AUDIT REPORT

Department of Community Planning and Development

Residential Permitting

JANUARY 2024

TIMOTHY M. O'BRIEN, CPA
DENVER AUDITOR

OFFICE OF THE AUDITOR
AUDIT SERVICES DIVISION, CITY AND COUNTY OF DENVER

Audit Team

Shaun Wysong, MA, Audit Manager
Kristin McCormack, JD, Audit Manager
Maria Durant, MBA, Senior Auditor
Shannon Scheich, MPA, Senior Auditor
Caroline Nelson, Audit Intern

Methodological Support

Chris Wilson, MPA, Audit Analytics Manager
Daniel Summers, MPA, Audit Analytics Lead Auditor
Kayley Smiley, MS, Audit Analytics Intern

Other Contributors

Kristen M. Clark, Senior Communication and Reporting Specialist
Stelios Pavlou, Reporting Specialist
Jeff Neumann, Graphics and Visual Information Specialist

Audit Management

Timothy M. O'Brien, CPA, Auditor
Valerie Walling, CPA, Deputy Auditor
Dawn Wiseman, CRMA, Audit Director
Sonia Montano, CGAP, CRMA, Senior Audit Manager

Audit Committee

Timothy M. O'Brien, CPA, Chairman
Jack Blumenthal, Vice Chairman
Frank Rowe
Leslie Mitchell
Florine Nath
Charles Scheibe
Ed Scholz

You can obtain copies of this report by contacting us.

Office of the Auditor
201 West Colfax Ave. #705
Denver, CO 80202
(720) 913-5000

Or download and view an electronic copy by visiting our website at: www.DenverAuditor.org.

Response narratives are reprinted verbatim from the agency's letter, which is available in full on our website.

Cover photos by Denver Auditor's Office staff.

City and County of Denver

TIMOTHY M. O'BRIEN, CPA
AUDITOR

201 West Colfax Ave. #705, Denver, CO 80202
(720) 913-5000 | www.DenverAuditor.org

AUDITOR'S LETTER

January 18, 2024

We audited the residential permitting process in the Department of Community Planning and Development to determine whether it is effectively managed to meet the department's mission, goals, and objectives. I now present the results of this audit.

The audit found that a lack of consistent, documented processes and unreliable data contributed to longer permit review times. Additionally, inconsistent staffing analyses and unreliable data does not provide department leaders with the necessary information to determine whether they have sufficient resources to address permit volume and develop formal processes.

By implementing recommendations for stronger policies for oversight and data reliability, the Department of Community Planning and Development will be better able to ensure permit applications are reviewed and approved consistently and in a timelier manner.

However, I am disappointed the Department of Community Planning and Development chose to disagree with recommendations that would allow the department to better monitor contract requirements and ensure more reliable data.

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 appreciate the leaders and team members in the Department of Community Planning and Development who shared their time and knowledge with us during the audit. Please contact me at 720-913-5000 with any questions.

Denver Auditor's Office

Timothy M. O'Brien, CPA
Auditor

Residential Permitting

JANUARY 2024

Objective

To determine how effectively the Department of Community Planning and Development manages the city's residential permitting process to ensure it meets its mission and goals to ensure safe and sustainable building by completing permit application reviews on time.

Background

The Department of Community Planning and Development's residential plan review team reviews project plans and issues permits for one- and two-unit residential properties and checks for compliance with Denver's building and zoning codes. The reviews ensure land use, design, and construction standards are met for residential construction projects.

The city saw a large increase in permit applications during and after the COVID-19 pandemic as homeowners began remodeling their homes. Because of this, the number of plan reviews completed on time has decreased.

REPORT HIGHLIGHTS

A lack of manager oversight and documented processes delays review times

- City staff and contractors lack a formal training process and manager oversight to ensure plan reviews are done accurately and consistently.
- The Department of Community Planning and Development does not have formal processes to communicate with homeowners, construction contractors, or other agencies' permit review teams.
- The department's residential plan review team does not have reliable data to determine whether it is achieving its goals.

The residential plan review team needs more consistent, reliable data to effectively allocate staff resources

While Community Planning and Development has conducted staffing analyses for the residential plan review team in the past two years, staffing analyses are not done consistently and the data used to determine staffing needs is unreliable.

