ACCESSIBLE BOULDER

ADA SELF-EVALUATION AND TRANSITION PLAN

City of Boulder

ADA Self-Evaluation for the Transportation System

Spring 2021

Acknowledgements

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Contributing Departments

Capital Improvements Program (CIP), including the Pavement Management Program (PMP)
Finance: Risk Management Division
Historic Preservation
Planning & Development Services (P&DS)
Public Information Resources (IR)
Transportation and Mobility Department: Capital Projects, Transportation Planning, and Transportation Operations Divisions

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Part 1: Introduction

1.1 Americans with Disabilities Act (ADA)

The American with Disabilities Act (ADA) is a wide-ranging civil rights law for persons with disabilities that prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation.[1]

Legislative Requirements

ADA Title II

ADA Title II provides guidance that cities must follow, and within subtitle A, the guidelines protect qualified individuals with disabilities from discrimination on the basis of disability in services, programs, and activities provided by state and local government entities. Title II extends the prohibition on discrimination established by section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. 794, to all activities of state and local governments regardless of whether these entities receive federal financial assistance.[2] Key Title II requirements include reasonable accommodation for employees with disabilities; program accessibility; effective communication with people who have hearing or vision disabilities; and accessible new construction and alterations. Each agency is responsible for enforcing its own regulations.[3]

Title II ADA Self-Evaluation & Transition Plan Requirements

Title II outlines requirements applicable to public entities with 50 or more employees, in order to ensure that maintaining ADA compliance is a priority, that community member ADA-related complaints are routed appropriately and that where a lack of compliance exists, appropriate timeframes for achieving ADA compliance are outlined. Specific requirements include:

1) Developing a Self-Evaluation to review current services, policies, and practices, both in language and in application, for meeting ADA compliance
2) Providing a process by which interested community members, especially those persons with disabilities, can offer comments and feedback on the Self-Evaluation
3) Developing a grievance procedure so that compliance issues may be addressed in a timely manner
4) Designating an employee responsible with overseeing Title II compliance
5) Developing an ADA Transition Plan if structural changes are necessary for achieving program accessibility

Additional Resources:

https://www.ada.gov/ada_title_II.htm
https://www.ada.gov/regs2010/titleII_2010/titleII_2010_regulations.htm

[1] Source: U.S. Department of Justice
[2] Source: U.S. Department of Justice, Civil Rights Division
[3] Source: U.S. Department of Justice, Civil Rights Division

Recommended Escalation Procedures

1. Complete an Inquire Boulder ticket. These can be found via the Americans with Disabilities Act topic under the People with Disabilities Information section on the City of Boulder website. When submitting a ticket, please be sure to include relevant images, files or a physical notation of the accessibility issue you would like addressed, as relevant. These tickets are then sent to the correct response personnel within the City.
2. If you do not feel your issue was adequately resolved, you can file a formal ADA Grievance Procedure with the City's ADA Coordinator, James Brown via the webpage.
3. At any point, or if the above processes did not provide an adequate issue resolution, you can file a Title II violation with the Department of Justice via the procedures outlined below.

Regulatory Agencies Resources (Department of Justice)

Complaints of Title II violations may be filed with the Department of Justice within 180 days of the date of discrimination. In certain situations, cases may be referred to a mediation program sponsored by the Department. The Department may bring a lawsuit where it has investigated a matter and has been unable to resolve violations.

U.S. Department of Justice
Civil Rights Division
950 Pennsylvania Avenue, N.W.
Disability Rights Section - NYAV
Washington, D.C. 20530

www.ada.gov
(800) 514-0301 (voice)
(800) 514-0383 (TTY)

Title II may also be enforced through private lawsuits in federal court. It is not necessary to file a complaint with the DOJ or any other federal agency, or to receive a "right-to-sue" letter, before going to court.[4]

Undue Burden

Under ADA, the City of Boulder is not required to provide an accommodation that imposes an undue burden on the operation of the city's business. Undue burden means significant difficulty or expense is incurred in the provision of accommodation. Undue burden includes, but is not limited to, financial difficulty. Undue burden refers to any modification that would be unduly costly, extensive, substantial, or disruptive, or that would fundamentally alter the nature of operation of the business of the city.

The following factors shall be considered in determining whether a program modification would create an undue burden: the nature and cost of the modification; the financial resources of the city available to make the modification; the impact the expense of the accommodation will have on the affected city operation; and the permanence of the alterations affecting the site.[5]

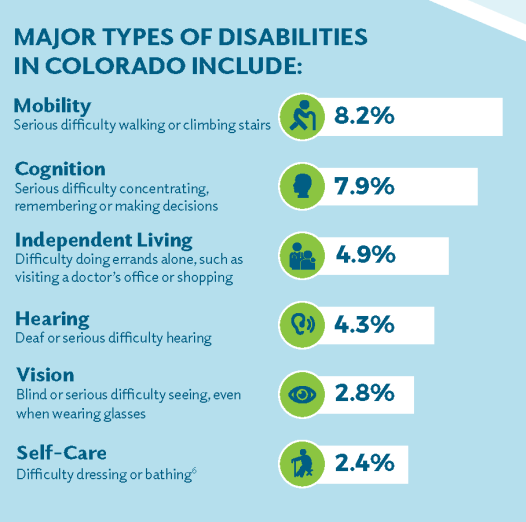
[4] Source: U.S. Department of Justice
[5] Source: City of Commerce, California ADA Self-Evaluation and Transition Plan

1.2 City of Boulder

In Boulder, we believe that mobility for people of all abilities is a fundamental right. We strive to provide a transportation system with a variety of safe, accessible and sustainable travel options that connect people with each other and the places they want to go. This builds a stronger community where everyone feels a sense of belonging.

City Profile

The ADA defines a person with a disability as having "a physical or mental impairment that substantially limits one or more major life activities. Major life activities include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working."[6]



Of the City of Boulder's **107,125** residents, **7,113** (8.3%) have a disability.[7]

About **63%** of those residents with a disability are age sixty-five or older.[8]

In addition, nearly **6%** of employed Americans will experience a short-term disability (under 6 months) each year, caused by illness, pregnancy or injury.[9]

Over **70%** of Americans with travel-limiting disabilities compensate by reducing their daily travel.[10]

The graphic above displays additional data regarding the major disability types in the state of Colorado. For further statistics, refer to the ADA 101 Brochure at bit.ly/ADA101_brochure.

City ADA Plan Efforts to Date

Prior to this current update, the City of Boulder's previous ADA Plan was created in 1991 and contained a short chapter relevant to transportation infrastructure's ADA compliance. The plan is available in print but not online.

The city's 2014 Transportation Master Plan (TMP) and 2019 TMP both called for the update of the city's transportation ADA Self-Evaluation and Transition Plan. The 2019 TMP's vision and goals for transportation are to create "a safe, accessible and sustainable multimodal transportation system connecting people with each other and where they want to go." To achieve this, "our transportation system will be safe, equitable, reliable, provide travel choices, support clean air and our climate commitment." Additionally, a Boulder policy contained within the TMP is to develop a complete,

[6] Source: U.S. Department of Labor
[7] Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates
[8] Source: City of Boulder Human Services Strategy: Mapping Our Future, 2012-2017
[9] Source: Council for Disability Awareness, 2018
[10] Source: Bureau of Transportation Statistics, 2018

equitable and accommodating transportation system to meet the needs of those with mobility impairments, older adults, youth, non-English speakers and low-income persons. A TMP key next step is Action 9.C, which calls for completing and implementing the ADA Self-Evaluation and Transition Plan for the city's transportation system.[11]

In February 2020, the City's Risk Management Office led the release of an RFP to find a consultant to a) review existing city policies for ADA compliance and act as an on-call reviewer for proposed development plans and optionally, b) to conduct an ADA inventory evaluation of street furniture, on-street parking, sidewalks, curb ramps/detectable warning surfaces, pedestrian crossings and accessible pedestrian signals. Unfortunately, due to the budgetary shortfalls resulting from COVID-19, this effort has been delayed until at least 2022.

ADA Coordinator and Grievance Procedure

As noted in the Title II section above, municipalities are required to develop an ADA grievance procedure and establish a staff ADA Coordinator to review community complaints. To further this effort, city staff created a new page on the city website which outlines the city's ADA policies and provides a Complaint Form to file an ADA access grievance with the appropriate city department. The complaint procedure is outlined step-by-step to ensure transparency and accountability.

Additionally, in Fall 2020, staff developed a new Inquire Boulder topic area for "People with Disabilities Info" so that residents can submit ADA-related questions or problems to staff for review. The topic has a spatial location listed as well, so requests can then by pushed into the Beehive asset management system and reassigned as a work order (as needed, say for a damaged curb ramp) to the appropriate work group.

View the webpage here.

City of Boulder ADA Coordinator
James Brown, City of Boulder Risk Manager
Email: RiskManagement@bouldercolorado.gov
Phone: 303-441-3075

City of Boulder ADA Grievance Procedure
Americans with Disabilities Act Notice
ADA Complaint Form
ADA Complaint Procedures and Instructions

1.3 ADA Self-Evaluation for the City's Transportation System

Scope of Evaluation

The focus of the ADA Self-Evaluation for the City of Boulder's transportation system centers on five main facility types which enable the functioning of accessible pedestrian access routes.

[11] City of Boulder 2019 Boulder Transportation Master Plan

These facilities include:

Sidewalks

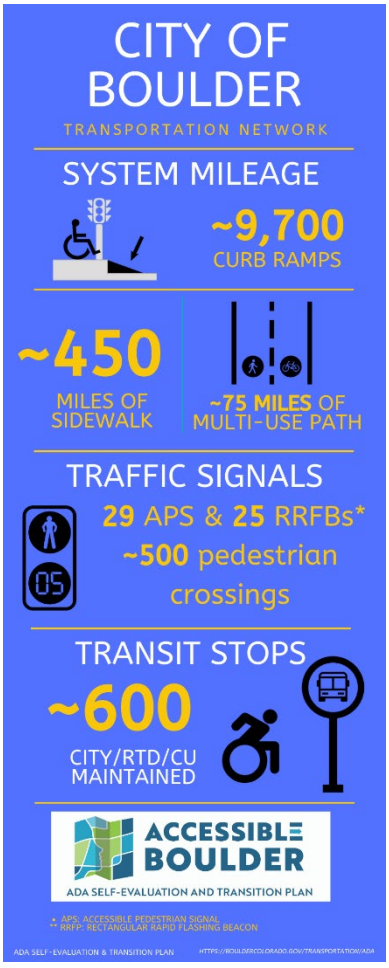
Multi-Use Paths

Curb Ramps

Pedestrian Signals & Crossings

Transit Stops

See the graphic below for a brief summary of the quantity of these facilities present within city limits.



The ADA Self-Evaluation also examines existing city programs, policies, and construction standards/guidelines to understand and promote best practices for accessible design.

The city's transportation division recognizes that to obtain a complete understanding of where there is not ADA compliance within the above facility types, a precise and comprehensive inventory should be conducted. However, given the cost of a comprehensive inventory and current funding constraints, completing a full citywide inventory is not realistic to obtain at this time.

There are achievable steps, however, to populate our database of accessibility related information for transportation infrastructure on a project-level basis. For example, the improved accuracy and storage capability of the city's Beehive asset management system will enable staff to note improvements which bring facilities up to ADA compliance during capital or operations projects.

City staff is collaborating with Public IR to develop a GIS collector app to gather accessibility-related data and is in the process of determining whether a volunteer-run data effort in key neighborhoods, such as those identified in the 2019 suite of city plans (e.g., the Transportation Master Plan, Pedestrian Plan, and Low Stress Walk and Bike Network Plan) may be feasible in the future. These plans offer a wealth of guidance for prioritizing areas in need of improvements and will help inform the development of priorities for upgrading accessible facilities in the ADA Transition Plan. Project staff will begin development of this plan in early 2021.

Guiding Principles

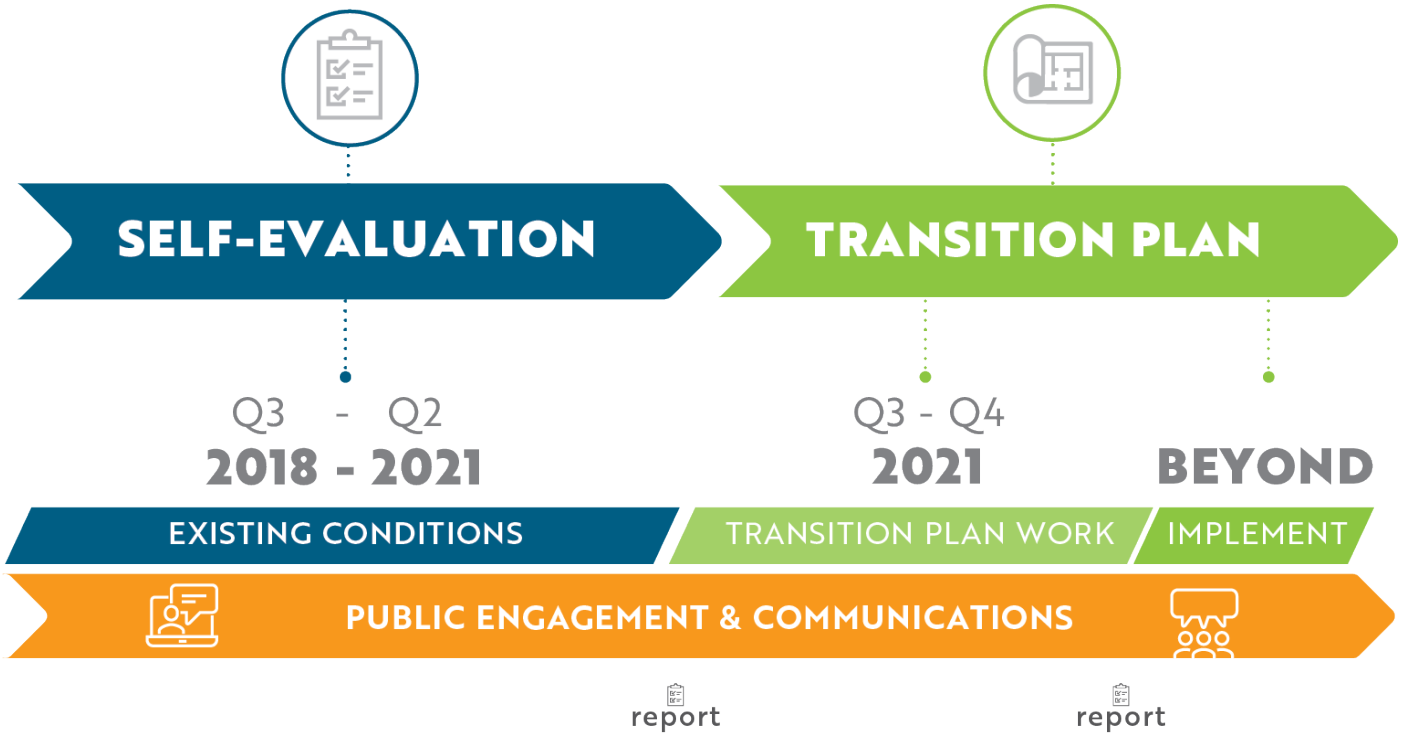
In order to continue fostering an inclusive and accessible city for all Boulder residents and visitors, the city has outlined a few key priorities to frame this Self-Evaluation work and support those workgroups implementing, upgrading and maintaining accessible facilities. These include:

SAFETY: At the heart of the City of Boulder's transportation policies is the Vision Zero Program, which recognizes that even a single traffic death is unacceptable. The 2019 Safe Streets Report identifies both areas of safety concern to address as immediate improvement priorities and programmatic/policy-level adjustments to ensure design standards support the creation of safe and accessible facilities for all. Protection of those most vulnerable road users (including pedestrians, cyclists, children, seniors and people with disabilities) remains a high priority.

