

# AUDIT REPORT

## *Neighborhood Sidewalk Repair Program*

Department of Transportation & Infrastructure

November 2020



**Office of the Auditor  
Audit Services Division  
City and County of Denver  
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# City and County of Denver

November 19, 2020

## AUDITOR'S LETTER

The objective of our audit of the Department of Transportation & Infrastructure's Neighborhood Sidewalk Repair Program was to determine the program's efficiency and effectiveness and how equitably it serves Denver residents. I am pleased to present the results of this audit.

The audit revealed Transportation & Infrastructure needs to improve the design of the Neighborhood Sidewalk Repair Program. That includes ensuring it complies with Americans with Disabilities Act standards for safe and accessible sidewalks and that it considers equal access to affordability options for homeowners. Additionally, the audit found Transportation & Infrastructure personnel had not effectively implemented, monitored, or evaluated the program to ensure it met its intended goals.

By implementing recommendations to evaluate the overall program and its objectives, to use leading practices to document the program's design, and to implement stronger policies and procedures for program evaluation and monitoring, the Department of Transportation & Infrastructure will be better equipped to ensure the program operates effectively and provides a safe and accessible sidewalk network for all Denver residents.

This performance audit is authorized pursuant to the City and County of Denver Charter, Article V, Part 2, Section 1, "General Powers and Duties of Auditor." We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We extend our appreciation to the personnel in the Department of Transportation & Infrastructure who assisted and cooperated with us during the audit. For any questions, please feel free to contact me at 720-913-5000.

Denver Auditor's Office

A handwritten signature in black ink, appearing to read "Timothy M. O'Brien".

Timothy M. O'Brien, CPA  
Auditor



# Neighborhood Sidewalk Repair Program

November 2020

## Objective

To determine whether the design, implementation, and evaluation of the Neighborhood Sidewalk Repair Program allows the Department of Transportation & Infrastructure to ensure it achieves intended outputs and outcomes, and to analyze the extent to which the program's processes allow the Department of Transportation & Infrastructure to repair Denver's sidewalks efficiently, effectively, and in an equitable manner.

## Background

The Department of Transportation & Infrastructure implemented the Neighborhood Sidewalk Repair Program in 2018, as requested by City Council, to proactively address sidewalks across the city that are "damaged, uneven, or sloping excessively." The goal was to ensure the city has a well-maintained sidewalk network for all Denver residents and visitors.

Time frames for sidewalk repairs — and who is responsible for completing and paying for them — are outlined in city ordinance. The city was divided into 11 regions, and Transportation & Infrastructure planned to complete inspections and repairs in one region per year.

As of September 2020, the program was still operating in Region 1. The last sidewalk inspection occurred in October 2019.

## REPORT HIGHLIGHTS

### Highlights from Audit

In our first audit of the Neighborhood Sidewalk Repair Program, we found the Department of Transportation & Infrastructure needs to evaluate how it designs and implements the program and how it evaluates the program's success.

#### **The Department of Transportation & Infrastructure Needs to Improve the Design of the Neighborhood Sidewalk Repair Program**

- The department inadequately designed the sidewalk repair program, including by not aligning it with other Denver initiatives that focus on ADA compliance. The department provided limited documentation and had limited historical knowledge regarding the program's design.
- When designing the program, the department did not document a process to proactively communicate and coordinate sidewalk repairs with other city agencies and local utilities.
- The program design does not offer affordability options to all Denver residents. This results in residents having unequal access to safe and accessible sidewalks and places an undue and inequitable financial burden on some Denver residents.

#### **The Department of Transportation & Infrastructure Has Not Effectively Implemented, Monitored, or Evaluated the Neighborhood Sidewalk Repair Program**

- The program's repairs are sometimes not compliant with Americans with Disabilities Act standards or department rules and regulations.
- The program is not meeting its goal to complete inspections and repairs in one region per year. At its current pace, city officials estimate it will take more than 50 years to complete the program.
- The department does not use strong data collection and review methods.

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## BACKGROUND

The Department of Transportation & Infrastructure, formerly called the Department of Public Works, has a mission to enhance the quality of life in Denver by efficiently delivering effective, high-quality, safe, and equitable public infrastructure and services.<sup>1</sup>

According to the mayor's 2020 budget, the department's responsibilities include:

- Road maintenance and repair.
- Residential trash, recycling, and compost collection.
- Design and construction of streets, bridges, public buildings, and storm and sanitary sewers.
- Mobility and parking services.
- Oversight and regulation of public rights of way.

### **Sidewalk Repair in the City and County of Denver**

Sidewalk repair and maintenance in the City and County of Denver has been the responsibility of the owners of adjacent properties — such as homes or commercial buildings — since at least the 1950s.<sup>2</sup> Historically, the process for completing sidewalk repairs has been complaint-driven, and the city did not have a process to systematically inspect sidewalks to identify those in need of repair.

Additionally, the city said in its 2019 “Denver Moves” plan that it had neither proactively educated the public on homeowners’ responsibilities nor enforced sidewalk repairs, which has further contributed to less maintenance of the city’s sidewalk network.<sup>3</sup>

*Sidewalk repair and maintenance in Denver is the responsibility of the adjacent property owner.*

To address these concerns, Denver’s City Council in 2016 discussed the city’s sidewalk system and its conditions at length — outlining that an important priority for the city was to increase the ability of people to safely “walk, push strollers, and use wheelchairs.” Council members said that, to do this, a comprehensive system of well-maintained and safe sidewalks was essential. Some council members formed a working group later that year, which included members from the Department of Transportation & Infrastructure, the City Attorney’s Office, and the Mayor’s Office.

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<sup>1</sup> City and County of Denver, “Mayor’s 2020 Budget” Vol. 2 (2020), accessed April 1, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Budget/2020/2020BudgetVolume2.pdf>.

<sup>2</sup> Denver Revised Municipal Code § 49-119.

<sup>3</sup> City and County of Denver, “Denver Moves: Pedestrians and Trails” (2019), accessed April 2, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/Denveright/documents/pedestrians-trails/Denver-Moves-Pedestrians-Trails-2019.pdf>.

In 2017, Denver released a “mobility action plan,” which addressed a variety of mobility needs including making streets safer and improving public health. As part of this, the city wanted to improve safe pedestrian access and connectivity by addressing problems with the city’s sidewalk network. Additionally, city pedestrian goals focused on accessibility, connectivity, access to destinations, equity, health, and safety. Specifically, the city’s sidewalk network was meant to be complete, well-maintained, and compliant with the Americans with Disability Act for users of all abilities and without gaps in low-income areas.

The mayor’s 2020 priorities also singled out mobility — including completing and improving sidewalks — and the citywide “Denver Moves” plan outlined the goal for having a complete network of well-maintained and ADA-compliant sidewalks.<sup>4</sup>

#### **2020 MAYORAL PRIORITIES**

The following are the mayor’s priorities for the City and County of Denver in 2020:

- Affordability and homelessness services.
- Strengthening Denver’s neighborhoods.
- Mobility.
- A healthy and active community.
- Keeping Denver safe.
- Sustainability.

## **The Neighborhood Sidewalk Repair Program**

The Neighborhood Sidewalk Repair Program originated three years ago with input from City Council members, community members, mobility advocacy groups, and city leaders. It aims to address sidewalks that are “damaged, uneven, or sloping excessively” and to create a more accessible network of sidewalks citywide.<sup>5</sup> The program was intended to be designed to provide a systematic, proactive way to identify and address sidewalks in need of repair and to assist homeowners who cannot afford the full cost of repairs.<sup>6</sup>

In 2017, the Denver City Council passed a bill to establish the Sidewalk Repair Revolving Fund, which included \$4 million from the city’s General

<sup>4</sup> City and County of Denver, “Denver Moves: Pedestrians and Trails”; City and County of Denver, “Mayor’s 2020 Budget” Vol. 1 (2020), accessed Sept. 8, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Budget/2020/2020BudgetVolume1.pdf>.

<sup>5</sup> “Neighborhood Sidewalk Repair Program,” Department of Transportation & Infrastructure webpage, City and County of Denver, accessed March 26, 2020, <https://www.denvergov.org/content/denvergov/en/transportation-infrastructure/programs-services/pedestrians/sidewalks/neighborhood-repair.html>.

<sup>6</sup> Although some businesses are also affected by the Neighborhood Sidewalk Repair Program, businessowners do not have access to the affordability program or the city’s contractor like homeowners do.



Fund in 2018.<sup>7</sup> As shown in Table 1, the fund has received additional funding since its creation.<sup>8</sup> As of September 2020, Transportation & Infrastructure had spent over \$511,000 from the revolving fund.

**TABLE 1.** Sidewalk Repair Revolving Fund

	2018 Actual	2019 Appropriated	2020 Recommended
Sidewalk Repair Revolving Fund	\$210,077	\$781,200	\$821,888

**Source:** Mayor's 2020 Budget.

**Note:** These figures are not totals, and they do not reflect the original \$4 million funding or any subsequent spending.

The revolving fund covers some project expenditures — such as staff and supplies — and advances the costs of sidewalk repairs for qualifying homeowners. When property owners reimburse the city for repairs, the money is put into the revolving fund, which then supports future sidewalk repairs.

The Neighborhood Sidewalk Repair Program has eight staff positions — three of which were vacant as of May 2020. When the program began, department leadership deemed that number of staff to be “minimally sufficient.” Officials in the Department of Transportation & Infrastructure requested additional staff in 2019, but their request was denied by the city’s Budget and Management Office. Department officials intended to submit a new request for a second inspector in spring 2020, but they canceled the request because of the COVID-19 pandemic.

In 2018, the city contracted with Chato’s Concrete LLC to complete sidewalk repairs related to the program. In 2019, the city also contracted with Silva Construction Inc. for work on sidewalk repairs following the completion of the city’s contract with Chato’s Concrete.

**Region Prioritization and Time Frames** – Transportation & Infrastructure divided the city into 11 regions, as shown in Figure 1 on the following page. They were based on several criteria, including:<sup>9</sup>

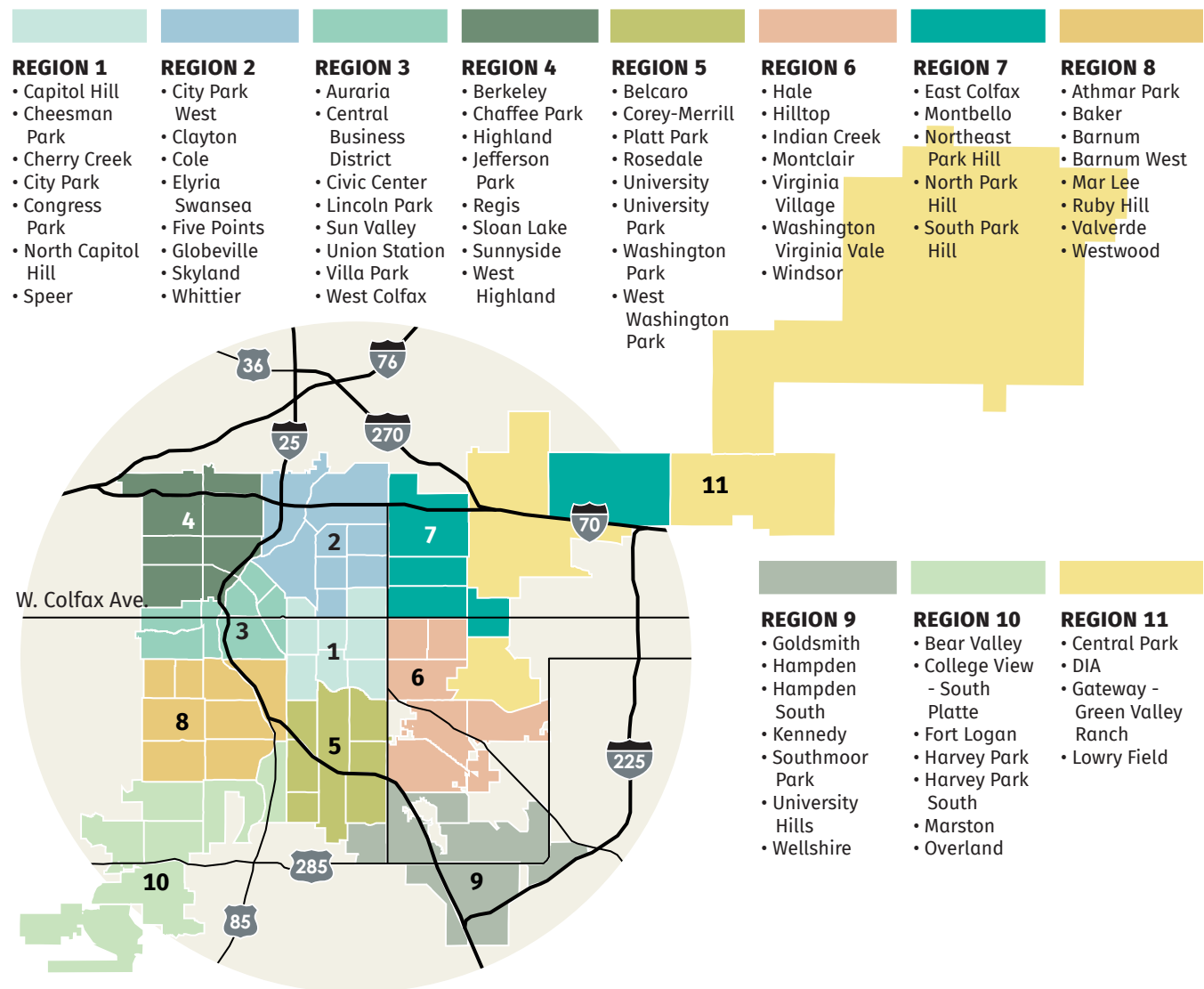
- Lowest rates of automobile ownership.
- Highest rates of youth, seniors, and people with disabilities.
- Damaged sidewalks close to schools and transit.
- Damaged sidewalks along main streets closest to transit when compared to residential streets.

<sup>7</sup> City and County of Denver, Council Bill No. 17-1251, accessed Sept. 8, 2020, <https://denver.legistar.com/LegislationDetail.aspx?ID=3200801&GUID=123BD2F7-85CC-4CDF-A274-C96A3D4A3608>.

<sup>8</sup> City and County of Denver, “Mayor’s 2020 Budget” Vol. 2 (2020), accessed April 1, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Budget/2020/2020BudgetVolume2.pdf>.

<sup>9</sup> Auditors did not analyze why or how the prioritization happened or whether the department’s chosen prioritization was appropriate.

**FIGURE 1. Neighborhood Sidewalk Repair Program Regions**



**Source:** Auditor's Office illustration based on information from the Department of Transportation & Infrastructure.

During initial planning for the program, the department wanted to raise property owners' awareness during the winter months and then begin sidewalk inspections in the spring and complete construction — or repairs — during the summer and fall. The department planned to take one year to complete each region, repeating the program in the subsequent year in the next prioritized region. It would adjust this timeline "as needed." Department officials said, by focusing on one region at a time, the city could concentrate resources in one geographical area — which could save homeowners money when they use the city's contractors for repairs.