WHY THIS MATTERS

Without written processes, city staff cannot ensure plan reviews are done consistently, accurately, and in a timely manner. This can result in project delays and increased costs on homeowners. And without consistent analyses with reliable data, Community Planning and Development cannot ensure it has adequate resources to meet the demand for permits.

CONTENTS

BACKGROUND

Permits are required whenever homeowners want to make certain changes to their property. To keep Denver communities safe, these permits ensure any construction meets building codes and other city requirements. Permits also ensure new construction preserves Denver's historical landmarks and adheres to neighborhood design.

The Department of Community Planning and Development enforces land use, construction, and design standards through its permitting services to enhance and protect Denver's neighborhoods and urban landscape.

Population growth and permitting impact

As Denver's population has grown, the number of residents wanting to make changes to their homes has increased as well, as reflected in the volume of residential permit applications. As shown in Figure 1 on the next page, the amount of residential and intermediate residential permit applications nearly doubled in the three-year period from 2018 through 2020, from 2,758 applications to 5,226.

POPULATION GROWTH

In 2010, Denver had about 600,000 residents. By 2020, Denver's population rose to over 715,500 — an increase of about 16%.

According to managers in the Department of Community Planning and Development, the volume of permit applications tends to mirror economic and construction trends in Denver. While the department is not able to predict construction trends, it has been a long-term priority for the department to improve its ability to respond quickly to increases in volume.

Types of residential permits

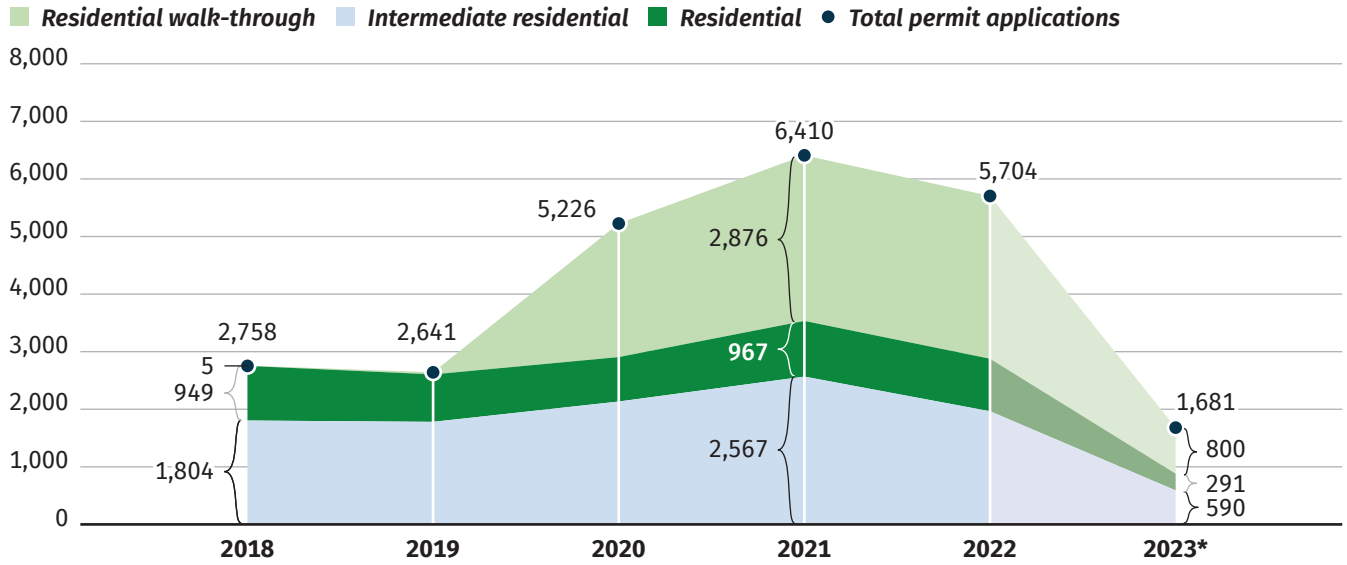
Project applications fall into one of two categories: residential and commercial construction.

