FHWA/FDOT ADA Transition Plan Annual Review (2024)
Sample District: 2
September 20, 2024

In support of the 2024 ADA Transition Plan's annual certification, FDOT's District 2 was selected for review. The following methodology is documented to assist with the review. This report is accompanied by 4 Excel spreadsheets and 2 links to webapps, as detailed below.

Background

The Florida Department of Transportation's (FDOT) Office of Design (OD) is the Federal Highway Administration's (FHWA) point of contact for the Americans with Disabilities Act (ADA) activities, notably in support of the FHWA/FDOT ADA Transition Plan that focuses on curb ramp compliance. Starting in 2022, OD partnered with FDOT's Transportation Data & Analytics Office (TDA) to collect data for curb ramps as this data is not currently in the Roadway Characteristics Inventory (RCI). RCI is the system of record for FDOT's roadway characteristics and transportation infrastructure assets. OD and TDA saw the lack of ADA curb ramp data in RCI as an opportunity to shape a new way of collecting roadway data, namely by utilizing Geographic Information Systems (GIS). In lieu of collecting and storing the data in RCI, which is tabular and, on the mainframe, TDA decided to develop a web-based application utilizing imagery to collect the data and store it in a geodatabase. This data is geospatial (each record includes latitude and longitude) and contains 13 Features for each point (curb ramp). This data can easily be analyzed, visualized, distributed and used for reporting purposes. It can help prioritize needs for maintenance and other decision-making efforts.

Inventory Prioritization

In order to allocate resources to inventory each roadway segment along the State Highway System (SHS) with sidewalks, a prioritization schema was developed. This prioritization schema includes 9 criteria and each is given a 10% weight to determine the locations for where pedestrian activity is most intense and at the greatest risk. Roadway segments were then classified into 10% intervals and the top 10% of all roadway segments were then prioritized for the first round of inventory. Once the first round of inventory is complete, the next highest 10% of roadway segments will be inventoried. As of this review, the first 10% inventory is complete, and the 2nd round of inventory has begun. As of the end of July 2024, approximately 30,000 curb ramps have been inventoried statewide.

The spreadsheet titled "1-ADA_Prioritization_Inventory_Roadway Segments.xlsx" contains all 15,611 roadway segments that are considered State Highway System (SHS) On-System with sidewalks. The prioritization schema was applied to each roadway segment, statewide. Based on "TOTAL_SCORE1", each roadway segment is prioritized by County from high to low. Final prioritization for inventory is based on highest score per number of roadway segments in each County. This culminates into the column "TEN_PCNT" and is visualized in the following webapp: FDOT Sidewalk Prioritization for ADA Curb Ramp Inventory (2023) - Dash V2 (arcgis.com). The highest prioritized roadway segments are displayed in red and constitute the 1st and 2nd "10%" inventory cycles (segments ranked >80). An additional layer includes only the segments prioritized

and inventoried for the 1st 10% cycle. The last layer shows were SHS On-System sidewalks are present or not.

Methodology and Assumptions

There are 3,015 roadway segments (total SHS) in District 2. 1,403 of those roadway segments includes sidewalks. The 1st round of inventoried roadway segments will be considered the total population from which to draw the sample population for this review. 238 roadway segments, or about 17% of all SHS with sidewalks in D2, were inventoried as part of the 1st round. These roadway segments are considered the total population to draw the sample for this review. In order to identify a statistically significant sample, the following criteria were used; 1) confidence level, 70%, 2) margin of error, 5%, 3) population proportion, 50%, and 4) population size, 238. This results in a sample size of 75.

The Excel spreadsheet titled "2-On-System_Sidewalks_D2_Surveyed_Sample Selection.xlsx" contains the data used to determine the roadway segmentation samples.

To determine the specific segments to include in the sample, the following methodology was used.

1) Export an Excel spreadsheet from GIS that includes only the roadway segments that have been inventoried in District 2 (285 segments).
2) Remove the segments that were inventoried as part of the 2nd round inventory, which is currently incomplete (47 segments), resulting in 238 segments for the total population.
3) In the spreadsheet, create 3 new columns to the right of the "Roadway_ID".
4) In the first column, run a random number generator for each record [=rand()].
5) Copy and paste (values) into the 2nd new created column.
6) To identify the samples to review, create a logic statement in the 3rd new column that yields the values greater than 0.70 [=IF(C2>0.7, 1, 0)], then expand to all records in selection. This assigns a value of 1 if true and 0 if false. The records that equal 1 are selected for the review (78 segments). The value 0.70 was determined by the number of records that resulted in the number closest to 75. A value closer to 0.9 will result in fewer records identified as true while a value closer to 0.1 will result in more records identified as true.

