Identify physical barriers that limit access
 - Can be used to prioritize future improvements based on physical condition



Photo Credit: <https://disabilityinsider.com>

Completing a Self-Evaluation Transition Plan

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- Transition Plan
 - Required for municipalities with more than 50 employees
 - Living document as improvements occur
 - Outlines a plan and schedule for barrier removal
 - Provides an opportunity for the public to participate in the process
- **Focus of Module 4**



Completing a Self-Evaluation

What is Included

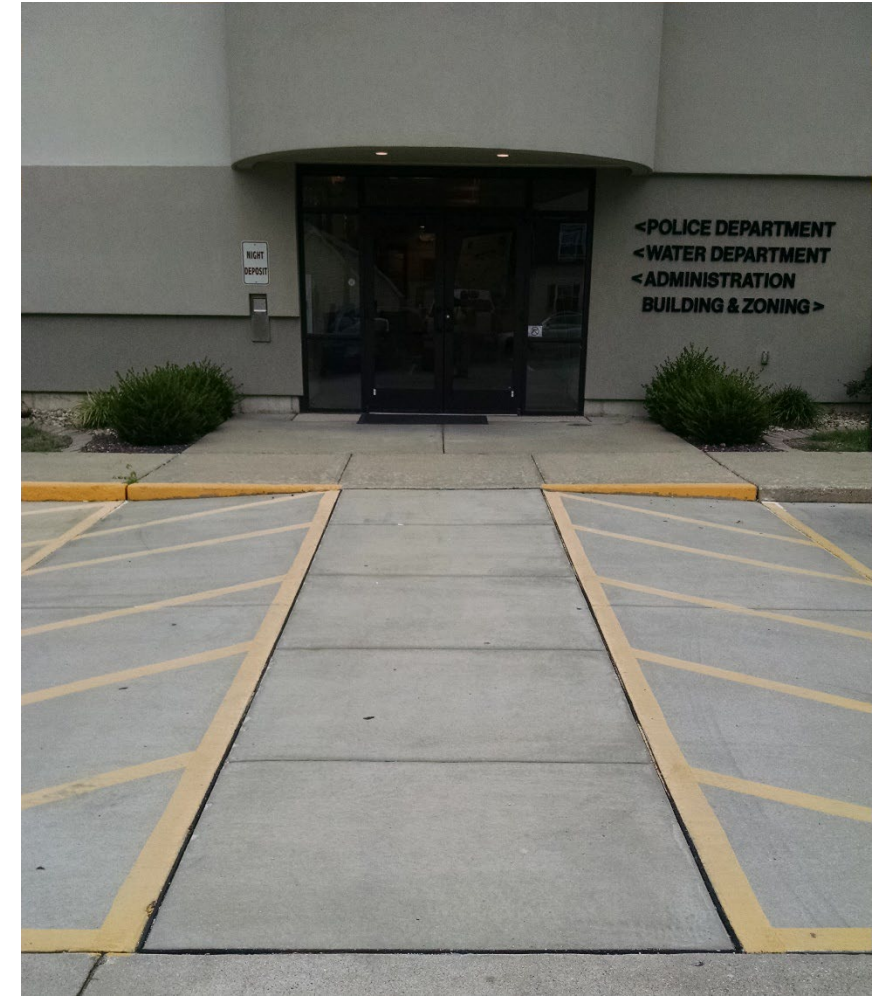
- What is included in a self-evaluation?
 - All programs, services, policies, and practices
 - Sidewalk and curb ramps are considered a program of a municipality
 - Kinney vs. Yerusalim
 - Barden vs. City of Sacramento
 - Ability City of Greater Toledo vs. Sandusky

Completing a Self-Evaluation Examples (City-wide)

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- Examples
 - Parks and recreation
 - Police
 - Access to City Hall
 - Municipal court
 - Accessible Information Technology
 - Countless others



Completing a Self-Evaluation Examples (Public Rights-of-Way)

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- Examples
 - Curb ramp replacement program
 - Permits
 - Post-construction inspection
 - Tree removal
 - New subdivisions
 - Utility work in ROW
 - 50/50 sidewalk program



