

Public Rights-of-Way ADA Curb Ramp and Transit Stop Summary of Findings

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1. Introduction

In an effort to improve access for all, the City of Aspen has evaluated curb ramps and transit stops in the public rights-of-way in high-use areas to determine the physical barriers that may restrict access for people with disabilities. The information gathered from this evaluation will allow the City to update its curb ramp and transit stop inventory with data specific to public rights-of-way to further the City's ongoing commitment to all residents, employers, businesses, and visitors for creating an inclusive and accessible place to live, work, and play.

The City of Aspen strives to do its part in removing physical barriers and improving accessibility throughout the city for residents and visitors. According to the Center for Disease Control, it is estimated that as of 2018, 26% or 1 in 4 adults has a disability that impacts major life activities such as walking and climbing stairs (13.7%), independent living (6.8%), difficulty hearing (5.9%), and vision difficulty (4.6%). These percentages are likely underreported and do not account for people that experience temporary disabilities.

2. Report Overview

This report provides an overview of the Curb Ramp and Transit Stop ADA Evaluation process and a high-level review of the findings. The Table of Contents provides an outline of the content included in the ADA Self-Evaluation process and this Summary of Findings Report. The City of Aspen chose to update their Curb Ramp and Transit Stop inventory in a phased approach with additional phases to be planned in the future.

This report describes the overall scope of the project, the methodology used to assess facilities in public rights-of-way, and an overview of the findings.

3. Project Scope Summary

The scope of the Curb Ramp and Transit Stop ADA Evaluation included assessment of 413 curb ramps, and 30 Transit Stops. The evaluations were performed to identify potential barriers that might reduce their use by people with accessible needs. The information collected will better inform decision makers on how to plan and budget for barrier removal and ADA compliance.

See Exhibit A on the next page for the boundary map of sites collected.





ADA Self-Evaluation
Public Rights-of-Way Boundary Map



The inventory includes 413 curb ramp locations and 30 Transit Stop's. An overview of the data collected, and the cost summaries of the inventory analyzed for ADA compliance within the public right-of-way facilities is located in Section 5 of this report.

Data collected from this assessment will provide the City with:

1. Listing of facilities that are in compliance with current standards.
2. Listing of facilities that are not in compliance with current ADA requirements.
3. Recommended actions to resolve non-compliance issues for each facility.
4. "Cost report" that assigns conceptual budget estimates for planning purposes to each recommended action.
5. Photolog for each facility.
6. Geospatial points or ADA ID Locations will be provided on each facility collected.

The City of Aspen's curb ramp and transit stop evaluation process will provide the information needed for the City to determine the proper prioritization of pedestrian facilities.

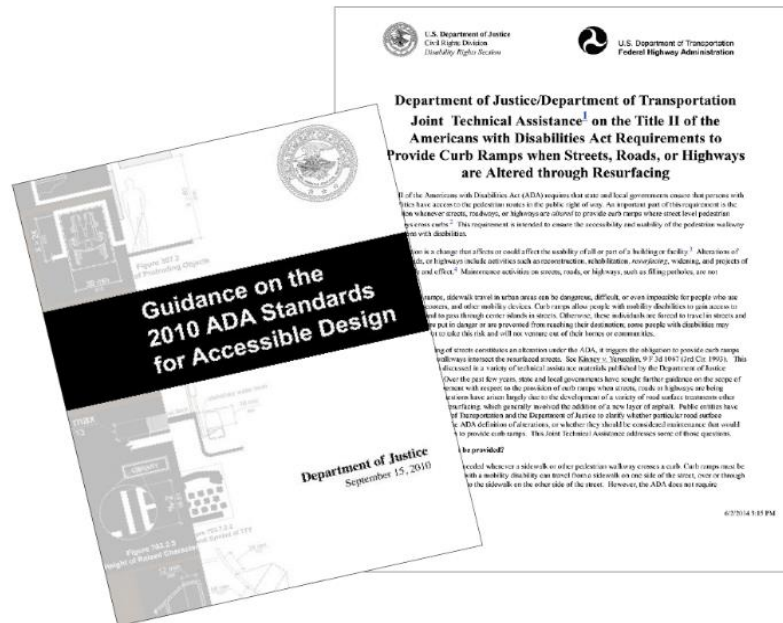
4. Methodology of the Assessment

4.1 Accessibility Standards and Guidelines

The method of conducting the self-evaluation for the City of Aspen for physical assets will include field data collection to determine compliance with the following standards and guidelines:

