ADA Transition Plan – Technical Assistance Training #2: Data Collection & Data Management for Public Rights-of-Way

January 16, 2019

Agenda

- Transition planning process overview
- Data collection prioritization considerations for a phased approach
- Data collection technologies
- Data collection methodologies
- Data management
- Upcoming training

Transition Planning Process Overview

FHWA Self-Evaluation Basics

https://www.youtube.com/watch?v=-EzGax5kS7M&feature=em-share_video_user

Data Collection Prioritization Considerations for a Phased Approach

Self-Evaluation and Transition Plan Timeline

- Deadline for program accessibility: **January 26, 1992**
- Deadline to complete Self-Evaluation and Transition Plan for structural changes: **July 26, 1992**
- Deadline to implement all improvements identified in Transition Plan: **January 26, 1995**

Self-Evaluation Steps

1. Develop an inventory of all facilities the agency owns or maintains
2. Determine which facilities have public access
3. Develop a Self-Evaluation action plan for public access facilities
   - Evaluation criteria
   - Evaluation methodology
   - Reporting output
   - Schedule to complete the evaluations
4. Complete Self-Evaluation

Step 1: Inventory of Facilities

- Buildings and associated parking lots/pedestrian path of travel
- Parks and associated parking lots/pedestrian path of travel
- Signalized intersections and associated curb ramps/ped equipment
- Sidewalk corridors including entire pedestrian path of travel (street crossings, driveway crossings, and curb ramps)
- Transit stops

Step 2: Determine Public Access Facilities

Title II – State and Local Governments

- All facilities with public access are required to be evaluated as part of the Self-Evaluation and Transition Plan

Title I – Employment

- Good practice to evaluate facilities without public access in case there is an employment-related request for modification
- Facilities without public access are not required to be included in the Self-Evaluation and Transition Plan

What facilities are you responsible for?

Have you completed an inventory of facilities that you own or lease?

How is facility information organized or managed?

Do you have the resources available or facility information available to develop an inventory?

Have you established an internal ADA Liaison Committee?

Step 3: Self-Evaluation Action Plan

- Evaluation criteria
- Evaluation methodology
- Reporting output
- Schedule to complete the evaluations

Evaluation Criteria

- Evaluations should be completed based on the standards that were in place at the time of construction

- If construction date is unknown (typically for PROW), evaluations should be completed based on the current standards

Evaluation Criteria – Facilities

- 1991 ADA Standards for Accessible Design (ADA Standards, 1991)
- Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG, 2004)
- Americans with Disabilities Act Standards for Transportation Facilities (2006)
- 2010 ADA Standards for Accessible Design (ADA Standards, 2010)

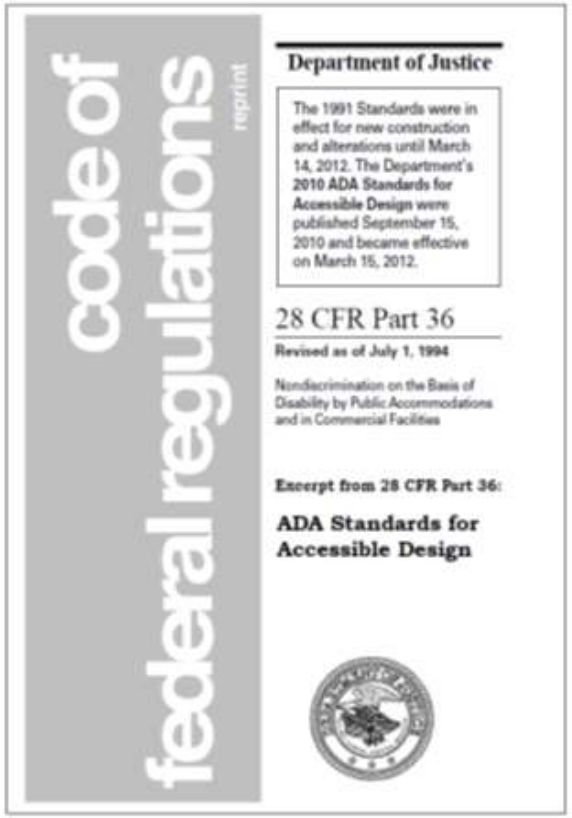
Evaluation Criteria – Public Rights-of-Way

- 2010 ADA Standards for Accessible Design (ADA Standards, 2010)
- Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG, 2011)
- Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way; Shared-Use Paths (PROWAG Supplement, 2013)
- 2009 Manual on Uniform Traffic Control Devices (MUTCD)

1991 ADA Standards for Accessible Design

- DOJ published the ADA Title III regulations (including 1991 Standards) on July 26, 1991

- 1991 Standards were effective until March 14, 2011



2004 Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities

- 100 substantive changes to the 1991 Standards
  - Supplemental (i.e., new)
  - Revised

- Supplemental Changes
  - Judicial, Detention, and Correctional Facilities (1998)
  - Play Areas (2000)
  - Recreational Facilities (2002)

2004 Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities

Elements in existing public (Title II) facilities that are already compliant with the 1991 Standards or UFAS are not subject to retrofitting due solely to incremental changes reflected in the 2004 ADAAG

2006 Americans with Disabilities Act Standards for Transportation Facilities

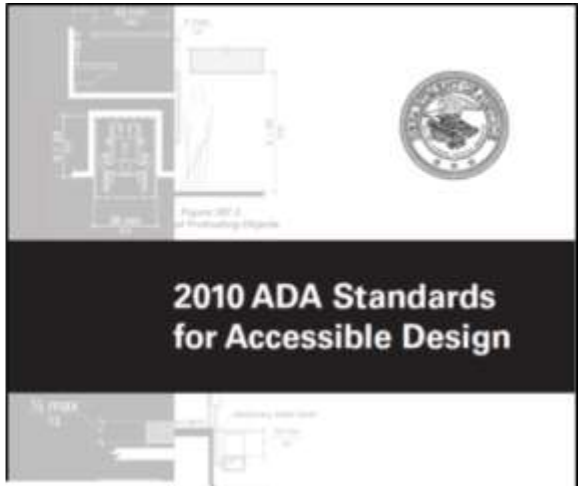
Closely based on 2004 ADAAG, but include additional requirements for:

- Location of accessible routes
- Detectable warnings on curb ramps
- Bus boarding and alighting areas
- Rail station platforms

2010 ADA Standards for Accessible Design

- DOJ published revised ADA Title II and Title III regulations on September 15, 2010

- Part of the revisions included the adoption of the 2010 ADA Standards
  - Scoping requirements
  - Technical requirements



28 CFR part 35.151 + 2004 ADAAG = 2010 ADA Standards for Accessible Design

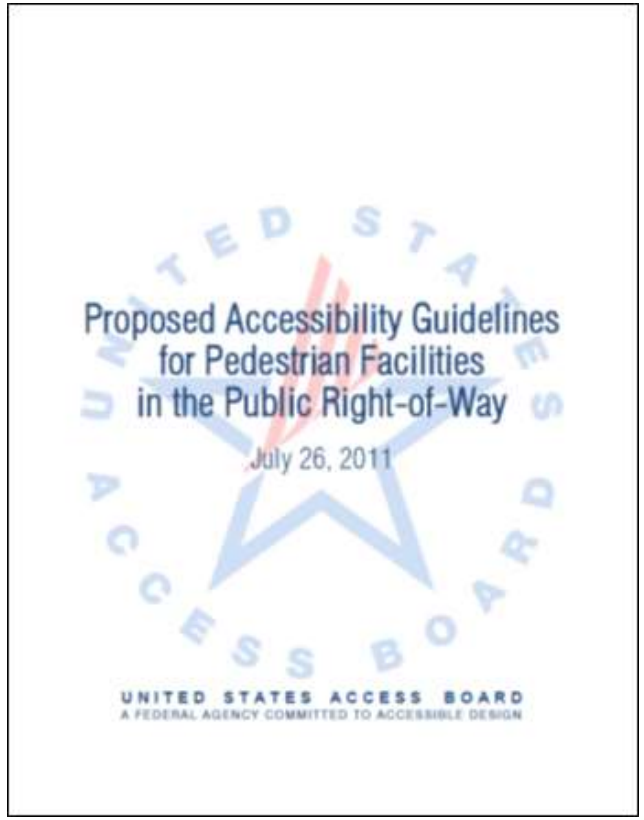
2010 ADA Standards for Accessible Design