[Washington State Dept of Transportation | Flickr.](#)

Completing a Self-Evaluation Examples (Department of Public Works)

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- Examples
 - Buildings, parking lots, and internal sidewalks
 - Employment
 - Accessible Information Technology
 - Website
 - On-line portals
 - Virtual public meetings



Completing a Self-Evaluation

Develop a Plan – Public Rights-of-Way

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- In-house staff vs. outside consultant
 - Expertise to lead the process
 - Available time to dedicate
 - Available resources
- Develop a budget and schedule for completing the self-evaluation
- Community engagement strategy



Community Engagement Increasing Participation

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- Identify key contacts within the respective communities
- Be flexible
 - Engage people where they live
 - Engage people on their schedule
 - Attend community events
 - Try new ideas
 - Everybody loves food



Community Engagement Value

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- Gather insight on what impacts people's ability to use sidewalk
- Guide development of prioritization
- They know the struggles they experience
- Provides backup for future prioritization
- Be prepared to be surprised

- **More Detailed Conversation in Module 4**



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Identifying Barriers to Access

Planning to identify barriers on public
right-of-way



Identifying Barriers to Access Planning Process

- In-house staff vs. outside consultant
 - Expertise to lead the process
 - Available time to dedicate
 - Available resources
- Develop a budget and schedule for identifying barriers to access



Identifying Barriers to Access Establishing Criteria

- Compare federal vs. state vs. local criteria
- Most-stringent criteria governs
- Identify criteria for future data collection

Identifying Barriers to Access Level of Detail

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- Consider establishing levels of non-compliance to assist in future prioritization





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15-Minute Break #2





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Identifying Barriers to Access

Methods to identify barriers on public
right-of-way



Identifying Barriers to Access Methods of Completing Field Assessments

- There is no defined method to complete the self-evaluation
- Multitude of methods are available
- Identify methods that works best for your community
- The method that can be executed best is more critical than the “perfect” method
- All opinions contained herein represent the opinion of Travis Helmkamp and do not represent the thoughts of CMAP or CMAP employees

Identifying Barriers to Access Questions to Ask

- Is there available staff to complete the self-evaluation?
- How are we going to store and use the self-evaluation?
- How are we going to update the self-evaluation?
- What training is required to complete the self-evaluation?



Paper Inventory Pros

- Pros
 - Minimal upfront cost
 - Standardized forms have been developed
 - City staff can be easily trained

Curb Ramp Position ID:			
ADA Collector App ID:			
Waiver Required? (Y/N)			
(A1) Ramp	Values	Compliant (Y/N)	
(A1.1) Running Slope (%)			
(A1.2) Cross Slope (%)			
(A1.3) Width (ft.)			
(A2) Landing Area / Turning Space			
(A2.1) Running Slope (%)			
(A2.2) Cross Slope (%)			
(A2.3) Length (ft.)			
(A2.4) Width (ft.)			
(A3) Flared Sides			
(A3.1) Flares Present? (Y/N)			
(A3.2) Right Flared Slope (%)			
(A3.3) Left Flared Slope (%)			

Paper Inventory

Cons

- Cons
 - Time-consuming
 - Data collection
 - Cataloging data
 - Prioritizing data
 - Development of cost estimates
 - Maintenance of self-evaluation
 - Transparency with public

Requirements ¹	YES	NO	NA
<ul style="list-style-type: none"> • The landing clear width shall be at least as wide as the widest ramp run leading to the landing. • The clear width of landings, blended transitions, and curb ramps, excluding flares, shall be 4 feet minimum. • The landing clear length shall be 5 feet long minimum. • Landing slopes shall be 2 percent maximum. • Changes in level at grade breaks shall be flush. • Detectable warning surfaces shall be provided, where a curb ramp, landing, or blended transition connects to a street. Detectable warning shall be located on the landing or blended transition at the back of curb. • Gratings, access covers, and other appurtenances shall not be located on curb ramps, landings, blended transitions, and gutters within the pedestrian access route. • Grade breaks shall not be permitted on the surface of curb ramps, blended transitions, landings, and gutter areas within the pedestrian access route. Surface slopes that meet at grade breaks shall be flush. <p><u>Roadway Grade Exception:</u> The grade of pedestrian access routes within sidewalks is permitted to equal the general grade established for the adjacent street or highway. The cross slope of curb ramps, blended transitions, landings, and turning spaces at pedestrian street crossings without yield or stop control where vehicles can proceed through the intersection without slowing or stopping, and at midblock pedestrian street crossings are permitted to equal the street or highway grade.</p> <ul style="list-style-type: none"> • Running Slopes and Cross Slopes shall be measured using a calibrated 2 foot long digital level. 			