Residential permits are issued for construction projects at one- and two-unit residential buildings and any additional structures. These include single-family homes, duplexes, and additional dwelling units, such as basement apartments. Commercial permits are issued for residential projects with three or more units, like triplexes and apartment complexes.

Some types of home projects require a review by city staff before a permit can be issued; others do not. There are also project types that do not require a review or permit at all. Whether a review is required, and what review is needed for a project, depends on the information submitted in

the application and requirements in the Denver Building and Fire Code and the Denver Zoning Code.[1]

FIGURE 1. Online permit application volume by type of project



**Through April 30.*

Note: *This figure does not show all walk-through permit applications before March 2020 because walk-through applications were primarily reviewed at the in-person permit counter before this time.*

Source: *Denver Auditor's Office analysis of Community Planning and Development's Accela data.*

REVIEW REQUIRED – Larger-scale projects for single-family homes and duplexes require city staff to review the project plans before a permit can be issued. These projects fall into three categories:

- **RESIDENTIAL PROJECTS** – such as new, custom-built homes and additions of 400 square feet or larger.
- **INTERMEDIATE RESIDENTIAL PROJECTS** – which are less complex or smaller-scope construction, such as additions of less than 400 square feet and attic conversions.
- **WALK-THROUGH PROJECTS** – which are smaller home projects with a low level of complexity or project scope.

Examples of smaller home projects include remodeling a kitchen or bathroom or installing air conditioner units, fences, sheds, or new doors

[1] City and County of Denver, "2022 Denver Building Code & Denver Fire Code" (2023), accessed March 14, 2022, https://test.denvergov.org/files/assets/public/community-planning-and-development/documents/ds/building-codes/2022-denver-building-and-fire-code.pdf; City and County of Denver, "Denver Zoning Code" (2023), accessed Oct. 25, 2023, https://denvergov.org/files/assets/public/community-planning-and-development/documents/zoning/denver-zoning-code/complete_denver_zoning_code.pdf.

and windows.

REVIEW NOT REQUIRED – Simpler, trade-specific projects do not require any type of plan review before receiving a permit. These projects can be issued a "quick permit" and include certain plumbing, roofing, and electrical projects. Any home projects involving structural work cannot be permitted with a quick permit.

NO REVIEW OR PERMIT REQUIRED – Examples of projects that do not require a permit or a review include tiling, painting, cabinet replacement, replacing like-for-like plumbing and electrical fixtures, and refinishing wood floors.

The residential permitting process

The permitting process begins with an applicant. A homeowner can choose to submit their application or have someone else, like a contractor, apply on their behalf. Preparing the application includes outlining the scope of the project, conducting research on codes and permit requirements, and finalizing construction documents and forms for submission.

The homeowner or contractor will then submit the application online through Denver's E-permits system. The system asks for the home address, contact information, a project description, a project classification, and project scope.

The applicant must also attach a valuation — or the cost to the owner of all construction work covered by the permit — to their project and upload any necessary documents. Once this is submitted and complete, the applicant will receive an identification, or "log," number for their project.

APPLICATION REVIEWED FOR MINIMUM REQUIREMENTS – Before city staff can review a project, the 11-member intake team in the Department of Community Planning and Development first checks the application for minimum requirements and will either accept or deny it.

The intake team does not check for documentation on some applications, such as applications for trade-specific and smaller project permits.

When an application is accepted, the intake team transfers it to the department's software for reviewers to mark up and review project plans along with the attached documentation, which is placed in the appropriate system folder for project review.

If the application is missing any required information, the applicant is notified by email and asked to submit it.

When all necessary information has been collected, the intake team notifies the applicant by email and tells them to pay the fee for plan review. Plan review fees are calculated using a percentage of the permit fee, which is paid later in the plan review process. Once this fee is paid, the project moves forward to all required review teams.

PROJECT REVIEWED FOR BUILDING AND ZONING CODE COMPLIANCE – The

residential plan review team is responsible for ensuring that permit applications for one- and two-family units and any additional structures comply with the Denver Building and Fire Code and the Denver Zoning Code.[2]

The Denver Building and Fire Code establishes standards for protecting public safety, health, and welfare. The Denver Zoning Code provides standards for acceptable size, use, and location restrictions for property.