ACCESSIBILITY: Providing access for all, whether someone is rolling to dinner on Pearl Street or navigating a historic neighborhood with a walker to see the fall colors, is a foundational priority. Accessibility is a measurable attribute, but it is also an indicator of inclusion and belonging. Honoring that access needs may vary, staff worked with a variety of stakeholder groups throughout the engagement phase to obtain their feedback on access barriers, while also providing an online map where participants could log particular barriers with notes and photos to describe their experience.

INTEGRATION WITH RELATED PLANS: A number of recently adopted city plans offer integrated support for furthering accessibility goals, including the 2019 TMP, Pedestrian Plan and Low-Stress Walk and Bike Network Plan. These plans speak to a citywide goal of creating and maintaining transportation facilities for people of all ages and all abilities.

Timeline



Part 2: Literature Review & Background

2.1 Guiding Policies & Programs Overview

An overview of relevant standards, guidelines and policies at both the federal and state level which inform accessible design guidelines and prioritize construction of accessible facilities within the City of Boulder. *Also see Technical Requirements section above.*

Federal Level

1990 Americans with Disabilities Act (ADA)

The Act was signed into law on July 26, 1990 as a wide-ranging civil rights law that prohibits, under varying circumstances, discrimination based on disability.

2002 ADA Accessibility Guidelines (ADAAG)

General and technical requirements that are applied during the design, construction and alternation of buildings and facilities covered by titles II and III of the ADA, which are required regulations issued by federal agencies, including the Department of Justice and the Department of Transportation.[12]

ADAAG forms the design basis for all city construction projects. In some cases, as with construction of curb ramps, city staff design transportation features to PROWAG (see below) instead, which go above and beyond ADAAG requirements.

View the ADAAG 2002 amended document here: https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/background/adaag

2011 Draft Pedestrian Right-of-Way Access Guidelines (PROWAG)

The U.S. Access Board developed new draft PROWAG to address accessibility for pedestrian access to facility types in greater detail than is covered in ADAAG, including multi-use paths, curb ramps, and pedestrian signals, and other components of public rights-of-way. The Access Board is a federal agency tasked with providing design guidance and developing accessibilty guidelines to ensure people with disabilities receive equal access to the "built environment, transportation, commuications, medical diagnostic equipment, and information technology."

The draft PROWAG would ensure that access for persons with disabilities is provided wherever a pedestrian way is newly built or altered, and that the same degree of convenience, connection, and safety afforded the public generally is available to pedestrians with disabilities. Once these guidelines are adopted by the Department of Justice, they will become enforceable standards under Title II of the ADA. Design standards included in PROWAG which contain stricter guidelines than included in ADAAG would superceed the current guidelines.

If adopted, draft PROWAG would require accessible pedestrian signals and pedestrian pushbuttons to be standardized for new signal installation and would also require these accessible features to be included when the signal controller and software are altered, or the signal head is replaced.

View the full draft guidelines here: https://www.access-board.gov/attachments/article/743/nprm.pdf

[12] Source: United States Access Board

2013 Department of Justice Briefing Memo - ADA Resurfacing Technical Assistance

The graphical representation of the 2013 DOJ memo (to the left) was prompted to clarify when ADA requirements are triggered, separated by maintenance versus alternation activities in pavement management work.

The memo explores differing interpretations and inconsistences in application for when curb ramp construction is triggered in a project's scope of work. General maintenance work does not trigger ADA upgrades. However, when project work in the "alteration" category occurs, then curb ramps should be installed within the scope of project work, to meet ADA standards for the project.[13]

The City's Pavement Management Program begins each paving season with curb and gutter repair work and ADA compliant curb access ramp upgrades, which offers a good example of city practices which adhere to advisement from this DOJ memo.

2009 (with 2011 revisions) Manual on Uniform Traffic Control Devices (MUTCD)

The MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. The MUTCD, which has been administered by the FHWA since 1971, is a compilation of national standards for all traffic control devices, including road markings, highway signs, and traffic signals. It is updated periodically to accommodate the nation's changing transportation needs and address new safety technologies, traffic control tools, and traffic management techniques. Additionally, ADA standards point to MUTCD for guidance on providing alternative, accessible routes during construction. There is also an allowance for a temporary lack of access due to short-term maintenance needs, such as an emergency street feature repair. Use of the MUTCD is mandatory on all public highways, roads and streets in Colorado.

The MUTCD also provides standards to follow when installing pedestrian pushbuttons, which must be both usable and accessible. "Usable" signals must meet surface slope, reach range and operable parts requirements. "Accessible" signals must include additional features beneficial to sight-impaired pedestrians, detailed in the Definitions chapter. Standards for accessible pedestrian signals (APS) are included within the MUTCD standards but these are not outright required. In terms of APS guidance, the MUTCD indicates that pushbuttons should be located "as close as possible to the crosswalk line furthest from the center of the intersection and as close as possible to the curb ramp."

[13] Source: U.S. Department of Justice and U.S. Department of Transportation, Joint Technical Assistance on Title II of the Americans with Disabilities Act Requirements to Provide Curb Ramps When Streets, Roads, or Highways Are Altered through Resurfacing

State Level

2018 Colorado Department of Transportation (CDOT) Standards

CDOT's Roadway Design Guide addresses several key design standards and safety recommendations, including accessible pedestrian design guidance (based on PROWAG) and safety within traffic engineering. In May 2019, CDOT developed a new curb ramp standard that is more applicable to common conditions and accounts for tolerance in design. In 2020, the City of Boulder updated the city's Design and Construction Standards (DCS) to adopt CDOT's new curb standards. Current practice holds that if the City is performing roadway work next to a CDOT curb ramp, staff will update the curb ramp features to meet ADA compliance, as necessary.

The city recognizes the latest CDOT Standard Drawings (currently 2019), except when city standards are more stringent, staff designs to the more robust of the two given design constraints.

- M-608-1 for sidewalk ramps (2019 CDOT Curb Ramp standards)
- M-609-1 for driveway ramps associated with attached sidewalks (2012 CDOT curb, gutters and sidewalk standards) with ROW Inspector approval required prior to installation

2.2 Other Municipalities

To support the development of this Self-Evaluation, city staff conducted best practice research on ADA Plan processes. Interviews with those who administered ADA Plan efforts in Eugene, OR and Adams County, CO highlighted public engagement best practices (such as outreach at community festivals), options for conducting an ADA compliance inventory (spearheaded by interns with consultant quality checks or completed by seasonal maintenance staff using a GIS-based app, for example) and strategies for noting where design exceptions apply (attaching a design engineer's variance).[14] [15]

The City of Seattle offered smart data management recommendations, including using GIS data to map planned curb ramp construction or reconstruction updates and subsequently updating asset quality maps frequently to note completed improvements. From a mapping perspective, Seattle also discovered innovative ways to chart accessible routes based on sidewalk quality ratings logged during their ADA data inventory process. Such displays provide useful examples for the city to consider as we continue to update our best practices for access management and mapping.[16]

2.3 External Partners

Due to the nature of travel and utilization of various travel modes, accessibility does not exist within a single municipality's bubble. In development of the city's ADA Self-Evaluation for the transportation system, it is crucial to understand ongoing efforts of entities which City of Boulder residents with disabilities may interact with frequently to meet their mobility needs.

Boulder County

Boulder County released an RFP for development of an ADA Self-Evaluation & Transition Plan for Boulder County facilities, communications (including a website assessment), trailheads, exterior facilities and programs in August 2019, to include project management, physical barrier surveys/reports, inventory database/mapping, county staff training and on-call ADA support as needed. The County

[14] Jess Hastings, PE, 2018 Phone interview with Melanie Sloan
[15] Jennifer Willer, Transportation Planner, 2018 Phone interview with Melanie Sloan
[16] Michael Shaw, ADA Coordinator and Emily Burns, Asset Management Advisor, 2019 Phone interview with Jenny Godwin

chose Meeting the Challenge, based out of Colorado Springs, as their consultant. Their ADA Plan effort continues to move forward in 2020 and will conclude in 2021 with a completed Transition Plan to prioritize the County's ADA projects moving forward.

Regional Transportation District (RTD)

The Regional Transportation District (RTD) owns and operates a majority of Boulder's Community Transit Network (CTN). The City of Boulder collaborates with RTD, Via Mobility Services, and the University of Colorado Boulder to plan and fund Boulder's local bus service. RTD also operates the Access-a-Ride bus service, offered to persons with disabilities who cannot access the existing bus and rail systems.

Ensuring the accessibility of bus stops within the City will involve a partnership with RTD to inventory and assess current conditions at stops. *See the Major Gaps & Challenges section for further details and improvement recommendations.* Staff spoke with RTD in early 2020 to discuss accessibility policies and practices related to transit stops. Of the 619 bus stops within city limits, ownership of amenities and responsibility for maintenance go hand in hand. 481 bus stops are under the city's ownership and maintenance purview, 125 are under RTD's and 24 are under the University of Colorado Boulder's (CU) (see the Infrastructure & Data section for an ownership map).

Initial takeaways from the discussion with RTD's ADA Manager include:

> **RTD & ADA COMPLIANCE:** There are over 10,000 stops in RTD's system. RTD does not technically own any stops, as the right-of-way where stops are located is owned by the municipality. RTD may own shelters or other features. According to federal regulations, transportation entities are not required to conduct an ADA Self-Evaluation, and there are no immediate plans for RTD to complete one.
>
> **COMPLIANT DESIGN:** The best RTD representatives for the City to utilize when including RTD on a project team is a member of the Capital Program Department. When a stop is relocated or improved it triggers ADA upgrades, as needed. RTD attempts to partner with municipalities where possible to install bus pads/stops, but the agency typically does not install sidewalk. Any contractor completing work at RTD stops should be utilizing the ADA bus stop form to ensure ADA compliance is met.
>
> **SNOW MAINTENANCE:** The property owner adjacent to the stop is responsible for clearing the sidewalk. For the 2020/2021 snow season, the city has a contract to plow 39 high-use bus stops twice a day, or to the extent that human and financial resources permit. RTD and the University of Colorado Boulder plow other high ridership stops. Snow removal is performed at the remaining RTD transit stops on a limited basis by city staff or contractors, typically by request.
>
> **NOTIFICATION OF CONCERNS:** In general, RTD staff will directly notify City staff if they receive ADA compliance complaints specific to transit stops owned and maintained by the city. RTD staff is also involved in the review of design and engineering plans for new bus stops and bus stop improvements being constructed by the city, providing an additional perspective related to ADA access for passengers.

Via Mobility Services

Via Mobility Services operates the HOP route which circulates through the city and also offers point-to-

point pick-up and drop-off services for residents with mobility impairments. The HOP buses and service are ADA-compliant. HOP buses each have a ramp to accommodate passengers who use wheelchairs, and all the buses can "kneel," meaning they can be lowered to curb height for easier boarding. The driver asks those using a wheelchair if they want to be secured or not. If yes, the driver secures the chair with specialized straps that hook to the floor of the bus. An electronic annunciator broadcasts each stop through a speaker to help those with vision impairments and an interior electronic sign shows the next stop for those who have a hearing impairment.

HOP drivers receive training on using the ramp and securement equipment with refresher training every year. Drivers also receive training on the appropriate treatment of those who have disabilities. HOP drivers also perform pre- and post-trip inspections of their vehicles to make sure all of the equipment, including ADA equipment, is in working order.

Via also provides Access-a-Ride service that is ADA-compliant, door-to-door transportation in vehicles with wheelchair lifts for Boulder residents who have disabilities. That service complements the fixed-route, public bus services in the city for those who cannot easily use the public transit system. Via drivers assist passengers with boarding and off-boarding and will provide door-through-door service upon request.[17]

Part 3: Boulder Existing Conditions

3.1 Guiding Policies & Programs Overview

An overview of the relevant local standards, guidelines, policies and programs which influence accessible design and construction of accessible facilities within the City of Boulder. Many of these are living documents, evolving to match local and regional recommendations.

Design Standards

The city's design standards outlined below provide guidance for the construction of transportation infrastructure. These reference documents ensure that meeting ADA compliance in design is a project priority alongside other city goals.

2019 City of Boulder Design and Construction Standards (DCS)

All civil engineering design completed within the city limits (including new or rebuilt sidewalks, curb ramps and multi-use paths) must conform to the DCS.

The goal of these standards is to protect public health, safety and welfare in both the construction and maintenance of public improvement projects within the city. The comprehensive nature of these standards applies to the provision of necessary right-of-way, transportation and utility services.

The sections of the DCS quoted below are most relevant to ADA requirements, including those related to sidewalk and multi-use path design, as well as the acccessibility of construction detours.

[17] Lisa Curtis, 2020 Email Interview with Jenny Godwin

Chapter 2: Transportation Design

2.08 Sidewalks

(A) Required

Sidewalks are required on both sides of all new streets, except for residential streets that were approved without required sidewalks pursuant to Chapter 9-12, "Subdivision," B.R.C. 1981, and Section 2.09, "Residential Streets."

(B) Conformance with the Transportation Master Plan

Off-street sidewalks may be required as part of any project or development proposal in conformance with the TMP.