- Construction start date before March 15, 2012
  - 1991 Standards
  - Uniform Federal Accessibility Standards (UFAS)
  - 2010 ADA Standards

- Construction start date on or after March 15, 2012
  - 2010 ADA Standards

Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)

- 2002 Draft Guidelines
- 2005 Revised Draft Guidelines
- 2011 Proposed Guidelines – Includes revisions that were made in response to public comments received on earlier drafts



Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)

Pedestrian access to sidewalks and streets, including:

- Crosswalks
- Curb ramps
- Street furnishings
- Pedestrian signals
- Parking
- Other components of public rights-of-way

Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)

- FHWA recommended best practices and considered the state of the practice for areas not fully address by ADAAG
- Once these guidelines are adopted by the Department of Justice, they will become enforceable standards under Title II of the ADA
- In the interim, local public agencies can adopt PROWAG, which will then allow them to require use and enforce them (recommended)

2013 Final Guidelines for Outdoor Developed Areas

- Effective November 25, 2013
- Applies to federal agencies/projects only
- Does not apply to state and local governments or private entities
- Final rulemaking will be conducted in the future for Title II and Title III entities
- Best practice for Title II and Title III entities

2013 Final Guidelines for Outdoor Developed Areas

- Scoping and technical requirements for:
  - Camping facilities
  - Picnic facilities
  - Viewing areas
  - Trails
  - Beach access routes

Has anyone started performing facility evaluations?

Evaluation Methodology

- Field measurements should be consistent with the evaluation criteria measurement accuracy provided in the standards

Evaluation Methodology Examples – Facilities

- Slopes to the nearest tenth of a percent
- Dimensions (counter top heights, maneuvering spaces, clearances, etc.) to the nearest inch
- Vertical discontinuities to 1/4 inch
- Force required to open doors to the nearest pound

Evaluation Methodology Examples – Public Rights-of-Way

- Slopes to the nearest tenth of a percent
- Sidewalk, curb ramp, and crosswalk dimensions to the nearest inch
- Cross street widths, driveway widths, and sidewalk segment lengths to the nearest foot
- Vertical discontinuities to 1/4 inch
- Push button location dimensions to the nearest inch

Reporting Output

- Record actual field measurements vs. compliance pass/fail for elements used in prioritization (e.g., severity of non-compliance)

- Output should be available in GIS shapefile or geodatabase format with geospatially referenced photos of evaluated elements

Evaluation Schedule

- Transition Plan is not considered complete until the Self-Evaluation is complete

- Self-Evaluation should be completed as soon as practical – original timeframe allotted was 6 months

Phasing Considerations

- Number of existing complaints
- Proximity to pedestrian attractors
- Proximity to residential areas
- Number of crashes
- Age of facility
- Pedestrian/vehicle volumes
- Roadway functional classification
- Existing sidewalks
- Public input
- Spatial distribution of facilities
- Facility type
- Upcoming Capital Improvement Projects (CIP)

What are your priorities?

Step 4: Complete Self-Evaluation

- Implement agency Action Plan to complete Self-Evaluation

Data Collection Methodologies

Data Collection Challenges

- Funding
- Staff resources
- Overwhelming amount of data
- Internal expertise

What's keeping you from starting or completing your facility evaluations?

What's a reasonable schedule to complete your facility evaluations?

Example Data Collection Methodologies

- Limited data collection
- Full data collection
- Data collection for improvement prioritization
- Data collection for accessibility + asset management

Limited Data Collection Example – TxDOT Pedestrian Access Inventory

"Short" form for curb ramp data collection

- Curb slope
- Grade break orientation relative to pedestrian access route
- Curb ramp width
- Curb ramp running slope
- Curb ramp cross slope

Limited Data Collection Example – TxDOT Pedestrian Access Inventory

"Long" form for curb ramp data collection

- Curb ramp landing dimensions and slopes
- Detectable warning surface dimensions and placement
- Documentation of obstructions/utilities in curb ramp
- Measurements/observations for remaining curb ramp elements

Limited Data Collection Example – TxDOT Pedestrian Access Inventory

- Benefits
  - Potential decrease in data collection time depending on “short” form failure rate

- Cautions
  - Identification of recurring trends in design/construction causing non-compliance may not be possible
  - Prioritization schedule input will be limited to data collected
  - Consider a pilot project to confirm assumptions on data needed

Full Data Collection

- Collect all elements with compliance requirements in standards at time of construction

- Benefits:
  - Identification of trends in design/construction causing non-compliance
  - Feasible to modify prioritization scheme based on different features

Data Collection for Improvement Prioritization

Nearby pedestrian attractors

- Hospital/retirement/medical
- Parking garage
- Major employer
- Disability service provider
- Event facility
- Bus/transit
- School
- Government/public facility
- Park/library
- Church

Data Collection for Improvement Prioritization

Existing construction constraints/considerations

- Above ground utilities
- Limited ROW
- Drainage
- Retaining walls

Data Collection for Quality Control/Data Processing

- Location of pedestrian crossing
  - Free-flow approach / stop/yield control approach / midblock
  - Driveway or street
  - Unique geometry (e.g., diamond interchange)
- Location/type of curb ramp
- Number of existing curb ramps on the corner
- Orientation of existing curb ramps
- Compliance of sidewalk leading up to curb ramp (~10’)
- Push button type (APS or non-APS)

Data Collection for Asset Management

- Pavement markings
- MUTCD signs
- Guardrails
- Highway lights / street lights
- Power poles
- Traffic controllers
- School zone signal flashers
- Curb / gutter / pavement condition
- Above ground utilities
  - Fire hydrants
  - Manholes
  - Water valves
- Trees / landscaping (within ROW)
- Bicycle lanes