1. 1991 ADA Standards
2. 2010 ADA Standards for Accessible Design
3. Section 504 of the Rehabilitation Act (504)
4. Public Right-of-Way Accessibility Guidelines, 2023 (PROWAG)
5. Manual on Uniform Traffic Control Devices (MUTCD)
6. Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets & Highways
7. U.S. Department of Transportation Regulations for transit and sidewalks.

These documents are used to define the methods used to make facilities accessible.



The United States Access Board provides standards and guidance documents for the design and alteration of accessible pedestrian facilities. These guidelines are known as the 2010 ADA Standards and the 2023 Pedestrian Facilities in the Public Rights-of-way (PROWAG). PROWAG guidelines have been recognized by the Federal Highway Administration (FHWA) as guidance and best practice for pedestrian facilities within the public rights-of-way.

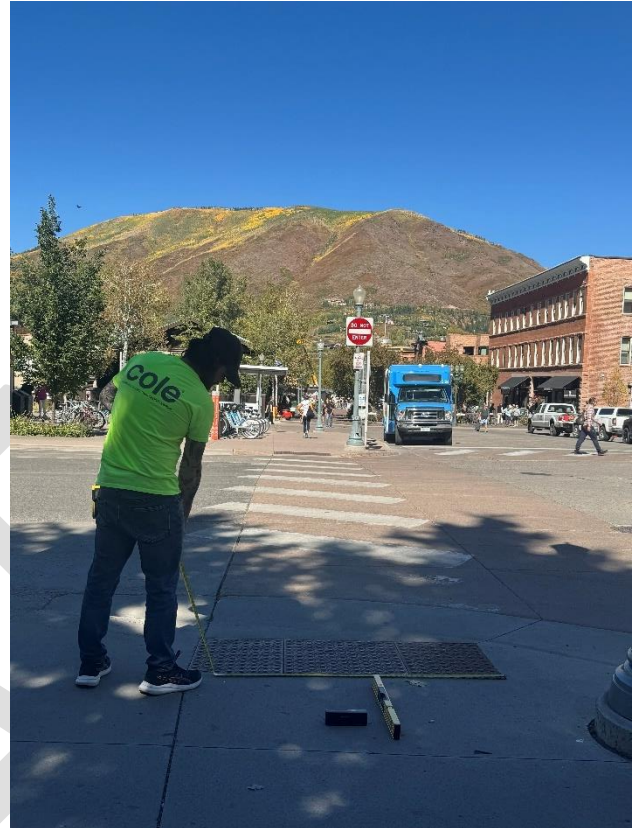
The FHWA and the US Department of Justice have also issued a joint memorandum that provides guidance regarding street alterations that require curb ramp upgrades when a street undergoes defined resurfacing activities. A combination of the standards and guidelines noted above are used for compliance evaluation to ensure compliance with adopted and enforceable standards and recognized best practices. These documents also provide guidance on defining the methods used to make facilities accessible. Projects undertaken on existing facilities are not classified as new construction, but rather as alterations. Alterations are required to meet the current standards to the maximum extent practicable within the scope of the project.

4.2 Approach to Curb Ramp Transit Stop Inventory Collection

The traditional accessibility inventory process in public rights-of-way can be labor-intensive. Many public entities rely on collection methods that provide limited information or assess barriers intermittently. This does not offer comprehensive data or allow for adequate cost estimates for the planning of barrier removal for curb ramp and transit stop barriers within the scope of the project.

Field Data Specialists collected the required information for the curb ramps and transit stops throughout the defined project area. Based on inspection and measurements of the existing features, Field Specialists entered data directly into the data collectors, ensured that all relevant characteristics were recorded, and that photos were properly linked with location data logged into the database, as described in the next section.