(C) Compliance with Americans with Disabilities Act (ADA)

All public sidewalks shall comply with the requirements of the ADA's "Standards for Design," (see 2010 DOJ standards) which includes without limitation sidewalk widths, grades, locations, markings, surface treatments, and access ramps.

Additionally, Chapter 8 of the DCS outlines proposed measures to address impacts to pedestrians and other non-automobile, wheeled users, intended to minimize the adverse effects of sidewalk and multi-use path temporary closures. In general, detour routes are recommended to offer a reasonable accommodation via a comparable facility in type and width to that closed for construction.

Chapter 8: Temporary Traffic Control Plan

(6) **Sidewalks**: The following special considerations shall be given to proposed closures of sidewalks:

a. Adjacent to streets not classified as "Local" in the Transportation Master Plan;
b. Located in the Central Area General Improvement District (CAGID) or University Hill General Improvement District (UHGID) boundary areas;
c. Impacted for more than seven days;
d. Where no other sidewalk exists adjacent to the roadway;
e. Serving a school zone or transit stop, or
f. Requiring pedestrians to detour to a facility on a separate parallel roadway. Such proposed closures must demonstrate that impacts cannot be avoided through alternative construction methods, that the duration and extent of impacts has been minimized, and that an adequate detour has been provided.

(8) **Multi-Use Paths**: Special consideration shall be given to proposed closures of sidewalk facilities which have been designated as multi-use paths. Such proposals shall demonstrate that impacts cannot be avoided through alternative construction methods, that the facility cannot be reasonably relocated through reassignment of vehicle lanes or other existing facilities, that the duration and extent of impacts has been minimized, and that an adequate detour has been provided. Detours routes must be of similar width and surface type to the permanent facility.

2.13 Transit Stop Facilities

New transit stops and enhancements to existing transit stops shall be designed in accordance with RTD's "Bus Infrastructure Standard Drawings" and with consideration of NACTO's "Transit Street Design Guide."

Chapter 11: Technical Drawings
CDOT & RTD Standard Drawings

The DCS contains three RTD standard drawings that staff refer to during design, which include:

- SD-A100A: Architectural Pedestrian Shelter Plans
- SD-C120: Civil Bus Stop Layout
- SD-C123: Civil Bus Pad

DCS Updates

In 2019, Phase I updates were made to the DCS to develop transportation standards that align with industry best practices, increase travel safety and implement approved TMP policies. Staff has heard feedback from community members and stakeholders and has considered and incorporated their feedback into the proposed changes.

Phase II of the update will speak to high-level TMP goals and begin in 2021. 2021 updates will focus on sight trianges, street geometric design, landscape maintenance and tech drawings. Accessibility focused updates are flagged to be addressed in future years work, as budget and staffing allows.

Desired future DCS updates include:

- 2.03 traffic study
- BRC Title 8: sidewalk liability
- 8.02 traffic signal standards
- 8.04 work zone traffic control
- 2.08 sidewalk, including width standards (from 4 feet to 5 feet minimum and 5 feet to 6 feet preferred design width)

2020 City Muncipal Code (Boulder Revised Code: BRC)

The BRC acts as a charter for the City as a municipal government. Available both online and in written form, the BRC includes adopted ordinances not yet codified as well. Of most relevance to this ADA Plan's scope is TITLE 8 – PARKS, OPEN SPACES, STREETS, AND PUBLIC WAYS.

BRC Standards for Sidewalk Reconstruction/Replacement

(b) Any existing sidewalks, or portions thereof, shall be reconstructed or replaced:

(1) Where any vertical displacement exceeds three-quarters of an inch;
(2) Where any lateral displacement of adjoining sidewalk exceeds one inch;
(3) Where the surface condition of the sidewalk has deteriorated, cracked, settled, or chipped, so as to create or constitute a hazard or unsafe condition to the public;
(4) Where the transverse slope of the sidewalk exceeds one inch per foot or in which the combination of transverse or longitudinal grade is insufficient for adequate drainage;
(5) Where the sidewalk is less than four feet wide in any residential zoning district in the city and less than six feet wide in any business or industrial zoning district in the city, if

the sidewalk or any portion thereof constitutes a hazard to pedestrian safety; or
(6) Where there is not at least a five-foot transition in the direction of the sidewalk on any sidewalk adjacent to a driveway.

Historic Preservation Guidelines

2007 City of Boulder General Design Guidelines for Boulder's Historic Districts and Individual Landmarks

2.5 Sidewalks
Original historic walkway materials offer an important character element and should be retained and preserved. Flagstone should be replaced with flagstone and concrete with concrete, unless a block is predominantly paved with flagstone, then flagstone can be substituted for removed concrete. New walkways should be "compatible in location, pattern, spacing, dimensions, materials and color with existing walkways that contribute to the overall historic character of the area." New sidewalks are required to meet ADA guidelines.

8.8 Americans with Disabilities Act
Places of public accommodation are required to provide access to their services and programs under provisions of the Americans with Disabilities Act. In the case of historic buildings, some provision for using alternative measures exists if the property is historically or architecturally significant enough to merit such treatment. When changes to a building or site are necessary, careful consideration must be given to how the changes can be incorporated without compromising the integrity of the historic building, its character defining features, or its site.[18]

2013 A Plan for the City of Boulder's Historic Preservation Program
The city's Historic Preservation program intersects with many other city departments, reflecting the institutional value of historic preservation in Boulder. This arrangement also illustrates the complex relationship of historic preservation with other city goals, such as housing, economic vitality, transportation, and environmental sustainability. In addition, the Community Planning and Sustainability Department and Historic Preservation program collaborates with the Development Review, Land Use, and the Local Environmental Action divisions. For example, alteration permits/certificates pertaining to disability access are evaluated on a case-by-case basis to provide maximum accessibility with minimum impact to historic structures. Pavement Management Program staff follow a best practice of obtaining alteration certificates when planning to perform work in historic districts.

The City of Boulder is committed to providing universal access to people with disabilities through the building code. To this end, the Historic Preservation program should continue to explore innovative ways to make sure that all designated historic properties meet the Americans with Disabilities Act and provide a high level of life safety without compromising important historic character defining features. The Plan identifies the need for collaboration across departments to achieve the City's commitment to universal access to historic properties (in relation to this Plan's scope, most typically tied to curb ramp and sidewalk upgrades).[19]

[18] Source: City of Boulder, Landmarks Preservation Advisory Board
[19] Source: City of Boulder, Community Planning & Sustainability Department

Long Range Planning

2019 Transportation Master Plan (TMP)

The 2019 TMP's vision and goals for transportation are to create "a safe, accessible and sustainable multimodal transportation system connecting people with each other and where they want to go." To achieve this, "…our transportation system will be safe, equitable, reliable, provide travel choices, support clean air and our climate commitment." Additionally, a Boulder policy contained within the TMP is to develop a complete, equitable and accommodating transportation system to meet the needs of those with mobility impairments, older adults, youth, non-English speakers and low-income persons. A TMP key next step is Action 9.C, which calls for completing and implementing the ADA Self-Evaluation and Transition Plan for the city's transportation system.

2019 Pedestrian Plan

The 2019 Boulder Pedestrian Plan's vision and goals include creating a walkable, accessible, barrier-free pedestrian system for everyone. One component of this effort is enhancement of snow removal practices, which will enhance access to transit and more generally, improve accessibility outcomes for those using mobility devices. The Plan recognizes that not all pedestrian facilities are accessible currently, and this can pose challenges and safety concerns for those using mobility devices. Immediate priorities outlined within the plan include completion of the ADA Self-Evaluation and Transition Plan.

2019 Low-Stress Walk and Bike Network Plan

In conjunction with the Pedestrian Plan, the Low-Stress Walk and Bike Network Plan aims to foster a network of low-stress facilities to increase walking safety, comfort and accessibility for those of all ages and abilities. Future study of the plan's vision for Neighborhood GreenStreets and Pedestrian Improvements Areas (PIAs) could lead to enhanced integration with the ADA Self-Evaluation & Transition Plan's outlined needs, such as sidewalk and curb ramp installation and upgrades. Data collected from the ADA Plan's efforts will feed in to cost estimates for PIA upgrades.

Traffic Operations & Safety Guidelines

2011 Pedestrian Crossing Treatment Installation Guidelines (PCTIG)

There are a variety of pedestrian crossing treatments present in the City of Boulder, all in keeping with ADA standards. The most basic crossing type is a signed/marked crosswalk, with additional features added depending on physical conditions and pedestrian and vehicle volumes, and vehicular speeds. These additional features include "STATE LAW – YIELD TO PEDESTRIANS" signs, Rectangular Rapid Flash Beacons (RRFBs), High-Intensity Activated Crosswalk (HAWK) beacons, and curb extensions with median refuge islands for pedestrians.

ADA standards for crossings include:

- The requirement that crosswalk surfaces be firm, stable and slip resistant, with no large gaps present and be built to at least 48 inches in width.
- Refuge islands must be at least 5 feet wide and contain detectable warning surfaces.
- Additionally, the ADA standard requirements for pedestrian refuge islands dictate the addition of accessible provisions, as opposed to medians (which lack pedestrian waiting areas) and therefore are not held to the same accessible standard.

The PCTIG uses minimum pedestrian volume thresholds to determine the appropriate crossing treatment type. The presence of young, elderly, and disabled pedestrians receives greater weight. The "Pedestrian Crossing Treatment Installation Guidelines" state a goal for all crosswalks to comply with the ADA to maximize user mobility. And "…where a new crosswalk is installed in a curbed roadway, curb ramps will include a detectable warning surface." Additionally, the guide recognizes that installing raised pedestrian crossings at right-turn bypass islands helps improve access and visibility for pedestrians and other users. Also, to note, the installation of crossing treatments triggers the addition of pedestrian curb ramps where not currently existing or upgrading of non-compliant ramps, as applicable. The city's current practice is to re-evaluate, upgrade or retrofit crossings when the engineer provides this direction, triggered by a specific request or a safety evaluation (such as one due to a crash trend).

2020 Update: Though staff intended to update the PCTIG guidelines in 2020, due to reduced financial and staff resources resulting from the COVID-19 pandemic, this effort has been put on hold. Staff will revisit the need for an update when funds become available (timeframe unknown).

2018 Traffic Signal Practices Manual Working Draft

The City's current traffic signal practices guidance was updated in 2018 to document current practice and assure alignment with Vision Zero safety goals. To date, the operational, phasing, and safety mitigation portions of the draft are complete. Upcoming additions (projected to be made in 2022 and beyond, given reduced financial and staff resources) will address construction standards and signal timing optimization practices (cycle length and progression) with the goal of providing step by step notation on when traffic signals are built and upgraded, and information on how signal are to be maintained.

According to the City's 2018 "Traffic Signal Practices Manual Working Draft," Accessible Pedestrian Signals (APS) are currently installed on a case-by-case basis, based on demonstrated need with consideration for noise impacts and the cost of installation. The City considers the installation of APS at locations where known support facilities for visually impaired citizens are nearby, or when requested by residents for a route currently used by visually impaired residents. There are currently over a dozen traffic signals within the city with APS functionality (see Infrastructure & Data section for a map showing APS locations). *View more details on APS features in the Appendix.*

2019 Vision Zero: Safe Streets Report

The 2019 Safe Street Report reviewed crash data from 2015 through 2017 to compile findings and actionable steps to eliminate serious and fatal crashes occurring in the city. Guidelines to ensure appropriate treatments were applied, as well as continued support of pedestrian head-starts (leading pedestrian intervals or LPI). View the Infrastructure & Data section for a map of where accessibility-focused pedestrian treatments are located, including LPI's, APS and Rapid Rectangular Flashing Beacons (RRFB).

3.2 Programs to Construct/Upgrade Accessible Facilities

As accessibility-related design guidance evolves (including ADA standards and PROWAG), so too does the upgrading of transportation facilities. Upgrades to features such as curb ramps are triggered when certain types of project work are planned on adjacent roadways (see 2013 Department of Justice Briefing Memo, also described on page 6).

Pavement Management Program (PMP)

The City of Boulder's budget priorities for transportation funding further the safety and preservation of the transportation system, including maintaining all streets in a good and safe condition. The Transportation Division has established a Pavement Management Program (PMP) which includes inspecting and rating all streets on a three-year interval to provide a snapshot of existing conditions and guide where pavement repairs will be made in future years.

Pavement management typically begins with curb and gutter repair work and ADA compliant curb access ramp upgrades. Typically, this work occurs in the spring when warm temperatures support concrete repairs.

Annual Sidewalk Repair Program (ASRP)

The City of Boulder targets a specific area each year ("Sidewalk Repair Zones") in Boulder (with multiple years required for larger repair areas) to repair damaged sidewalks and install curb access ramps at intersections. All repairs are made in accordance with the Boulder Revised Code (BRC).

The City of Boulder repairs sidewalks when:

- Any vertical displacement exceeds 3/4 inch;
- There is a crack more than one inch wide;
- The surface has deteriorated, cracked or settled;
- The sidewalk does not allow adequate drainage; or
- The sidewalk is a safety hazard.

Additionally, the city repairs sidewalks where a tripping hazard exists due to the presence of city street trees. The City of Boulder shares the cost of sidewalk repairs with property owners (as specified in the BRC). Single-family residential property owners within the sidewalk repair area are not assessed more than $450 per property, no matter the total cost of the work. There is no charge for repairs, upgrades or installation of curb access ramps. The ADA requires the city to provide curb access ramps at intersections. The City installs ramps, where missing, and upgrades existing ramps to meet current standards.

The Annual Sidewalk Repair Program divided the city into 32 repair zones. *To note: There are three University of Colorado properties within the city (University of Colorado: Boulder main campus, East Campus Research Park and Williams Village) which were excluded from the zone boundaries since the city does not maintain sidewalks at these properties.* Each of the 32 zones were assigned a score and ranked in 2010 according to 13 prioritization factors:

- Damaged Sidewalk
- Enhanced Pedestrian Crossings
- Pedestrian Volumes at Crosswalks

- Trip Incident Complaints
- Land Use Characteristics
- Schools
- Medical, Special Services, and Senior Facilities
- Parks and Recreational Facilities
- Transit System
- Transit Ridership
- Multimodal Corridors
- Percent of Households with No Access to a Vehicle
- Percent of Population with a Disability

Prior to full adoption of the ASRP's repair zone system, the city only upgraded existing ramps if they showed 50% or more damage, for the sake of maximizing the available funding to meet the greatest need. Most existing, non-compliant ramps were not upgraded. After Priority Zone #1 was completed, the City practice changed to begin upgrading all non-compliant ramps within targeted priority zones, regardless of the percentage of damage.