[ADA POST- INSPECTION CHECKLIST \(modot.org\)](http://modot.org)

MobileGIS Pros

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- Pros
 - Minimal upfront cost
 - City staff can be trained to collect data
 - Data can be easily stored in GIS or similar program
 - Collection of city-specific data
 - Utilize software to prioritize and price barrier removal



MobileGIS

Cons – Time Commitment

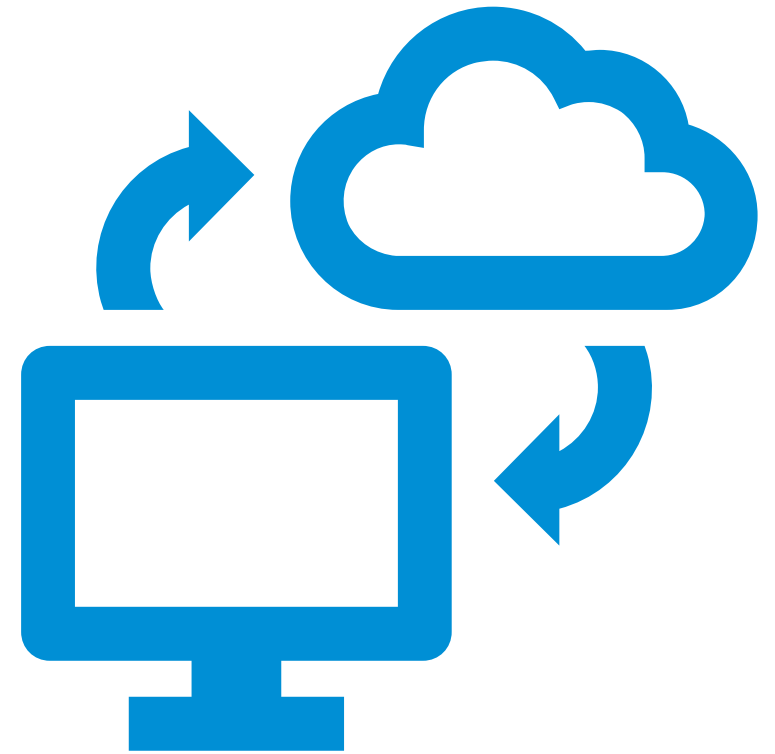
- Cons
 - Significant time commitment
 - Walk every mile of pedestrian network
 - Quality of data is only as good as the data collection methodology
 - Walk entirety of pedestrian network



MobileGIS

Cons – Use of Consultants

- Cons
 - Third-party company or in-house expertise in GIS
 - Process data and customize results
 - Update



ULIP / Drone Pros – Density of Data

- Pros
 - Third-party company handles all aspects of evaluating the data
 - Data is processed by 3rd party
 - Prioritization and cost estimates can be developed if desired
 - Provides a detailed view of pedestrian assets
 - Millions of data points are collected