Data Collection Technologies

Technology Options

Buildings

- Boots on the ground

Parks

- Boots on the ground

Technology Options

Curb Ramps

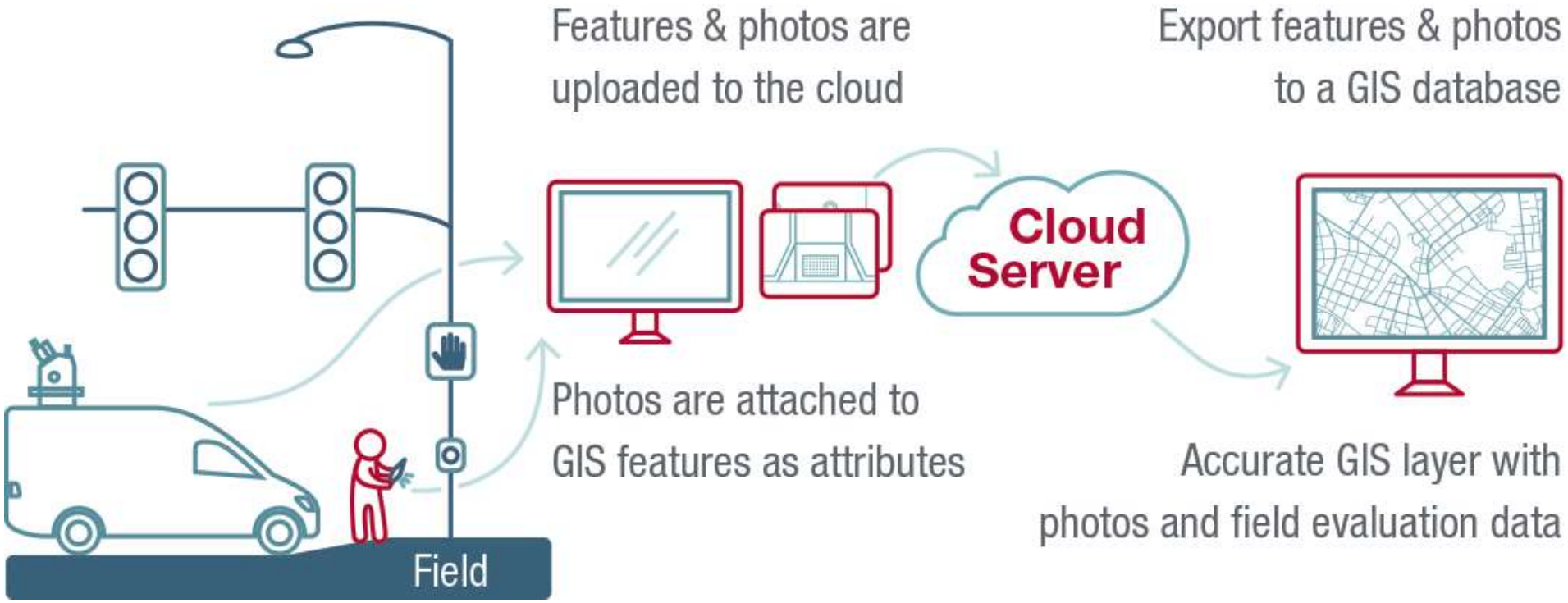
- Boots on the ground
- PROWAP
- LiDAR

Sidewalks

- Boots on the ground
- PROWAP
- ATV
- Surface profilers / Segway
- LiDAR

Boots on the Ground – Field Equipment

Boots on the Ground – Data Collection Process

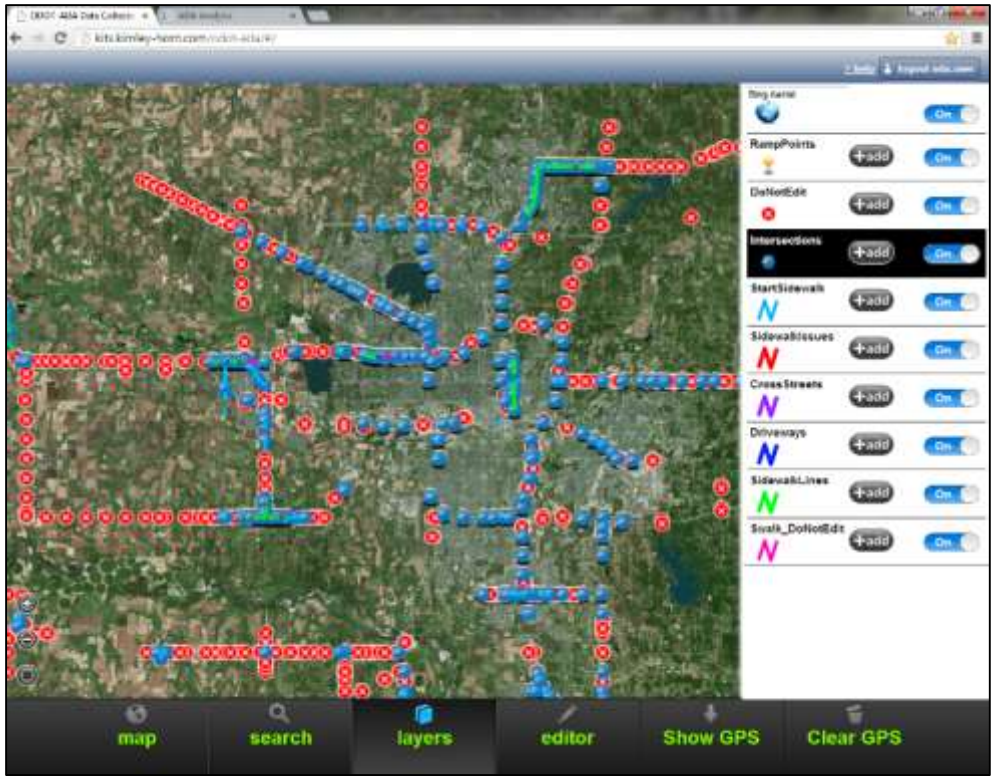


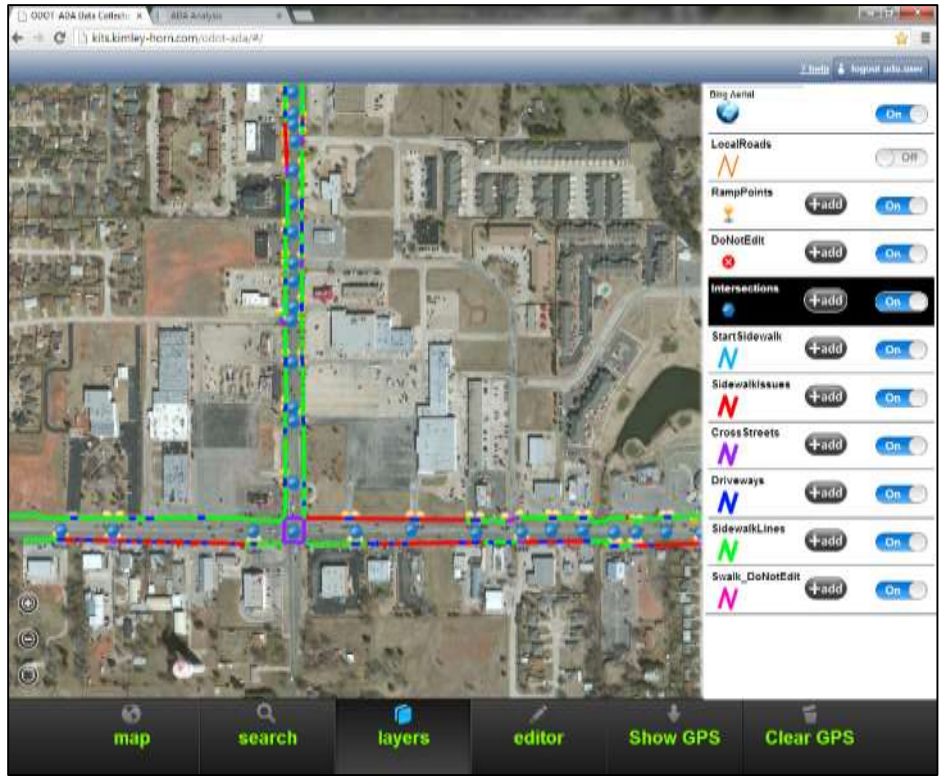
Source: Kimley-Horn

Boots on the Ground – Software

Source: Kimley-Horn

Boots on the Ground – Software





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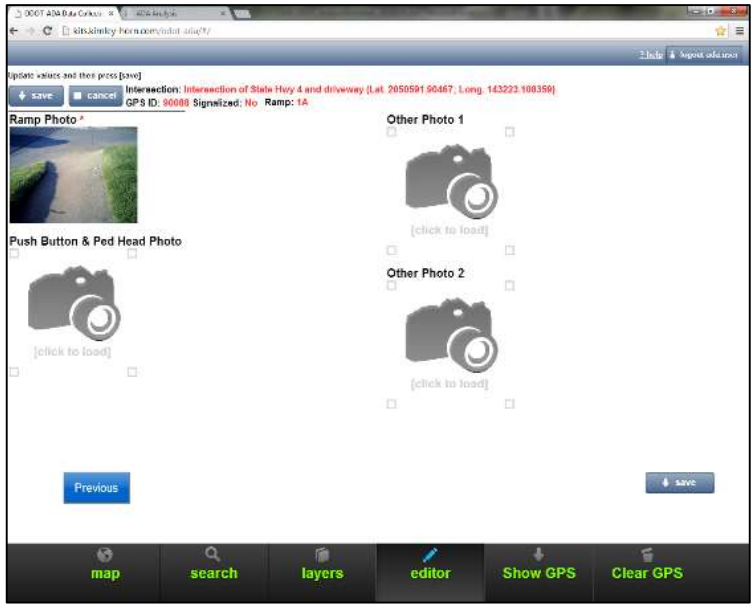
Boots on the Ground – Software