Results Overview in Webapp and Excel

Due to the nature of the RCI data and Linear Reference System (LRS) segmentation, the roadway IDs and segment extents (BEGIN_POST and END_POST) were imported into GIS and LRS tools were used to identify the sample roadway segments. Next, the collected ADA curb ramp data (points) were overlayed to extract the correct points associated with the roadway segmentation. These points were then used to develop the webapp for review.

Webapp – FHWA/FDOT ADA Transition Plan Review (D2 / 2024) (arcgis.com)

This webapp includes the 78 roadway segment samples and the inventoried ADA curb ramp data associated with these segments. The data is visualized in the map view and a Results tab opens a dashboard to view pie charts of the data that has been collected and included in the sample.

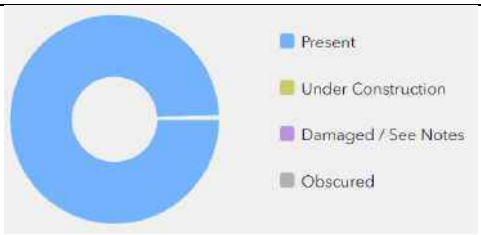
The Excel spreadsheet titled "3-2024_ADA_D2_Sample_Review_20240906.xlsx" includes the data collected on the 78 roadway segment samples, which results in 1,338 records (curb ramps). The curb ramp records include points that are not tied to the specific roadway segments selected as part of the sample. It also includes curb ramp records tied to adjacent roadway segments but are part of the intersection. It was determined that a more complete review of the data should include all points associated with each intersection node of the selected roadway segment samples. Pivot tables were used to summarize the data by County and Roadway_ID/Seg_ID for each of the data elements (i.e., status, type, synthetic tactile mats, etc.).

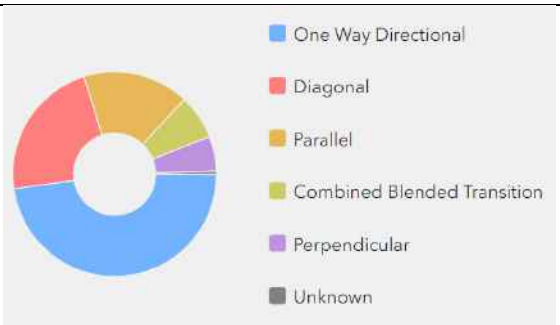
High-level summary statistics in sample

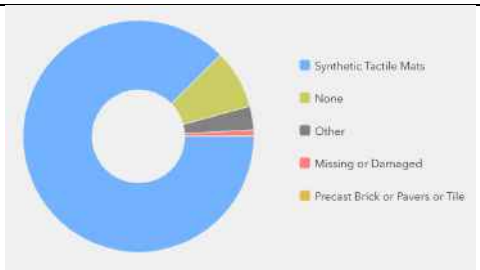
Total roadway segments in sample: 78

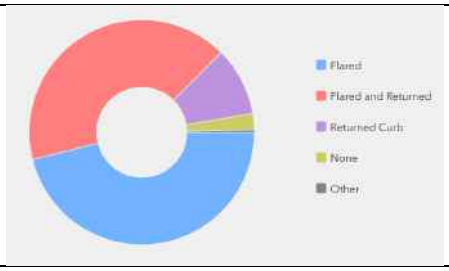
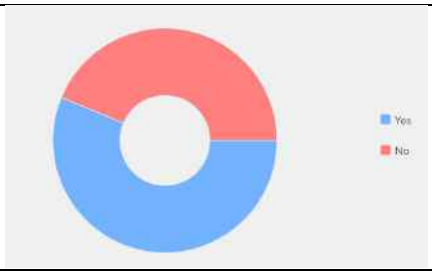
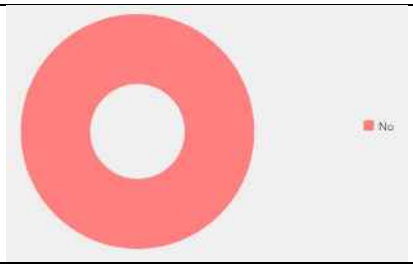
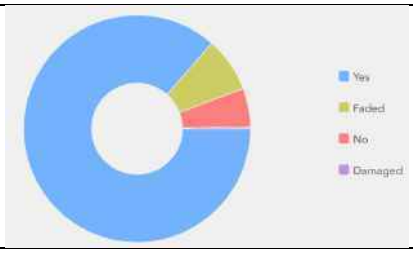
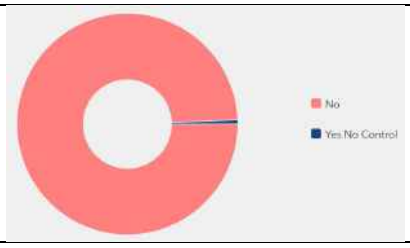
Total roadway centerline mileage in sample: 30.686

