

1. INTRODUCTION

CDOT is required by Title II of the Americans with Disabilities Act (ADA) to provide accessible services to persons with disabilities. The provision of curb ramps is an important element of CDOT-provided accessible services. In 2017, CDOT embarked on an \$85 million effort to address curb ramp conditions, and to bring them into compliance with the requirements listed in the Public Rights-of-Way Accessibility Guidelines (PROWAG).

CDOT's Civil Rights and Business Resource Center (CRBRC) oversees compliance for the ADA and is the lead on implementing accessible programs, activities, and services, including the curb ramp acceleration program.

Each Region prepares a Curb Ramp Prioritization Plan. The curb ramp acceleration program focuses on curb ramps that are part of the Region Prioritization Plan. Curb ramp funding is primarily used for curb ramp construction, but in some instances, it may fund ancillary improvements needed to make the ramp accessible, such as a panel of sidewalk or movement of a pedestrian push button.

Curb ramps that are within the limits of a planned project in the 4-year Program Management Office (PMO) Plan are not eligible for this funding because the ramps must be addressed as part of these projects. Projects performed by CDOT maintenance forces are evaluated on a case-by-case basis to assess whether ramps should be addressed at the time of the project.

In 2013, CDOT created a base inventory of existing and missing curb ramps. There were approximately 20,000 existing curb ramps, 1,600 locations where curb ramps should exist but were missing, for a total of 21,600 locations to be considered for improvement. The 2017 ADA Transition Plan provides details about CDOT's approach to inventorying, categorizing, and upgrading curb ramps.

2. REGULATORY CONSIDERATIONS

The following provides an overview of relevant federal and state regulations and requirements governing the curb ramp program and selection of curb ramp projects.

2.1. Regulations/Resolutions

- [ADA of 1990, Title II, 2008 Amendment Act, 42 USC 12101](#)
- [Rehabilitation Act of 1973, 29 USC 794](#)
- [Nondiscrimination on the Basis of Disability in State and Local Government Services Program Accessibility, Existing Facilities, 28 CFR 35.150 \(d\)](#)
- [Nondiscrimination on the Basis of Disability in Programs or Activities receiving Federal Financial Assistance, 49 CFR 27.75](#)

2.2. Guidelines

Links to these guidelines can be found on the CDOT website: [Civil Rights and Business Resource Center/ADA](#):

- CDOT PD 605.0, Comprehensive Accessibility for Persons with Disabilities
- CDOT Procedural Directive 605.1, ADA Accessibility Requirements in CDOT Transportation Projects
- Chief Engineer's memo regarding the ADA Title II Program
- CDOT's ADA Transition Plan, September 2017
- [Public Rights of Way Accessibility Guidelines](#)

3. ASSET INVENTORY AND CONDITION

In 2013, CDOT conducted a comprehensive curb ramp inventory of existing and absent curb ramps. There were 20,101 curb ramps and 1,537 locations that did not have curb ramps, but needed one. The inventory captured 20 to 40 curb ramp characteristics, including geometrics, slope, width, turning space, and clear space for each ramp. In collaboration with the Colorado Advisory Council for Persons with Disabilities, a tiered system of ramp priority was created. The inventory of ramps is separated into tiers:

- Tier 1: Ramp is required, but not existing or running slope exceeds 12.5 percent;
- Tier 2: Ramp exists but the running slopes are between 9 percent and 12.3 percent. or, running slope between 5 percent and 9 percent and has no turning space (or no turning space data was collected)
- Tier 3: Ramp exists but running slopes are between 8.33 percent and 9 percent and all others

In 2013, the distribution of ramps in Colorado by tier was:

- Tier 1: 14 percent
- Tier 2: 12 percent
- Tier 3: 54 percent

4. PERFORMANCE

4.1. Metrics

The PROWAG has been adopted as CDOT's standard by which accessibility will be measured and was used to develop the CDOT's curb ramp standard drawings M-608-1. Every attempt must be made to adhere to the M-Standards when upgrading ramps. Any modification or deviation must be documented in the Curb Ramp Variance Support Document.

A ramp is identified as “functionally accessible” if it is functioning as a ramp and provides an accessible path for the public; however, it may or may not be 100 percent compliant with PROWAG requirements.