In August 2018, the department began inspecting sidewalks in Region 1 — which includes neighborhoods such as Congress Park, Capitol Hill, and City Park. Outreach to property owners there included letters and public

meetings. Most questions and comments from community members were related to the timing of inspections and repairs, the property owners' legal responsibility to repair sidewalks, and whether the cost for repairs could be shared among all Denver residents.

**Sidewalk Inspection and Repair Process** – When inspecting sidewalks, the program's inspector looks at whether sidewalks are uneven, whether there is a wide gap between sidewalk panels, whether a tree is causing damage to the sidewalk, and whether a panel — including a flagstone one — is damaged and in need of repair or replacement.

Transportation & Infrastructure officials said the inspector uses established criteria for identifying hazardous or defective sidewalks that require repair or replacement and they work with the city's Forestry Division to address hazards caused by trees. The inspector enters information into the department's system of record, Accela, and then they issue a notice to the adjacent property owner — both while on-site and by mail. Property owners can view a copy of the inspection notice online and see photos of what needs repair.

Under city ordinance, within 45 days of the notice, the property owner can choose to either appeal the notice within the first 30 days or repair the hazardous condition.<sup>10</sup> If they choose to make the repairs, the inspector schedules an inspection to review the repairs 45 days after issuing the notice, as called for in the department's processes and as authorized by city ordinance.<sup>11</sup> However, under the department's processes, if repairs are not completed by day 46, the inspector can allow the property owner another 45 days to repair the sidewalk.

If the property owner still fails to make the needed repairs after those 90 days, city ordinance allows the Department of Transportation & Infrastructure to either assess fines or have the city's contractor complete the repairs — after which the city bills the property owner for the work, as well as for any expenses and penalties. If the property owner does not reimburse the city for the cost of those repairs, the department sends the account to the city's Treasury Division to pursue collections, and a lien may be placed on the property.<sup>12</sup>

The Neighborhood Sidewalk Repair Program works differently for commercial property owners compared to homeowners. A homeowner who receives a violation can choose for the city's contractor to complete the repairs on their behalf, they can choose to do the work themselves using established guidelines available on the city's website, or they can hire their own contractor to make the repairs. Commercial property owners must complete sidewalk repairs themselves and do not have the option of using

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<sup>10</sup> Denver Revised Municipal Code § 49-12(b)(3) and 49-12(b)(4).

<sup>11</sup> Denver Revised Municipal Code § 49-120 and 49-122.

<sup>12</sup> Denver Revised Municipal Code § 49-131.



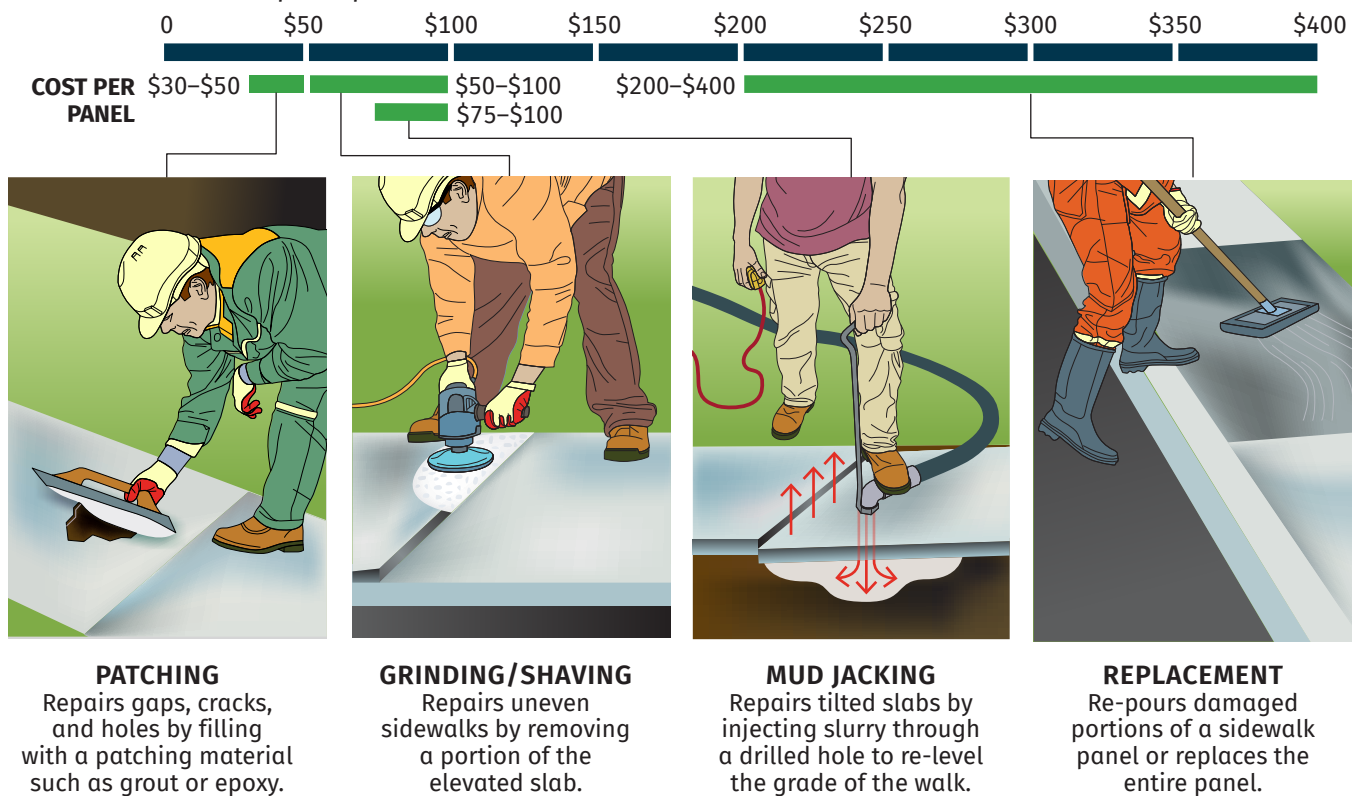
*Repairs can cost anywhere from \$30 to \$400 per sidewalk panel — depending on the types of material and the presence of trees.*

the city-provided contractor. When a property owner chooses to repair their sidewalk themselves, city ordinance requires them to have a permit.<sup>13</sup>

As illustrated in Figure 2 below, property owners can select from a variety of construction options to repair their sidewalks — including patching, grinding or shaving, mud jacking, or partially or fully replacing the sidewalk. According to Transportation & Infrastructure, these repairs can cost anywhere from \$30 to \$400 per sidewalk panel — depending on the types of material and the presence of trees. If a sidewalk has a specialty material, such as flagstone, the city provides information on repair options or the city can replace the damaged flagstone with plain or colored concrete.

After the repair, the city inspects the property again to determine whether the identified issues were corrected. If the city performs the repairs, the city bills the property owner for the work after the second inspection.

**FIGURE 2. Sidewalk Repair Options**



**Source:** Auditor's Office illustration based on information from the Department of Transportation & Infrastructure.

<sup>13</sup> Denver Revised Municipal Code § 49-111. According to Transportation & Infrastructure officials, permits are required for any work on commercial or multiunit properties, for replacing sidewalk panels adjacent to single-family or duplex properties, or for when a do-it-yourself repair prevents the sidewalk from remaining open to pedestrians.

**Affordability Options** – To help offset the cost of repairs, the city offers payment plans and affordability discounts for homeowners who qualify. Additionally, the city authorized less expensive repair methods not allowed outside the current repair region. If a homeowner uses the assistance program, either the city or the city's contractor must complete the repairs.

*Property owners outside the current region for the Neighborhood Sidewalk Repair Program are not eligible for affordability options.*

The affordability options — including the payment plans and discounts — are based on area median income levels that can change on an annual basis. The payment plan available only to homeowners has a three-year term and a 1% annual interest rate. Homeowners must pay the first installment one year after the repairs are done. Some repairs may be free if a resident qualifies based on area median income. A signed affidavit is required for both the payment plan and the affordability discount.

#### **AREA MEDIAN INCOME**

Area median income, or AMI, is based on household size and varies by year and by region. It is used to determine affordability options for housing, as well as sidewalk repairs. To qualify for a 100% sidewalk repair discount based on AMI, a four-person household in Denver would have to have an income of no more than \$100,000.

### **Other Denver Sidewalk Initiatives**

Alongside the Neighborhood Sidewalk Repair Program, the city also has other initiatives to address the city's sidewalk network.

- **Gap Program** – The Gap Program was specifically designed to build sidewalks where there were none, and it was funded primarily through a general obligation bond. A portion of the bond was set aside to address missing sidewalks in specific Denver neighborhoods. This program was also intended to add sidewalks to areas with low-income residents and higher rates of childhood obesity, and it was meant to provide access to schools, parks, and grocery stores.
- **ADA-Compliant Ramps** – In 2014, Denver also began a three-year effort to install ADA-compliant ramps at all intersections. This was in response to a settlement agreement to avoid a lawsuit. Transportation & Infrastructure officials said the department reports the number of accessible ramps completed each year to the U.S. Department of Justice as part of this agreement.

Ramps are also inspected as part of the Neighborhood Sidewalk Repair Program because they are considered part of the pedestrian path. When there is an issue with a ramp, the adjacent property owner is responsible for repairs.

- **Complaint-Based Repairs** – Residents outside the region in which the Neighborhood Sidewalk Repair Program is operating can report damaged or hazardous sidewalks by contacting the city’s help center, Denver 311. However, homeowners outside the current repair region who receive a complaint and have to repair their sidewalk are not eligible to use the city’s contractor or take advantage of the affordability options.



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## FINDING 1

### The Department of Transportation & Infrastructure Needs to Improve the Design of the Neighborhood Sidewalk Repair Program

The Department of Transportation & Infrastructure did not adequately design the Neighborhood Sidewalk Repair Program when it was established in 2017. Specifically, we found:

- The program may not address the needs of Denver residents by keeping the responsibility of sidewalk repair on the property owner.
  - The Department of Transportation & Infrastructure did not incorporate equitable treatment of Denver residents into the program design.
  - The department's rules and regulations also do not fully align with the Americans with Disabilities Act.<sup>14</sup>
- Payment plans and discounts are not available for all eligible Denver residents.
- Department officials did not define clear goals and performance measures for the program.
- The program does not have documented processes to coordinate repairs with other city agencies or local utilities.
- The program is missing policies and procedures.
- And, the program is understaffed and significantly behind schedule.

The original flawed design of the Neighborhood Sidewalk Repair Program means Denver residents have unequal access to safe and accessible sidewalks as well as affordability options for repairs. Additionally, because the program lacks key elements of an internal control system as part of its design — such as policies and procedures or clear performance measures — the department cannot ensure the program is meeting its intended goals.

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<sup>14</sup> U.S. Department of Justice, "2010 ADA Standards for Accessible Design" (2010), accessed June 22, 2020, <https://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.htm#c4>.

## Other Cities Pay for Sidewalk Repairs in Various Ways

Among the elements critical to a program's design are determining both the funding sources and the responsible parties.<sup>15</sup> In assessing the Neighborhood Sidewalk Repair Program, we looked at how other cities approach sidewalk repairs — particularly how they are funded and who is responsible for repairs. We also examined the results of a similar comparative analysis the city did four years ago.

When the Denver City Council discussed the city's sidewalk network in 2016, it reviewed sidewalk repair programs in Baltimore, Boston, Dallas, Kansas City, Milwaukee, Minneapolis, Seattle, and Albuquerque, New Mexico.<sup>16</sup>

Based on this review, the council learned sidewalk maintenance and repair were issues that many cities struggled with. Additionally, council members discussed sidewalk liability and responsibility with the City Attorney's Office and determined that the responsibility for sidewalk repair should remain with Denver property owners to protect the city from liability and to align with existing city ordinance.

According to a summary of results from the council's study, most of the cities handled sidewalk liability similar to Denver — by requiring the adjacent property owner to be responsible for a sidewalk's maintenance and repair.<sup>17</sup> Two cities — Milwaukee and Dallas — shared the financial burden with the property owner. Boston was the only city to have financial responsibility for sidewalk repair and maintenance.

The summary of the study's results also showed funding for sidewalk repairs can come from various sources — such as city and state bonds and state funding. In the eight cities the City Council reviewed, sidewalk repair program funding was usually provided through a city's general fund, often coming out of budgets for street, curb, and gutter projects. Sales tax, tax levies, and bond funds — or a combination thereof — contributed to program funding, as well.

Locally, the Denver City Council found Englewood, Colorado's city council established an "opt-in" fee that property owners pay into a utility fund to cover the costs of sidewalk maintenance and repair for most participating property owners. And the city of Westminster, Colorado, put a mandatory fee on residents' utility bills to fund sidewalks and street lighting.

The Denver City Council's research also showed that most of the cities had complaint-driven programs with varying time frames and methodologies for enforcing compliance, such as placing a lien on a property. All the cities

*A 2016 City Council review found sidewalk maintenance and repair were issues that many cities struggled with.*

<sup>15</sup> United Way Greater Toronto, "Program Design & Development Resources" (2016), accessed July 22, 2020, <https://www.unitedwaygt.org/document.doc?id=538>.

<sup>16</sup> The City Council's study did not specify whether the Kansas City program the council reviewed was that of Kansas City, Missouri, or Kansas City, Kansas.

<sup>17</sup> Auditors did not receive selection criteria or the study itself that the City Council performed. Rather, auditors reviewed only a summary of the study's results contained in a City Council white paper.

in the council's review aimed to provide a complete and well-maintained sidewalk network.

For this audit, we conducted our own comparison of six cities across the U.S. that had sidewalk repair programs similar to Denver's in that the programs were proactive and had an affordability component.

In these cities, the responsibility of sidewalk repair varied. In Honolulu and San Francisco, it was the city's responsibility except for damage resulting from trees planted by a property owner. In Boulder, Colorado; Sacramento, California; and Portland, Oregon, sidewalk repair was the responsibility of the adjacent property owner. Austin, Texas, took on full responsibility of sidewalk repair costs.

We also found these six cities had various funding sources for their sidewalk repairs — such as through a city's general fund, through bond money, from sales tax, and through grants. One city — Portland — had a rolling, or revolving fund, similar to Denver.

Because Denver's ordinance regarding property owners' responsibility for sidewalk repair dates back to the 1950s, it is an appropriate time for the city revisit the ordinance and assess whether the current approach remains reasonable and meets the city's needs. Leading practices say a needs assessment should be conducted to ensure a program addresses the needs of a target population. They also say understanding the full complexity of needs will help support the design of a program for a specific population.<sup>18</sup>

### **The Design of Denver's Neighborhood Sidewalk Repair Program Does Not Ensure All Denver Residents Can Use Sidewalks and Have Access to Affordability Options for Repairs**

We found the design of the Neighborhood Sidewalk Repair Program does not provide for equitable outcomes for all residents, because it does not require adherence to Americans with Disabilities Act standards and not all

#### **COMPARING SIDEWALK PROGRAMS IN OTHER CITIES**

For our analysis as part of this audit, we compared sidewalk programs in:

- Austin, Texas.
- Boulder, Colorado.
- Sacramento, California.
- Portland, Oregon.
- San Francisco.
- Honolulu.