Because the residential plan review team reviews applications for compliance with both the building and zoning codes, the team typically issues multiple permits on a single project. These can be:

- Residential construction permits.
- Zoning permits.

According to department leaders, Community Planning and Development spent about $4.4 million on the residential plan review team across 2022 and 2023. As of July 2023, there were 20 full-time members of the residential plan review team, including two supervisors.

If the residential plan review team denies a project for not complying with building or zoning codes, the applicant is notified by email and told what corrections need to be made for permit approval.

If the project is approved, the applicant is notified by email and directed to pay the required permit fee. Once the fee is paid, the permit is issued, and construction can begin.

OTHER REQUIRED REVIEWS – Requests for permits for one- and two-family units are typically submitted in a combined application. Other permit review teams in the Department of Community Planning and Development or other city agencies may need to review project plans to approve other permits required for construction depending on the project. Reviews by other agencies' review teams generally occur during the same time as the residential plan review team's review.

Examples of other teams involved in such reviews can include:

- **DEPARTMENT OF TRANSPORTATION & INFRASTRUCTURE** – The department approves sewer use and drainage permits that ensure water is flowing where it is supposed to and does not impact surrounding properties.
- **DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT** – The department determines soil contamination levels for projects requiring excavation.
- **DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT'S LANDMARK DIVISION** – The division conducts a review when construction is in an historic district.

[2] City and County of Denver, "2022 Denver Building Code & Denver Fire Code"; City and County of Denver, "Denver Zoning Code."

Permit fees are due after all plan reviews are completed and approved. Different permits are required for the various types of work, and the permit fee is based on the total value of all construction work to be completed for each permit. As noted above, the initial plan review fees are separate from the final permit fee.

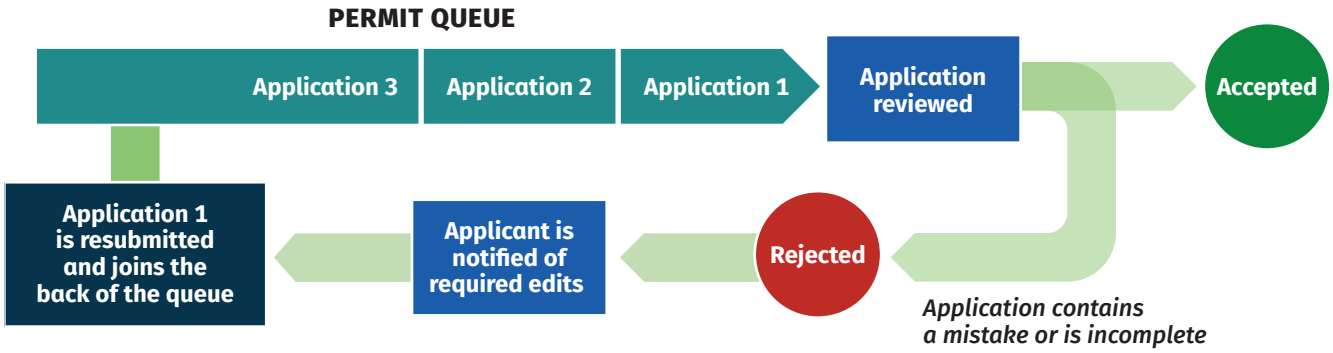
INSPECTIONS – All projects that are issued a permit must be inspected by Community Planning and Development staff after construction begins. On-site inspections determine whether a building or structure is safe, whether it aligns with the permitted project plans, and whether any remedies are needed. Once the project passes inspection, the permitting process is complete.

Resubmittals

When an applicant makes a mistake or submits an incomplete application during the review process, they can submit requested updates and changes to their application. Resubmittals can result in homeowners paying additional plan review fees. This can occur after three resubmittals at a rate of $125 per hour.

As shown in Figure 2, when an applicant resubmits their application in the city's E-permits system, it goes to the back of the permit queue. If the plans or application continue to not meet standards, this reset can happen multiple times.

FIGURE 2. The application process



Note: *Plan reviews are pulled from the queue where the oldest plan review is typically processed first.*

Source: *Denver Auditor's Office.*

Both first-time submittals and resubmittals sit in the same queue, and plan reviewers work on the oldest applications first.