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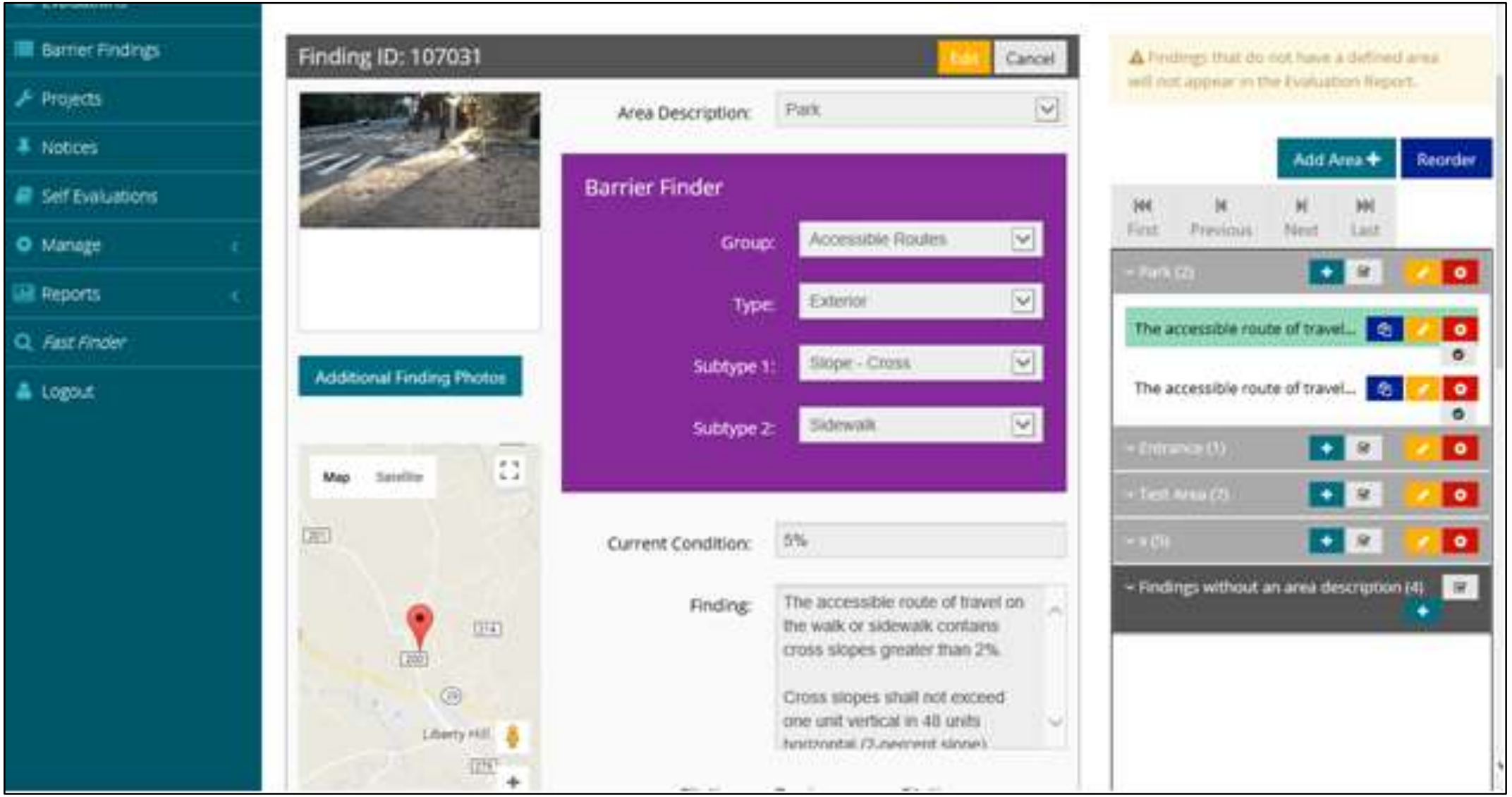
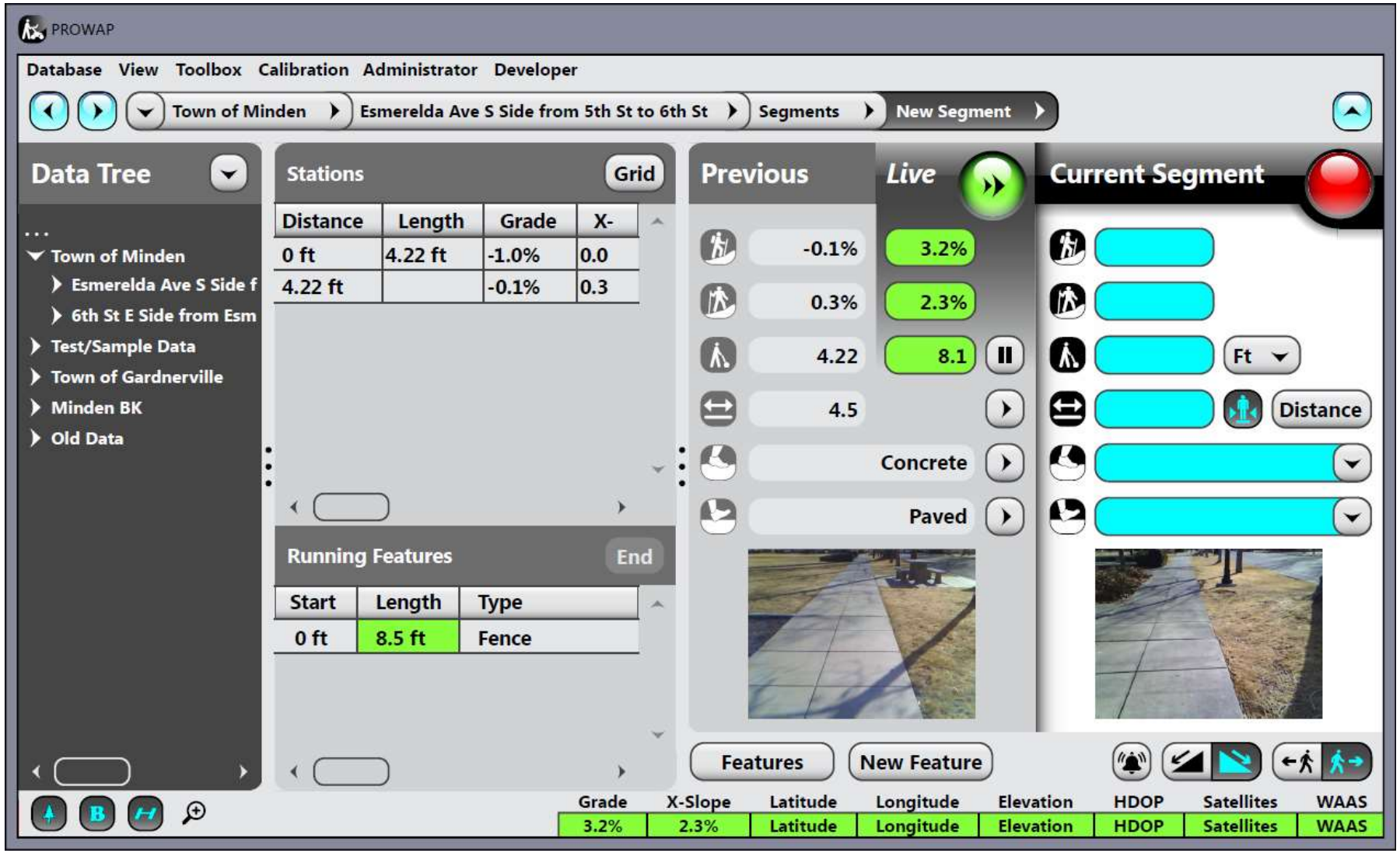