<sup>18</sup> United Way Greater Toronto, "Program Design & Development Resources" (2016), accessed July 22, 2020, <https://www.unitedwaygt.org/document.doc?id=538>.



eligible Denver residents can access financial assistance to cover repair costs.<sup>19</sup>

Both the “Denver Moves” plan and the mayor’s 2020 priorities describe mobility and accessibility through sidewalk improvements as being goals for the city.<sup>20</sup> Specifically, “Denver Moves” says ADA-compliant sidewalks are a city goal, and part of the mission of the Department of Transportation & Infrastructure is to enhance quality of life by delivering equitable public infrastructure and services.<sup>21</sup>

**Noncompliance with ADA Standards** – We found the Department of Transportation & Infrastructure’s rules and regulations for identifying hazardous or defective sidewalks were not designed to align with ADA standards for accessible routes.<sup>22</sup> Specifically:

- Transportation & Infrastructure does not require a 5-foot-wide passing space every 200 feet when a sidewalk is less than 5 feet wide.
- The department allows repaired sidewalks to have cross-slopes – the slope from side to side – of up to 5%, which exceeds the ADA maximum of 2.08%.
- The department allows for elevation changes between sections of sidewalks of up to three-quarters of an inch – beyond the ADA maximum of a half-inch.

If cross-slopes and elevation changes are not prioritized when repairing sidewalks, residents in Denver neighborhoods who have physical disabilities, are elderly, or who have small children in strollers could remain restricted in where they can and cannot walk based on the condition of a sidewalk.

Transportation & Infrastructure personnel could not provide a reasoning for their rules and regulations not aligning with ADA standards.

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<sup>19</sup> City and County of Denver Department of Transportation & Infrastructure, “Rules and Regulations: Criteria for Hazardous or Defective Sidewalks” (2018), accessed March 26, 2020, [https://www.denvergov.org/content/dam/denvergov/Portals/705/documents/rules-regulations/PWRR-011.1-Criteria\\_for\\_Hazardous\\_or\\_Defective\\_Sidewalks.pdf](https://www.denvergov.org/content/dam/denvergov/Portals/705/documents/rules-regulations/PWRR-011.1-Criteria_for_Hazardous_or_Defective_Sidewalks.pdf); City and County of Denver Department of Transportation & Infrastructure, “Transportation Standards & Details for the Engineering Division” (2017).

<sup>20</sup> City and County of Denver, “Denver Moves: Pedestrians and Trails” (2019), accessed April 2, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/Denveright/documents/pedestrians-trails/Denver-Moves-Pedestrians-Trails-2019.pdf>; City and County of Denver, “Mayor’s 2020 Budget” Vol. 1 (2020), accessed Sept. 8, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Budget/2020/2020BudgetVolume1.pdf>.

<sup>21</sup> City and County of Denver, “Denver Moves: Pedestrians and Trails”; City and County of Denver, “Mayor’s 2020 Budget” Vol. 2 (2020), accessed April 1, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Budget/2020/2020BudgetVolume2.pdf>.

<sup>22</sup> City and County of Denver Department of Transportation & Infrastructure, “Rules and Regulations: Criteria for Hazardous or Defective Sidewalks”; City and County of Denver Department of Transportation & Infrastructure, “Transportation Standards & Details for the Engineering Division.”

ADA guidelines say federal requirements are to be met when making changes to facilities, such as sidewalks.<sup>23</sup> Further, the Federal Highway Administration under the U.S. Department of Transportation says projects must meet accessibility requirements when a public agency alters facilities that affect pedestrian access.<sup>24</sup> While the Federal Highway Administration notes sidewalk maintenance does not need to adhere to ADA standards, it also says that alterations require ADA compliance. A maintenance project that replaces long sections of sidewalk could be considered an alteration and, therefore, require ADA compliance.

#### RELATED FINDINGS

In Finding 2, we discuss in more detail how the Neighborhood Sidewalk Repair Program is not requiring compliance with ADA standards, as well as how the program is estimated to be decades behind schedule. These discussions begin on pages 22 and 27, respectively.

*The city's own "Denver Moves" plan says the city should have "a complete network of well-maintained, ADA-compliant sidewalks."*

Additionally, the Federal Highway Administration has endorsed the use of proposed accessibility guidelines for public rights of way as a best practice where other building standards do not apply; these are recommended ADA guidelines proposed to be the new minimum accessibility criteria for pedestrian facilities.<sup>25</sup>

In comparing six other cities with sidewalk repair programs similar to Denver's, we found three — Austin, Boulder, and Sacramento — used ADA guidelines as the basis of their criteria for their sidewalk repair programs.

In Denver, the city's own "Denver Moves" plan outlines the city's commitment to accessible sidewalks. The first goal says the city should have "a complete network of well-maintained, ADA-compliant sidewalks."<sup>26</sup> However, after "Denver Moves" was published in 2019, Transportation & Infrastructure personnel did not revise the sidewalk repair program's rules and regulations to reflect that citywide plan.

**Affordability Program Not Available to Other Homeowners** – Denver residents outside the current inspection region — Region 1, as shown in Figure 1 on page 4 — are not eligible for payment plans or discounts offered through the Neighborhood Sidewalk Repair Program. The design of the program was flawed, because no needs assessment was performed to

<sup>23</sup> U.S. Department of Justice, "2010 ADA Standards for Accessible Design" (2010), accessed June 22, 2020, <https://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.htm#c4>. These federal standards set minimum requirements for newly designed and constructed or altered state and local government facilities so they can be accessible to and usable by individuals with disabilities.

<sup>24</sup> Federal Highway Administration, FHWA-SA-13-037, "Guide for Maintaining Pedestrian Facilities for Enhanced Safety" (2013), accessed April 8, 2020, [https://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/fhwasa13037/fhwasa13037.pdf](https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/fhwasa13037.pdf).

<sup>25</sup> U.S. Access Board, "Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way" (2011), accessed Sept. 29, 2020, <https://www.access-board.gov/attachments/article/743/nprm.pdf>. These accessibility guidelines for public rights of way propose accessibility guidelines for the design, construction, and alteration of pedestrian facilities in public rights of way, such as sidewalks.

<sup>26</sup> City and County of Denver, "Denver Moves: Pedestrians and Trails" (2019), accessed April 2, 2020, <https://www.denvergov.org/content/dam/denvergov/Portals/Denveright/documents/pedestrians-trails/Denver-Moves-Pedestrians-Trails-2019.pdf>.

*The city does not offer financial assistance to homeowners outside Region 1.*

ensure an equitable offering of payment assistance to all Denver residents who must repair their adjacent sidewalks.<sup>27</sup>

Department managers said discussions to change this policy are in the early stages. But in the interim, residents outside the current inspection region who meet the income criteria required to be eligible for the affordability options do not have access to that financial assistance when they have to repair their sidewalks as a result of a complaint.<sup>28</sup>

From the beginning of the complaint-based sidewalk repair program and the Neighborhood Sidewalk Repair Program, the two programs were not designed to complement one another — which has led to homeowners who face a sidewalk complaint being responsible for the full cost of repairs when a homeowner in Region 1 may be eligible for financial assistance.

A needs assessment, as recommended by leading practices, could have determined which Denver residents should be eligible for financial assistance.<sup>29</sup> However, when designing the Neighborhood Sidewalk Repair Program, Transportation & Infrastructure officials conducted no such assessment — even though the program took into account local demographics when officials prioritized regions for repair, such as the number of households with residents with disabilities.

Department leaders said their prioritization of the regions was driven by the program's objective to create safer sidewalks to increase pedestrians' mobility. The department's evaluated criteria to determine the prioritization of the regions included the safety proxy or roadway classification around sidewalks in a region, the connectivity and number of pedestrian generators — such as schools and major employment centers — in a region, and the target user population in a region.

#### FOR MORE INFORMATION

Reference Appendix B for a list of leading practices — including federal guidance — related to program design, implementation, monitoring, and evaluation.

<sup>27</sup> United Way Greater Toronto, "Program Design & Development Resources" (2016), accessed July 22, 2020, <https://www.unitedwaygt.org/document.doc?id=538>; United Way Calgary and Area, "A Literature Review of Best Practices" (2011), accessed July 22, 2020, [https://calgaryunitedway.org/wp-content/uploads/2019/03/program\\_design\\_a\\_literature\\_review\\_of\\_best\\_practices.pdf](https://calgaryunitedway.org/wp-content/uploads/2019/03/program_design_a_literature_review_of_best_practices.pdf).

<sup>28</sup> The city's affordability options — including payment plans and discounts — are based on a homeowner's "area median income," which depends on household size and varies by year.

<sup>29</sup> United Way Greater Toronto, "Program Design & Development Resources" (2016), accessed July 22, 2020, <https://www.unitedwaygt.org/document.doc?id=538>; United Way Calgary and Area, "A Literature Review of Best Practices" (2011), accessed July 22, 2020, [https://calgaryunitedway.org/wp-content/uploads/2019/03/program\\_design\\_a\\_literature\\_review\\_of\\_best\\_practices.pdf](https://calgaryunitedway.org/wp-content/uploads/2019/03/program_design_a_literature_review_of_best_practices.pdf).

## **The Department of Transportation & Infrastructure Did Not Include Other Essential Design Elements for the Neighborhood Sidewalk Repair Program**

In addition to the examples discussed previously, the city leaders originally involved in discussing the Neighborhood Sidewalk Repair Program did not sufficiently design the program to address deficiencies in the city's sidewalk network. We found the sidewalk repair program lacks essential program design elements outlined in leading practices — such as specific, documented goals and performance measures, complete policies and procedures, and an analysis to determine the adequate number of staff.<sup>30</sup>

The website for Denver's sidewalk repair program says the program's intention is to address sidewalks that are “damaged, uneven, or sloping excessively” and to create a more accessible network of sidewalks.<sup>31</sup> But the Department of Transportation & Infrastructure lacks formally documented objectives and specific intended outcomes to that end.<sup>32</sup> Other documentation, such as the mayor's budget, lacks these descriptions as well. Formal documentation of program design elements would include a problem statement, a needs assessment, a program goal, program objectives, and a logic model that describes the program's short- and long-term outcomes.<sup>33</sup>

The program relied on several “assumptions” — such as estimating the percentage of single units or townhomes where a property owner would be responsible for repairs, the average feet of sidewalk per property, and the percentage of properties requiring repairs — based on the department's sampling from a representative group in each region. The department could not provide complete documentation to support these preliminary estimates. Department personnel claimed the goal to complete one region per year had not been done elsewhere in the United States, and they said it was based on “political ambition.”

Federal guidance and various leading practices say that when designing a program, managers should clearly define the program's mission and objectives, select program outcomes that reflect the expected benefits, create performance measures for effective monitoring, and establish a formal evaluation process.<sup>34</sup>

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<sup>30</sup> Reference lines A, B, D, and E of Table 3 in Appendix B for source information.

<sup>31</sup> “Neighborhood Sidewalk Repair Program,” Department of Transportation & Infrastructure webpage, City and County of Denver, accessed March 26, 2020, <https://www.denvergov.org/content/denvergov/en/transportation-infrastructure/programs-services/pedestrians/sidewalks/neighborhood-repair.html>.

<sup>32</sup> United Way Greater Toronto, “Program Design & Development Resources” (2016), accessed July 22, 2020, <https://www.unitedwaygt.org/document.doc?id=538>; United Way Calgary and Area, “A Literature Review of Best Practices” (2011), accessed July 22, 2020, [https://calgaryunitedway.org/wp-content/uploads/2019/03/program\\_design\\_a\\_literature\\_review\\_of\\_best\\_practices.pdf](https://calgaryunitedway.org/wp-content/uploads/2019/03/program_design_a_literature_review_of_best_practices.pdf).

<sup>33</sup> United Way Calgary and Area, “A Literature Review of Best Practices” (2011), accessed July 22, 2020, [https://calgaryunitedway.org/wp-content/uploads/2019/03/program\\_design\\_a\\_literature\\_review\\_of\\_best\\_practices.pdf](https://calgaryunitedway.org/wp-content/uploads/2019/03/program_design_a_literature_review_of_best_practices.pdf); U.S. Government Accountability Office, GAO-12-208G, “Designing Evaluations” (2012), accessed July 22, 2020, <https://www.gao.gov/assets/590/588146.pdf>.

<sup>34</sup> Reference lines A, B, D, and E in Table 3 in Appendix B for source information.

The U.S. Government Accountability Office further emphasizes the importance of first establishing performance measures that clearly represent the nature of a program's expected benefit.<sup>35</sup> Federal standards also say managers should design a process to evaluate the program's performance in order to later address deviations from the intended outcomes in a timely manner.<sup>36</sup>

Auditors confirmed the Department of Transportation & Infrastructure has not designed a process to formally evaluate the sidewalk repair program and the program's success is informally measured by "the number of hazards reduced" in Denver's sidewalk network.

Department managers underestimated the number of neighborhood sidewalks needing repair in their planning, and as mentioned, they could not provide documentation to support their preliminary estimates. The department estimated 12% of city sidewalks would need to be repaired, but so far, Transportation & Infrastructure reports about 80% of households in Region 1 require sidewalk repairs. Meanwhile, only about 6.4% of repairs in Region 1 were completed as of April 2019, putting the program decades behind schedule — which we discuss further in Finding 2 beginning on page 27.

*Department managers underestimated the number of neighborhood sidewalks needing repair.*

We learned the department personnel currently implementing Denver's sidewalk repair program were not involved in the original program design, and so they were able to provide only limited historical knowledge of how the program was designed. They were unable to provide documentation of a formal program objective, and city leaders could also not provide specific information or documentation on the program's original design.

**Missing and Incomplete Policies and Procedures** – We found Transportation & Infrastructure did not include all necessary elements of an internal control system when designing the program. Specifically, the department designed incomplete policies and procedures for some sidewalk repair program functions — and in some cases, the department did not create any at all.<sup>37</sup>

For instance, department managers did not develop policies and procedures for their inspector, which means inspections for sidewalk repairs could be inconsistent. We were unable to determine whether inspections were conducted consistently, because measurements taken during inspections that either identify a sidewalk panel in need of repair or determine a panel is in compliance after its repair were not recorded in the department's information system.

<sup>35</sup> U.S. Government Accountability Office, GAO-12-208G, "Designing Evaluations"; U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed June 23, 2020, <https://www.gao.gov/assets/670/665712.pdf>.

<sup>36</sup> U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government."

<sup>37</sup> U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government."



The program's only inspector resigned in December 2019, and the position has remained vacant as of September 2020. Department personnel said that, because the former inspector had been an existing inspector within the Department of Transportation & Infrastructure, they were previously trained in identifying sidewalk hazards. However, before their departure, the former inspector recommended the role be more clearly defined in the future. For example, they told us that managers failed to explain their expectations of how many initial inspections the inspector was to perform in a given time.

Additionally, the department has missing or unclear policies and procedures on how the sidewalk repair program's managers should monitor sidewalk repair data entered by the inspector in the software system the department uses. This means that the data entered by the inspector could be inaccurate.

#### RELATED FINDINGS

We further discuss issues related to data collection, review methods, and reliability in Finding 2, beginning on page 33.