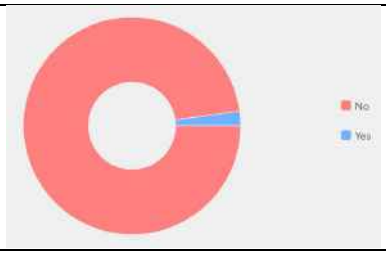
Total number of collected ADA curb ramps: 1,338

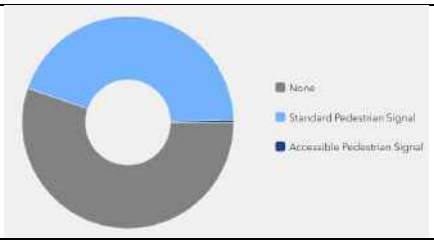
Curb Ramp Status: Present – 99.4% Under Construction – 0.22% Damaged – 0.15% Obscured / Needs Field Review – 0.15%	

Curb Ramp Type: One Way Directional – 47.7% Diagonal – 22.4% Parallel – 16.9% Combined / Blended Transition – 7.0% Perpendicular – 5.5% Unknown – 0.45%	

Detectable Warning Surface Type: Synthetic Tactile Mats – 89.7% None – 8.2% Other – 3.3% Missing / Damaged – 0.82% Precast Brick / Pavers / Tile – 0%	

Sides: Flared – 46.1% Flared and Returned – 41.3% Returned – 9.9% None – 2.3% Other – 0.37%	
Landing: Yes – 56.3% No – 47.3%	
Curb Extensions: No – 100.0% Yes – 0.0%	
Marked Crossing: Yes – 89.7% Faded – 7.8% No – 5.5% Damaged – 0.22%	
Mid-Block Crossing: Yes – No Control – 0.6% No – 99.4% Yes – Controlled – 0.0%	

Island: No – 97.2% Yes – 2.2%	

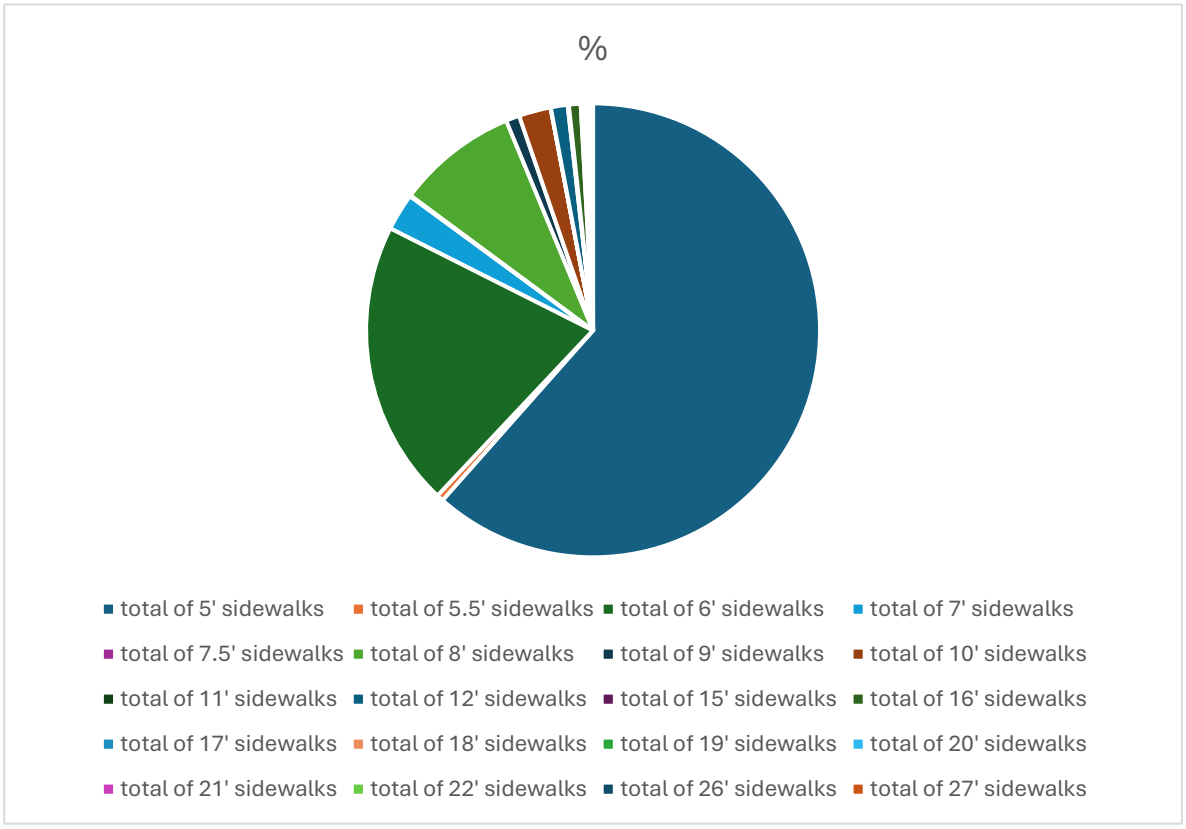
Pedestrian Signal: None – 55.2% Standard – 44.4% Accessible – 0.37%	