Source: BlueDAG

Pedestrian Right-of-Way Assessment Process (PROWAP) – Field Equipment

Source: Beneficial Designs

PROWAP – Software

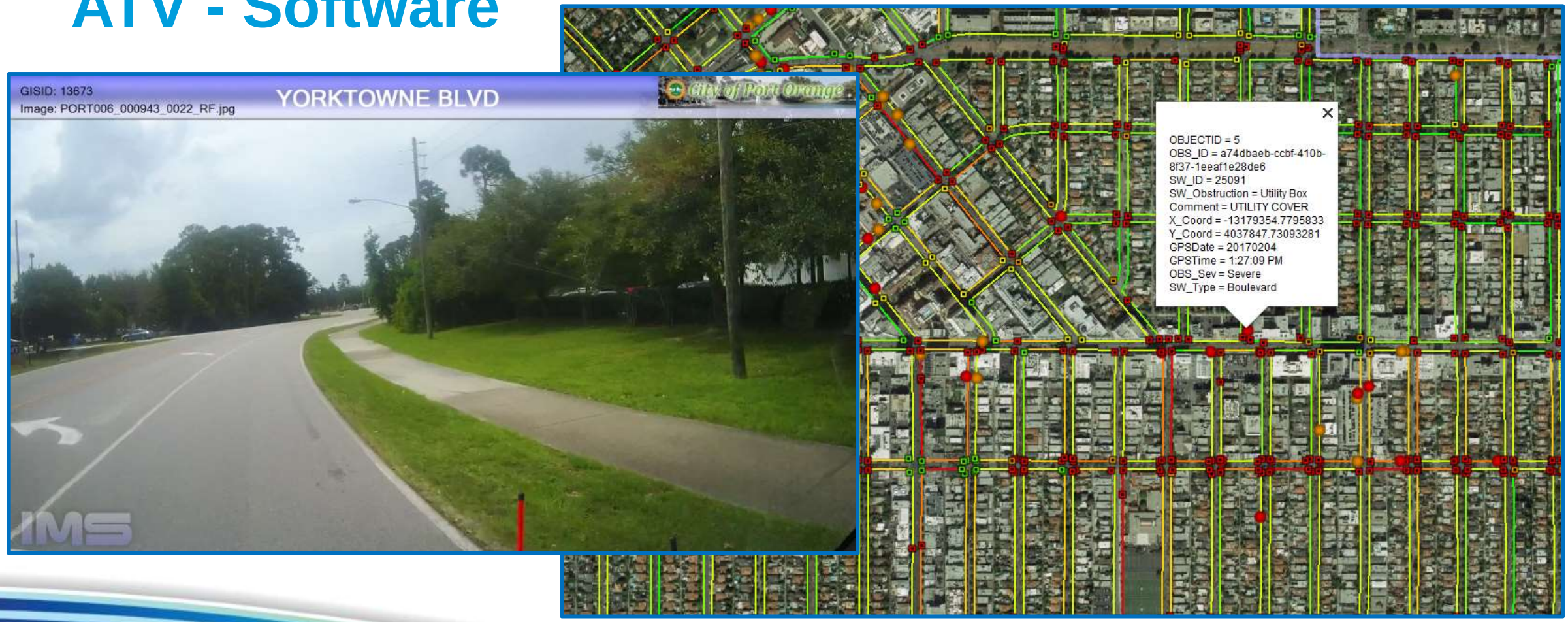


Source: Beneficial Designs

All-Terrain Vehicle (ATV) – Field Equipment

Source: IMS Infrastructure Management Services

ATV - Software



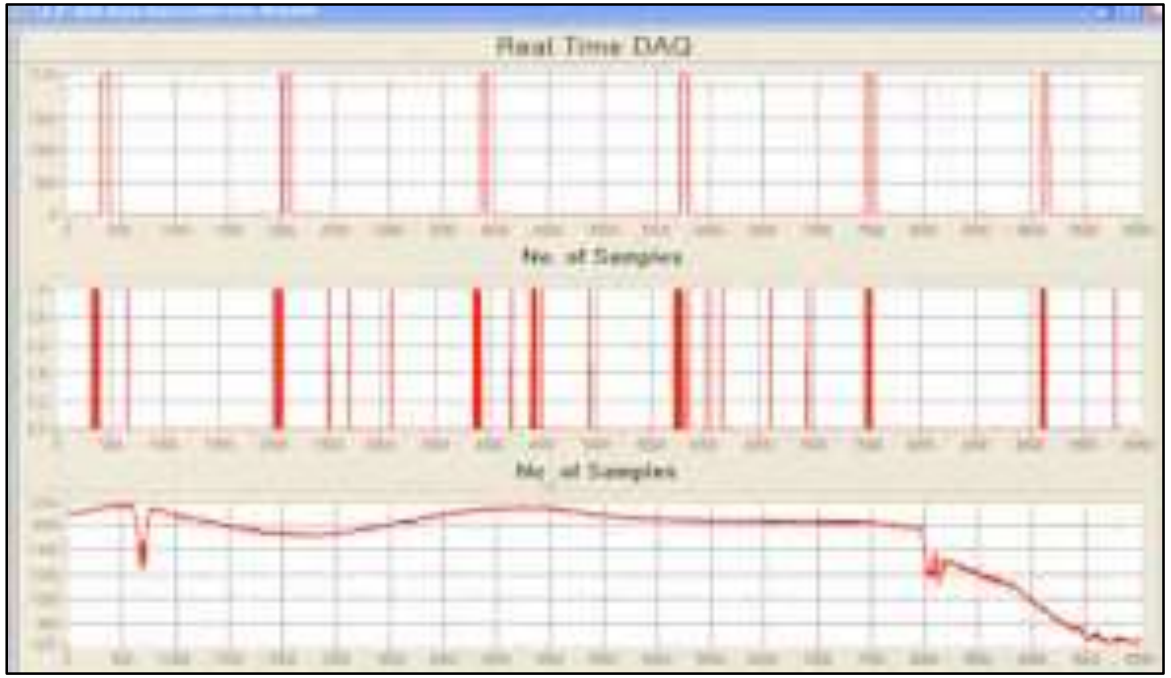
Source: IMS Infrastructure Management Services