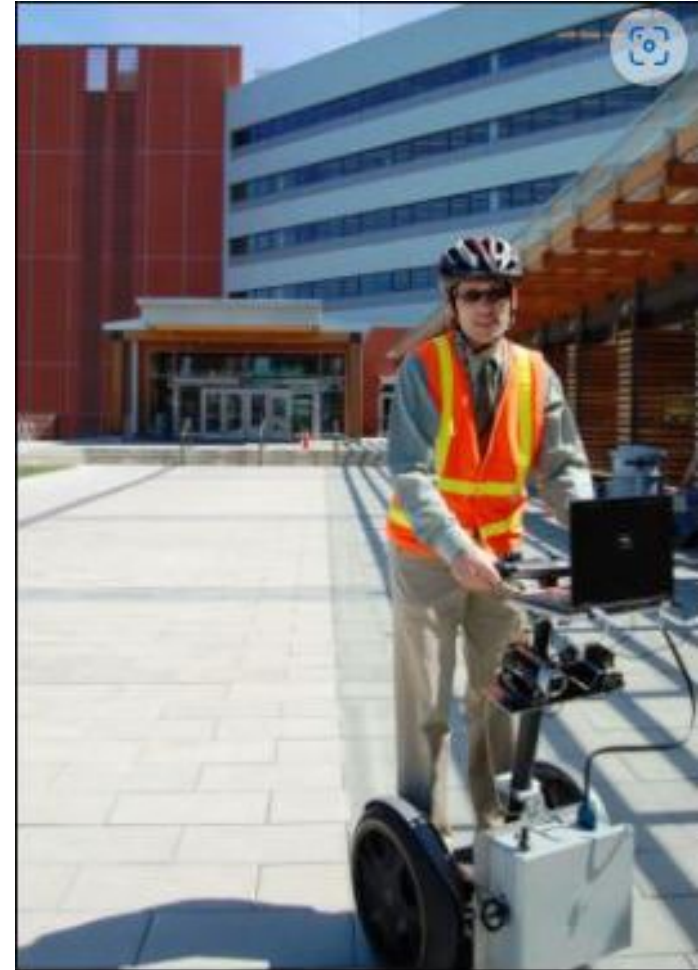
[Keizer Transportation CIP and SDC \(starodub.com\)](http://starodub.com)

ULIP / Drone Pros – Speed and Quality of Data

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- Pros
 - Data can be collected quickly
 - Limits field time
 - Safety for employees and contractors
 - Eliminates human error
 - Minimal data entry
 - Collection is handled by machines



[Starodub, Inc.](#)

ULIP / Drone Cons - Cost

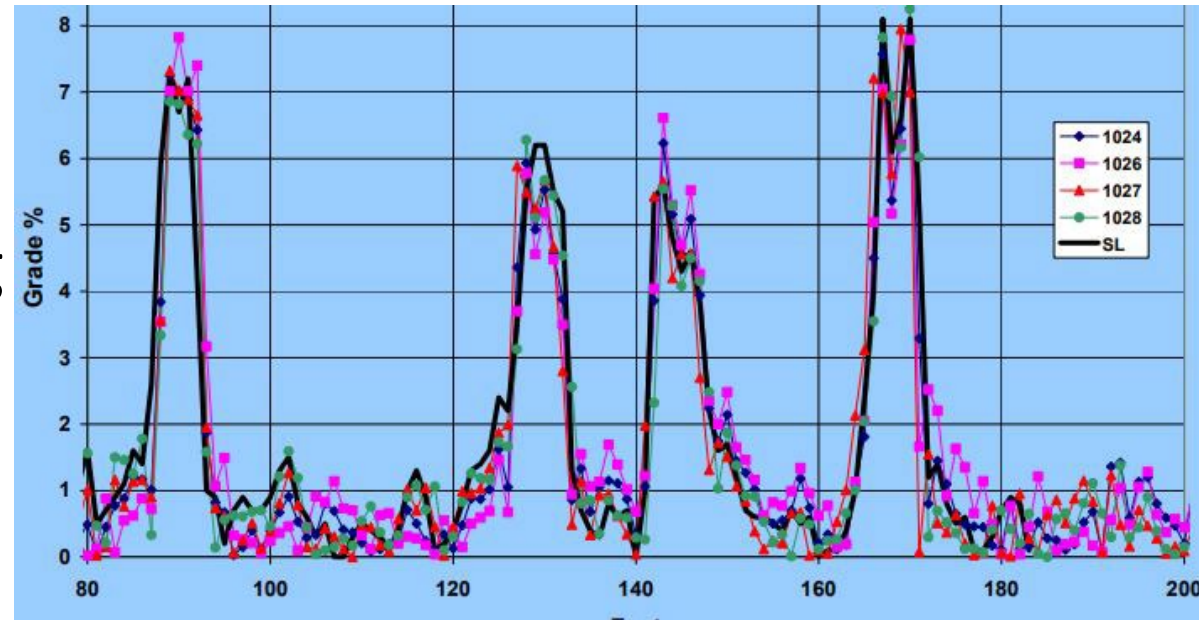
- Cons
 - Cost can be significant based on services provided
 - Cost is in the data processing
 - Fee schedule can be complex
 - The more customized the self-evaluation the higher the cost