The Field Data Specialists accessed the data entry forms, and aerial orthophoto images along with rights-of-way, utility, topographic, or other feature data sets that were preloaded and appeared on the data collectors for easy reference in the field. Digital photos were automatically logged for location and linked to the database, based on synchronized time and date stamps.



4.3 Geographic Information System (GIS) Database Analysis

The Cole team created and utilized a geodatabase using the ESRI ArcGIS system. The customized geodatabase fields include location, directions, size, features, and other pertinent information. The data structure was pre-programmed for data collection, as described above. Data was then logged into a project database and analyzed for compliance.

Adherence to FHWA's interpretation of features in the data set provided quality assurance in the attributes of the resulting database.

5. Inventory-Evaluation - Summary of Findings

5.1 Introduction

The Summary of Findings provides a high-level overview of the results of the ADA Curb Ramp and Transit Stop evaluation. Please see Section 3 for information regarding the scope included; please see Section 4 for details on the methodology used to complete the assessments for ADA compliance. Each rights-of-way facility has a detailed compliance report with all the data collected for that facility.



5.2 Curb Ramp Evaluation

The consultant teams evaluated 271 existing curb ramp locations.

The curb ramps were evaluated for many different elements of compliance. The following highlights the major elements evaluated:

- Run slope
- Cross slope
- Length
- Width
- Curb slope
- Obstructions
- Surface conditions
- Landings
- Gutter slope/gutter lip
- Detectable warning surface (DWS)
- Flare slope

Observations showed that many of the curb ramps that do not comply with the accessibility standards share some common issues. The following tables summarize the findings for curb ramps.

a. Curb Ramp Run Slope

% Slope	Count	Status
0.00 - 5.00	144	Compliant
5.01-8.33	145	Compliant*
8.34-10.00	67	ADA Concerns
10.01-12.50	22	ADA Concerns
12.50+	12	ADA Concerns
Total*	390	(Excludes 23 Missing Ramps)

Common Issues:

- 26% of all curb ramps had run slope issues.

*Maximum Ramp Run Slopes of 8.33% is permitted for a length of fifteen feet per PROWAG.



b. Curb Ramp Cross Slope

% Slope	Count	Status
0.00 - 2.00	209	Compliant
2.01 - 3.00	73	ADA Concerns
3.01 - 4.00	44	ADA Concerns
4.01 - 7.00	49	ADA Concerns
7.01+	15	ADA Concerns
Total	390	(Excludes 23 Missing Ramps)

Common Issues:

- 53% of Curb Ramps met cross slope requirements.
- 47% of Curb Ramps had cross slope issues. Of these, 40% fell into a 2-3% cross slope range, generally considered less severe than higher ranges.



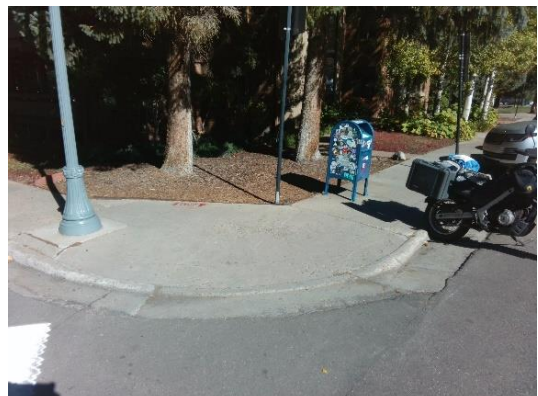
c. Detectable Warning Surfaces (DWS)

Type	Count
Compliant	41
Provide DWS	8
Replace DWS	126
Total (Excludes 238 Non-Compliant Ramps)	175

Common Issues:

- DWS falling in the Non-Compliant count were most often due to the DWS not extending for the full width of the ramp

*Of the 238 which failed at an early Initial Pass/Fail scenario, the ramps failed for other non-compliant ramp component reasons, and there is most often some degree of reconstruction necessary. For these ramps, any DWS concern will be addressed when the ramp is corrected for compliance.