The program was not designed to include all the necessary internal controls a program needs to function well, which includes documenting responsibilities through policies and procedures and establishing performance measures.<sup>38</sup>

The U.S. Government Accountability Office says organizations must develop and maintain documentation of an internal control system.<sup>39</sup> The GAO defines an "internal control system" as "a continuous built-in component of operations, effected by people, that provides reasonable assurance ... that an entity's objectives will be achieved." This guidance also says organizations should design policies and procedures to achieve their objectives.

**Insufficient Initial Program Staffing** – Several factors have contributed to the Neighborhood Sidewalk Repair Program falling short of its intended timeline of completing inspections and repairs in one region per year: the department's inaccurate estimate of the amount of sidewalks needing repair and the department's determination that eight staff positions was "minimally sufficient." In the design of the program, the department failed to document a specific need for the program, define and document the program's objectives or outcomes, or perform a needs assessment in order to determine the appropriate number of staff needed to keep the program on its intended timeline.<sup>40</sup>

Department officials said "a lot of assumptions were made" to determine the initial number of staff needed. The original design of the program

<sup>38</sup> U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government."

<sup>39</sup> U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government."

<sup>40</sup> Reference lines B, D, and E in Table 3 in Appendix B for source information.

*Department officials said “a lot of assumptions were made” to determine the number of staff needed.*

called for only three full-time employees; it currently operates with eight positions. However, three of these positions are vacant, including the program’s only inspector position.

Four of the six other cities we looked at with comparable sidewalk repair programs and similar processes each had more than one inspector dedicated to their sidewalk repair programs: Portland, Sacramento, Austin, and San Francisco. Even with that additional staff, officials in those cities still mentioned needing more personnel to reach their program goals.

According to the Department of Transportation & Infrastructure’s budget request last year, even an increase of three positions — which would raise total program operations staff to 11 when fully staffed — would still not have allowed the department to complete the first region of the Neighborhood Sidewalk Repair Program on time.

**Informal Coordination with Other Agencies** – Managers in different city agencies informally talk to one another, but when designing the sidewalk repair program, the Department of Transportation & Infrastructure did not include a process to proactively communicate with other city agencies or local utilities to coordinate sidewalk repairs.

Officials said some repairs require working with a city forester when repairing a sidewalk next to a large or old tree, and sometimes they must coordinate with third parties, such as Denver Water or Xcel Energy, to discuss upcoming projects. However, the department does not typically coordinate sidewalk repairs for the Neighborhood Sidewalk Repair Program with other programs or projects. This could result in Denver residents having to pay for sidewalk repairs that could have otherwise been done and paid for by the city or local utility providers.

If Transportation & Infrastructure officials do not reconsider the design of the sidewalk repair program, Denver residents will likely be required to take on unnecessary financial burdens to repair sidewalks, and sidewalks in Denver’s neighborhoods will not be equally safe or accessible for those who use wheelchairs, walkers, or strollers. Missing policies and procedures mean the program may operate with inconsistent inspections and data-entry practices. And working with fewer staff than needed is also negatively affecting the program’s objectives and timelines.

## RECOMMENDATION 1.1

**Conduct Needs Assessment** – The Department of Transportation & Infrastructure should conduct and document a formal needs assessment of the Neighborhood Sidewalk Repair Program to ensure the program meets the city’s needs.

**Agency Response: Agree, Implementation Date – April 30, 2021**

## RECOMMENDATION 1.2

**Review, Update, and Document Program Design** – The Department of Transportation & Infrastructure should use leading practices to review and update the existing program design and then document all design elements of the Neighborhood Sidewalk Repair Program — including the overarching objective, specific program goals, performance measures, who is responsible for sidewalk maintenance and repairs, how the program is funded, coordination with other city agencies and utilities, and a plan for evaluating the program to ensure it meets the intended objectives and outcomes.

**Agency Response: Agree, Implementation Date – June 30, 2021**

## RECOMMENDATION 1.3

**Evaluate Sidewalk Programs** – The Department of Transportation & Infrastructure should evaluate how the Neighborhood Sidewalk Repair Program fits with — and should fit with — the city’s other sidewalk maintenance programs and transportation and infrastructure plans such as the Gap Program, complaint-based repairs, or the “Denver Moves” plan.

**Agency Response: Agree, Implementation Date – June 30, 2021**

## RECOMMENDATION 1.4

**Review City Ordinance regarding Responsibility and Funding Obligations for Sidewalk Repairs** – The Department of Transportation & Infrastructure should review city ordinance and assess whether the property owners’ responsibility and liability to maintain and repair sidewalks is reasonable and is the best approach to address the city’s needs. This should include reviewing the funding mechanisms for sidewalk repair. The department should document this decision-making process and, as needed, work with appropriate parties to amend the ordinance.

**Agency Response: Agree, Implementation Date – Dec. 31, 2021**

## RECOMMENDATION 1.5

**Incorporate ADA Compliance into Program Redesign** – The Department of Transportation & Infrastructure should ensure the redesign of the Neighborhood Sidewalk Repair Program requires that repair work comply with Americans with Disabilities Act standards for accessible routes — including but not limited to those related to sidewalk width, passing space, cross-slope, and elevation changes.

**Agency Response: Agree, Implementation Date – June 30, 2021**

## RECOMMENDATION 1.6

**Document Policies and Procedures** – When redesigning the Neighborhood Sidewalk Repair Program, the Department of Transportation & Infrastructure should document policies and procedures for program implementation.

**Agency Response: Agree, Implementation Date – Sept. 30, 2021**

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## FINDING 2

### **The Department of Transportation & Infrastructure Has Not Effectively Implemented, Monitored, or Evaluated the Neighborhood Sidewalk Repair Program**

Because, as we discussed in Finding 1, the Department of Transportation & Infrastructure did not clearly design the Neighborhood Sidewalk Repair Program and its intended outcomes, the department cannot ensure the program is effectively implemented or monitored. Nor can it evaluate the program's success.

As of Sept. 2, 2020, the department had conducted about 1,100 inspections and approved about 800 completed repairs in the program's Region 1 — which includes the Congress Park, Capitol Hill, and City Park neighborhoods. However, we identified problems in the implementation and monitoring of this work.

Specifically, the Neighborhood Sidewalk Repair Program does not:

- Ensure sidewalk repairs are compliant with ADA standards and department rules and regulations.
- Meet timelines for the completion of repairs.
- Have quality data to allow program managers to effectively implement, monitor, and evaluate the program.

As described in further detail beginning on page 33, we identified issues with the reliability of Transportation & Infrastructure's sidewalk repair data, as well as problems with related procedures. For this reason, the numbers we use for total inspections and repairs may vary throughout Finding 2, because department staff could not provide consistent numbers of records during the audit.



**The Department of Transportation & Infrastructure Is Not Ensuring Neighborhood Sidewalk Repairs Are Compliant with the Americans with Disabilities Act or Department Rules and Regulations for Accessibility**

To ensure public buildings and facilities — including sidewalks — are accessible to individuals with disabilities as required under the Americans with Disabilities Act, the U.S. Department of Justice created standards that set requirements for accessibility, including how to make routes accessible for walking surfaces.<sup>41</sup> As discussed in Finding 1 starting on page 12, those ADA standards contain the following requirements for accessible routes:

- The sidewalk width can be no less than 3 feet, and if it is under 5 feet, there must be a passing space every 200 feet that measures 5 feet by 5 feet.
- The cross-slope — or how much the walkway tilts from side to side — can be no steeper than 2.08%.
- Any elevation changes in the walking surface can be no more than a half-inch, and any elevation changes between a quarter inch and a half-inch must be beveled, so the slope is not too steep.

Meanwhile, Denver’s Department of Transportation & Infrastructure has its own rules and regulations to identify and prevent hazardous sidewalks.<sup>42</sup> These rules and regulations — which are less stringent than the ADA standards — say Denver sidewalks:

- Can have a cross-slope up to 5%.
- Can have elevation changes up to three-quarters of an inch.
- Can have gaps (i.e., cracks) in the sidewalk of up to three-quarters of an inch wide.

To assess whether sidewalk repairs through the Neighborhood Sidewalk Repair Program were compliant with ADA standards and department regulations, auditors observed sidewalk repairs by selecting a statistically representative random sample of 37 properties out of 750 completed repairs in Region 1. During these observations, we identified several properties with repaired sidewalk panels that were not compliant with ADA or Department of Transportation & Infrastructure standards.

The results of this analysis are summarized in Table 2 on the next page, and two examples of these noncompliant sidewalk repairs are also shown there.

**FOR MORE INFORMATION**

For more details on the data analysis and sampling methodology used for this report, reference Appendix A.

<sup>41</sup> U.S. Department of Justice, “2010 ADA Standards for Accessible Design” (2010), accessed June 22, 2020, <https://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.htm#c4>.

<sup>42</sup> City and County of Denver Department of Transportation & Infrastructure, “Rules and Regulations: Criteria for Hazardous or Defective Sidewalks” (2018), accessed March 26, 2020, [https://www.denvergov.org/content/dam/denvergov/Portals/705/documents/rules-regulations/PWRR-011.1-Criteria\\_for\\_Hazardous\\_or\\_Defective\\_Sidewalks.pdf](https://www.denvergov.org/content/dam/denvergov/Portals/705/documents/rules-regulations/PWRR-011.1-Criteria_for_Hazardous_or_Defective_Sidewalks.pdf).

**TABLE 2.** Sidewalk Repairs Auditors Identified as Noncompliant with ADA Standards and Department of Transportation & Infrastructure Regulations, out of 37 Properties Sampled

Requirement Type	Americans with Disabilities Act Standards Not Met	Department of Transportation & Infrastructure Regulations Not Met
Sidewalk Width	0 (0%)	N/A
Cross-Slope	21 (57%)	4 (11%)
Elevation Change	7 (19%)	0 (0%)
Gaps	N/A	2 (5%)

**Source:** Auditor’s Office observations of sidewalk repairs completed through the Neighborhood Sidewalk Repair Program.

**Note:** The “2010 ADA Standards for Accessible Design” do not include requirements for gaps in a sidewalk surface, and Denver’s Department of Transportation & Infrastructure does not have requirements for sidewalk width. Reference Appendix A for more details on our sampling methodology.

#### NONCOMPLIANT SIDEWALK REPAIRS



Auditors took these photos of two different sidewalk repairs completed through the Neighborhood Sidewalk Repair Program. **At left:** A repaired sidewalk has a cross-slope that exceeds both ADA standards and Department of Transportation & Infrastructure regulations — which mandate cross-slopes are not to exceed 2.08% and 5%, respectively. **At right:** A repaired sidewalk violates the Denver Department of Transportation & Infrastructure’s regulation that gaps be no greater than three-quarters of an inch; the gaps shown here range from 0.79 inches to 1.13 inches. (Photos by Audit Services Division.)

In addition to the department regulations and the federal standards that mandate ADA compliance for alterations of public sidewalks, the city has expressed its own goal through the citywide “Denver Moves” plan to have ADA-compliant sidewalks. And the Department of Transportation & Infrastructure’s contract with Chato’s Concrete further says sidewalk repairs conducted by the contractor must meet the department’s transportation standards.<sup>43</sup> These standards — used when constructing new sidewalks — set cross-slope accessibility at 1.5%, with a 2% maximum.

#### **LACK OF PERMIT ENFORCEMENT FOR SIDEWALK REPAIRS**

Transportation & Infrastructure officials did not require homeowners to obtain permits to repair their sidewalks if they could keep the sidewalk open to foot traffic during repairs. City ordinance requires every homeowner who reconstructs or repairs a sidewalk to first obtain a permit from the department before conducting repairs.

Of the 37 sidewalks auditors observed, 18 were listed as having been “owner repaired” in Accela, Transportation & Infrastructure’s system of record. Of those 18, only three had permit numbers documented in Accela, but only one was a repair conducted by a homeowner. The remaining two repairs were completed by third-party contractors hired by the homeowners. According to city ordinance, the other 15 sidewalks should have also obtained permits for repairs.

The Neighborhood Sidewalk Repair Program’s noncompliance with ADA standards is due to Transportation & Infrastructure officials’ flawed program design — including having no established goals and expectations and lacking monitoring and evaluation processes. Department officials said the decision to not hold sidewalk repairs to ADA standards was made by previous managers; they said the decision was likely made to keep homeowners’ costs as low as possible. However, there is no documentation showing that the previous management nor the current leadership evaluated the program’s compliance with ADA standards since the program began.

The U.S. Government Accountability Office says managers should use periodic, ongoing evaluations to monitor results and determine whether controls are applied consistently and at relevant times.<sup>44</sup> The office explains that managers should design appropriate control activities to help them fulfill their responsibilities. These can include documenting transactions,

<sup>43</sup> City and County of Denver Department of Transportation & Infrastructure, “Transportation Standards & Details for the Engineering Division” (2017).

<sup>44</sup> U.S. Government Accountability Office, GAO-14-704G, “Standards for Internal Control in the Federal Government” (2014), accessed Aug. 10, 2020, <https://www.gao.gov/assets/670/665712.pdf>.

policies, and procedures; reviewing performance; and establishing and reviewing performance measures.<sup>45</sup>

Additionally, the U.S. Department of State's leading practices on program design say monitoring should include collecting data that is then compared against performance indicators or milestones to determine whether desired results are occurring as expected in the program's implementation.<sup>46</sup> This data helps an organization understand when an evaluation is needed to improve program effectiveness.

Without established goals for and ongoing monitoring and evaluation of completed sidewalks repairs, Transportation & Infrastructure cannot ensure repairs are meeting all relevant standards and that the Neighborhood Sidewalk Repair Program is meeting its intended outcomes.

When asked about the completed sidewalk repairs that were noncompliant with the department's own rules and regulations, Transportation & Infrastructure officials said the noncompliant repairs likely resulted from the sidewalk panels naturally settling since repair work. But department officials said they could not be certain of this because many different people — including the program manager and other department managers — have responsibilities for sidewalk inspections, and one of them “could have missed something.”

An inspector could miss a noncompliant sidewalk because, as we discussed previously on pages 16-17, the department does not have documented policies and procedures for the sidewalk inspection process, possibly leading to inconsistencies in inspection results. Meanwhile, Transportation & Infrastructure does have policies defining a hazardous or defective sidewalk; procedures for entering sidewalk inspection information into Accela, the department's system of record; and procedures for issuing a notice to a property owner.

Absent the procedures for conducting the sidewalk inspections themselves, we had to ask the former inspector for the Neighborhood Sidewalk Repair Program how they conducted inspections in order for us to understand the inspection process.

The GAO says managers should develop and maintain documentation to explain to their staff how controls are working and to retain organizational knowledge.<sup>47</sup> This should involve documenting who is responsible for a process' objectives, for implementing that process, and for overseeing the control activities detailed in policies. Those in key roles should also outline policies in day-to-day procedures that may include when an activity — such

*The Department of Transportation & Infrastructure cannot ensure sidewalks repaired through the Neighborhood Sidewalk Repair Program are safe and accessible for all Denver residents.*

<sup>45</sup> U.S. Government Accountability Office, “Standards for Internal Control in the Federal Government.”

<sup>46</sup> U.S. Department of State, “Program Design and Performance Management Toolkit” (2018), accessed July 22, 2020, <https://www.state.gov/wp-content/uploads/2018/12/Program-Design-and-Performance-Management-Toolkit.pdf>.