As of Fall 2020, two zones have been completed (Zone 1: Downtown Boulder and Zone 2: University Hill) and one zone is partially complete (Zone 3: Broadway east to 28th & Balsam/Edgewood/Valmont south to Pine/Spruce/Walnut/Pearl). View the Infrastructure & Data section to see the Annual Sidewalk Repair Program citywide prioritization map, plus list of completed curb ramps.

Miscellaneous Sidewalk Repair Program

The Miscellaneous Sidewalk Repair Program was developed to target sidewalks repairs that pose accessibility concerns, or which impact the safety of the traveling public, outside of the year's Annual Sidewalk Repair Program zone work. The repairs are usually identified by community members through Inquire Boulder (the city's online customer service portal) and typically include cost-sharing with adjacent property owners. However, homeowners are not always willing to contribute to the repair and thought the Boulder Revised Code does allow for the city to complete the work and then charge the associated property owner, this is rarely carried out.

- Property owners pay for half of the repair costs for sidewalks adjacent to their property.
- Flagstone sidewalk repairs typically come at a higher cost, with property owners still responsible for paying half of the repair costs.
- If a property owner chooses to have repairs done by their own city-licensed contractor, the city can reimburse property owners for up to 50 percent of the cost of having the city's contractor make the repairs.
- The $450 maximum charge for single-family homeowners does not apply to the Miscellaneous Sidewalk Repair Program.

Missing Sidewalk Links Program

The Missing Sidewalk Links Program identifies, prioritizes, and constructs missing sidewalk segments to provide a continuous pedestrian network and ensure a safe walking environment. Construction of missing sidewalk links supports the Pedestrian Plan and Transportation Master Plan by eliminating breaks and discontinuities in the sidewalk system and ensuring adequate connections to transit.

Projects are identified by community members and then added to prioritized lists of "small" or "large" missing sidewalk links. Small projects cost less than $75,000 and are completed using funds from the

city's Pedestrian Facilities budget. Large missing sidewalk link projects cost more than $75,000 and are prioritized and assessed for inclusion in the annual budget process. Prior to beginning a missing sidewalk link project, the City of Boulder will inform adjacent property owners, residents, and interested parties about the upcoming work.

The Transportation Division prioritizes construction of small and large missing sidewalk link projects based on several factors, including existing utility and roadway conditions. There are currently 30 prioritized large missing link projects, 44 prioritized small missing link projects and three missing link projects funded for construction in the near future.

Missing Links data was imported to the city's GIS asset management system in December 2019. Identified gaps in the sidewalk network are labeled as either "Missing Link from Imagery," (as identified by City GIS staff) "DRCOG Missing Link," (as identified by the Denver Regional Council of Governments) or listed as either small or large links from the City's Missing Sidewalk Links Program. View the Infrastructure & Data section to see a map of identified missing sidewalk links within the city.

Multi-Use Path Design & Maintenance Program

When city staff designs multi-use paths, the AASHTO Guide for the Development of Bicycle Facilities (Design of Shared Use Paths), the City of Boulder DCS and BRC are all referenced to ensure accessibility guidelines such as standards for path width and cross-slope are met.

It is the city's goal to design multi-use paths to meet draft PROWAG; however, inconsistences in design have been identified. If the city's intention is to meet PROWAG in design, referencing the "Comparison of Proposed Technical Provisions Applicable to Shared Use Paths and AASHTO Guide" online would be a useful first step.[20]

Additionally, curb ramps accessing multi-use paths follow the DCS, which references CDOT's standards for ramps. ADA standards require curb ramps to span the full width of shared use paths.

The majority of Boulder's extensive multi-use path system (74 miles) is maintained by City Transportation Maintenance or the adjacent property owner. The exceptions to this are the Boulder Creek Path, which is maintained by Parks and Recreation and the segment of the Broadway multi-use path between Regent and University, which the University of Colorado Boulder maintains.

Upgrades or reconstruction of multi-use paths occur as part of a separately funded capital improvement project, or through the annual multi-use path maintenance program. Multi-use path maintenance needs, as identified by staff or community request, are logged and managed by the city transportation project manager. Identified projects are evaluated annually to develop the next two-year list of prioritized projects. Priority is based on available budget, scope, location, and presence of any safety concerns.

3.3 Infrastructure Data

The City's asset management system contains data on the five transportation infrastructure types outlined in the scope of this ADA Self-Evaluation, however, not all data contains ADA compliance information. A newly developed enhanced data framework, created by the city's Public IR Department

[20] Source: U.S. Access Board, Comparison of Proposed Technical Provisions Applicable to Shared Use Paths and AASHTO Guide

and facilitated through Beehive will ensure the desired ADA compliance data is capture in the future, whether through individual project work and upgrades or longer-term, through a full system inventory.

Existing data will help frame accessibility upgrades prioritized in the ADA Transition Plan. Below are a handful of maps displaying the most pertinent accessibility data currently available.