Those applicants who need to make changes or provide additional documentation must resubmit their application, which is then treated like a new application and goes to the back of the queue as the "newest" application.

MINOR RESUBMITTALS – Not all resubmittals go to the end of the queue. When an application is missing something small — such as a required signature — plan reviewers can check a box in the permitting system that identifies it as a "minor resubmittal." Once this box is checked, the application gets a two-day due date for re-review and appears on the department's "Minor Resubmittals" dashboard. This allows the residential plan review team to keep track of and prioritize resubmittals that will take 15 minutes or less to review and approve.

Impacts of the COVID-19 pandemic

In March 2020, Colorado issued a public health order asking residents to stay at home due to the COVID-19 pandemic. Spending more time at home led many homeowners to pursue remodeling projects.

Denver's permitting process was impacted in several ways during and directly after the COVID-19 pandemic.

- Permit applications increased significantly from 2020 through 2021, leading to a backlog of unreviewed permits.

  This was not the first time Community Planning and Development experienced an unexpected increase in permit applications. Department leaders said they experienced a similar backlog from 2015 through 2017 as Denver's population rose.
- The city transitioned to an all online permitting system. Until March 2020, walk-through permit applications were typically submitted in person. But, due to the pandemic, the Department of Community Planning and Development changed the permit application process to online only by requiring walk-through permit applications to be submitted online as well.
- After the pandemic subsided, the residential plan review team had only half or less of its total positions filled due to staff turnover.

Department efforts to address permit backlogs

Community Planning and Development set a goal to improve the percentage of plan reviews completed on time through strategic staffing and process improvements.

The department sought to address the permit backlog by:

- **ALLOWING INSPECTORS TO APPROVE SOME PLAN MODIFICATIONS** – Previously, zoning inspectors were not allowed to change anything after a permit was issued. By authorizing inspectors to approve some modifications to project plans while in the field — rather than requiring the project to go back through permit review again — the department aimed to expedite the process.
- **IMPLEMENTING A NEW PHONE SYSTEM** – The department installed a phone system on staff laptops to allow staff to direct calls to the appropriate person or department. This allowed staff to better

manage call volumes while giving homeowners and construction contractors the opportunity to always speak to someone during business hours instead of being sent to voicemail.

- **CREATING A DASHBOARD FOR MINOR RESUBMITTALS** – To avoid certain resubmittals going to the back of the review queue and causing delays, some projects needing only minor adjustments can now be addressed once the changes are submitted.

Meanwhile, the department used several staffing strategies to address the backlog, as shown in Figure 3. These included authorizing overtime, using on-call staff, cross-training other Community Planning and Development teams, and allowing teams to focus on a single task for a certain period of time.

FIGURE 3. Department efforts to address permit backlogs

OVERTIME
The authorization to work more than 40 hours per workweek or 12 hours per work day or 12 consecutive hours of work.

ON-CALL EMPLOYEES
A limited, temporary position.

CROSS-TRAINING
Along with other Community Planning and Development teams, learning other teams' skills to allow for more capacity with processing backlogs.

SINGLE-TASK FOCUSED
Periods of time where staff focus on one type of task, which increases efficiency since staff do not have to dedicate time to other tasks usually assigned to them.

Source: *Denver Auditor's Office analysis of Community Planning and Development efforts.*

The department also sought outside help. In September 2022, the department contracted with Bureau Veritas North America Inc. to help the department conduct residential and commercial project plan reviews and clear its permit backlog. The original contract was up to $475,000, but in February 2023, this was amended to $1,175,000 because the department still needed the extra support.

As of August 2023, Community Planning and Development leaders said they no longer had a backlog of residential permit applications. But department leaders also said they cannot predict construction trends and they acknowledge that backlogs have been an ongoing issue.

FINDING 1 AND RECOMMENDATIONS

A lack of manager oversight and documented processes delays review times

The Department of Community Planning and Development's residential plan review team does not have formal processes, sufficient manager oversight, or reliable data to ensure it reviews residential project plans accurately and in a timely manner. Specifically, the team lacks formal, documented processes for:

- Overseeing plan reviews.
- Contract monitoring.
- Training plan reviewers.
- Communicating with the public and other city permit review teams.
- Ensuring data and dashboards are reliable.