<sup>47</sup> U.S. Government Accountability Office, GAO-14-704G, “Standards for Internal Control in the Federal Government” (2014), accessed Aug. 10, 2020, <https://www.gao.gov/assets/670/665712.pdf>.

as inspection — should be performed and what corrective actions should result when deficiencies are identified.

Because some sidewalk repairs do not comply with ADA standards or department regulations as we detailed in Table 2 on page 23, the Department of Transportation & Infrastructure cannot ensure sidewalks repaired through the Neighborhood Sidewalk Repair Program are safe and accessible for all Denver residents.

Based on our random sample of the 37 properties out of 750 in Region 1 that had sidewalk repairs completed through the program, we can say with 90% confidence:

- Between 42.3% and 70.5% of those 750 properties do not comply with ADA standards for cross-slopes.
- Between 3.8% and 22.9% of the properties do not comply with the Department of Transportation & Infrastructure’s regulations for cross-slopes.
- Between 9.5% and 32.3% of the properties do not comply with ADA standards for elevation changes.
- Between 1.1% and 15.9% of the properties do not comply with the Department of Transportation & Infrastructure’s standards for gaps in sidewalks.

If Transportation & Infrastructure continues with having incomplete processes that do not align with federal accessibility standards, future sidewalk repairs in the rest of the city will also likely not comply with ADA standards — nor the department’s own regulations — for safe and accessible sidewalks.

## RECOMMENDATION 2.1

**Document Policies and Procedures for Inspections** – The Department of Transportation & Infrastructure should document policies and procedures for the Neighborhood Sidewalk Repair Program inspector — including how to conduct both initial inspections and post-repair inspections — to promote consistency in sidewalk repairs.

**Agency Response: Agree, Implementation Date – March 31, 2021**



## RECOMMENDATION 2.2

**Enforce ADA Standards and Department Regulations** – The Department of Transportation & Infrastructure should monitor repairs done under the Neighborhood Sidewalk Repair Program to enforce compliance with Americans with Disabilities Act standards, as well as department rules and regulations for accessible sidewalks.

**Agency Response: Agree, Implementation Date – June 30, 2021**

## RECOMMENDATION 2.3

**Require Permits for All Sidewalk Repairs** – The Department of Transportation & Infrastructure should require homeowners to obtain permits for all sidewalk repair work as city ordinance requires.

**Agency Response: Agree, Implementation Date – June 30, 2021**

### **The Neighborhood Sidewalk Repair Program Is Decades Behind Schedule**

As of Sept. 2, 2020, the department reported it completed about 1,100 inspections in Region 1 — about 900 of which were residential sidewalk inspections. Of the sidewalks inspected, around 80% required repairs. Inspections have been on hold since October 2019, with the last inspection occurring Oct. 25 of that year.

The program's only inspector resigned in December 2019. In spring 2020, department officials were scheduling interviews to fill that vacancy, but they halted the interview process due to the COVID-19 pandemic. Weather conditions and addressing customer complaints also impacted the inspection process, slowing it down during colder months.

Following the departure of the inspector last fall and the onset of COVID-19 this past spring, officials said they were assessing the program, including how it is funded and whether it operates efficiently. Department leaders have informally discussed options such as hiring additional inspectors to conduct citywide inspections, integrating the program with street maintenance, altering the funding of the program, expanding affordability options, resorting back to just a complaint-based-only program, or even shutting down the program.

*About 80% of  
sidewalks inspected  
so far in Region 1  
required repairs.*

Transportation & Infrastructure officials said the pandemic also caused the department to relax its proactive approach so as to avoid overburdening residents with repair costs. Because of the pandemic, the department officially put the program on hiatus in May 2020; it later planned to resume inspections in July 2020. If a property owner received a hazardous sidewalk

notice before May 2020, they were still required to complete the sidewalk repair within the 45-day time frame prescribed in city ordinance.

We found the Neighborhood Sidewalk Repair Program is so far behind schedule for its goal to complete one region per year that even a 43% increase in staff — as Transportation & Infrastructure had asked for last year — would not allow the city to meet that timeline. At the program's current pace, it will take more than 50 years to complete sidewalk inspections and repairs in all 11 regions citywide.

*At the current pace, it will take more than 50 years to complete sidewalk inspections and repairs in all 11 regions citywide.*

City ordinance says property owners' sidewalk repairs should be completed within 45 days; however, the Department of Transportation & Infrastructure management extends that deadline to 90 days — giving property owners twice as long to do the work than the ordinance intended. This is to accommodate issues with weather, property owners' cooperation, and contractor scheduling. Nonetheless, we found that more than 40% of repairs so far in Region 1 still took over 90 days to complete.

Further contributing to the delay in meeting the program's timeline, the department drastically underestimated in the design phase of the program how many sidewalks would need repair and how much of the responsibility would fall on homeowners.

### **The Neighborhood Sidewalk Repair Program Is Not Meeting Repair Completion Time Frames**

Using a scoring method that considered different sidewalk characteristics, the Department of Transportation & Infrastructure in 2018 estimated 12% of all sidewalks in Denver would require repair through the new Neighborhood Sidewalk Repair Program. The department also estimated that only 40% of those sidewalks would be adjacent to private homes — making the homeowner responsible for the repair and associated cost.

Our analysis found that in actuality, about 80% of all sidewalks inspected in Region 1 so far required repairs — at least six times more than the department estimated. Further, homeowners were responsible for 80% of those repairs — double what the city predicted.

By underestimating the number of sidewalks that would require repair, department managers expected their staff to meet an unachievable timeline. Furthermore, by underestimating homeowners' responsibility, the department established an incorrect expectation when talking with residents in Region 1.

The department also originally anticipated the Neighborhood Sidewalk Repair Program would complete one region's worth of sidewalk inspections and repairs each year, with 11 regions in all. That would have meant Region 1 would be completed by August 2019, and by September 2020, the program would have moved on to Region 3.

*After more than a year, sidewalk repairs in Region 1 remain less than 25% complete.*

However, from August 2018 through April 2019, the department reported only 6.4% of sidewalks in Region 1 — 689 out of 10,786 adjacent properties — had been inspected. In late July 2020, Transportation & Infrastructure officials gave us additional records that showed another 498 sidewalks had been inspected beyond those initial 689. Between these two sets of data, we conclude sidewalk inspections in Region 1 remain less than 25% complete after more than a year.

### **The Department of Transportation & Infrastructure Did Not Always Enforce Repair Deadlines**

As discussed, city ordinance says property owners should complete their sidewalk repairs within 45 days of a hazardous sidewalk notice being posted, but the department extends this deadline to 90 days before the city can step in, make the repairs, and bill the homeowner for the work. When a homeowner chooses for the city to complete repairs, the ordinance does not provide a specific time frame in which the city's contractor must complete the work.<sup>48</sup>

To assess how long the neighborhood sidewalk repairs are taking to complete, auditors compared the date a sidewalk violation notice was posted with the date when repairs were marked as "completed." Both of those dates were available for 289 repairs done by homeowners and 485 repairs done by the city's contractor from August 2018 through August 2020.

As shown in Figures 3 and 4 on the following page, we found:

- One hundred twenty-two homeowner repairs, or 42%, were finished more than 90 days after the notice was posted. The highest reported total of repairs marked "completed" in a single day was 14, and this occurred twice — on the 47th day after the notice was posted and on the 91st day after the notice was posted.
- City ordinance allows the Department of Transportation & Infrastructure to enforce repair deadlines by completing the work and then billing homeowners for costs and expenses and sending outstanding invoices to collections.<sup>49</sup> The department's enforcement efforts resulted in 58%, or 167, of the homeowner repairs being marked "completed" within the required 90 days.
- Repairs done by the city's contractor, meanwhile, most often took more than 300 days — or almost 10 months — to be marked "completed."<sup>50</sup>

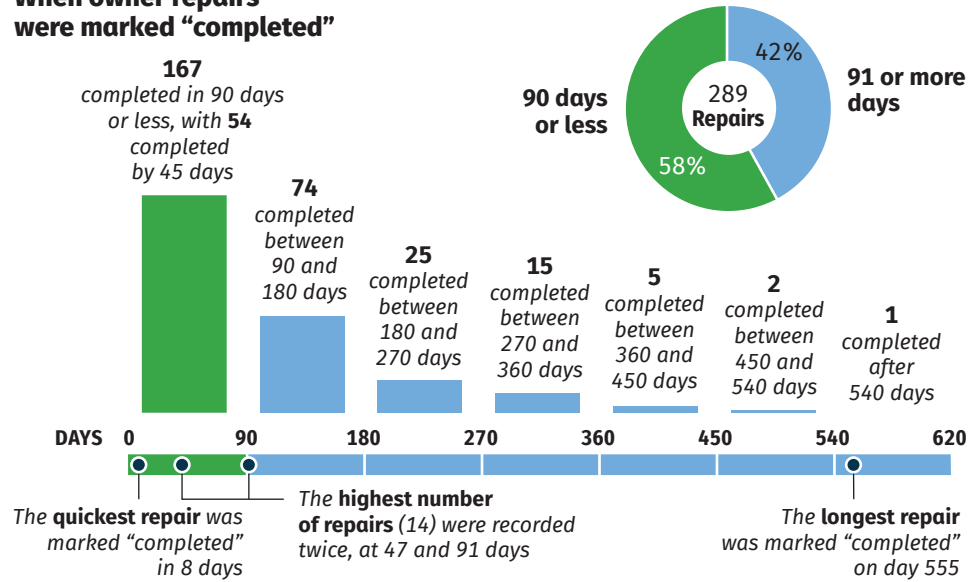
<sup>48</sup> Denver Revised Municipal Code § 49-122.

<sup>49</sup> Denver Revised Municipal Code § 49-122.

<sup>50</sup> The "repair completed" date in Accela is based on when the inspector approved the repair, not when construction work was completed.

**FIGURE 3. Days It Took Property Owners to Complete Sidewalk Repairs**

**When owner repairs were marked “completed”**

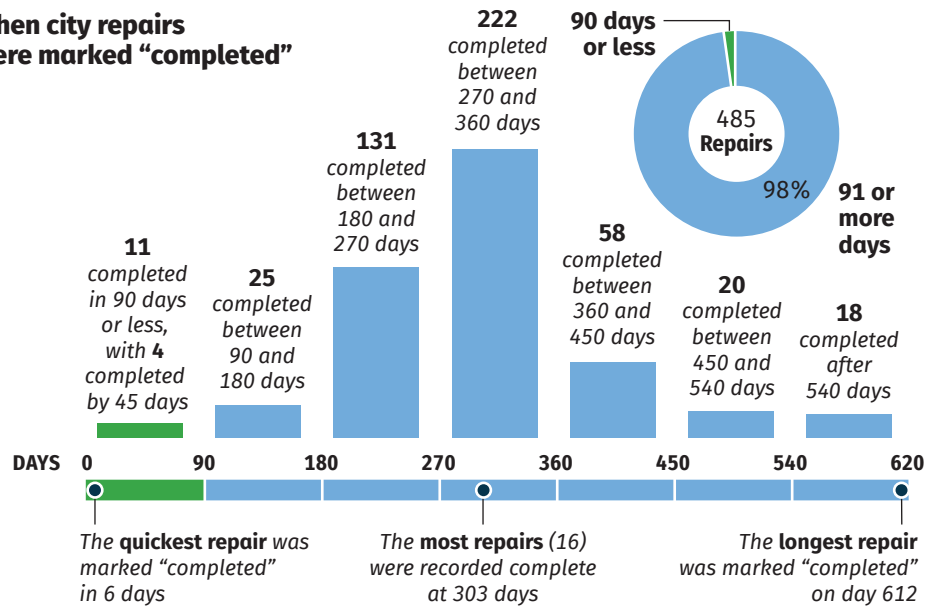


**Source:** Auditor’s Office analysis of Accela records for the Neighborhood Sidewalk Repair Program, August 2018 through August 2020.

**Note:** Most property owner repairs took between 47 days and 91 days to complete.

**FIGURE 4. Days It Took the City’s Contractor to Complete Sidewalk Repairs**

**When city repairs were marked “completed”**



**Source:** Auditor’s Office analysis of Accela records for the Neighborhood Sidewalk Repair Program, August 2018 through August 2020.

**Note:** Most repairs completed by the city’s contractor took 303 days.

*Repairs done by the city's contractor most often took almost 10 months to be marked as "completed," and reasons for delays were not consistently documented.*

According to the department's records, 23% of all repairs in Region 1 were completed within 90 days. However, that means 77% of the sidewalks needing repair in that region remained hazardous for longer than 90 days. By not enforcing repair deadlines and not promptly inspecting city repairs, and instead, allowing so many sidewalks to remain knowingly hazardous for this long, the city cannot increase the safety or accessibility of Denver's sidewalks in a timely manner.

The Federal Highway Administration says compliance efforts are necessary when homeowners are involved in sidewalk maintenance, but the enforcement strategy must be evaluated to ensure it produces desirable outcomes — such as compliance with a repair deadlines.<sup>51</sup>

Transportation & Infrastructure staff said unanticipated factors contributed to the program's slow progress so far — such as weather conditions, contractor scheduling, and homeowners requesting additional time for repairs. However, department staff said none of these factors — nor the degrees of their effect — were formally documented. Although the department did not provide documentation for us to determine a total of homeowners who requested an extension, management chose early in the program to uniformly extend the deadline. The U.S. Government Accountability Office emphasizes the need for agencies to collect relevant data, so managers can make informed decisions to help a program achieve success.<sup>52</sup>

By vastly underestimating the amount of sidewalk repairs that would be needed and by not enforcing repair time frames, the Department of Transportation & Infrastructure failed to achieve expectations it set for the Neighborhood Sidewalk Repair Program — namely that sidewalk mobility and accessibility in Region 1 would be improved within 45-90 days of the program's start and relatively few homeowners would be impacted.

<sup>51</sup> Federal Highway Administration, FHWA-SA-13-037, "Guide for Maintaining Pedestrian Facilities for Enhanced Safety" (2013), accessed April 8, 2020, [https://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/fhwasa13037/fhwasa13037.pdf](https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/fhwasa13037.pdf); U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed Aug. 10, 2020, <https://www.gao.gov/assets/670/665712.pdf>.

<sup>52</sup> U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government."



## RECOMMENDATION 2.4

**Conduct New Analysis** – The Department of Transportation & Infrastructure should conduct a new analysis of the sidewalk repair program inspections and repairs completed thus far in Region 1 compared to the total number of miles of city sidewalk and the estimated repairs needed, so it can determine an appropriate and achievable time frame for completing the Neighborhood Sidewalk Repair Program. The analysis should include a plan for delays (i.e., weather conditions, lack of cooperation with homeowners, etc.) and a plan for seeking adequate staffing and funding to support that new time frame.

**Agency Response: Agree, Implementation Date – Sept. 30, 2021**

## RECOMMENDATION 2.5

**Track Data** – The Department of Transportation & Infrastructure should track data related to the timeliness of inspections and repairs as well as the reasons for any delays, so it can monitor the program's progress toward meeting completion time frames and collect information to enhance the design.