Figure 1: City of Boulder Accessible Pedestrian Signal Locations

Figure 2: City of Boulder Missing Sidewalk Links

Figure 3: Transit Stop Ownership

Figure 4: Transit Stop Snow Maintenance Responsibility

Figure 5: Annual Sidewalk Repair Program Prioritization

Figure 6: Curb Ramps Updated/Installed to Meet ADA

Figure 1: City of Boulder Accessible Pedestrian Signal Locations

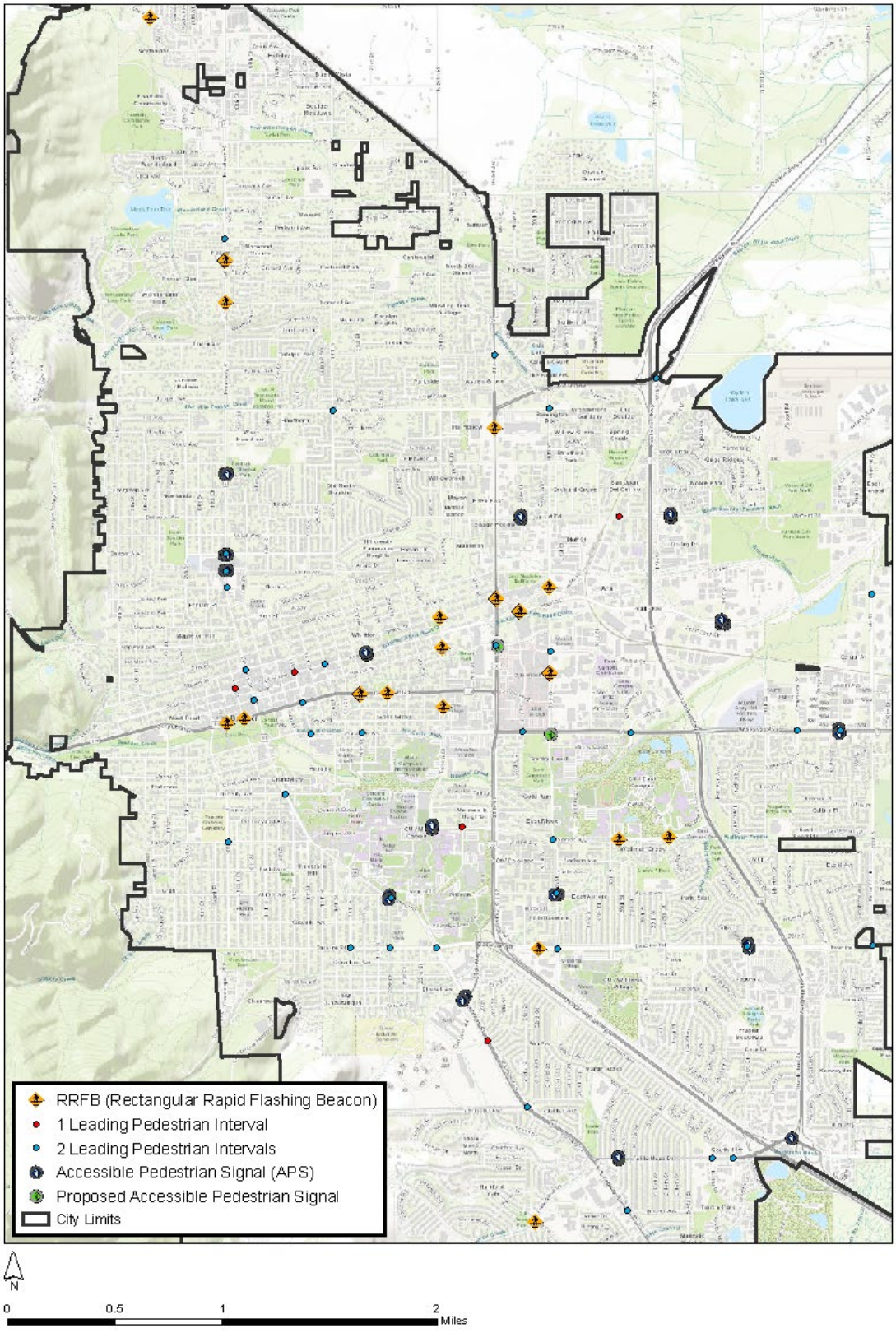


Figure 2: City of Boulder Missing Sidewalk Links

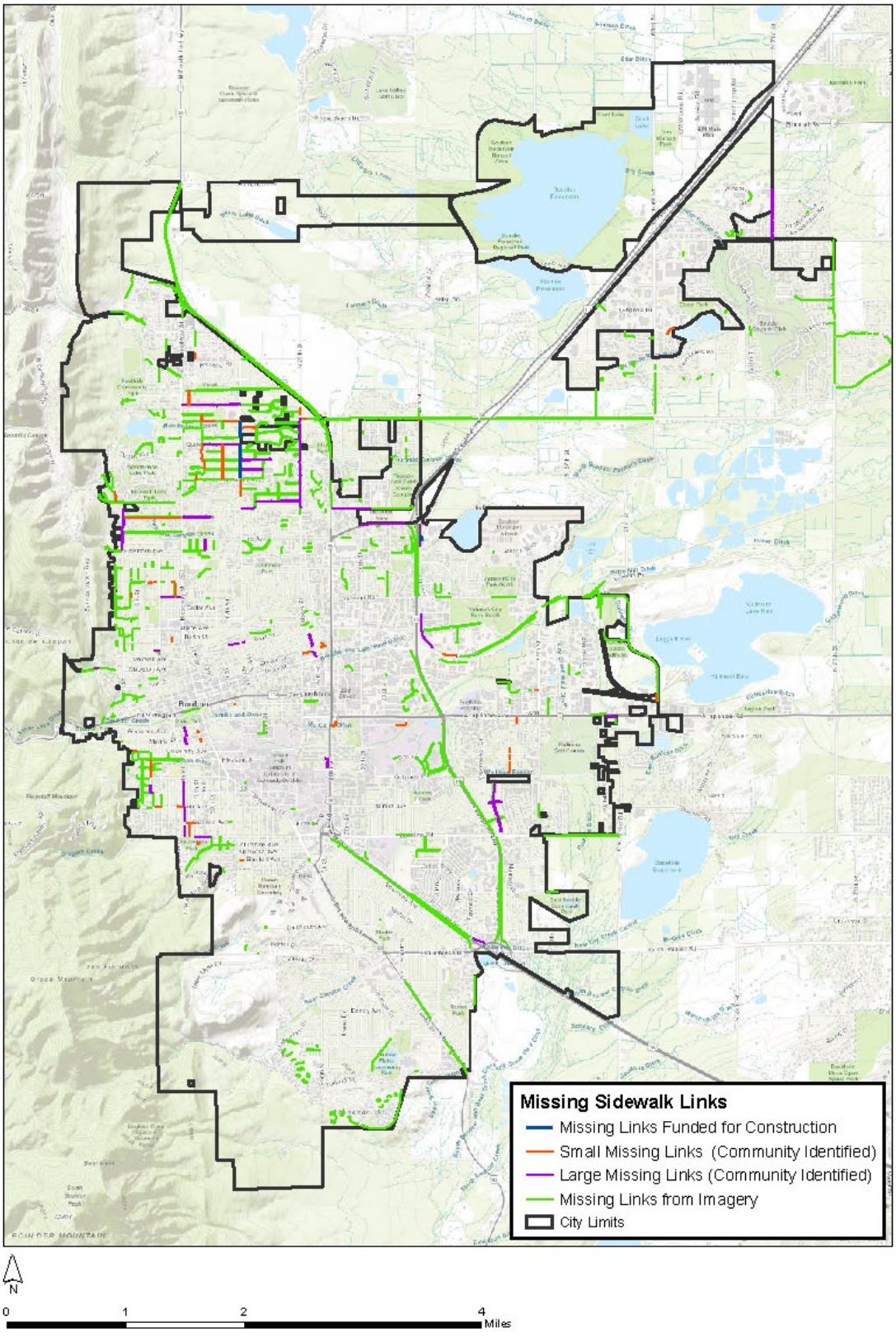


Figure 3: Transit Stop Ownership

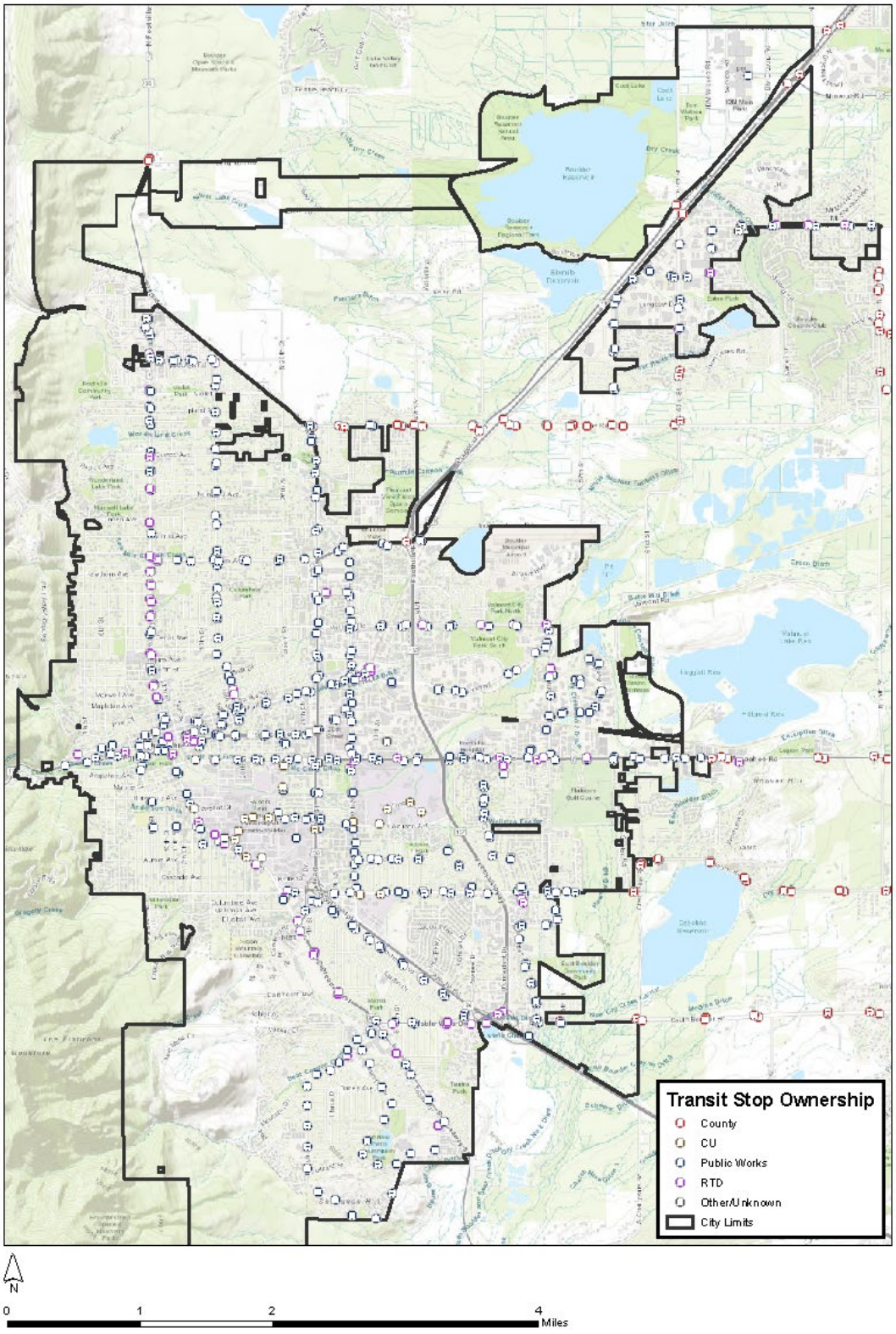


Figure 4: Transit Stop Snow Maintenance Responsibility

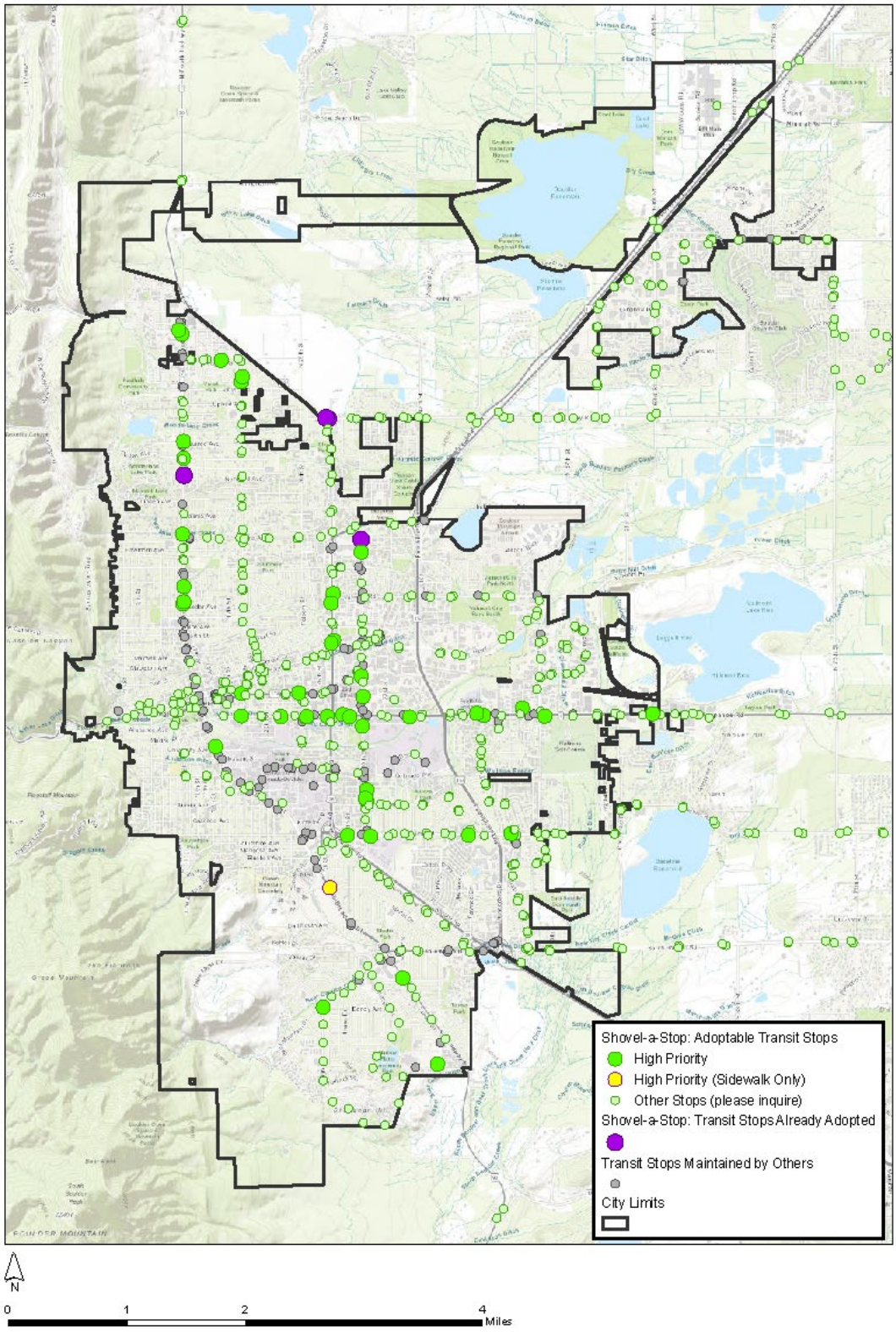


Figure 5: Annual Sidewalk Repair Program Prioritization

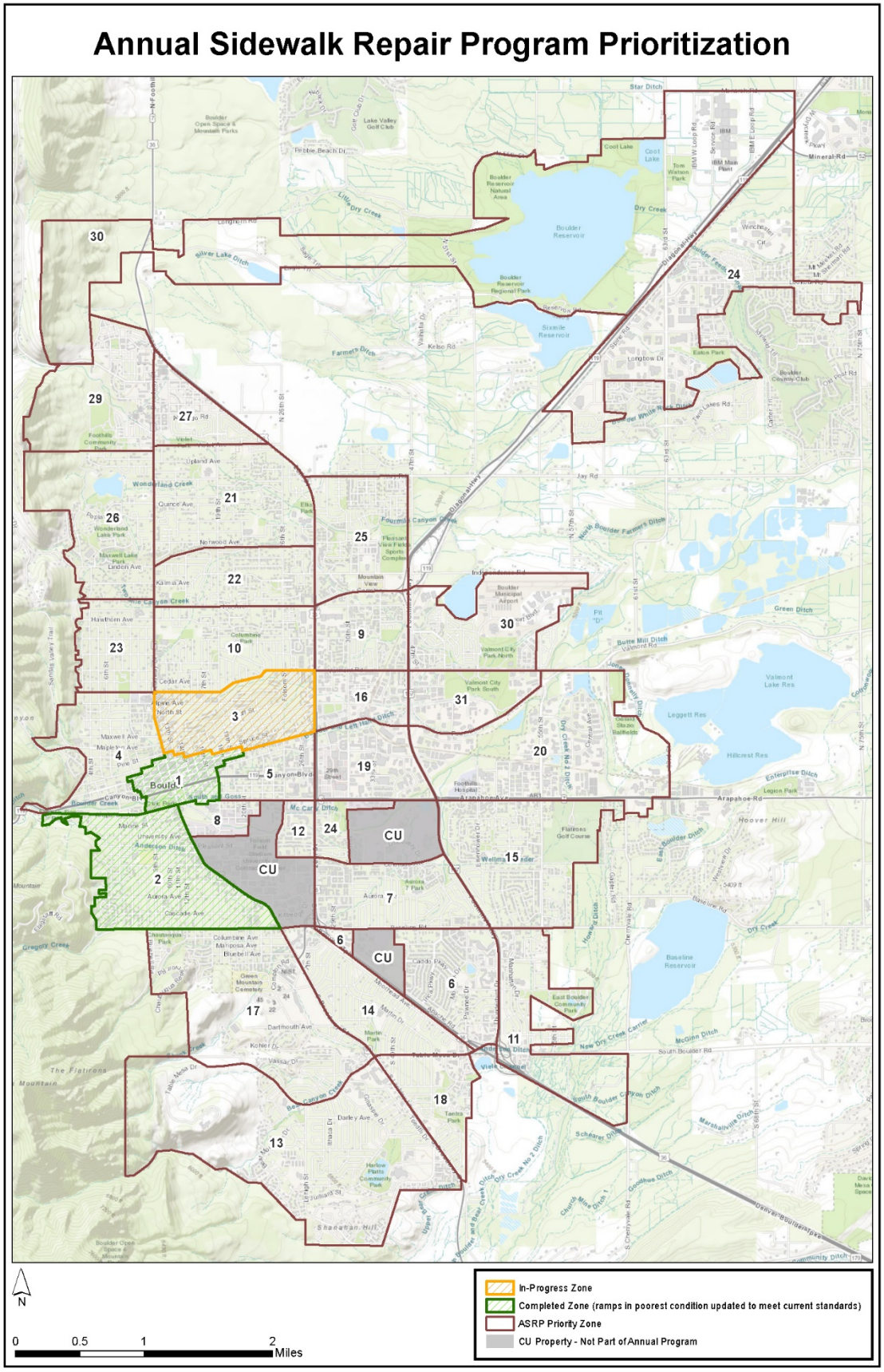
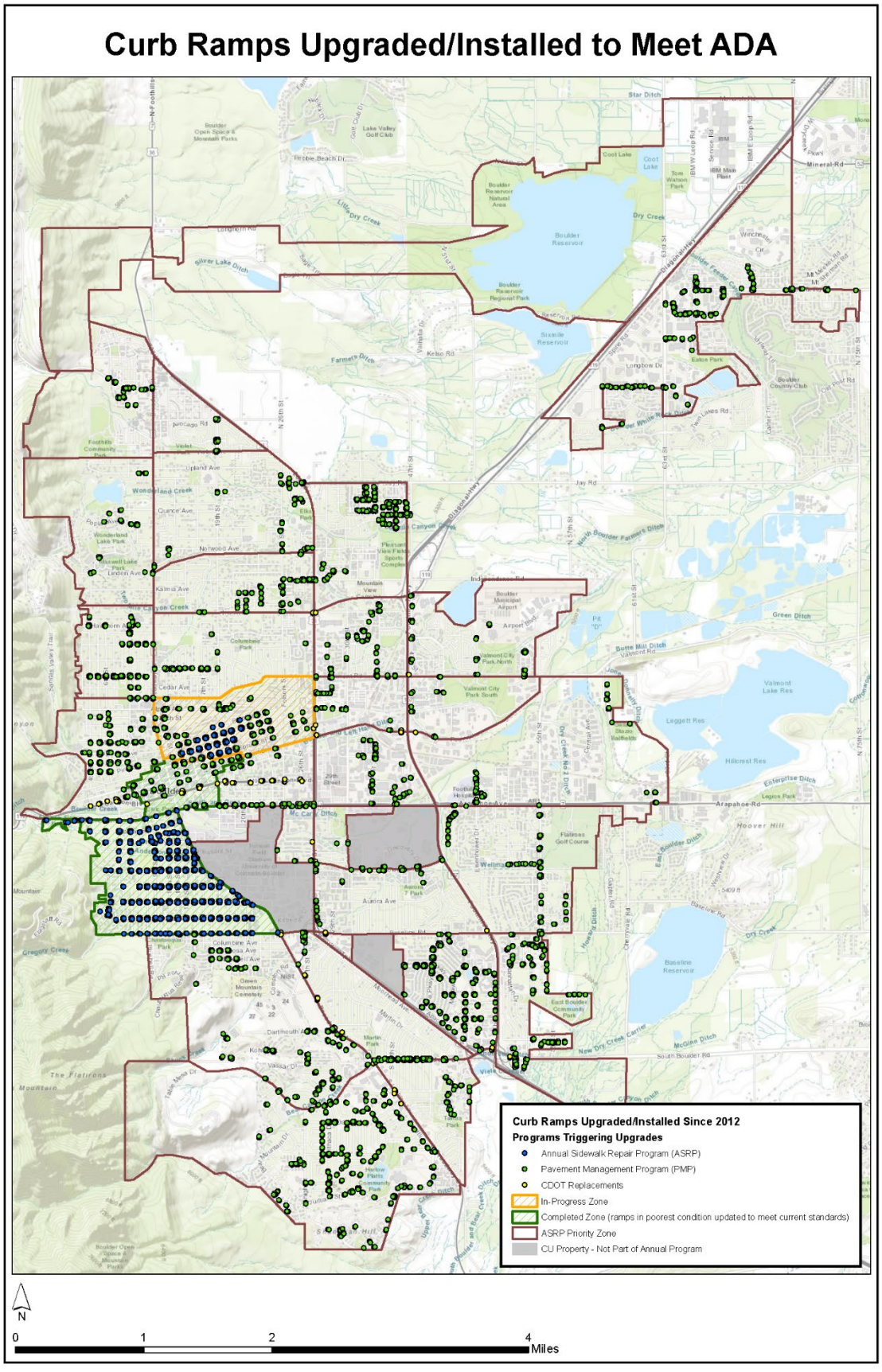