Surface Profilers

https://www.youtube.com/watch?v=6MD8fstaT0Y

Source: Cole

Surface Profilers – Software

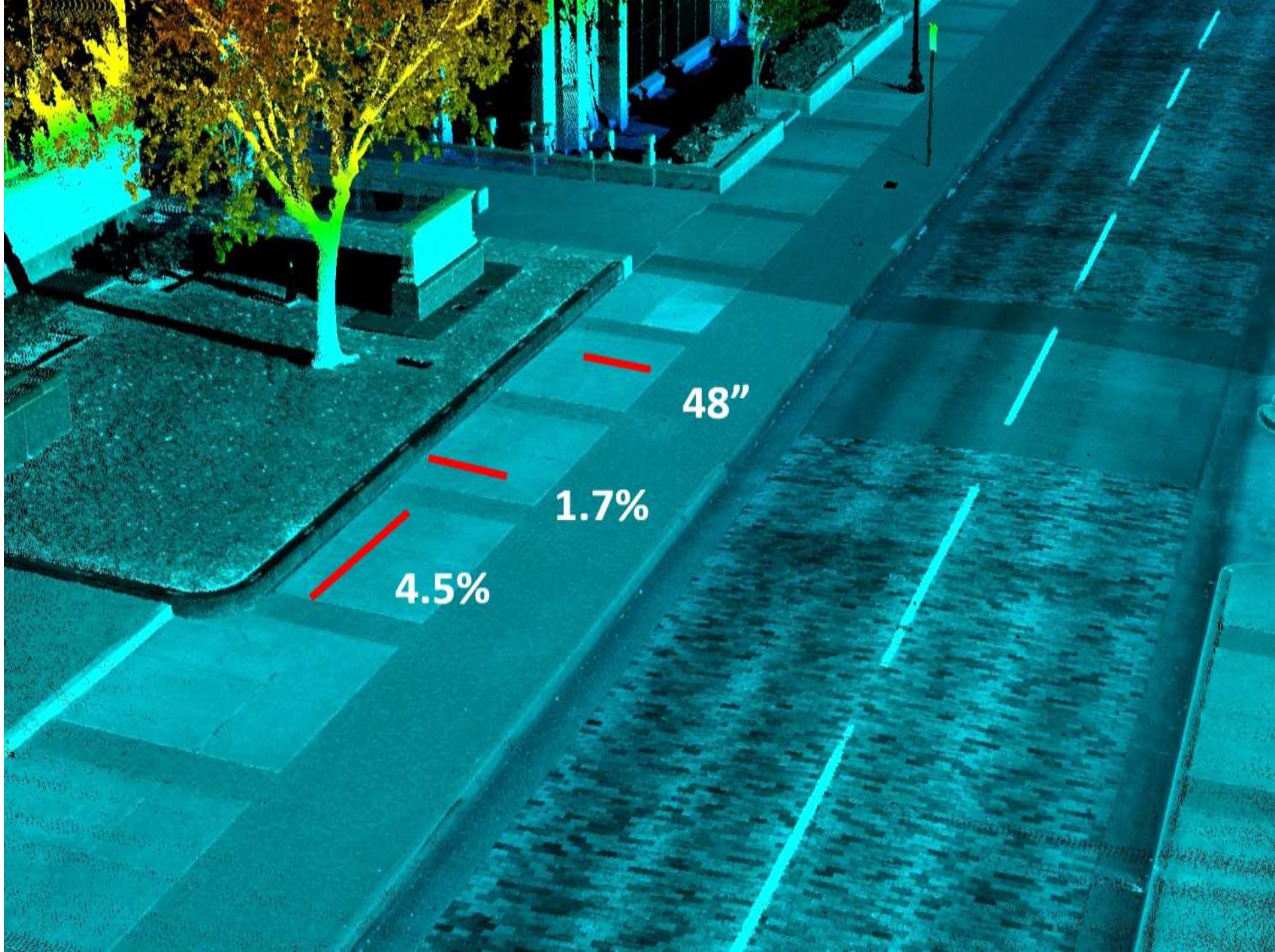


Source: Cole

Light Detection and Ranging (LiDAR) – Field Equipment

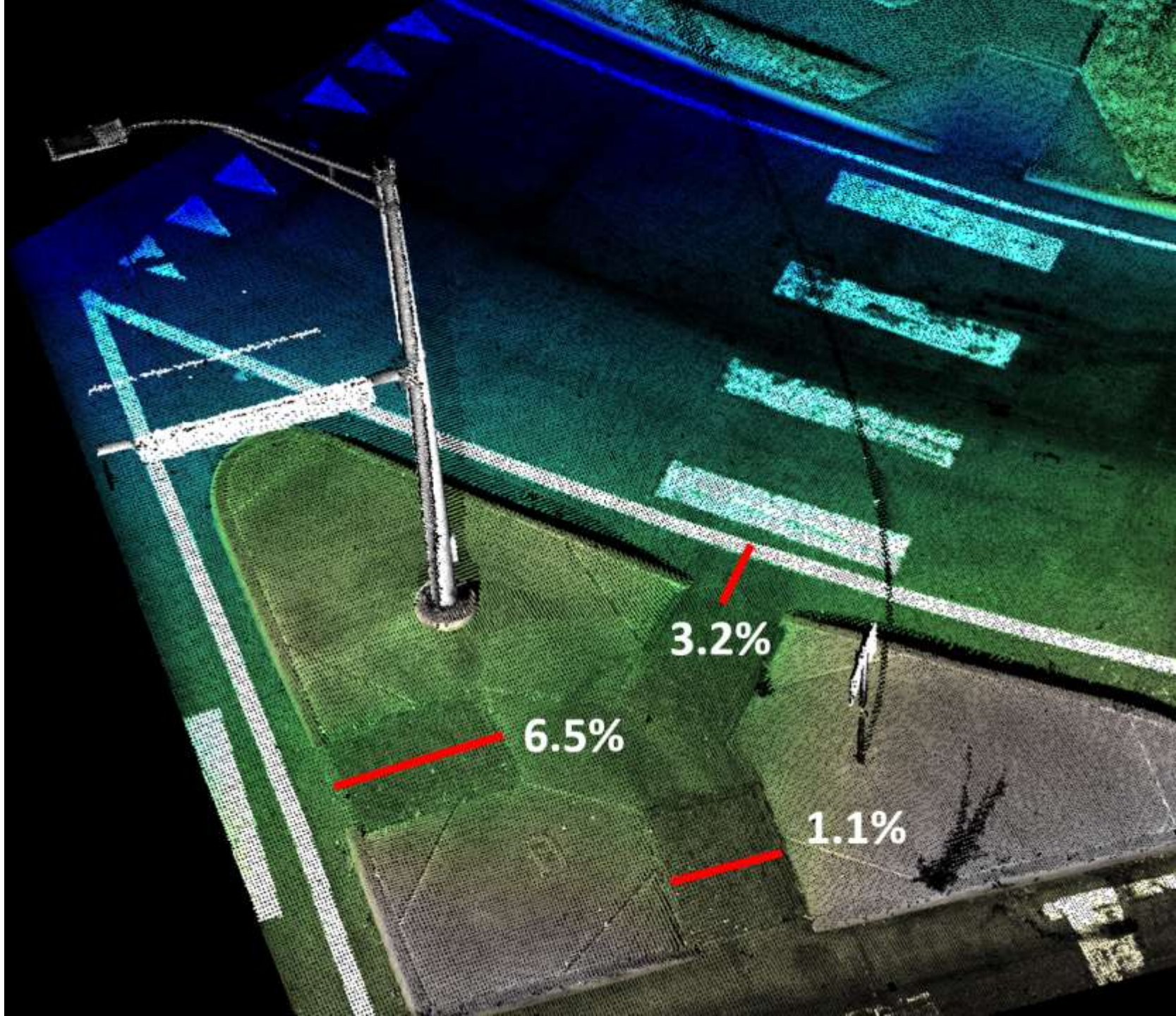
Source: Gorrondona

LiDAR Point Cloud – Sidewalk Feature Extraction



Source: Gorrondona

LiDAR Point Cloud – Curb Ramp Feature Extraction



Source: Gorrondona

LiDAR Point Cloud Feature Extraction

Source: Gorrondona

Source: Kimley-Horn

Have you considered other data collection technologies?

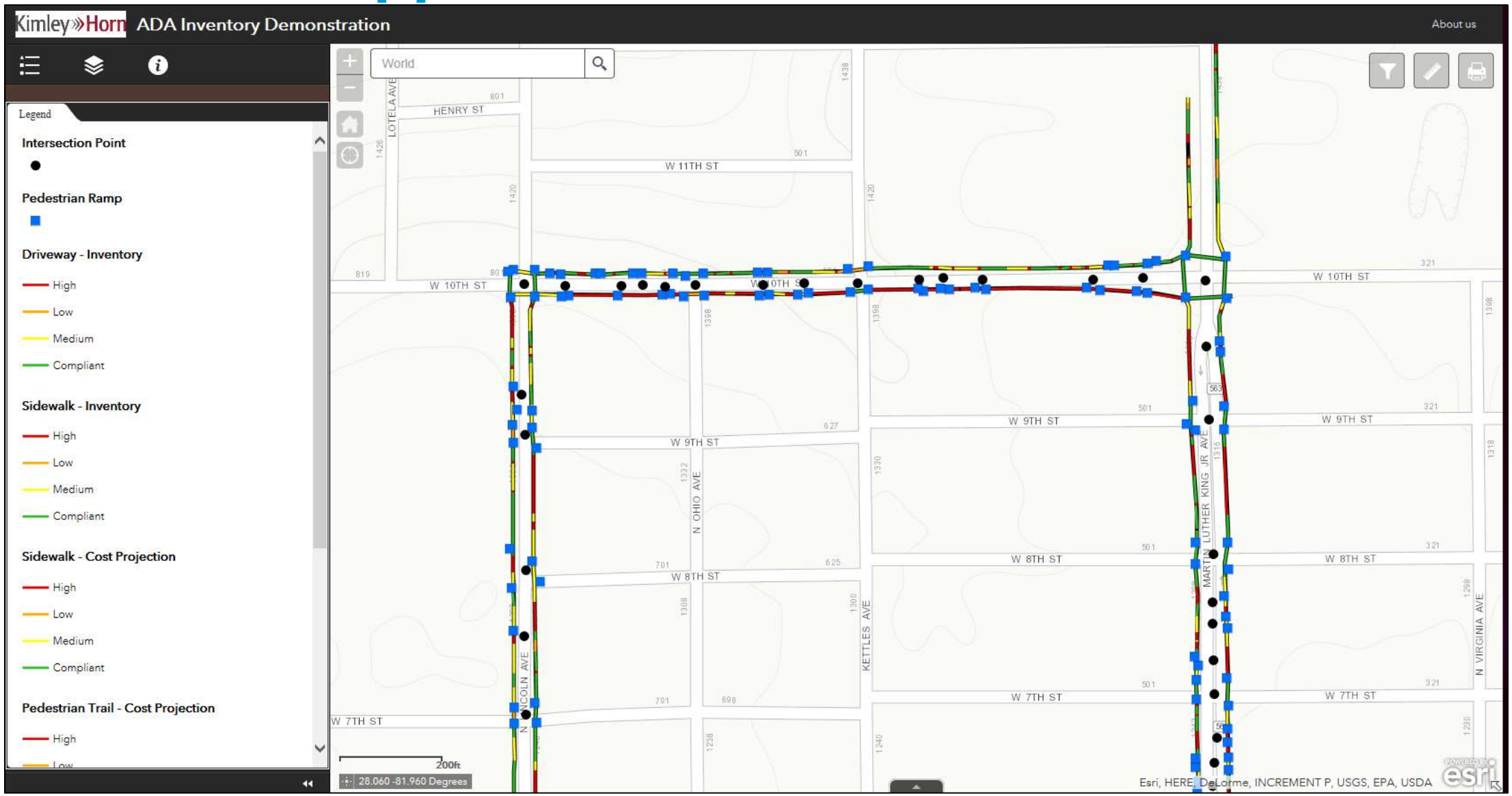
Data Management

Data Management

Considerations prior to data collection:

- Existing GIS databases
- Preferred database format/data standards
- Existing work order systems
- Improvement implementation process
- Progress monitoring metrics

ESRI Web Application



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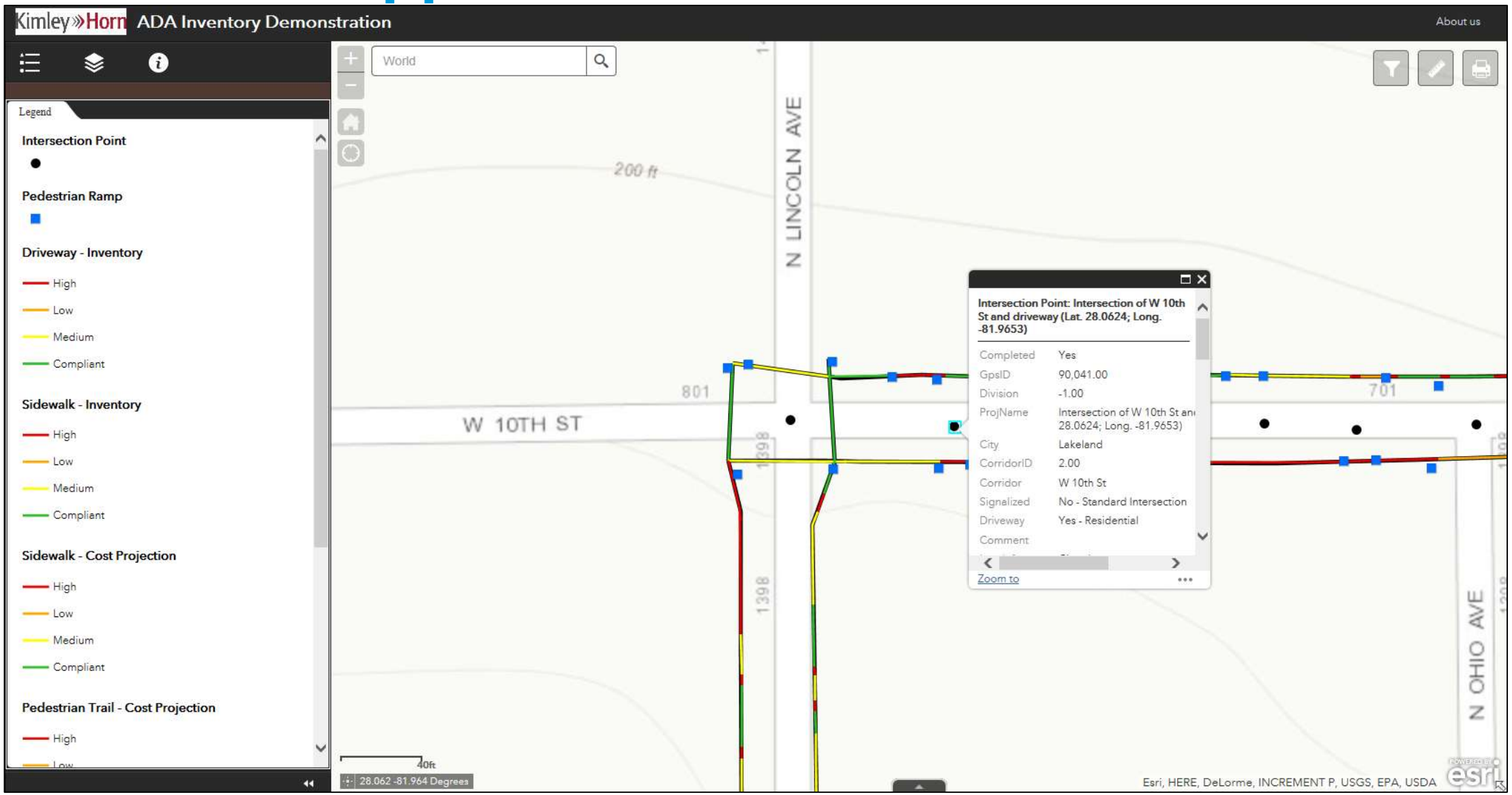

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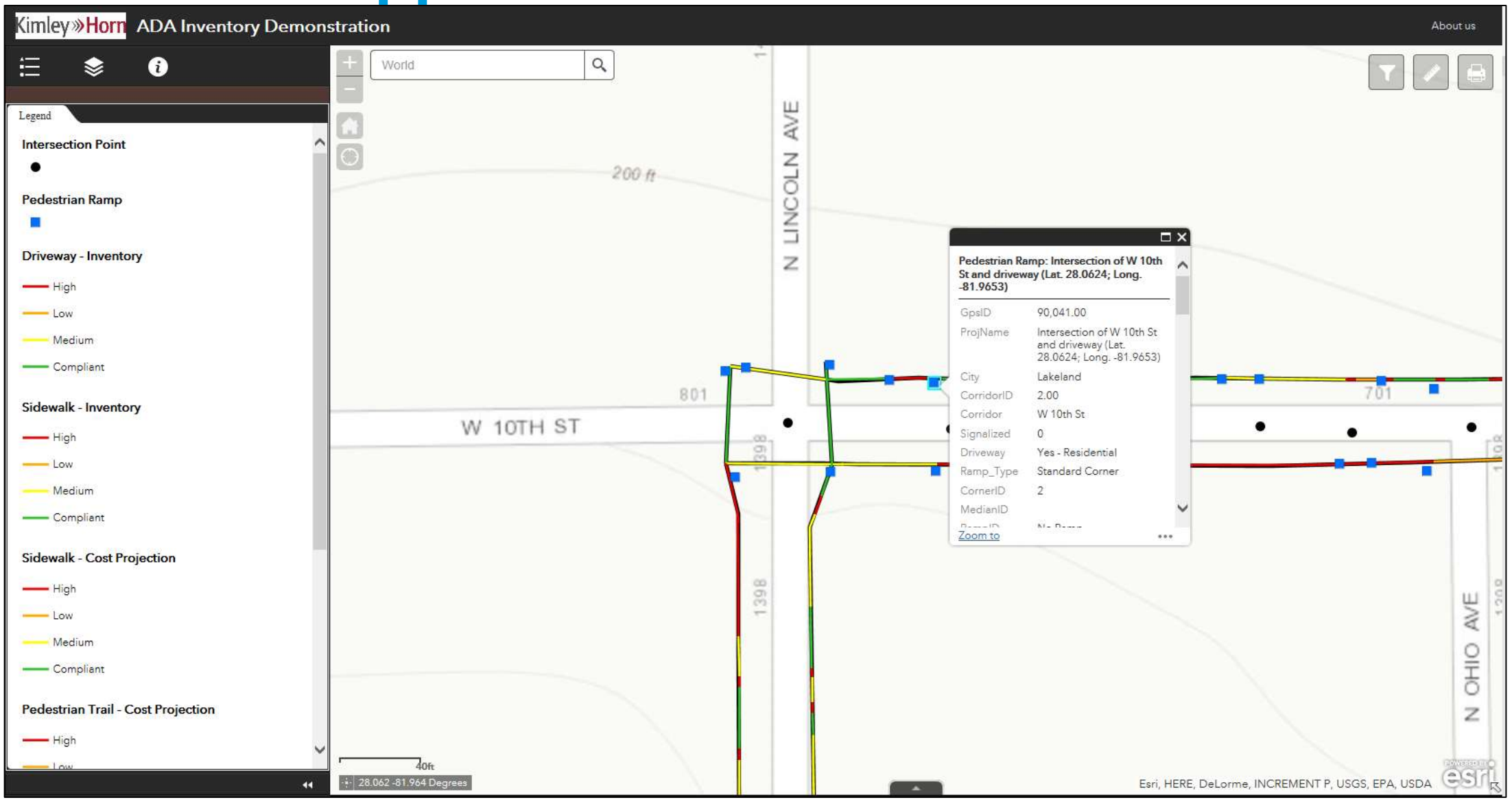
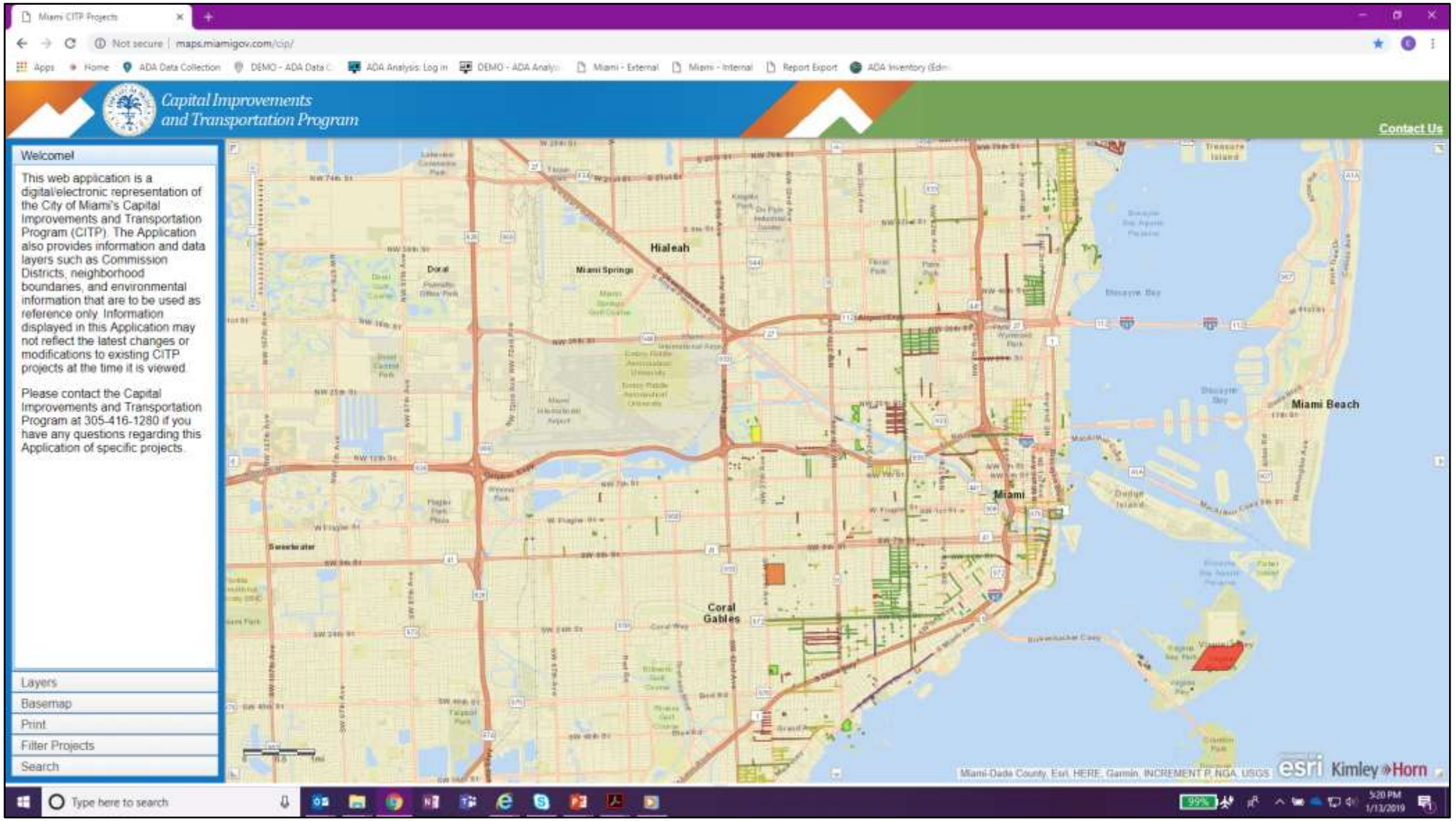