**Agency Response: Agree, Implementation Date – June 30, 2021**

## RECOMMENDATION 2.6

**Review City Ordinance regarding Sidewalk Repair Processes** – The Department of Transportation & Infrastructure should review city ordinance to ensure processes related to sidewalk repairs are reasonable and, as needed, work with appropriate parties to amend the ordinance. This should include reviewing:

- Time frames for inspection, notification, appeals, repairs, and completion.
- The department's ability to extend repair deadlines or time frames on an ad hoc basis.

The department should document this decision-making process.

**Agency Response: Agree, Implementation Date – June 30, 2021**

## RECOMMENDATION 2.7

**Enforce Compliance** – The Department of Transportation & Infrastructure should enforce compliance with sidewalk repair time frames established in city ordinance.

**Agency Response: Agree, Implementation Date – April 30, 2021**

### **The Department of Transportation & Infrastructure Does Not Use Strong Data Collection and Review Methods**

The Department of Transportation & Infrastructure does not use the right data collection processes or review procedures to determine the effectiveness of the Neighborhood Sidewalk Repair Program.

Because of this deficiency, Transportation & Infrastructure staff could not provide complete and consistent data to help us determine the reach of the program and to evaluate the department's processes for how it tracks and monitors repairs completed by the city's contractor and how it ensures homeowners paid for these repairs in a timely manner.

We also found the department did not have complete documentation — as the city's fiscal rules require it to — to support payments made to the city contractor for repairs it completed on homeowners' behalf.

### **Processes and Procedures for Data Collection and Review Are Insufficient**

For our evaluation of the Neighborhood Sidewalk Repair Program, we requested all data associated with program records since August 2018 when the Department of Transportation & Infrastructure began inspections to identify sidewalks needing repair in Region 1 and subsequently monitor the repair work. However, despite our multiple requests, department staff were unable to provide data that identified a consistent number of properties served by the program.

Therefore, we were not able to reliably determine the total number of properties that were inspected and repaired under the program, and we could not thoroughly evaluate the effectiveness of Transportation & Infrastructure's processes for the program.

Additionally, department staff were not able to provide complete data in program records that included all activities required by Transportation & Infrastructure procedures and by other informal processes department staff identified during walk-throughs of the program and discussions of the program's data collection practices.

This incomplete data included information related to repairs the city's contractor completed for homeowners and the department's inspections of

*The Department of Transportation & Infrastructure could not reliably identify the number of properties served by the Neighborhood Sidewalk Repair Program.*

these repairs once they were finished. As such, we were limited in our ability to evaluate these processes in detail.

In reviewing the data we were provided, we found several instances when the department did not consistently collect data for all program activities in its system of record, Accela, or in other documentation. First, we noted that, for properties where the inspector determined no sidewalk repairs were needed, staff recorded the information differently in two separate fields in Accela. Therefore, properties that did not require repairs were not always identified similarly in the program's system.

Next, auditors found that the data for repairs completed by the city's contractor was not recorded consistently and completely in Accela or in other documentation. As one example, Accela had fields to record only estimates of the repair work required; it did not have similar fields to record changes to these estimates when additional or alternate repairs were completed instead. In another example, spreadsheets provided by department staff had several records with repairs shown as being done, but Accela did not show these same repairs as being complete. Because Accela did not show these repairs as complete, homeowners had not been billed for the completed work in order to make timely payments to the city.

Finally, for those cases where homeowners received financial assistance to help pay for sidewalk repairs, Accela did not include consistent entries to clearly identify whether the assistance covered the full amount owed for the repairs or only a partial amount.

Through our multiple requests and our review of the data Transportation & Infrastructure staff could provide, we found that the Neighborhood Sidewalk Repair Program's processes for data collection and monitoring — including program data the department needs to review when measuring program objectives — were not always formally documented. Therefore, the department could not show how information was reviewed to monitor the program and what purpose the information was used for.

Federal standards say organizations should be able to reliably report and effectively communicate quality information regarding the success of program activities.<sup>53</sup> To help ensure the Department of Transportation & Infrastructure can do this, department officials should ensure all processes for collecting and monitoring program data are documented in department procedures and then ensure these processes are used to determine whether the program is meeting its objectives.

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<sup>53</sup> U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government."

### City Repairs Are Not Always Billed Accurately and Paid For in a Timely Manner

Because of the lack of sufficient information to identify the number of properties served by the Neighborhood Sidewalk Repair Program, we were not able to establish a reliable number of properties that the city's contractor completed repairs for or how many, therefore, required payment from homeowners.

However, we did find the data provided by the department — combined with additional information gathered through discussions with Transportation & Infrastructure staff — to be reliable for determining whether homeowners made on-time payments for city repairs in accordance with department procedures. Our work found homeowners did not always make payments on time and department staff did not always identify late payments for collection.

We identified 432 records where city repairs required a homeowner's payment. However, because Transportation & Infrastructure officials paused payment collections due to the COVID-19 pandemic, only 280 of these bills were required to be paid at the time of our audit testing. We found:

- Fifty-eight homeowners among those 280 records, or 21%, did not make their payment within the required 60 days after being billed. Another seven records, or nearly 3%, lacked data in Accela to determine whether the payments were made as required because the record was closed without including payment information.
- Nine of the 58 records with late payments, or 16%, did not include entries in Accela noting they were late, even though department procedures require staff to identify overdue payments for collection.

Auditors determined homeowners were not always billed for all work completed by the city's contractor because Accela was not designed to collect data consistently for both estimated repairs and actual repairs.

*Property owners were billed for estimated repair costs and not for actual repair work completed.*

We used our professional judgment to select a sample of 132 records and found that 113 of these required payment because Transportation & Infrastructure documentation showed city repairs were completed. We noted that 44 of these 113 homeowners — or 39% of records in the sample requiring payment — were not billed for the work actually done by the city's contractor. Among those 44 cases, 36 appeared to show that the homeowner was underbilled for the actual work completed, and eight homeowners may have been overbilled based on the work done.

Transportation & Infrastructure management decided to rely on the initial billing estimates provided to homeowners instead of sending out revised bills based on the actual work completed. The program's manager acknowledged that this decision would result in the city assuming some of the cost for these repairs even though sidewalk repairs are the homeowners' responsibility.

In order to monitor and evaluate the accuracy and timeliness of homeowners' payments, Transportation & Infrastructure staff are required to collect and review program data from multiple information systems and other documentation, such as spreadsheets. However, we found the department did not always have written procedures documenting how all city repair- and payment-related data should be entered into, obtained from, or reviewed in these various systems and documentation.

Therefore, the department was not always able to ensure that quality information was available to ensure homeowners were accurately billed for city repairs and that the city collected timely payments for these repairs as required by department procedures.

### **Documentation Supporting Payment to the City's Contractor Is Incomplete**

During our audit, the city's contractor — Chato's Concrete LLC — submitted a request for payment of repair work that was done since the program started in August 2018 through Sept. 30, 2019. In reviewing data in Accela and in other spreadsheets provided by Transportation & Infrastructure staff, the audit team determined this information was not complete enough to determine whether an accurate payment was made to Chato's Concrete in June 2020.

The issues with data collection also contributed to us identifying a slightly different number of repairs as being completed by the contractor than discussed previously regarding homeowners' payments. Department staff were unable to provide documented procedures that establish how program data is reviewed and compared to the work billed by the city's contractor before the city pays them.

In this part of our review, we identified 415 records that had information in Accela or in spreadsheets to support that repairs were completed by Chato's Concrete. However, this data did not include all information necessary to confirm that the payment amount requested by Chato's Concrete was accurate. Additionally, we determined the supporting documentation that Transportation & Infrastructure staff provided — and additional documentation that was recorded in the city's financial system, Workday — did not have sufficient detail to clearly support the accuracy of the payment as required by the city's financial procedures.<sup>54</sup>

We found the spreadsheets that department staff said were used for comparing work billed by the city's contractor did not include dates to determine whether the repairs claimed were marked as completed on or

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<sup>54</sup> City and County of Denver, Fiscal Accountability Rules, "Rule 8.3 – Accounts Payable" (2010), accessed Aug. 26, 2020, [https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Fiscal\\_Rules/chapter\\_8\\_Procurement/Rules/Rule\\_8\\_3\\_Acct\\_Payable.pdf](https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Fiscal_Rules/chapter_8_Procurement/Rules/Rule_8_3_Acct_Payable.pdf), 2; City and County of Denver, Fiscal Accountability Rules, "Rule 2.5 – Supporting Documentation" (last revised 2013), accessed Aug. 26, 2020, [https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Fiscal\\_Rules/chapter\\_2\\_Internal\\_Controls/Rules/Rule\\_2\\_5\\_Spt\\_Documentation.pdf](https://www.denvergov.org/content/dam/denvergov/Portals/344/documents/Fiscal_Rules/chapter_2_Internal_Controls/Rules/Rule_2_5_Spt_Documentation.pdf), 2-3.

*Most city repairs — 86% — had dates of completion outside the billed time frame.*

before Sept. 30, 2019. Additionally, neither Accela nor the spreadsheets included a repair date for 10 of the 415 records identified.

For the 405 records where we could identify repair dates, we found that 348 records — or 86% — had repair completion dates after Sept. 30, 2019, including dates from October 2019 through May 2020. The city paid for these repairs in June 2020, but Transportation & Infrastructure’s documentation did not provide a rationale for why paying for these repairs was appropriate when the repairs were marked as completed outside the time frame billed by the city’s contractor.

Furthermore, the spreadsheets included only repair work completed as measured in square footage size by repair type; they did not identify the dollar amounts allowed by contract for each type of repair work by square footage size. The spreadsheets also did not include the overall total dollar amounts for work that was paid based on what was billed by the city’s contractor. Because Chato’s Concrete billed the city for work by dollar amounts, Transportation & Infrastructure documentation could not support the accuracy of the amount paid.

Lastly, we found that documentation used by department staff did not clearly identify adjustments made to the amount paid to exclude partial repairs by the city’s contractor. Therefore, repair work totals by square footage in the spreadsheets did not match these totals in another list that was provided by Transportation & Infrastructures staff as the final basis for payment. We also noted this list included only completed work in square footage size and did not include dollar amounts to compare with what Chato’s Concrete billed for.

Because the Department of Transportation & Infrastructure lacks documented procedures explaining the process for collecting and reviewing data before making payment to a city contractor, the supporting documentation provided by department staff did not ensure the city paid accurately in accordance with the city’s Fiscal Accountability Rules. These rules require that supporting documentation provide a clear picture of a financial transaction and that the documentation equal the amount of the transaction, while identifying any adjustments made.<sup>55</sup>

Without formally documented processes for data collection and monitoring, Department of Transportation & Infrastructure officials do not have all the information necessary to determine the effectiveness of Neighborhood Sidewalk Repair Program. The department should formally document and use data collection and monitoring procedures — including performance measures and payment processes for city repairs — to ensure the program is meeting its objectives.

<sup>55</sup> City and County of Denver, Fiscal Accountability Rules, “Rule 8.3 – Accounts Payable”; City and County of Denver, Fiscal Accountability Rules, “Rule 2.5 – Supporting Documentation.”



## RECOMMENDATION 2.8

**Identify and Track Program Performance Data** – The Department of Transportation & Infrastructure should identify the data and information necessary for it to monitor progress toward meeting objectives for the Neighborhood Sidewalk Repair Program. The department should leverage existing data and information systems to the extent possible to store and track program data.

**Agency Response: Agree, Implementation Date – May 31, 2021**

## RECOMMENDATION 2.9

**Document Data Entry Policies and Procedures** – The Department of Transportation & Infrastructure should document policies and procedures for data entry related to the Neighborhood Sidewalk Repair Program and review the data to ensure it is valid and reliable.

**Agency Response: Agree, Implementation Date – June 30, 2021**

## RECOMMENDATION 2.10

**Monitor Program Performance Data** – The Department of Transportation & Infrastructure should periodically monitor data and information regarding the Neighborhood Sidewalk Repair Program to ensure performance measures and program objectives are being met and to make decisions related to programmatic changes.

**Agency Response: Agree, Implementation Date – April 30, 2021**

## RECOMMENDATION 2.11

**Document Financial Policies and Procedures** – The Department of Transportation & Infrastructure should document financial policies and procedures for identifying and reconciling payments made to the city's contractors and ensure these policies and procedures align with the city's fiscal rules and that accurate payments are made with supporting documentation.

**Agency Response: Agree, Implementation Date – April 30, 2021**

## RECOMMENDATION 2.12

**Assess Homeowner Payment Process** – When evaluating the design of the Neighborhood Sidewalk Repair Program, the Department of Transportation & Infrastructure should conduct a needs assessment to determine the appropriateness of billing homeowners based on repair estimates versus the actual cost of repairs, and department officials should document their decision in a policy.

**Agency Response: Agree, Implementation Date – April 30, 2021**

## RECOMMENDATION 2.13

**Enforce Homeowner Payment Process** – The Department of Transportation & Infrastructure should follow departmental procedures to collect homeowners' payments for sidewalk repairs in a timely fashion or forward the delinquent accounts to the city's Treasury Division for collections.

**Agency Response: Agree, Implementation Date – April 30, 2021**

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## RECOMMENDATIONS

*The agency narratives below are reprinted verbatim from the agency's response letter, shown in the next section of this report.*

- 1.1 **Conduct Needs Assessment** – The Department of Transportation & Infrastructure should conduct and document a formal needs assessment of the Neighborhood Sidewalk Repair Program to ensure the program meets the city's needs.

**Agency Response: Agree, Implementation Date – April 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 1.1. The Department will take steps to perform a comprehensive needs assessment, which will reevaluate gaps and help inform and set priorities for potential changes to program design outlined in recommendation 1.2.*

- 1.2 **Review, Update, and Document Program Design** – The Department of Transportation & Infrastructure should use leading practices to review and update the existing program design and then document all design elements of the Neighborhood Sidewalk Repair Program — including the overarching objective, specific program goals, performance measures, who is responsible for sidewalk maintenance and repairs, how the program is funded, coordination with other city agencies and utilities, and a plan for evaluating the program to ensure it meets the intended objectives and outcomes.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 1.2 and will evaluate the program's current design and design elements. This evaluation will be informed by the needs assessment outlined in recommendation 1.1 and contain revisions to critical design elements including goals, objective(s) and how progress will be gauged, and performance measured. Documentation will include funding and interagency / utility coordination. This review will further identify how best to build upon metrics currently utilized and align them against goals.*

- 1.3 **Evaluate Sidewalk Programs** – The Department of Transportation & Infrastructure should evaluate how the Neighborhood Sidewalk Repair Program fits with — and should fit with — the city's other sidewalk maintenance programs and transportation and infrastructure plans such as the Gap Program, complaint-based repairs, or the "Denver Moves" plan.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 1.3. The Department will evaluate and document how programs should best interact and complement one another. This will include a review of each program / plan's objectives and goals, helping to determine where alignment should exist. This*

*may not necessarily result in a harmonization of all design elements, however, will be expected to rationalize where differences are expected to remain with intent.*

- 1.4 **Review City Ordinance regarding Responsibility and Funding Obligations for Sidewalk Repairs** – The Department of Transportation & Infrastructure should review city ordinance and assess whether the property owners' responsibility and liability to maintain and repair sidewalks is reasonable and is the best approach to address the city's needs. This should include reviewing the funding mechanisms for sidewalk repair. The department should document this decision-making process and, as needed, work with appropriate parties to amend the ordinance.