Figure 6: Curb Ramps Upgraded/Installed to Meet ADA



3.4 Community Input

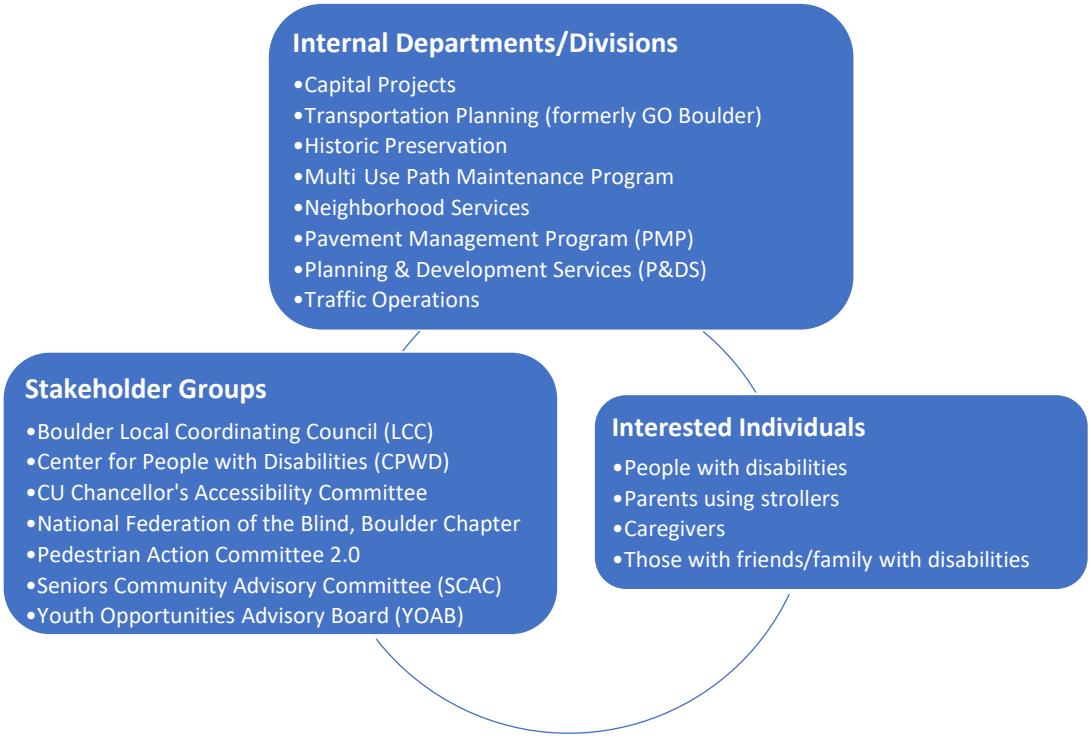


Project staff crafted an engagement process for the ADA Self-Evaluation that included direct outreach through accessibility-focused events and presentations to stakeholder groups. *See the Outreach Summary in the Appendix for further details.* The ADA 101 brochure paired with staff's intro presentation offered overview of the federal requirements, the need locally and the goals of the city's ADA Plan. To gather community feedback, staff distributed a "barriers mapping" questionnaire to stakeholders (see Appendix for full questionnaire). The events and presentations outlined below occurred between June 2019 and February 2020, engaging over one hundred people.

Staff worked with the city's Communications Department to pair in-person events with online outreach through city social media, city transportation newsletters, an Inside Boulder News (IBN) video feature and newsletters to the ADA Plan list as well as online engagement opportunities through Be Heard Boulder. The Be Heard Boulder page offered opportunity for community members to complete the barriers-mapping questionnaire and place a "pin" on the city map to note areas of accessibility concern.

Staff also worked with Boulder's Channel 8 (IBN) News to organize a three-part series of short videos speaking to the ADA Plan's efforts. Interviewees included John Couch, a wheelchair user and customer with the Center for People w/Disabilities (CPWD), Judy Dixon, a member of the National Federation of the Blind and Cory Lasher (recently retired from the city) who organized the city's Parks and Recreation Department's EXPAND Program for People with Disabilities. The videos aired as filler-material during Channel 8 programming and were used to encourage community input through Be Heard Boulder.

Internal & External Stakeholder Groups



Outreach Materials

ADA 101 Brochure

bit.ly/ADA101_brochure

Inside Boulder News (IBN Segment) & Channel 8 Videos

https://vimeo.com/342773649 /
www.beheardboulder.org/accessible-boulder/widgets/14073/videos

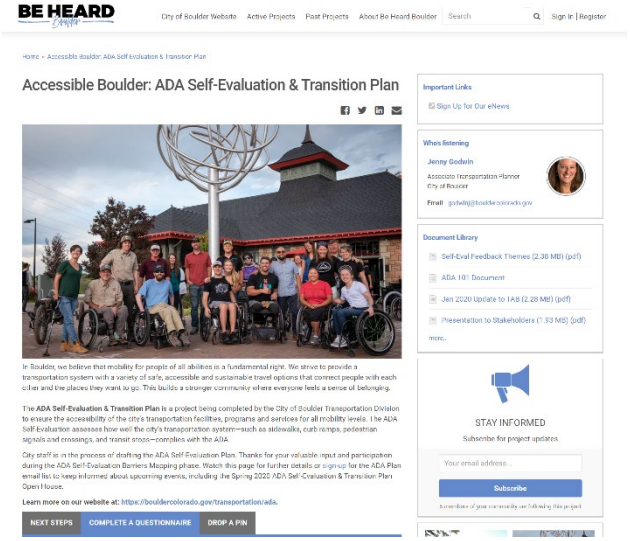
Outreach Platforms

City of Boulder website

bouldercolorado.gov/transportation/ada

Be Heard Boulder page

https://www.beheardboulder.org/accessible-boulder



Questionnaire Response Themes

At the beginning of the engagement process, project staff developed a "barriers mapping" questionnaire which was distributed at ADA Plan outreach events and posted on Be Heard Boulder. The questionnaire offered community members opportunity to self-identify accessibility gaps within the city. The feedback window lasted for six months from June to December 2019. The website generated 447 visits, with over 100 questionnaire responses (both in person and online). The top five major themes included:

1. **Weather-Related Challenges***:* Respondents cited challenges with accessing bus stops and amenity centers during the winter. Icy and unplowed sidewalks may limit or restrict movement entirely. Isolation was cited as a related effect.

2. **Transit Challenges***:* Respondents cited concern with RTD's service area and number of stops, particularly noting the lack of access to senior centers. Simply reaching the stops, particularly those far from one's place of origin or accessed via narrow sidewalks, was frequently mentioned as a challenge. Many seniors cited an enhanced need for efficient service during the winter, or as they age and prefer not to drive. Others spoke to a lack of dignity for disabled passengers and an impatience among fellow travelers.

3. **Safety***:* Respondents commonly cited a lack of perceived safety traveling the city's transportation network, citing narrow sidewalk width and difficulty sharing space with people traveling more quickly, like those on bikes. Many mentioned high vehicular speeds, lack of attention or failure to yield as concerning issues.

4. **Crosswalk Challenges***:* Respondents cited several challenges at crossings, including concern with the brevity of allocated pedestrian crossing time, lack of striping at some high-frequency crosswalks and general driver inattention to pedestrians crossing the street.

5. **Sidewalk Challenges***:* Respondents cited uneven or narrow travel surfaces and driveway curb cuts in neighborhoods as challenges to mobility. Historic neighborhoods often present additional challenges, such as those created by uneven flagstone pavers. Sidewalk blockages also emerged as a major access challenge (such as improperly parked bikes, product displays, vegetation obstructions or construction work without an accessible detour).

Those words and challenges most cited in the questionnaire are displayed in the word cloud:

Questionnaire Quotes

"The biggest challenges are improperly maintained sidewalks. Cars block the sidewalks and construction projects block sidewalks without a proper detour for wheelchairs. Improper snow removal makes it difficult to get around and through curb cuts. I think it is great that City of Boulder is doing an ADA Self-Evaluation & Transition Plan!

"Universal design is better for everyone, and an inclusive environment helps us all. Because my mother cannot go anywhere without me, her disability is my disability."

"Freedom of mobility is a right for everybody. Accessibility is a matter of equity. Insufficient winter maintenance is especially challenging for navigating intersections. Walkabouts could better foster accessibility -- especially with wheelchairs."

"I walk with a cane and walking long distances is difficult. The distance to bus stops proves challenging. Ice and snow are a challenge in the winter."

"I would like our community to be fully accessible to everyone living, working & visiting in it. And as a stroller-age parent I have some immediate experience (though much lower stakes than someone using a wheelchair) of trying to get somewhere with wheels."

"I do not use the bus currently but expect I will need to in the future. Crowded sidewalks are a challenge, crossing multiple lane streets within signal timing."

Part 4: Findings & Areas of Improvement

4.1 Existing City Best Practices

The City of Boulder Transportation & Mobility Department goes above and beyond ADA standards to follow the enhanced guidelines presented in the draft PROWAG for both new construction and alterations to pedestrian facilities in the public right-of-way, including sidewalks and curb ramps. The city's approach to the construction of pedestrian signals and crossings, as well as new transit stops (to which bus service is provided by the regional transportation provider, RTD, and maintained either by the city, RTD or CU Boulder), all follow current ADA law.

Between October 2019 and January 2020, project staff conducted interviews with five Transportation and Public Works workgroups involved in implementing policies and programs to identify best practices for supporting accessibility as well as areas for improvement (as noted in the Major Gaps & Challenges section below).

Findings from these interviews regarding existing city best practices include:

Accessibility is Prioritized Through Programs and City Standards

Existing city construction policies, best practices and programs continue to advance accessibility goals. For example, the Pavement Management Program and Annual Sidewalk Repair Program both upgrade facilities (sidewalks and pedestrian ramps) to meet ADA compliance. Both the design of capital improvement projects and construction of pedestrian crossing treatments meet ADA standards. Also, the city is in the process of updating its construction standards to better foster accessibility, including the already-completed Design and Construction Standards (DCS) Phase 1 updates to curb ramp design. In addition, periodic updates to city reference documents such as the Traffic Signal Practices Manual will offer future potential to further define best practices related to accessibility requests (such as for installation of Accessible Pedestrian Signals).

Accessibility is Noted as a Long-Range Planning Theme *(see Long-Range Planning section on page 18)*

Creation of a safe and accessible transportation environment, designed with vulnerable road users in mind, is a far-reaching theme within the city's long-range planning efforts, including the 2019 plan series (Transportation Master Plan, Pedestrian Plan and Low-Stress Walk and Bike Network Plan). The planned update of the TMP was what first sparked the creation of this ADA Plan for the city's transportation system.

Accessibility is Enhanced During Upgrades to Pedestrian Crossings and Traffic Signals

For community members with mobility impairments, extending signal walk timing can be very beneficial, either in conjunction with Accessible Pedestrian Signal (APS) installation or as a standalone safety feature. The city recently adopted a practice which reset all traffic signals across the city (with the exception of one particularly complicated intersection at 28th and Colorado Avenue) to align with MUTCD's adjustment to the pedestrian signal operating speed from 4 feet/sec down to 3.5 feet/sec. Additionally, city staff considers the use of "press & hold" functionality to assist people with mobility impairments by extending crossing times (based on a slower speed than the 3.5 feet/sec pedestrian speed). The "press & hold" functionality adjustment is currently made on a case-by-case, per-request basis.

Accessibility is Designed within Construction Detour Communications

Communication about closures impacting pedestrians and cyclists and the alternative access routes provided is typically facilitated through several communications channels, depending on the traffic volumes of a street, the number of lanes or facilities closed and the duration of such closures. For both long- and short-term closures, a best practice involves posting to the city-maintained Cone Zones Map (http://boulderconezones.net), which displays city construction projects and their impacts. A city best practice, which is shared with those posting info to the Cone Zones map, is to include notation of where the project is happening by referencing the street name and cross-street(s), which is attached to the automatically generated text-only construction list at https://bouldercolorado.gov/transportation/list-of-cone-zone-projects, in a format which is compatible with screen readers. For those community members interested in further details on a project's construction impacts, information such as the project manager or contact's phone number and a project website are also provided.

Accessibility is Front of Mind in Meeting Seasonal Challenges

In preparation for the Winter 2020/2021 season, city staff utilized RTD's ridership data to reprioritize the highest-use bus stops for a hired contractor to clear. There is an unmet need for snow clearance at lower ridership stops but given the city's budgetary limitations, there is not room for adding additional stops to the existing contract. In recognizing this gap, the city developed a new Shovel a Stop volunteer program on Count Me In Boulder (the city's volunteer platform), encouraging residents to give their neighbors a hand by signing up to shovel un-claimed bus stops, often nearby to their residences. As of April 2021, 15 residents have volunteered to assist with snow removal at 19 stops.

4.2 Major Gaps & Challenges

The accessibility gaps and proposed strategies outlined in this section will inform development of the ADA Transition Plan beginning in 2021, which will note priority order, long term versus short term strategies and financial obligations for addressing identified gaps.

The major categories of challenges include:

1) Consistency in Standards/Design/Construction
2) Communications/Engagement
3) Data Tracking/Monitoring
4) Funding/Coordination/Prioritization

CATEGORY #1: Consistency in Standards/Design/Construction

1) Notation of and Justification for a Lack of ADA Compliance

It is a city best practice to always attempt to meet ADA standards in project design to the maximum extent possible. However, the city does not currently have an established practice to provide written documentation describing why a pedestrian facility in the public right-of-way, such as a sidewalk or curb ramp, qualifies for an exception to meeting ADA standards. Most typically, a lack of compliance would be due to structural impracticability. According to ADA standards: "Full compliance will be considered structurally impracticable only in those rare circumstances when the unique characteristics of terrain prevent the incorporation of accessibility features." There is also need for a system to document when upgrades (say to the width of a sidewalk) are financially infeasible within a given project's scope.

Strategies to Address This Gap

a) **FORMALIZE DOCUMENTATION:** It would be beneficial for the city to formalize clear documentation practices across departments to ensure a consistent strategy for noting when a lack of ADA compliance exists, including defendable notation of structural impracticability, environmental constraints such as on extremely steep city streets and cost barriers.

b) **STANDARDIZE DOCUMENTATION MECHANISM:** Section 1.05 of the DCS "Alterations, Modifications, and Waivers" concerns modifications requests, and is used quite infrequently, but could become the mechanism used to document non-compliance. The DCS calls for this sort of documentation by the Public Works Director when a project design does not meet standards. For curb ramps which do not meet ADA compliance, the city could utilize CDOT's existing variance form.[21]

c) **PROJECT FILE MEMO:** Another best practice improvement would be to include a memo within a project file noting where and why a facility qualifies for an exception. This would ideally be uploaded and tracked within the Beehive asset management system in the future.

d) **ADA COMPLIANCE SCORING:** From a data mapping perspective, it could be useful in the future to assign an ADA compliance score to those pedestrian facilities in the public right-of-way listed in the city's GIS inventory. For example, this would allow for identifying which curb ramps completely meet ADA standards (100% compliance), nearly meet ADA standards (say 85-99% of features in compliance), or partially meet ADA standards (>85% compliance). This effort would assist with targeting upgrades at the highest need locations from an accessibility standpoint.

e) **ADA NON-COMPLIANCE TRACKING**: With formalized institution of the city's ADA Grievance procedure online, plus the establishment of a new Inquire Boulder category for ADA (in October 2020) these channels will allow for more accurate tracking of when and where community members report ADA non-compliance. Ensuring open communication between the ADA Coordinator/Risk Management group and those departments (namely, Transportation & Mobility and the Planning & Development Services Department (P&DS)) tasked with completing pedestrian facility upgrades, will improve needs identification.