Customized ESRI Web Application



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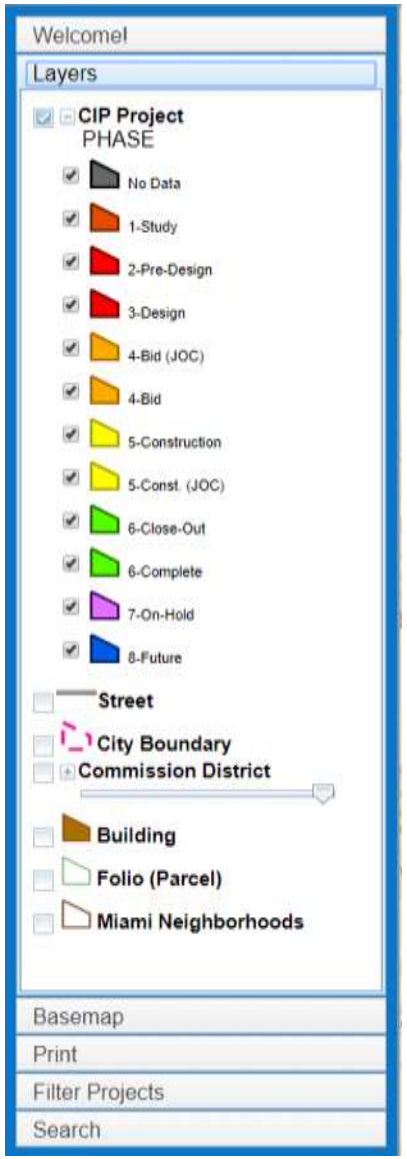

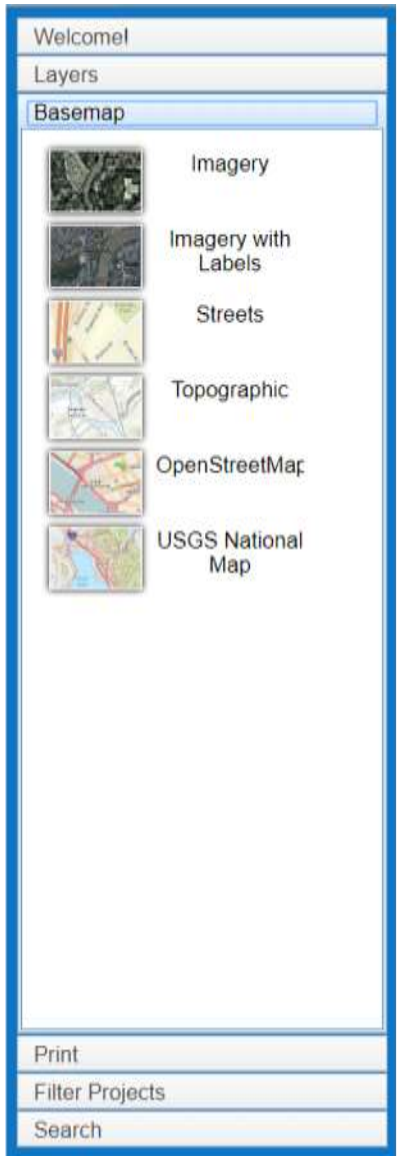

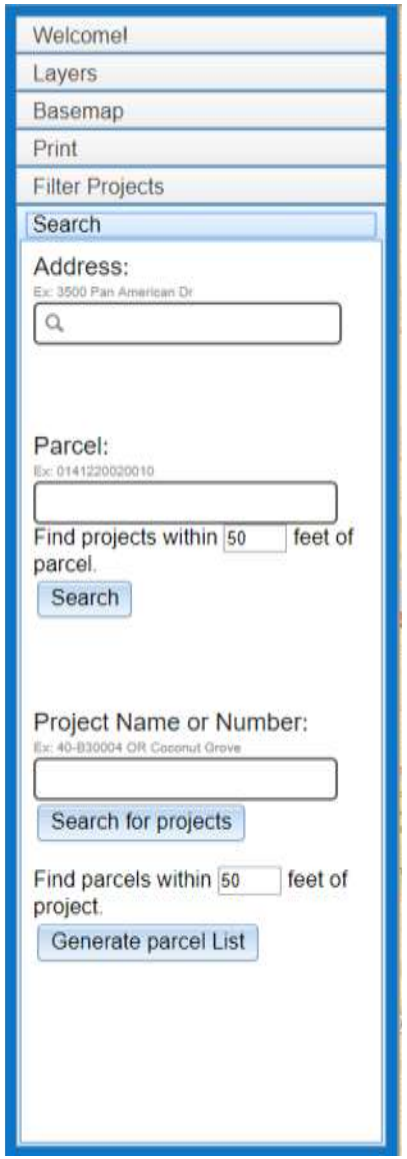

Upcoming Training

ADA Transition Plan Technical Assistance

- February 13, 2019
  - Public Outreach
  - Transition Plan Implementation
  - Transition Plan Progress Monitoring
  - Website Compliance
  - Other Topics?

Contact Information

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