57% of residential reviews from all city review teams took longer than 10 business days.

While the residential plan review team cannot control the volume of permit applications it receives or how long it takes applicants to respond to requested changes on their project plans, its informal processes and unreliable data contribute to longer permit review times for homeowners and contractors.

We found that, from Oct. 7, 2021, through April 30, 2023, over 57% of all residential and intermediate residential reviews from all city review teams took more than 10 business days for the city to review.[3] And 34% of the residential plan review team's walk-through reviews in that same period took longer than 10 business days, when the team's goal was to review them within two business days.

In total, the residential plan review team did not complete its reviews on time 76% of the time in 2022 and 81% of the time in 2023. Additionally, we found the team did not begin reviewing 893 residential and intermediate residential permit applications until after the 10-business-day due dates to complete plan reviews had already passed.

As shown in Figure 4 on the next page, the average number of days for residential permit reviews increased for all permit types from Jan. 1, 2020, through April 30, 2023. Long permit review times were a top complaint

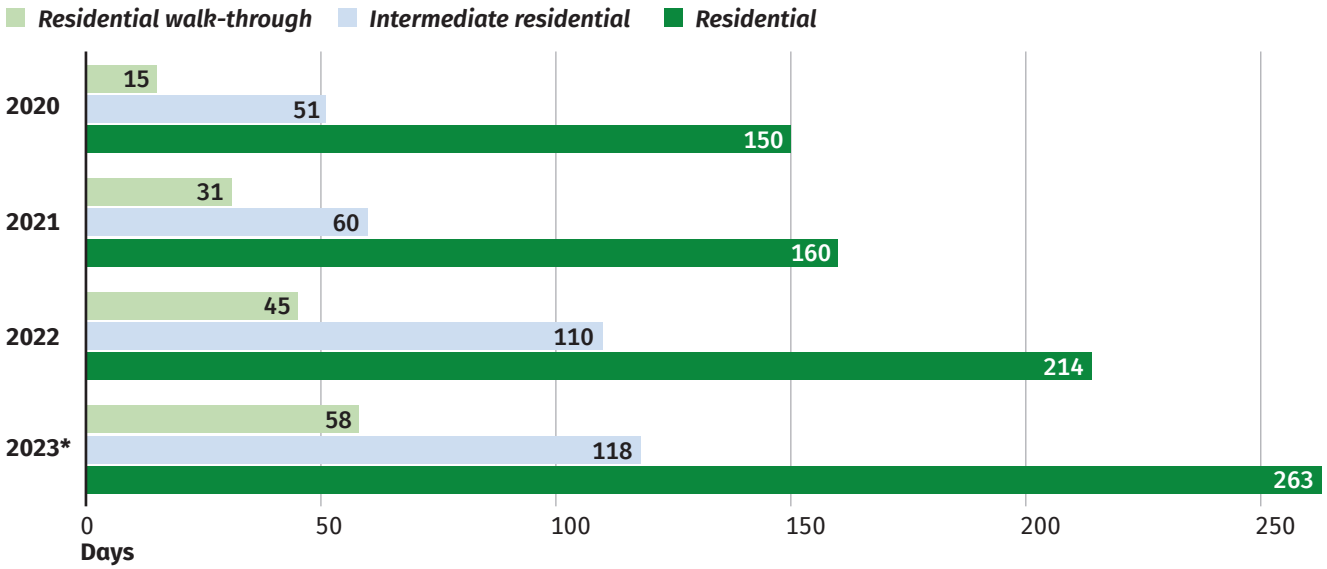
SURVEY RESULTS

See Appendix A for more on the survey responses we received from homeowners and construction contractors who applied for residential permits.

[3] For this analysis, we chose data from Oct. 7, 2021 — the date when review teams changed their target review times to 10 business days — through April 30, 2023, which aligned with the end of the period we chose to look at for this audit.

among homeowners and construction contractors we surveyed, and 30 of 55 respondents to our survey said long review times made the permit review process more difficult.