d. Missing Curb Ramp

Missing Ramp	Non-Compliant
Missing Ramps	23

Common Issues:

- Missing Curb Ramps are ramps that are not present in locations where they are required.
- T-Intersections can sometimes be the cause of a report of missing curb ramps. These locations most often must be reviewed closely by the City to determine if an alternate approach can be taken to rectify the concern.



e. Curb Ramp Gutter

Gutter	Count
Compliant	119
Fix Gutter Lip Only	150
Fix Gutter Ponding	4
Fix Gutter Ponding / Fix Gutter Lip Only	8
Replace Gutter	109
Total (Excludes 23 Missing Ramps)	390

Common Issues:

- 30% of curb ramp gutters are compliant
- Of the 70% of non-compliant gutters, 55% of them have issues with lip height. Grinding down the vertical deviations along these gutters would be a solution.



e. Curb Ramp Landing

Landing	Count
Compliant	85
N/A	1
Provide Landing	4
Replace Landing	85
Total	175

Common Issues:

- Landings are needed for a change of direction and give access to the pedestrian access route
- Landings are required to be at the top of every curb ramp, often the working area will determine the location of said landing.

*238 failed initial validation, requiring curb ramp replacement. Landings were not evaluated.



e. Curb Ramp Obstruction Compliance

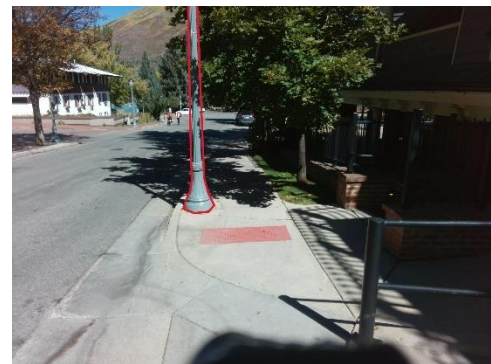
Obstruction Compliance	Count
Yes	410
No	3
Total	413

Obstruction Type	Count
Relocate Pole	1
Relocate Vegetation	1
Relocate Sign	1
Total	3

*Anything that restricts the ramp or sidewalk to less than 36" wide.

Common Issues:

- Utilities can often interfere with the pedestrian access route.
- Vegetation growth can cause clear width issues



5.3 Transit Stop Evaluation

The consultant teams evaluated 30 Transit Stops. The Transit Stop findings are summarized below:

a. Transit Stop Access from the pedestrian access route (PAR)



Transit Stop	Count
Compliant	29
Provide Boarding PAR	1
Total	30

Common Issues:

- 96% of the Transit Stops have access to the pedestrian access route.

b. Boarding Compliance

*Minimum requirements of 60"x96"



Boarding Area

Boarding Compliance	Count
Compliant	10
Provide Boarding Area	1
Replace Boarding Area	19
Total	30

Common Issues:

- 33% of the Transit Stops have a compliant boarding area.

c. Pedestrian Access Route Slopes to Transit

*Slopes of the Pedestrian Access Route (PAR) to Transit Stop



PAR1 Compliance	Count
Compliant	9
Replace PAR	21
Total	30

Common Issues:

- 30% of the cross slopes for the PAR are compliant

d. Pedestrian Access Route Slopes to Boarding Area

*Slopes of the Pedestrian Access Route (PAR) to the Boarding Area.



PAR2 Compliance	Count
Compliant	17
Replace PAR	13
Total	30

Common Issues:

- 57% of the cross slopes for the PAR are compliant

e. Clear Space Compliance

*Minimum requirements of 30"x48" of unobstructed space connected to the Pedestrian Access Route when a shelter or bench exists.