Other Considerations

Sidewalks

The ADA Curb Ramp Inventory does not capture sidewalk widths or condition. However, RCI contains good data for sidewalk width in order to quantify mileage for where sidewalks exist along the SHS. RCI Feature 217 (Sidewalk) data was queried for the 78 roadway segments included in this year's sample review. Full results can be reviewed in the spreadsheet titled "4-2024_ADA_D2_Sample_Sidewalk Widths_20240919.xlsx". The following table provides summary statistics. Note that there were no sidewalks less than 5' in this sample review.

Sidewalk Width	Mile	%
total of 5' sidewalks	37.681	61.54%
total of 5.5' sidewalks	0.297	0.49%
total of 6' sidewalks	12.492	20.40%
total of 7' sidewalks	1.619	2.64%
total of 7.5' sidewalks	0.039	0.06%
total of 8' sidewalks	5.277	8.62%
total of 9' sidewalks	0.594	0.97%
total of 10' sidewalks	1.392	2.27%
total of 11' sidewalks	0.012	0.02%
total of 12' sidewalks	0.734	1.20%
total of 15' sidewalks	0.05	0.08%
total of 16' sidewalks	0.512	0.84%
total of 17' sidewalks	0.07	0.11%
total of 18' sidewalks	0.106	0.17%
total of 19' sidewalks	0.058	0.09%
total of 20' sidewalks	0.099	0.16%
total of 21' sidewalks	0.063	0.10%
total of 22' sidewalks	0.062	0.10%
total of 26' sidewalks	0.056	0.09%
total of 27' sidewalks	0.019	0.03%
Grand Total	**61.232**	**100.00%**



Landings

As of its current configuration, the ADA Curb Ramp Inventory webapp does not include a condition assessment of Landings. However, we are in the process of updating the webapp to include a condition assessment for Landings. This data will only be collected for records as of the date that functionality is made available, which will likely come through other general webapp updates during October 2024. The approximately 33,000 records that have already been inventoried will not include data for Landing condition assessment until they are re-inventoried. Since ADA Curb Ramp data will become part of normal RCI data collection and reporting, this will follow a 5-year inventory cycle. Once Central Office has completed the first complete statewide inventory, the responsibility for data collection and maintenance will be handed over to the Districts, as per standard RCI procedures.

Lighting

As of its current configuration, the ADA Curb Ramp Inventory webapp does not include a condition assessment of Lighting. However, this is being incorporated into the webapp in the same fashion as the condition assessment of Landings.

Feature attributes and updated nomenclature

The following updates to the survey forms in the webapp are intended to better reflect FHWA nomenclature. These updates will be reviewed and approved by FDOT and FHWA partners before programmatic changes are implemented. These changes were not made prior to the submittal of this report because inconsistencies would be apparent between what is displayed in the webapp and the underlying data in the spreadsheets.

Status:

Missing = Deficient

*If Deficient is chosen, no other questions will need to be answered in the survey. Option for notes and photos will still be available.

Detectable Warning Surface:

Missing/Damaged = Damaged

None = Deficient

Landing:

Yes = Compliant

No = Deficient

*If deficient is chosen, additional questions for type of deficiency appears as follows:

Type of Deficiency:

- Obstruction
- Missing
- Damaged Pavement
- Incorrect slope
- Improper Vertical Alignment

Marked Crossing:

No = Deficient (No marked crossing)

Yes = Compliant (No visible fading or damage)

Pedestrian Signal:

Missing = Deficient (Missing or Inoperable)

Overall:

If deficient is chosen for any answers, make notes field required, except in the case of landing (make optional).