ULIP / Drone Cons – Understanding Data

- Cons
 - Third-party company will handle and process the data
 - Limited abilities to customize data
 - Disconnect between city staff and self-evaluation
 - How will city staff use data?

ULIP / Drone Cons – Updating the Plan

- Cons
 - Updating the self-evaluation
 - Long-term commitment to using ULIP/Drone for future updates
 - Limits involvement of city staff
 - Data overload
 - Millions of data points are collected



[Keizer Transportation CIP and SDC \(starodub.com\)](http://starodub.com)

Proprietary Software Pros – User Friendly

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- Pros
 - User friendly software and city staff can collect data
 - Easy to use interface
 - 3rd party support for data collection
 - None to minimal hardware cost



AutoReports

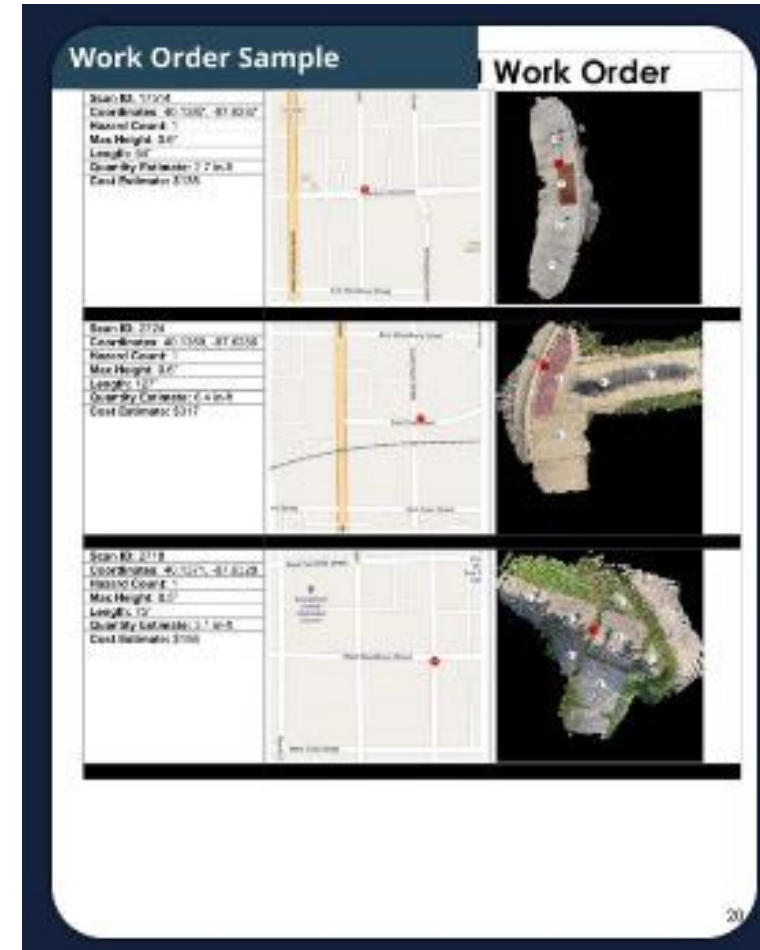
Automated inspection reports detailing barriers to access in a sidewalk region

Proprietary Software Pros – Third Party Operation

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- Pros
 - Third-party company handles all aspects of evaluating the data
 - Data is processed by 3rd party
 - Prioritization and cost estimates can be developed if desired



Proprietary Software

Cons – Who Owns Your Data?