2) Lack of Distribution of Consistent Design Standards Across Departments

Though city infrastructure is designed by staff, there is not a consistent practice for distributing written instructions to contractors to note design standards they must adhere to, so different contractors may follow different design standards (ADA versus draft PROWAG, for example). There is also a lack of clarity surrounding staff expectations on this topic.

Additionally, the city does not currently have a standardized, written approach for post-construction inspection of curb ramps to ensure their adherence to draft PROWAG. The city inspector reviews formwork before final concrete is poured, which is beneficial, but not enough to ensure the subsequent

[21] Source: Colorado Department of Transportation. 2019 Curb Ramp Variance Support Document

feature is built to meet accessibility standards. The level of review also varies between maintenance upgrades, where in-field layout adjustments may occur, and construction of new facilities.

Holistically, there is a desire for enhanced collaboration and communication between departments, such as between Transportation & Mobility and private development work in the public right-of-way, led by P&DS.

Strategies to Address This Gap

a) **DESIGN CHECKLIST:** Developing and then distributing a standardized ADA/PROWAG design checklist among partnering departments could assist with ensuring design consistency and provide guidance for decision-making in design. The development of the ADA Transition Plan will offer opportunity to determine how best to formalize the inclusion of accessible design standards within the roles and responsibility documents developed by project managers.
b) **POST CONSTRUCTION INSPECTION:** The city should include post-construction inspection of accessible facilities as a standard practice within project close-out. This might involve an accessibility-focused staff training for those constructing pedestrian facilities and a framework for discussing this information at a contractors and inspectors meeting.
c) **STAFF TRAINING:** Providing training to applicable staff on ADA compliance for pedestrian facilities, including noting where a preference for draft PROWAG exists, could help address inconsistencies.
d) **CULTURE OF COORDINATION:** Long-term, the city should aim to foster a culture where there is consistent coordination among city departments and workgroups, so that irrespective of the department implementing a program, project or enhancement, accessibility is a priority of the work.

3) Inconsistency in Accessibility of Construction and Events Closures and Detours

All street closures and construction detours require a Methods of Handling Traffic plan (MHT). Though often these are approved by the city's Transportation Maintenance division, the P&DS right-of-way inspection team often handles their own MHTs for private development projects. Though this review is intended to ensure detours are made accessible according to federal guidelines, with different entities approving these plans, inconsistencies have been identified. There have been instances when accessibility guidelines do not translate out in the field and staff receive complaints from residents.

Strategies to Address This Gap

a) **CHECKLIST DEVELOPMENT:** In conjunction with the construction detours communications effort listed in the Communications/Engagement section below, staff could develop a checklist that includes a standard order of operations for detours/closures, noting the appropriate timeframe for submitting a traffic control plan and stating the requirements for creating accessible detours.
b) **SPOT CHECKS:** Staff could also collaborate with the Transportation Operations division to identify if accessibility spot checks might help ensure greater compliance in the field.

CATEGORY #2: Communications/Engagement

1) Need for More Involvement of the Disability Community in Project Planning & Policy Updates

It goes without saying that those users who most benefit from the accessibility or lack thereof of particular design elements have a high stake in how the feature's design translates from theory to practice. Though many previous city transportation projects have thoughtfully involved stakeholders from groups either representing the local disability community or with a high interest in accessibility (such as the National Federation of the Blind, Boulder Chapter, Senior Community Advisory Committee and Center for People with Disabilities) there is room for additional inclusion in the arena of both project planning and program/policy modifications.

Strategies to Address This Gap

a) **ONGOING ENGAGEMENT**: An existing best practice employed by the Transportation Planning division is to present upcoming project work and engagement opportunities at Boulder County's Mobility for All meetings. Other divisions could follow suit to ensure that this community of mobility-focused providers and advocates for people with disabilities are aware of project updates and engagement opportunities. Additionally, there is potential to further integrate experiential activities into outreach events as well, to ensure the accessibility of events such as walking tour routes. Integrating messaging and icons that are inclusive (for example, a wheelchair user in the Walk and Bike Month logo) embraces our community's diversity.

b) **INNOVATIONS DEVELOPMENT:** Transportation design is a constantly evolving field. Ensuring that members of the disability community are involved in review of innovations is key to ensuring their maximum benefit. For example, in response to the city's recent street closures ("streeteries") for restaurants due to the COVID-19 pandemic, residents with disabilities reached out to inquire about the loss of disabled parking stalls and the need for mid-block ramp access to curbside restaurants. City staff were able to pivot and meet these requests quickly, however, a proactive review of the streeteries design by members of the disability community could have ensured these needs were met prior to installation.

c) **CONSULTATION ON PEDESTRIAN CROSSINGS**: The National Federation of the Blind's minority report recommends that state and local governments consult with the local blind community to determine whether to provide APS on an intersection-by-intersection basis. This would be an extremely lengthy and time-consuming practice given the number of traffic signals within city limits. However, should the city decide to modify its APS installation practices, a consultation with the Boulder Chapter of the National Federation of the Blind would be a key action item. Longer term, there is potential to develop a stronger standard practice for when APS installation is justified, potentially with use of the National Cooperative Highway Research Program (NCHRP) prioritization tool guidelines, which is a recommended resource that CDOT also utilizes.[22]

[22] Source: National Cooperative Highway Research Program, 2007 Accessible Pedestrian Signals: A Guide to Best Practices

Further collaboration with the disability-advocacy community could illuminate long-term best practices for a variety of pedestrian crossing types, considering the needs of people with vision, hearing or mobility impairments. This could perhaps be facilitated through convening an accessibility oversight group, with members identified through the ADA Self-Evaluation & Transition Plan's outreach efforts.

2) Inconsistent Communications Regarding Construction and Events Closures and Detours

Though in most cases an effort is made to post roadway closures in advance of project work, contractor's schedules change unexpectedly, sometimes accelerating the work with little time to notify the public of impacts. Other times, work impacting pedestrian facilities is not listed on the Boulder's Cone Zones map (www.boulderconezones.net), and when Admin staff receive a complaint not associated with a listed project, they then must spend time attempting to track down the person or department in charge of the work to address the community member's compliant.

Strategies to Address This Gap

a) **BEST PRACTICES DOCUMENT:** In conjunction with the recommendation above to develop a checklist that includes a standard order of operations for detours/closures, staff could establish and communicate a construction notifications best practices document across departments, from the Transportation & Mobility Department to Utilities to P&DS to Facilities (as well as to private developers and ROW inspectors), in collaboration with Communications Staff, outlining when to post a project's impacts/closure/detour route on Cone Zones (and who is responsible for such posting) as well as additional outreach strategies warranted based on the scale of the project work. This would help alleviate tensions surrounding expectations for closures. This is especially important for that project work which results in sidewalk, curb ramp, bus stop or multi-use path closures.

b) **CONE ZONES HOW-TO:** Ensure all appropriate departments have the resources they need to post to the Cone Zones map. The Public Works Admin Team has an existing best practices/how-to file. Ensure those not comfortable with posting to Cone Zones or who do not have the time to post know who to contact within their department to ensure the appropriate information is listed. The Business Service Division has recently established a weekly email reminder system and Cone Zones informational template to aid in this effort.

c) **SHARING OF TEXT BASED WEBPAGE:** When sharing the link to the Cone Zones map, an effort should be made to also share the link to the text-based *List of Cone Zone Projects* webpage so those using eReaders are able to access this information as well.

d) **REPLACEMENT TOOL:** As of Fall 2020, staff is in the process of developing a new tool to replace Cone Zones, which will integrate better with Beehive. Ensuring that the public-facing component of the map remains accessible will be an important part of this effort.

CATEGORY #3: Data Tracking/Monitoring

1) Lack of ADA-Related Infrastructure Inventory

Though much progress has been made, without a complete picture of the city's pedestrian facilities in the public right-of-way, staff cannot accurately estimate the existing lack of ADA compliance or budgetary amount associated with bringing these facilities up to full compliance citywide. Maintaining an active infrastructure record for these facilities would assist with strategic planning to determine when upgrades are needed in the future and would be beneficial in justifying requests for additional funds or grant-seeking opportunities.

The city's GIS inventory for transportation facilities has not typically been updated with geographic or ADA features post-construction. Some workgroups do have a practice for providing notation of when facilities are upgraded or newly constructed to meet ADA standards (such as the PMP's annual repair work on curb ramps and sidewalks) but they did not always do so, as tracking of this information only began recently. Also, there are other workgroups who do not track and inventory the accessibility of built facilities. For example, when multi-use paths are newly constructed or retrofitted, accessibility-related information on the path's features are not inventoried.

Strategies to Address This Gap

An updated inventory would include a detailed accessibility evaluation of existing transportation features, notably curb ramps, sidewalks, multi-use paths, pedestrian crossings/traffic signals and transit stops, to provide an understanding both on a neighborhood and citywide level of the number of features meeting or failing to comply with ADA standards.

If this effort is to be carried out at the highest level of accuracy, a significant amount of funding would need to be dedicated to hire a consultant such as those the city spoke with in 2019 (see Inventory Consultant Investigation in Appendix). Given the current funding shortfalls due to COVID-19, it is unlikely such funding will be available soon. However, there are interim strategies the city can employ to ensure accurate data is acquired and logged in the meantime:

a) **ASSET MANAGEMENT PROGRAM ADOPTION:**
   - City staff should work with the city's IR/GIS division to establish the Beehive asset management system as the preferred way of tracking accessibility-related data, including logging the compliance or lack thereof of curb ramps, sidewalks, multi-use paths, pedestrian crossings/traffic signals (including locations of APS) and transit stops.
   - This will include disseminating best practices resources to all departments which upgrade, construct or evaluate transportation facilities, including Transportation & Mobility, Utilities, P&DS and Facilities, so they feel confident either inputting data into Beehive themselves or collaborating with IR to ensure this essential information is inputted.

b) **ASSET MANAGEMENT TRACKING DURING PROGRAM/PROJECT WORK:**
   - Tied to the above, this will require tracking and inventorying of the accessibility of transportation infrastructure when doing project work, to ensure consistency of project upgrades (such as evaluating the curb ramps and sidewalk slopes during the process of creating a new Neighborhood

GreenStreet). Tracking this data in Beehive will ensure a log is available to refer to and update over time.

- In this vein, ensuring that in the future, a member of the Transportation & Mobility Department capital projects group is involved in initial planning for new projects that affect the accessibility of transportation infrastructure would better foster these collaborative opportunities and allow for the scoping out of accessibility upgrades during the existing conditions phase of the project.

c) **DEVELOPMENT OF PEDESTRIAN CROSSING INVENTORY:**

- Another outstanding inventory need is that of pedestrian crossing locations and types, noting physical features and whether they meet ADA standards (or draft PROWAG). There is not currently an inventory of this nature.
- This would assist with planned accessibility and safety upgrades at key locations. Ideally, such an inventory would trigger providing greater clarity regarding ADA requirements within the pedestrian crossing approval and installation guidelines themselves.

d) **TRACKING OF PARTNERS' EFFORTS:**

- A further challenge to maintaining an accurate inventory is that multiple entities are responsible for ADA compliance. Though far easier to track city-sponsored construction or facility upgrades, conscious effort should be made to log partners' efforts, as well, and to explore strategies to ensure data is synced between agencies.
- For example, at the statewide level, CDOT-owned signals within city limits represent nearly half of the total number of signals, at 70 out of 144. All signals, however, are maintained by the city, which also provides opportunity to note compliance during regular maintenance. Other CDOT work, such as the 2020 enhancement/addition of 97 ADA compliant ramps on state highways within the city, should be tracked appropriately as well.

2) Lack of Knowledge of Transit Stop ADA Compliance

RTD has yet to complete its ADA Self-Evaluation and Transition Plan, naming the high cost and extensive geographic nature of RTD's service as the major barriers to completing one. Therefore, RTD does not have an inventory of their stops generally, nor notation of those meeting ADA compliance. Until this is completed, the city only has a piecemeal understanding of accessibility gaps, primarily only identified through complaints or when relocating or designing new stops within the city.

Currently, when RTD receives an accessibility-related complaint from a customer regarding a bus stop in Boulder, the complaint goes through its Customer Care office, then is routed to the RTD Boulder division, who goes out to inspect the issue as needed. RTD staff will relay confirmed issues to city staff as appropriate, yet there is currently no formal process for this.

Additionally, the city's current system for prioritizing transit stop improvements does not include ADA accessibility or lack thereof as a prioritization factor (this is also recommended by draft PROWAG).

Since both RTD and the city lack a coordinated effort for tracking when bus stops are out of ADA compliance, typically community member complaints are routed through the City's Risk Management Office and are tracked as standalone concerns.

Strategies to Address This Gap

a) **INVENTORY OF TRANSIT STOPS:** Ideally, when the citywide ADA Self-Evaluation and Transition Plan RFP is relaunched, the chosen consultant will inventory transit stops within their project scope. This will establish an ADA compliance baseline to work from and provide updates to.
b) **TRACK COMMUNITY COMPLAINTS:** With the institution of the ADA Grievance procedure online, this channel will act to track community complaints regarding bus stop compliance more accurately.
c) **RTD'S NEW TRACKING SYSTEM:** Additionally, when staff talked with RTD's ADA Manager he shared that RTD is instituting a new tracking system which may lead to more effective bus stop issue routing to city staff in the future. A follow-up on the new system's progress is recommended.

CATEGORY #4: Funding/Coordination/Prioritization

1) Program Funding to Upgrade Features to Meet ADA Compliance Lags Behind the Need

The funding outlook for programs which upgrade features to meet ADA compliance, such as the Annual Sidewalk Repair Program, Miscellaneous Sidewalk Repair Program and Missing Sidewalk Links Program, lags far behind the need.