4.2. Targets

It is CDOT’s goal to have 100 percent of curb ramps compliant with technical requirements at the end of the 5-year Curb Ramp Program.

5. FUNDING

5.1. Funding Mechanisms

In 2016, the TC approved a plan to fund curb ramp improvements. The plan consists of \$85 million to be spent over a 5-year period to aggressively improve curb ramp compliance. The funding plan is divided into program management, design services, preconstruction items such as historic clearances, and right-of-way acquisition and construction.

5.2. Region Pool Distributions

Curb ramp funding is distributed to regions based on the proportion of ramps located in each region that are not functionally accessible and will not be addressed by a regular planned project (see table below). Regional funding allocations for the 5-year program were approved by the RTDs and Chief Engineer.

Table 1. Regional Distributions

Region 1	Region 2	Region 3	Region 4	Region 5
39%	16%	14.5%	22.5%	8%

6. INVESTMENT STRATEGIES

Planned capital construction projects must include curb ramp construction to meet ADA compliance standards. Projects that are performed by CDOT maintenance forces, such as chip sealing and crack filling, are assessed on a case-by-case basis to determine if curb ramp construction should be included in the project. The curb ramp funding program addresses curb ramps that are not required to be upgraded as part of a planned project. Funding in the first few years of the program emphasized preconstruction activities such as environmental clearances, right-of-way acquisition, and design.

The goal of the 2017 Transition Plan is that all ramps are functionally accessible, meaning that a ramp is in place and provides an accessible path for the public. Functionally accessible ramps are not the same as ADA compliant, where ADA compliance is more challenging and costly to achieve and is a longer-term aspirational goal. Functional accessibility is a more immediate-term objective. The functionally accessible category was adopted by CDOT as a mechanism to identify high priority improvements.

Each region has developed a Curb Ramp Prioritization Plan to maximize efficiency. The plans detail regional approaches on how they intend to address curb ramp upgrades, including proactively addressing clearances, achievement goals, annual budget expenditures, and Emerging Small Business requirements. Each region has a unique approach to the curb ramp initiative that considers planned projects, geography, local government partnerships, clearance concerns, pedestrian usage, the tier level of ramps, and other regional concerns. The region provides this information to the CDOT PMO. The PMO tracks the information and estimates the timeframe the ramp will need to be replaced.

The average cost of the construction of a curb ramp project, including preconstruction costs such as design, environmental clearance, and right-of way acquisition, is estimated to be \$15,000.

7. LIFECYCLE MANAGEMENT AND PROJECT SELECTION

7.1. Lifecycle Management

Currently, lifecycle management is a consideration in curb ramp project prioritization, but not a formal criterion.

7.2. Treatment Lists

Curb ramp treatments include new construction in a location that did not previously have a curb ramp, improvements to an existing ramp, or an existing ramp that may need to be removed and replaced. Roadway geometry, ramp slopes, ramp width, ramp joints and grade breaks, turning space area, and clear space requirement are considered in a treatment decision.

7.3. Project Selection Process

The regions can select projects that are in their Curb Ramp Prioritization Plan and within their budget.

8. HEADQUARTER AND REGION ROLES

8.1. Headquarter Role

The CRBRC is responsible for ADA compliance and provides program management oversight. CRBRC is also responsible for reporting the progress of the program to FHWA. The Chief Engineer has final approval of the Region Curb Ramp Prioritization Plan. CDOT's Bicycle and Pedestrian Program, in partnership with CRBRC, provides technical support and training regarding PROWAG standards and M-Standards.

8.2. Region Role

Regions maintain a Curb Ramp Prioritization Plan. The regions select projects from the plan and deliver the projects within budget allocations. The plans are approved by the RTD. The region provides information to HQ concerning the accomplishments they have made on the curb ramp plan.

The Region Business Manager is responsible for tracking, monitoring, and reporting on project budget and expenditures.

Each region has an ADA representative who performs the role of Asset Manager and works with the Region Business Manager on funding eligibility criteria to determine when the funding can be used. The ADA representative also participates in the Curb Ramp Program Working Group.

9. REPORTING, MANAGEMENT, AND DOCUMENTATION

9.1. Reporting to Internal and External Stakeholders

- Colorado Disability Council
- FHWA
- Chief Engineer

9.2. Management / Advisory Committees

- CDOT Curb Ramp Program Workgroup
- TC