- Cons
 - Third-party company will most likely own your data
 - How can you access the data?
 - What is the fee schedule to use the data?

Proprietary Software

Cons – Ongoing Financial Obligation

- Cons
 - Ongoing financial obligation to access the data
 - Yearly fee to access the self-evaluation
 - How will you update the Plan?

Proprietary Software Cons - Customization

- Cons
 - Minimal customization
 - Limited options to collect additional data
 - How will prioritization be developed?

Proprietary Software

Cons – Barriers to Transition Plan

- Cons
 - Developing Transition Plan based on self-evaluation is still the city's obligation
 - Completing the self-evaluation is not the final step
 - How will the data be used to develop the Plan

Identification of Barriers

Development of cost estimates

Obstructions	Cost
	\$10,000
Hydrants	\$2,500
	\$10,000
	\$750
	\$750
	\$1,000
	\$1,000
	\$7,500
3%	\$5,000
5%	\$4,000
to 3%	\$3,000
	\$75 per LF
exceeds 8%	\$750
	\$75 per LF

of Repairing Various Obstructions

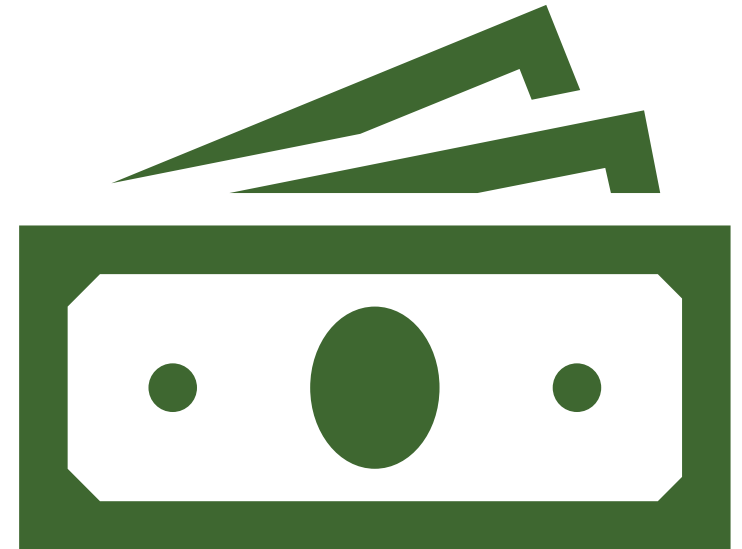
Identification of Barriers

Cost Estimating

- Cost estimating will be a critical component of developing a Transition Plan
- Develop standard construction costs based on recently completed projects
- Include contingency
 - Inflation
 - Unknown construction costs
 - This is a planning level estimate
- The quickest way to derail momentum for executing the plan is inadequate planning costs

Cost Estimating Ancillary Cost

- Additional costs for consideration
 - Engineering design fees
 - Right-of-Way negotiations (if required)
 - Acquisition of Right-of-Way (if required)
 - Ancillary cost:
 - Utility relocation
 - Driveway reconstruction
 - Right-of-Way needs
 - Overhead and profit



Cost Estimating

Updating Cost Estimate to Current Prices

- Improving sidewalks and curb ramps is a long-term commitment
- Update cost over lifespan of the Plan
- GIS is a powerful tool for developing cost estimates
 - Flexibility to update cost estimates based on the current bid environment
 - Development of potential projects



Design Standards Resources

Resources



Design Standards Resources

Local Resources

Chicago Metropolitan Agency for Planning (CMAP)

- [Accessibility and ADA - CMAP \(illinois.gov\)](#)
- Regional sidewalk inventory
 - Add Link

Design Standards Resources

Federal Standards

MODULE

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Americans with Disabilities Act (ADA)

- Establishes scoping and technical requirements for Title II entities
- [ADA Title II Regulations](#)

Americans with Disabilities Act Accessibility Guidelines (2010 ADA)

- Updated accessibility standards issued under the ADA
- [2010 ADA Standards](#)