Clear Space Compliance	Count
Compliant	2
N/A	19
Replace Clear Space	9
Total	30

Common Issues:

- Out of the 30 Transit Stops, 36% have a bench and/or shelter requiring a clear space. Of those Transit Stops that need a clear space, 19% are compliant

f. Protruding Object Compliance



Protruding Object Compliance	Count
Compliant	29
Remove Protruding Object	1
Total	30

Common Issues:

- Vegetation can grow over Boarding Area

g. Sign Compliance



Sign Compliance	Count
Compliant	6
Adjust Sign Height	24
Total	30

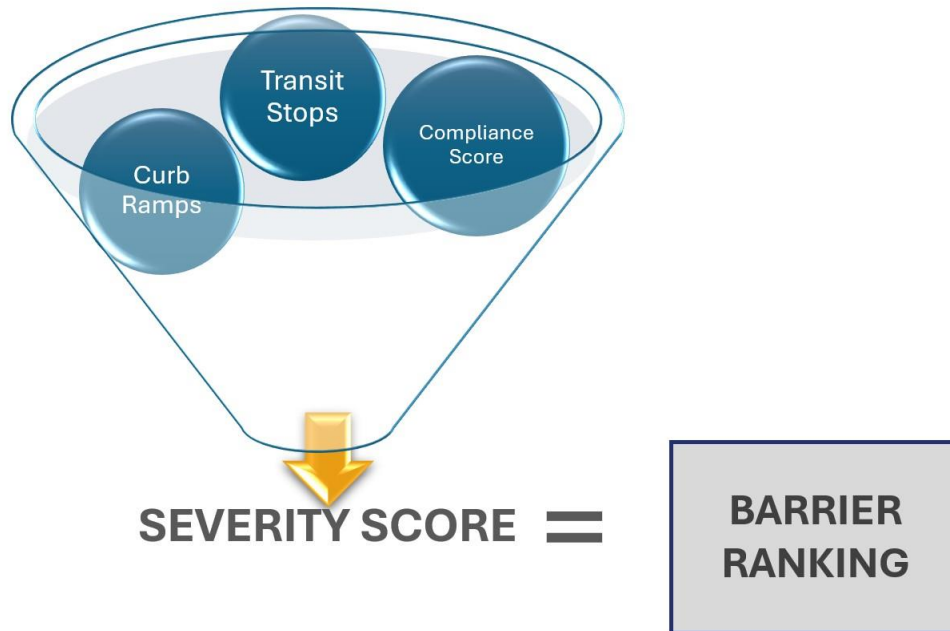
Common Issues:

- 80% of the Sign Heights are non Compliant.

* (PROWAG R402.3.1) Where objects are mounted on a single post or pylon and the objects are more than 27 inches (685 mm) and less than 80 inches (2030 mm) above the walking surface, the objects shall not protrude into the *pedestrian circulation path* more than 4 inches (100 mm) measured horizontally from the post or pylon or more than 4 inches (100mm) measured horizontally from the outside edge of the base where the base height is 2 ½ inches (64 mm) minimum.

5.4 Prioritizing the Findings

As depicted in this report, some compliance issues are more severe than others. The evaluated pedestrian facilities were reviewed in their entirety to determine the level of compliance and the degree of severity for all the data collected and analyzed. It is important to consider not only the number and severity of issues with a pedestrian facility but also the level of use by persons with disabilities.



6. Planning Level Cost Estimates

Planning level cost estimates will be utilized by the City for scheduling barrier removal. It is not financially feasible to immediately remove all barriers to access. The City may choose to modify barrier removal priorities to allow flexibility in accommodating community requests, petitions for reasonable modifications from persons with disabilities, and funding constraints and opportunities. It is the goal of the City with the updated ADA curb ramp and transit stop evaluation to provide access to the programs, activities, and services provided by the City. The City of Aspen has on-going programs that monitor proposed alteration projects, and all maintenance projects include the review and upgrades of curb ramps to PROWAG standards. Where technical infeasibility exists, the City designs and constructs pedestrian facilities to the maximum extent feasible, as is allowable per the ADA.



Cost Summary

Public Rights-of-Way

Facility Type	Preliminary Cost Barrier Estimate
Curb Ramps	\$1,871,250.00
Transit Stop	\$78,300
Curb Cuts (Medians)	\$300.00
Total	\$ 1,949,850

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