**Agency Response: Agree, Implementation Date – Dec. 31, 2021**

*Agency Narrative: DOTI agrees with recommendation 1.4. The Department will, in conjunction with the Mayor's office, work to assess the current ordinance. This will take into consideration and work to balance potential fiscal and economic impacts that could result to either a property owner, or the City.*

- 1.5 **Incorporate ADA Compliance into Program Redesign** – The Department of Transportation & Infrastructure should ensure the redesign of the Neighborhood Sidewalk Repair Program requires that repair work comply with Americans with Disabilities Act standards for accessible routes — including but not limited to those related to sidewalk width, passing space, cross-slope, and elevation changes.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 1.5. The Department will include in its policies, procedures and enforcement efforts how Americans with Disabilities Act ("ADA") standards are to be complied with when repair work is required. In recognition that ADA standards have changed and may continue to change over time, the Department will further identify and document how to incorporate changes to such standards.*

- 1.6 **Document Policies and Procedures** – When redesigning the Neighborhood Sidewalk Repair Program, the Department of Transportation & Infrastructure should document policies and procedures for program implementation.

**Agency Response: Agree, Implementation Date – Sept. 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 1.6. In conjunction with, and as an outcome of, the results of recommendations 1.1 through 1.5, the Department will update all relevant policies and procedures including for program implementation.*

- 2.1 **Document Policies and Procedures for Inspections** – The Department of Transportation & Infrastructure should document policies and procedures for the Neighborhood Sidewalk Repair Program inspector – including how to conduct both initial inspections and post-repair inspections – to promote consistency in sidewalk repairs.

**Agency Response: Agree, Implementation Date – March 31, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.1. The Department will ensure procedures are documented for inspectors to follow. Should recommendations 1.1 through 1.6 yield changes after the target date for 2.1, procedures will be further revised.*

- 2.2 **Enforce ADA Standards and Department Regulations** – The Department of Transportation & Infrastructure should monitor repairs done under the Neighborhood Sidewalk Repair Program to enforce compliance with Americans with Disabilities Act standards, as well as department rules and regulations for accessible sidewalks.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.2. The Department will enhance its metrics and dashboard(s) to incorporate ADA compliance when repairs are required. This will be done in conjunction with the outcomes of recommendation 1.5.*

- 2.3 **Require Permits for All Sidewalk Repairs** – The Department of Transportation & Infrastructure should require homeowners to obtain permits for all sidewalk repair work as city ordinance requires.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.3. The Department will take steps to identify any deficiencies in its current permitting policies and procedures and related compliance enforcement.*

- 2.4 **Conduct New Analysis** – The Department of Transportation & Infrastructure should conduct a new analysis of the sidewalk repair program inspections and repairs completed thus far in Region 1 compared to the total number of miles of city sidewalk and the estimated repairs needed, so it can determine an appropriate and achievable time frame for completing the Neighborhood Sidewalk Repair Program. The analysis should include a plan for delays (i.e., weather conditions, lack of cooperation with homeowners, etc.) and a plan for seeking adequate staffing and funding to support that new time frame.

**Agency Response: Agree, Implementation Date – Sept. 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.4. The Department will perform an analysis of results to date. In conjunction with the needs assessment and goals and objectives outputs from*

*recommendations 1.1 and 1.2, a revised forecast will be established. We will put in place a process to periodically update projections as the program progresses outside of region one (condition changes, less flagstone, etc.). Current economic and fiscal constraints may stress incremental funding in the short to mid-term.*

- 2.5 **Track Data** – The Department of Transportation & Infrastructure should track data related to the timeliness of inspections and repairs as well as the reasons for any delays, so it can monitor the program’s progress toward meeting completion time frames and collect information to enhance the design.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.5. The Department will review current data tracking, production of metrics and use of dashboards. We will incorporate broader performance measures into reporting.*

- 2.6 **Review City Ordinance regarding Sidewalk Repair Processes** – The Department of Transportation & Infrastructure should review city ordinance to ensure processes related to sidewalk repairs are reasonable and, as needed, work with appropriate parties to amend the ordinance. This should include reviewing:

- Time frames for inspection, notification, appeals, repairs, and completion.
- The department’s ability to extend repair deadlines or time frames on an ad hoc basis.

The department should document this decision-making process.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.6. The Department will, in conjunction with the City Attorney’s Office, review City ordinance and determine whether any amendments may be needed or recommended. Documentation around the Department’s governance of extensions will be reviewed and documented as part of the review.*

- 2.7 **Enforce Compliance** – The Department of Transportation & Infrastructure should enforce compliance with sidewalk repair time frames established in city ordinance.

**Agency Response: Agree, Implementation Date – April 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.7. In conjunction with recommendation 1.6, the Department will review and revise its policies and processes, including around compliance activities. This will include identifying circumstances where delays be accepted and how those will be monitored.*



- 2.8 **Identify and Track Program Performance Data** – The Department of Transportation & Infrastructure should identify the data and information necessary for it to monitor progress toward meeting objectives for the Neighborhood Sidewalk Repair Program. The department should leverage existing data and information systems to the extent possible to store and track program data.

**Agency Response: Agree, Implementation Date – May 31, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.8. The Department will review and update its current data requirements, data standards, tracking methodology, production of metrics and use of dashboards.*

- 2.9 **Document Data Entry Policies and Procedures** – The Department of Transportation & Infrastructure should document policies and procedures for data entry related to the Neighborhood Sidewalk Repair Program and review the data to ensure it is valid and reliable.

**Agency Response: Agree, Implementation Date – June 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.9. The Department will review its procedures related to the use of data and develop and/or revise those for the Program. This will include addressing data governance and the validation of data being used.*

- 2.10 **Monitor Program Performance Data** – The Department of Transportation & Infrastructure should periodically monitor data and information regarding the Neighborhood Sidewalk Repair Program to ensure performance measures and program objectives are being met and to make decisions related to programmatic changes.

**Agency Response: Agree, Implementation Date – April 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.10. In conjunction with outputs from recommendations 1.2, 2.5 and 2.8, the Department will include revisions to dashboards and other monitoring solutions. In conjunction with recommendation 2.4, the Department will incorporate a process to evaluate program performance.*

- 2.11 **Document Financial Policies and Procedures** – The Department of Transportation & Infrastructure should document financial policies and procedures for identifying and reconciling payments made to the city's contractors and ensure these policies and procedures align with the city's fiscal rules and that accurate payments are made with supporting documentation.

**Agency Response: Agree, Implementation Date – April 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.11. The Department will review and revise its procedures used to collect, monitor, and substantiate contractor payments, including a reconciliation of repairs associated with each payment.*

- 2.12 **Assess Homeowner Payment Process** – When evaluating the design of the Neighborhood Sidewalk Repair Program, the Department of Transportation & Infrastructure should conduct a needs assessment to determine the appropriateness of billing homeowners based on repair estimates versus the actual cost of repairs, and department officials should document their decision in a policy.

**Agency Response: Agree, Implementation Date – April 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.12. The Department reassess the methodology used to for billing of repair costs. This will be incorporated into policy and include a condition-based decision matrix.*

- 2.13 **Enforce Homeowner Payment Process** – The Department of Transportation & Infrastructure should follow departmental procedures to collect homeowners' payments for sidewalk repairs in a timely fashion or forward the delinquent accounts to the city's Treasury Division for collections.

**Agency Response: Agree, Implementation Date – April 30, 2021**

*Agency Narrative: DOTI agrees with recommendation 2.13. The Department will review and revise its policies and procedures for collection of payments and delinquency management processes with the Treasury Division. This will also include a review of data utilized in existing dashboards and revisions where required.*

# AGENCY RESPONSE TO AUDIT RECOMMENDATIONS



November 5, 2020

Auditor Timothy M. O'Brien, CPA  
Office of the Auditor  
City and County of Denver  
201 West Colfax Avenue, Dept. 705  
Denver, Colorado 80202

Dear Mr. O'Brien,

The Office of the Auditor has conducted a performance audit of Neighborhood Sidewalk Repair Program.

This memorandum provides a written response for each reportable condition noted in the Auditor's Report final draft that was sent to us on November 2, 2020. This response complies with Section 20-276 (c) of the Denver Revised Municipal Code (D.R.M.C.).

## AUDIT FINDING 1

The Department of Transportation & Infrastructure Needs to Improve the Design of the Neighborhood Sidewalk Repair Program

RECOMMENDATION 1.1		
The Department of Transportation & Infrastructure should conduct and document a formal needs assessment of the Neighborhood Sidewalk Repair Program to ensure the program meets the city's needs.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	04/30/21	Matt Bryner (303) 520-4932

## Narrative for Recommendation 1.1

DOTI agrees with recommendation 1.1. The Department will take steps to perform a comprehensive needs assessment, which will reevaluate gaps and help inform and set priorities for potential changes to program design outlined in recommendation 1.2.

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**RECOMMENDATION 1.2**

The Department of Transportation & Infrastructure should use leading practices to review and update the existing program design and then document all design elements of the Neighborhood Sidewalk Repair Program — including the overarching objective, specific program goals, performance measures, who is responsible for sidewalk maintenance and repairs, how the program is funded, coordination with other city agencies and utilities, and a plan for evaluating the program to ensure it meets the intended objectives and outcomes.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	06/30/21	Michael Holm (303) 961-8076

**Narrative for Recommendation 1.2**

DOTI agrees with recommendation 1.2 and will evaluate the program's current design and design elements. This evaluation will be informed by the needs assessment outlined in recommendation 1.1 and contain revisions to critical design elements including goals, objective(s) and how progress will be gauged, and performance measured. Documentation will include funding and interagency / utility coordination. This review will further identify how best to build upon metrics currently utilized and align them against goals.

**RECOMMENDATION 1.3**

The Department of Transportation & Infrastructure should evaluate how the Neighborhood Sidewalk Repair Program fits with — and should fit with — the city's other sidewalk maintenance programs and transportation and infrastructure plans such as the Gap Program, complaint-based repairs, or the "Denver Moves" plan.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	06/30/21	Matt Bryner (303) 520-4932

**Narrative for Recommendation 1.3**

DOTI agrees with recommendation 1.3. The Department will evaluate and document how programs should best interact and complement one another. This will include a review of each program / plan's

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objectives and goals, helping to determine where alignment should exist. This may not necessarily result in a harmonization of all design elements, however, will be expected to rationalize where differences are expected to remain with intent.

#### **RECOMMENDATION 1.4**

The Department of Transportation & Infrastructure should review city ordinance and assess whether the property owners' responsibility and liability to maintain and repair sidewalks is reasonable and is the best approach to address the city's needs. This should include reviewing the funding mechanisms for sidewalk repair. The department should document this decision-making process and, as needed, work with appropriate parties to amend the ordinance.

<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	12/31/21	Todd Richardson (720) 913-1776

#### **Narrative for Recommendation 1.4**

DOTI agrees with recommendation 1.4. The Department will, in conjunction with the Mayor's office, work to assess the current ordinance. This will take into consideration and work to balance potential fiscal and economic impacts that could result to either a property owner, or the City.

#### **RECOMMENDATION 1.5**

The Department of Transportation & Infrastructure should ensure the redesign of the Neighborhood Sidewalk Repair Program requires that repair work comply with Americans with Disabilities Act standards for accessible routes — including but not limited to those related to sidewalk width, passing space, cross-slope, and elevation changes.

<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	06/30/21	Matt Bryner (303) 520-4932

#### **Narrative for Recommendation 1.5**

DOTI agrees with recommendation 1.5. The Department will include in its policies, procedures and enforcement efforts how Americans with Disabilities Act ("ADA") standards are to be complied with

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when repair work is required. In recognition that ADA standards have changed and may continue to change over time, the Department will further identify and document how to incorporate changes to such standards.

<b>RECOMMENDATION 1.6</b> When redesigning the Neighborhood Sidewalk Repair Program, the Department of Transportation & Infrastructure should document policies and procedures for program implementation.		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	09/30/21	Michael Holm (303) 961-8076

#### **Narrative for Recommendation 1.6**

DOTI agrees with recommendation 1.6. In conjunction with, and as an outcome of, the results of recommendations 1.1 through 1.5, the Department will update all relevant policies and procedures including for program implementation.

#### **AUDIT FINDING 2**

The Department of Transportation & Infrastructure Has Not Effectively Implemented, Monitored, or Evaluated the Neighborhood Sidewalk Repair Program

<b>RECOMMENDATION 2.1</b> The Department of Transportation & Infrastructure should document policies and procedures for the Neighborhood Sidewalk Repair Program inspector — including how to conduct both initial inspections and post-repair inspections — to promote consistency in sidewalk repairs.		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	03/31/21	Michael Holm (303) 961-8076

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#### Narrative for Recommendation 2.1

DOTI agrees with recommendation 2.1. The Department will ensure procedures are documented for inspectors to follow. Should recommendations 1.1 through 1.6 yield changes after the target date for 2.1, procedures will be further revised.

<b>RECOMMENDATION 2.2</b> The Department of Transportation & Infrastructure should monitor repairs done under the Neighborhood Sidewalk Repair Program to enforce compliance with Americans with Disabilities Act standards, as well as department rules and regulations for accessible sidewalks.		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	6/30/21	Michael Holm (303) 961-8076

#### Narrative for Recommendation 2.2

DOTI agrees with recommendation 2.2. The Department will enhance its metrics and dashboard(s) to incorporate ADA compliance when repairs are required. This will be done in conjunction with the outcomes of recommendation 1.5.

<b>RECOMMENDATION 2.3</b> The Department of Transportation & Infrastructure should require homeowners to obtain permits for all sidewalk repair work as city ordinance requires.		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	06/30/21	Matt Bryner (303) 520-4932

#### Narrative for Recommendation 2.3

DOTI agrees with recommendation 2.3. The Department will take steps to identify any deficiencies in its current permitting policies and procedures and related compliance enforcement.

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**RECOMMENDATION 2.4**

The Department of Transportation & Infrastructure should conduct a new analysis of the sidewalk repair program inspections and repairs completed thus far in Region 1 compared to the total number of miles of city sidewalk and the estimated repairs needed, so it can determine an appropriate and achievable time frame for completing the Neighborhood Sidewalk Repair Program. The analysis should include a plan for delays (i.e., weather conditions, lack of cooperation with homeowners, etc.) and a plan for seeking adequate staffing and funding to support that new time frame.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	9/30/21	Michael Holm (303) 961-8076

**Narrative for Recommendation 2.4**

DOTI agrees with recommendation 2.4. The Department will perform an analysis of results to date. In conjunction with the needs assessment and goals and objectives outputs from recommendations 1.1 and 1.2, a revised forecast will be established. We will put in place a process to periodically update projections as the program progresses outside of region one (condition changes, less flagstone, etc.). Current economic and fiscal constraints may stress incremental funding in the short to mid-term.

**RECOMMENDATION 2.5**

The Department of Transportation & Infrastructure should track data related to the timeliness of inspections and repairs as well as the reasons for any delays, so it can monitor the program's progress toward meeting completion time frames and collect information to enhance the design.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	06/30/21	Michael Holm (303) 961-8076

**Narrative for Recommendation 2.5**

DOTI agrees with recommendation 2.5. The Department will review current data tracking, production of metrics and use of dashboards. We will incorporate broader performance measures into reporting.