Public Rights-of-Way Accessibility Guidelines (PROWAG)

- Guidelines for pedestrian elements on public rights-of-way
- [PROWAG Guidelines](#)

Design Standards Resources

State Standards

[Illinois Accessibility Code](#)

- Support ADA Title II compliance

[Illinois Department of Transportation \(IDOT\)](#)

- Highway and District standards

[Great Lakes ADA Center](#)

- Technical assistance and training



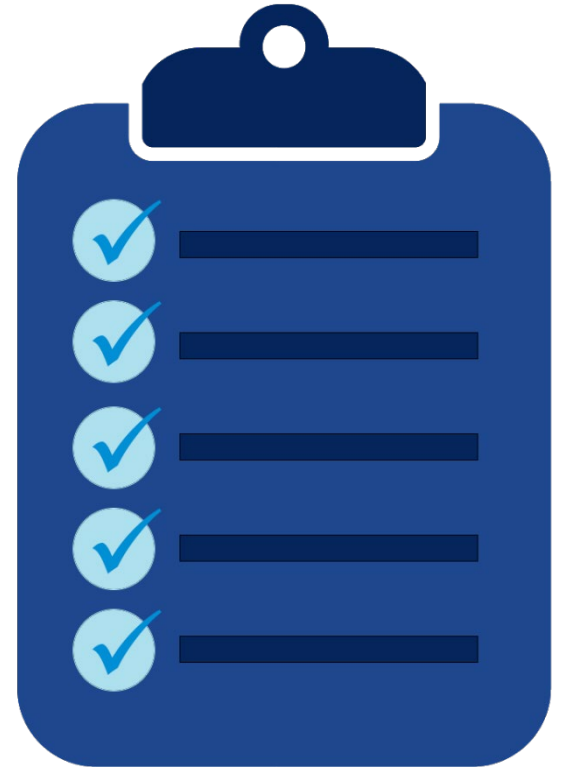
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Presentation Goals and Future Sessions



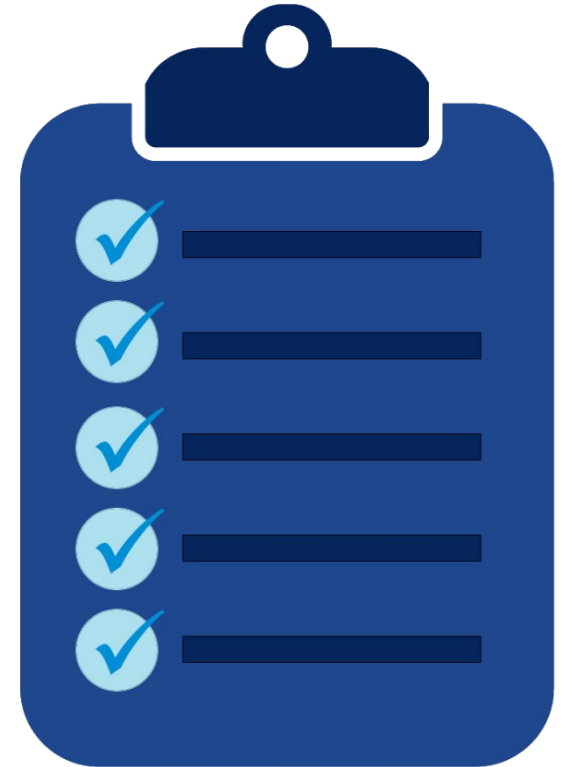
Review of Presentation Goals

- Appropriate design standards
- Application of design standards
- Planning for completing self-evaluation
- Documenting the self-evaluation



Review of Presentation Goals (cont'd)

- Planning process for identifying barriers to access in Public ROW
- Completing the identification of barriers to access
- Identifying future projects and developing costs
- Community engagement



Next Steps

- What do we do with all this information?
- What needs to be fixed first?
- How do I sell the value of increasing accessibility?

Join us tomorrow





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Public Rights of Way Transition Plan Training

Tomorrow, April 19th, at Aurora Police
Department – 9am to 1 pm



Final Questions?



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Thank you!

@cmapillinois |    

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