As an example, given the current pace at which the Annual Sidewalk Repair Program can make improvements (completing a small zone every year or large zone every two years), and with only 3 of 32 zones completed by the end of 2020, at the current pace it will take between 30 to 60 more years to upgrade the facilities in every zone within the program. The program funding matches the pace of work, which has been forced to decrease as pavement costs increase. Compounding this, the $450 per property assessment cap on homeowners has not increased since program development in 1993, while overall costs have increased substantially since then.

Strategies to Address This Gap

a) **ADJUST HOMEOWNER COST SHARING:** Annual Sidewalk Repair Program staff should work with Finance to determine whether it might be appropriate to make a cost adjustment to the $450 cap on homeowner cost-sharing with the city. This adjustment is likely not desirable currently given the COVID-19 crisis but may be more appropriate in the future.
b) **ALIGN WORK EFFORTS:** One opportunity to increase the funding available to make accessibility updates is to align Annual Sidewalk Repair Program project work with new Transportation Planning division-led long-range planning efforts such as the build-out of Neighborhood GreenStreets and the Low Stress Walk and Bike Network. As these programs prioritize future project work, there is potential to bundle improvement types,

such as integrating accessibility upgrades before striping a new Neighborhood GreenStreet. Combining work plans and funding sources is a logical effort which should be explored in further detail to ensure striping/markings upgrades are not conducted without coordination. This would not supersede the existing Missing Sidewalk Links Program work but be a helpful addition to it.

c) **PURSUE GRANT FUNDING:** Staff should continue to pursue grant funding and other opportunities to leverage additional money to meet accessibility upgrade needs outside the scope of planned yearly improvements (as outlined through those programs above). Take for example the city's Spring 2021 AARP Community Challenge Grant application to fund bus stop improvements, complete pavement upgrades and maintain ADA access in a high-priority area proximate to a low-income, Boulder Housing Partners residence for seniors and people with disabilities. Though this grant pursuit was not successful, it resulted in a needs investigation in collaboration with key stakeholders and laid the groundwork for improvement identification should funding become available. Other potential grants to meet accessibility needs should be investigated annually, such as DRCOG's Community Mobility Planning Implementation (CMPI) set-aside for small infrastructure projects.

2) Lack of Pedestrian Facility Improvement Programs' Integration with Long-Range Planning

The existing prioritization models for the Annual Sidewalk Repair Program and Missing Sidewalk Links Program were created in 2010 and 2018, respectively, and do not reflect the city's most recently adopted plans. Not only have city demographics changed since then, but transit routes have also been modified, traffic conditions have changed, Vision Zero policies have been adopted and most recently, the 2019 TMP, Pedestrian Plan and Low-Stress Walk and Bike Network Plan have outlined new priorities and targeted improvement areas (for example, the Pedestrian Plan's Pedestrian Improvement Areas).

Strategies to Address This Gap

a) **CONSISTENCY WITH LONG RANGE PLANS:** The two main pedestrian facility improvement programs (Annual Sidewalk Repair Program and Missing Sidewalk Links Program) could be revamped to be more consistent with the city's long-range planning focus areas. It is likely that improved models for prioritization would build off existing frameworks and layer in new factors of high importance in creating accessible pedestrian networks.

b) **SOLICIT FEEDBACK:** In updating the prioritization factors for these programs, staff should also be transparent about these factors with the public via the two programs' webpages. For example, currently, the Missing Sidewalk Links Program page simply says: "The Transportation Division prioritizes construction of small and large missing sidewalk link projects based on several factors, including existing utility and roadway conditions." There may be additional opportunities to solicit community and stakeholder feedback on prioritization practices, such as through holding at public hearing item at a monthly Transportation Advisory Board (TAB) meeting.

3) Need for Enhanced Accessibility-Focused Collaboration in Historic Neighborhoods

There is potential to better align ADA compliance and accessibility within existing historic district

protections. This is achieved through ensuring the ability to modify properties, while maintaining historic character, to meet access needs.

There is recent history of collaboration between the Historic Preservation Department and the Pavement Management Program (PMP), particularly in relation to sidewalk repairs. For example, the PMP has modified its practices when requested to meet aesthetic goals, such as by leaving out the typical sidewalk concrete cure (process of maintaining the proper moisture and temperature during the setting process) to better reflect historic character. However, other times, current practice results in one-off conversations regarding historic districts when ADA compliance work is planned within a district's boundaries.

Strategies to Address This Gap

a) **DOCUMENT POLICIES:** Transportation and Historic Preservation staff should work together to formalize a structure and document policies to ensure streamlined coordination.
b) **FLAGSTONE EXCEPTIONS:** Additionally, staff should develop a policy noting why flagstone sidewalks qualify for an exception to meeting ADA standards on historic properties due to a preservation need.
c) **PRE-PLANNING:** Developing a proactive, front-end approach would involve noting compliance needs by location and the improvements schedule planned within historic districts. Pre-planning work could help codify these preferences for collaboration. Then, PMP and Historic Preservation could collaborate and agree upon concrete mixes, homeowner cost share and other relevant factors to ensure both divisions' needs are met (alongside accessibility goals).
d) **SHOWCASE COLLABORATION:** From a programming perspective, there are opportunities to showcase the collaborative approach forged between these departments, perhaps through partnering with the accessibility community to host a walk in a historic district during May (Historic Preservation Month), with supporting staff from both departments sharing historically relevant information.

Part 5: Next Steps

5.1 Transition Plan

Though COVID-19 will shift in-person engagement benchmarks, the team continues to advance this effort. Staff will launch the ADA Transition Plan process in mid/late 2021 to prioritize, plan, refine and draft a schedule to make the improvements identified in Section 4.2 of this ADA Self-Evaluation. This effort will involve identifying key stakeholders to implement the various recommended strategies to address identified gaps. Community feedback received during the Self-Evaluation phase will be utilized in this plan's development. The ADA Transition Plan will be presented to TAB to receive their recommendation to City Council before the end of 2021.

Definitions

Accessible Pedestrian Signals (APS): An APS and pedestrian pushbutton is an integrated device that communicates information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats to pedestrians who are blind or have low vision. There are essentially two types of accessible pedestrian signals. The first, accessible pedestrian signals (APS) may or may not include a signal timing "press & hold" functionality feature (also defined below). The second type is a Rectangular Rapid Flashing Beacon (RRFB) crosswalk signal, which follows MUTCD standards. [23]

Providing accessible signs and signals can be considered both a programmatic and communications strategy to accommodate the needs of people with disabilities. The current average cost of installing a pair of APS in the City of Boulder is $1,100.

The current APS features standardized within the city are:

- Pushbutton locator tone
- Actuation indicator (speech message that says "wait" and may list cross streets verbally)
- Automatic volume adjustment (based on location/proximity to nearby residences/businesses)
- Walk indication
    - Audible tones
    - Audible speech message

Other, optional APS features:

- Tactile arrow (aligned with crosswalk direction)
- Actuation indicator (with light)
- Walk indication
    - Vibrotactile indicator[24]

Rapid Rectangular Flashing Beacons (RRFBs): RRFBs are user-activated, flashing rectangular-shaped yellow lights which are located alongside pedestrian crossing warning signs. They flash for a set amount of time after activated, alerting roadway users to the presence of pedestrians. They are not associated with a legal requirement for vehicles to stop, but rather act as a warning device. Within the city, most RRFBs, once pushed, display an audible message to remind pedestrians that vehicles may not stop.

[23] Source: National Cooperative Highway Research Program, APS Design in New Construction
[24] Source: National Cooperative Highway Research Program, APS Primary Features

Appendix

Outreach Summary

Accessible Boulder Symposium Meeting | June 11, 2019

The Symposium was organized by Graham Hill of Shared Paths and Craig Towler of Amputee Concierge and tied to Walk & Bike Month. The event brought together community mobility advocates and partners, people with disabilities and related city departments. Project staff shared ongoing efforts to increase the transportation system's accessibility through the ADA Self-Evaluation and Transition Plan. Staff invited participation in the accessibility questionnaire and mapping effort housed on Be Heard Boulder and available in paper form at the event.

Boulder Local Coordinating Council (LCC) Meeting | June 10, 2019

The Boulder LCC, chaired by Angel Bond (Boulder County Mobility for All Program Manager), invited project staff to speak about ADA Plan at their monthly meeting. The attendees represented a variety of community organizations including senior service organizations, advocacy organizations for people with disabilities, affordable housing advocates and more. Project staff provided a brief overview of the ADA Plan process and community opportunities to identify accessibility challenges through Be Heard Boulder. Project staff distributed ADA 101 Plan brochures and printed Accessibility Barriers questionnaires.

CU Chancellors Accessibility Committee Meeting | September 5, 2019

The subcommittee within the Office of Diversity, Equity & Community Engagement invited city staff to 47 speak at their monthly meeting. Staff's presentation prompted a fruitful discussion about CU's ongoing evaluations of accessibility. CU accessed a portion of campus for ADA compliance in terms of housing (1990's), then access to programs (website, procedures, communications) and a self-assessment of buildings/facilities is underway. There was interest in the disability statistics within the ADA 101 brochure, and discussion regarding how these differ from those of the campus population. Members of the subcommittee were curious to better understand the city's policies regarding requests for APS installation, and whether other cities have adopted APS installation as a standard for new signals.

Fall Hike at Wonderland Lake Trailhead | October 17, 2019

The hike allowed participants an opportunity to experience navigating rocky terrain and various grades in a wheelchair. Organized by Open Space & Mountain Parks (OSMP) staff Topher Downham and Vijay Viswanathan, who are wheelchair users themselves, the event offered opportunity to speak to the ADA Plan's efforts and promote Topher's "Boulder OSMP Accessible Trails and Sites" Guide. A handful of community members joined for the hike and others engaged with attendees as they rolled the trail.

Senior Community Advisory Community (SCAC) Meeting | September 10, 2019
Staff were invited by committee members to discuss the Plan at their regular meeting. Staff tied the support for accessibility improvements to the draft (at the time) 2019 TMP and Pedestrian Plan, which GO Boulder staff presented at the same committee meeting. Committee members identified areas of the city that may pose access issues for people with disabilities.

Winter Walk and Bike Week – Wheelchair Roll and Stroll | February 11, 2020

Led by Topher Downham of OSMP, ADA Plan staff joined community members (including a member of The Pedestrian Advisory Committee (PAC) 2.0 and Mark McIntrye from the Transportation Advisory Board (TAB) on an accessible roll around the Boulder Main Library and Civic Center area outside. Community members stopped to chat with the group and learn about the event's purpose. Staff provided an update on the ADA Self-Evaluation to attendees. Topher provided a scavenger hunt which encouraged performing tasks a typical wheelchair user would when visiting a library.

Youth Opportunities Advisory Board (YOAB) Meeting | September 6, 2019
Attendees included students from both public and private Boulder high schools, as well as Brandon Blew, the YOAB Program Coordinator. Staff presented an overview of ongoing ADA Plan efforts, highlighting the types of accessibility obstacles people with disabilities may face in navigating the city. YOAB members offered to spread the word about the accessibility questionnaire through clubs at school, and one student speculated whether Fairview High School is accessible. Students were generally interested in access to buildings and how that is regulated, and by whom. Project staff followed up with a text message that YOAB members could send to explain the ADA Plan and engagement opportunities to their friends and family.

Barriers Mapping Questionnaire

Available on Be Heard Boulder and distributed in-person

1. What three words would you use to describe Boulder's current transportation system for walking, biking and rolling (including our sidewalks & curb ramps, multi-use paths, and access to transit facilities)?

2. What is your interest in increasing accessibility in Boulder?

3. What are the biggest challenges to your mobility or that of someone you know while walking, biking or rolling here in Boulder?

4. What seasonally dependent challenges do you face when traveling in Boulder?

5. Are there any particular neighborhoods or streets where you face barriers to accessibility? (Consider also dropping a pin on our Accessibility Map here: https://www.beheardboulder.org/accessible-boulder/maps/ada-accessibility-mapping).

6. Are there any transportation programs or policies in Boulder that you're aware of that you think could better foster accessibility?

7. How do you typically get around Boulder (check all that apply)?
   - ☐ Driving
   - ☐ Biking
   - ☐ Walking
   - ☐ Rolling (Wheelchair or Other Assistive Device)
   - ☐ RTD
   - ☐ Access-a-Ride/Via
   - ☐ Other

8. Do you use any assistive devices to navigate the transportation system (check all that apply)?
   - ☐ Wheelchair
   - ☐ Walker
   - ☐ Cane
   - ☐ Other Mobility Devices

9. Do you identify as having a disability?

10. Do you have any family members or friends with disabilities?

11. Would you like to keep updated on this project? If so, please provide your name and email below.

Inventory Consultant Investigation

The city's current ability to hire an ADA inventory consultant is severely limited given the lack of available funding, compounded by budget shortfalls due to COVID-19. Hopefully, with the citywide ADA Self-Evaluation & Transition Plan RFP re-launch in 2022, there is potential for knowledge sharing based on previous consultant interviews (highlights listed below). Ideally, the RFP process will include a search for a consultant who can conduct a citywide ADA-compliance inventory of pedestrian facilities.

In 2019, Staff looked to peer cities when researching potential consultants to lead data collection of the transportation system's attributes including curb ramps, sidewalk features, multi-use paths, pedestrian crossings and bus stops. These peer cities included Mesa, AZ, Seattle, WA, Clayton, MO and others. Project staff then conducted interviews with four consultants (Beneficial Designs, Cole, Continental Mapping and MDS Technologies) offering services and technology to complete ADA compliance inventories to understand the latest technology alternatives, data format, estimated costs and time required for inventory completion.

Takeaways Include

- Consultants offering lower-cost inventory options often compromise data quality.
- On the other hand, those consultants offering highly accurate equipment and extensive ADA experience quoted exorbitant estimates of up to $1 million for a citywide system inventory.
- LIDAR (Light Detection and Ranging) technology, though powerful and comprehensive, does not provide the level of detail required to accurately capture ramp dimensions, slopes, and sidewalk damage. Other challenges include tree obstructions (if using aerial LIDAR) and parked car obstructions (if using street-level LIDAR mounted on a vehicle).
- Many companies require that either their techs or vehicles are used to operate the inventory equipment, increasing the cost significantly (overnight accommodations, travel costs, etc.)
- Oftentimes, though sidewalk inventories can be completed with technology such as carts or segue ways, curb ramp inventories must be done by hand, which is quite time intensive.