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**RECOMMENDATION 2.6**

The Department of Transportation & Infrastructure should review city ordinance to ensure processes related to sidewalk repairs are reasonable and, as needed, work with appropriate parties to amend the ordinance. This should include reviewing:

- Time frames for inspection, notification, appeals, repairs, and completion.
- The department's ability to extend repair deadlines or time frames on an ad hoc basis.

The department should document this decision-making process.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	06/30/21	Matt Bryner (303) 520-4932

**Narrative for Recommendation 2.6**

DOTI agrees with recommendation 2.6. The Department will, in conjunction with the City Attorney's Office, review City ordinance and determine whether any amendments may be needed or recommended. Documentation around the Department's governance of extensions will be reviewed and documented as part of the review.

**RECOMMENDATION 2.7**

The Department of Transportation & Infrastructure should enforce compliance with sidewalk repair time frames established in city ordinance.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	04/30/21	Michael Holm (303) 961-8076

**Narrative for Recommendation 2.7**

DOTI agrees with recommendation 2.7. In conjunction with recommendation 1.6, the Department will review and revise its policies and processes, including around compliance activities. This will include identifying circumstances where delays be accepted and how those will be monitored.

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<b>RECOMMENDATION 2.8</b>		
The Department of Transportation & Infrastructure should identify the data and information necessary for it to monitor progress toward meeting objectives for the Neighborhood Sidewalk Repair Program. The department should leverage existing data and information systems to the extent possible to store and track program data.		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	05/31/21	Michael Holm (303) 961-8076

#### **Narrative for Recommendation 2.8**

DOTI agrees with recommendation 2.8. The Department will review and update its current data requirements, data standards, tracking methodology, production of metrics and use of dashboards.

<b>RECOMMENDATION 2.9</b>		
The Department of Transportation & Infrastructure should document policies and procedures for data entry related to the Neighborhood Sidewalk Repair Program and review the data to ensure it is valid and reliable.		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of specific point of contact for implementation</b>
Agree	06/30/21	Michael Holm (303) 961-8076

#### **Narrative for Recommendation 2.9**

DOTI agrees with recommendation 2.9. The Department will review its procedures related to the use of data and develop and/or revise those for the Program. This will include addressing data governance and the validation of data being used.

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<b>RECOMMENDATION 2.10</b> The Department of Transportation & Infrastructure should periodically monitor data and information regarding the Neighborhood Sidewalk Repair Program to ensure performance measures and program objectives are being met and to make decisions related to programmatic changes.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	04/30/21	Michael Holm (303) 961-8076

**Narrative for Recommendation 2.10**

DOTI agrees with recommendation 2.10. In conjunction with outputs from recommendations 1.2, 2.5 and 2.8, the Department will include revisions to dashboards and other monitoring solutions. In conjunction with recommendation 2.4, the Department will incorporate a process to evaluate program performance.

<b>RECOMMENDATION 2.11</b> The Department of Transportation & Infrastructure should document financial policies and procedures for identifying and reconciling payments made to the city's contractors and ensure these policies and procedures align with the city's fiscal rules and that accurate payments are made with supporting documentation.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	04/30/21	Barbara Puls (720) 913-1724

**Narrative for Recommendation 2.11**

DOTI agrees with recommendation 2.11. The Department will review and revise its procedures used to collect, monitor, and substantiate contractor payments, including a reconciliation of repairs associated with each payment.

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**RECOMMENDATION 2.12**

When evaluating the design of the Neighborhood Sidewalk Repair Program, the Department of Transportation & Infrastructure should conduct a needs assessment to determine the appropriateness of billing homeowners based on repair estimates versus the actual cost of repairs, and department officials should document their decision in a policy.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	04/30/21	Michael Holm (303) 961-8076

**Narrative for Recommendation 2.12**

DOTI agrees with recommendation 2.12. The Department reassess the methodology used to for billing of repair costs. This will be incorporated into policy and include a condition-based decision matrix.

**RECOMMENDATION 2.13**

The Department of Transportation & Infrastructure should follow departmental procedures to collect homeowners' payments for sidewalk repairs in a timely fashion or forward the delinquent accounts to the city's Treasury Division for collections.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of specific point of contact for implementation
Agree	04/30/21	Barbara Puls (720) 913-1724

**Narrative for Recommendation 2.13**

DOTI agrees with recommendation 2.13. The Department will review and revise its policies and procedures for collection of payments and delinquency management processes with the Treasury Division. This will also include a review of data utilized in existing dashboards and revisions where required.

Please contact Seth Runkle at (720) 865-8707 with any questions.

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Sincerely,

Seth H. Runkle  
Chief Financial Officer  
Department of Transportation and Infrastructure

cc: Valerie Walling, CPA, Deputy Auditor  
Katja E. V. Freeman, MA, MELP, Audit Director  
Kharis Eppstein, Audit Supervisor  
Eulois Cleckley, Executive Director, Department of Transportation and Infrastructure  
Todd Richardson, Deputy Manager, Department of Transportation and Infrastructure  
Matt Bryner, Director Right-of-Way-Services, Department of Transportation and Infrastructure  
Michael Holm, Right-of-Way-Services, Department of Transportation and Infrastructure

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## OBJECTIVE

To determine whether the design, implementation, and evaluation of the Neighborhood Sidewalk Repair Program allows the Department of Transportation & Infrastructure to ensure it achieves intended outputs and outcomes, and to analyze the extent to which the program's processes allow the Department of Transportation & Infrastructure to repair Denver's sidewalks efficiently, effectively, and in an equitable manner.

## SCOPE

The audit reviewed the Neighborhood Sidewalk Repair Program for equity, efficiency, and effectiveness. We reviewed documentation to support program design elements, current practices, and internal controls, as well as data from Jan. 1, 2017, through Aug. 31, 2020.

## METHODOLOGY

We used several methodologies to gather and analyze information related to the audit objectives. These methodologies included but were not limited to:

- Interviewing the following individuals:
  - Personnel from the Department of Transportation & Infrastructure.
  - Personnel from the Denver City Council.
  - Personnel from sidewalk repair programs from the following U.S. cities:
    - Austin, Texas.
    - Boulder, Colorado.
    - Honolulu.
    - Sacramento, California.
    - San Francisco.
    - Portland, Oregon.
- Surveying members of the Denver City Council.
- Reviewing the following criteria:
  - The U.S. Government Accountability Office's "Designing Evaluations" report.
  - The U.S. Government Accountability Office's "Standards for Internal Control in the Federal Government."
  - The U.S. Government Accountability Office's "Assessing Data Reliability" report.

- U.S. Architectural and Transportation Barriers Compliance Board’s “Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.”
- U.S. Department of Justice’s “2010 ADA Standards for Accessible Design.”
- Federal Highway Administration’s “A Guide for Maintaining Pedestrian Facilities for Enhanced Safety.”
- U.S. Department of State’s “Program Design and Performance Management Toolkit.”
- United Way Greater Toronto’s “Program Design & Development Resources.”
- United Way Calgary and Area’s “Program Design: A Literature Review of Best Practices.”
- City and County of Denver ordinances.
- The city’s Executive Order No. 8.
- The city’s Fiscal Accountability Rule 2.5.
- The city’s Fiscal Accountability Rule 8.3.
- The “Denver Moves: Pedestrians & Trails” plan.
- The contract between the City and County of Denver and Chato’s Concrete LLC.
- The contract between the City and County of Denver and Silva’s Construction Inc.
- The Department of Transportation & Infrastructure’s rules and regulations and standards for sidewalk repair and construction.
- The Department of Transportation & Infrastructure’s policies and procedures related to the Neighborhood Sidewalk Repair Program.
- Reviewing and analyzing the following:
  - Documentation related to the design of the Neighborhood Sidewalk Repair Program compared to leading practices.
  - Documentation related to the design of sidewalk programs in selected other U.S. cities.
  - Department of Transportation & Infrastructure’s rules and regulations and standards for sidewalk repair and construction compared to ADA standards.
  - Observations of completed sidewalk repairs compared to department rules and regulation and ADA standards.
  - Documentation of the Neighborhood Sidewalk Repair Program contract selection process compared to Executive Order No. 8.
  - Accela data to determine data reliability compared to leading practices.
  - Accela data on sidewalk repair completion dates compared to requirements in city ordinance and Department of Transportation & Infrastructure processes for repair time frames.
  - Accela data on sidewalk repair completion dates to determine possible completion dates of repairs in all sidewalk regions.

- Department of Transportation & Infrastructure invoicing policies and procedures compared to Accela data on payment times.
  - Documentation of the Department of Transportation & Infrastructure's payments to Chato's Concrete compared to Accela data on repair size and cost.
- Observing a sample of properties with sidewalk repairs completed through the Neighborhood Sidewalk Repair Program.
- Performing sampling and testing against reviewed criteria as discussed in Appendix A.

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## APPENDICES

### Appendix A — Data Analysis and Sampling Methodology

**Compliance with Federal Standards and Department Regulations** – In the audit team’s first pull of all records from Accela, the Department of Transportation & Infrastructure’s system of record, we randomly sampled 37 properties — or 4.9% of the 750 properties with sidewalk repairs completed so far in Region 1 of the Neighborhood Sidewalk Repair Program.

We used the EZ-Quant statistical sampling tool to determine a sample set. We based it on the following criteria:

- A presumed error rate of 10%.
- A desired confidence level of 90%.

This resulted in a sample of 37 properties. This sample was generated by assigning a random number in Excel to each of the 750 properties listed as having completed repairs. The random numbers were then sorted from smallest to largest, and the first 37 were selected.

We observed these 37 properties to determine whether the sidewalk repairs complied with both ADA standards and Department of Transportation & Infrastructure rules and regulations. We discuss the results of this analysis beginning on page 22 of the report.

Below are the details of the sample evaluation. For each attribute, we give the precision range of the results of our random sample of properties with completed repairs.

- Between 42.3% and 70.5% of those 750 properties do not comply with ADA standards for cross-slopes.
- Between 3.8% and 22.9% of the properties do not comply with the Department of Transportation & Infrastructure’s regulations for cross-slopes.
- Between 9.5% and 32.3% of the properties do not comply with ADA standards for elevation changes.
- Between 1.1% and 15.9% of the properties do not comply with the Department of Transportation & Infrastructure’s standards for gaps in sidewalks.

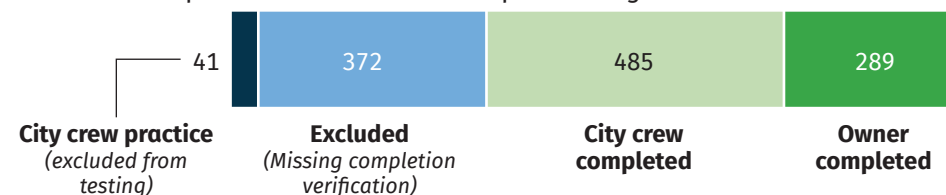
**Time to Complete Sidewalk Repairs** – The department provided the audit team with 1,187 total Neighborhood Sidewalk Repair Program records from Accela.

We tried to test all records to determine the total days to complete repairs; however, we learned 41 records were unmarked “practice” records, which we excluded. Further, our tests were limited to records that contained both a “notice posted” and a “repair completed” date, meaning 372 open records were excluded. Among the remaining records:

- Two hundred eighty-nine records, or 24%, were included in the homeowner repair timing test because they received a violation and contain a date showing when the owner’s repairs were marked “completed.”

- Four hundred eighty-five records, or 40%, were included in the city crew repair timing test because they received a violation and contain a date showing when the city crew’s repairs were marked “completed.”

**FIGURE 5.** Sample Amounts for Accela Repair Timing Test



**Source:** Auditor’s Office analysis of Accela records.

Auditors used two record dates — “notice posted” and “repair completed” — to determine the total days to complete repairs for each record. We discuss the results of this analysis beginning on page 33 of the report.

**Accurate Billing of Homeowners** – We judgmentally sampled 132 of 516 records to determine whether homeowners needed to pay the city for repairs the city’s contractor completed on their behalf. This sample was selected from one of four spreadsheets Department of Transportation & Infrastructure personnel use to track the status of the city contractor’s repairs.

We compared this data to the repair work homeowners were billed for to determine whether the homeowners were billed accurately for all work done by the city contractor. We discuss the results of this analysis on page 35 of the report.



## Appendix B – Leading Practices for Program Design, Implementation, Monitoring, and Evaluation

As part of assessing the city’s Neighborhood Sidewalk Repair Program, the audit team searched for documents related to program design, implementation, and evaluation. We identified various leading practices, as well as federal practices including standards from the U.S. Government Accountability Office.

**TABLE 3.** Leading Practices for Program Design, Implementation, Monitoring, and Evaluation

	Topic	Publication
A	Evaluation Design, Data Collection Methods, and Selection of Outcome Measures	U.S. Government Accountability Office, GAO-12-208G, “Designing Evaluations” (2012), accessed July 22, 2020, <a href="https://www.gao.gov/assets/590/588146.pdf">https://www.gao.gov/assets/590/588146.pdf</a> .
B	Program Design, Program Objectives and Outcomes, and Program Principles	United Way Greater Toronto, “Program Design & Development Resources” (2016), accessed July 22, 2020, <a href="https://www.unitedwaygt.org/document.doc?id=538">https://www.unitedwaygt.org/document.doc?id=538</a> .
C	Types of Evaluations	U.S. Department of State, “Program Design and Performance Management Toolkit,” accessed July 22, 2020, <a href="https://www.state.gov/wp-content/uploads/2018/12/Program-Design-and-Performance-Management-Toolkit.pdf">https://www.state.gov/wp-content/uploads/2018/12/Program-Design-and-Performance-Management-Toolkit.pdf</a> .
D	Essential Core Design Components, Needs Assessment, and Program Mission and Objectives	United Way Calgary and Area, “A Literature Review of Best Practices” (2011), accessed July 22, 2020, <a href="https://calgaryunitedway.org/wp-content/uploads/2019/03/program_design_a_literature_review_of_best_practices.pdf">https://calgaryunitedway.org/wp-content/uploads/2019/03/program_design_a_literature_review_of_best_practices.pdf</a> .
E	Establishment and Review of Performance Measures and Documentation and Evaluation of Ongoing Monitoring	U.S. Government Accountability Office, GAO-14-704G, “Standards for Internal Control in the Federal Government” (2014), accessed June 23, 2020, <a href="https://www.gao.gov/assets/670/665712.pdf">https://www.gao.gov/assets/670/665712.pdf</a> .

**Source:** Auditor’s Office analysis.

**Note:** These publications cover more than the topics listed. Many address the full range of program design, implementation, and evaluation. This table is intended to clarify which documents the audit team relied most heavily on to support criteria used for the section of the report focusing on program design, starting on page 14.

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## Office of the Auditor

The **Auditor** of the City and County of Denver is independently elected by the citizens of Denver. He is responsible for examining and evaluating the operations of City agencies and contractors for the purpose of ensuring the proper and efficient use of City resources. He also provides other audit services and information to City Council, the Mayor, and the public to improve all aspects of Denver's government.

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