FIGURE 4. Average days for permit review, by year



**Permits approved before May 1, 2023.*

Note: *This counts the time from when the intake team accepts an application through when all review teams have approved a project's permits. This figure does not include review times for walk-through applications submitted in-person through March 2020.*

Source: *Auditor's Office analysis of length of permit review process.*

Long permit review times also lead to increased costs for homeowners and more unpermitted and potentially unsafe work being done on homes.

One survey respondent said permit review delays "added over $24,000 more to our project due to paying rent and a mortgage for much longer than anticipated."

Seven of 55 survey respondents said long review times increased the cost of their projects. One survey respondent said permit review delays "added over $24,000 more to our project due to paying rent and a mortgage for much longer than anticipated" and resulted in them completing their project without a permit.

Another survey respondent said, "People don't permit because the city makes it nearly impossible to get things done in a timely manner." A contractor we surveyed said, "Costs and time spent have to be passed down to the client."

One member of the City Council relayed similar comments from their constituents that people are completing projects on their homes without permits. Delays in reviewing project plans could create future safety issues for homeowners while also negatively impacting housing affordability by increasing the cost of home construction and repair projects.

Insufficient training and oversight can negatively affect plan reviews

The city's residential plan review team and contracted staff responsible for reviewing project plans and applications do not receive adequate training, oversight, and monitoring because the Department of Community Planning and Development does not have formal processes. We learned the department did not prioritize creating them because it was addressing its backlog of unreviewed permit applications.

Given the volume of permits has been significant and the permit review process itself involves a complex review of multiple zoning, building, and other codes to determine a project's compliance, it is important that the department has a structured and formal approach for training and oversight to ensure the work is accurate.

Without a formal approach to training and oversight, the department cannot ensure staff have the necessary knowledge and skills to make decisions on whether to correctly approve or reject residential project plans. Inaccurate, delayed, or late decisions on permits can worsen plan review times, increase costs to homeowners, and result in potentially unsafe work being done on Denver homes.

The permit review process involves a complex review of multiple zoning, building, and other codes. It is important that documented processes for training and oversight be in place.

The residential plan review team does not have a formal training program for staff

Several staff on the residential plan review team told us there is no formal training program — such as an overall training plan, ongoing training, or written policies and procedures — to guide them.

Department leaders acknowledged there are no continuous-training requirements for the residential plan reviewers; they said the training approach is not "one size fits all." Managers adapt the type and amount of training to each individual employee because staff come to their positions with different levels of knowledge and experience.

While new staff receive onboarding training that is relevant to their work, staff told us this does not involve a systematic process such as a training plan or schedule. Instead, it is unplanned and mostly involves a combination of one-on-one training and shadowing experienced staff.

We reviewed a checklist the department developed to guide the onboarding of new employees. We found critical training requires self-directed reading, reviewing building and zoning code requirements, watching zoning videos, and watching webinars on how to use the city's permitting software, Accela.

For example, one plan reviewer mentioned conducting a lot of research on the city codes and navigating through Accela to develop their knowledge after they were hired. Additionally, department staff told us the training videos that staff access either on the city's training platform, Workday, or on the department's shared drive have not been updated to include the latest information on Denver's zoning code.

In addition, Bureau Veritas — the contractor that assists the residential

There is no formal training program with overall training plans, ongoing training, or written policies and procedures to guide staff.

review team with plan reviews — also has not received ongoing training. The contracted staff received an initial training period of only about two weeks to understand the city's building code, permit review process, and software as well as weekly meetings with the department to ask questions for only the first six months of the contract. The department has challenges with using the contracted staff because they struggle with understanding Accela and the city's unique and complex permitting process.

Community Planning and Development managers said they have a small budget for training opportunities, and higher-level leaders make decisions departmentwide about how to distribute the limited funds among all the teams.

Some staff expressed concerns about the residential plan review team not being historically supported when these decisions were made. We asked for records showing the annual training funds received by the residential plan review team, but managers said they could not provide this information because the team did not have a dedicated training budget until 2023.

In addition to trainings developed by the department and memberships for plan reviewers to the Building Code College, which provides online educational videos, residential plan review managers told us they look for free trainings. These include updates to building codes that national organizations offer such as the International Code Council Education Institute, which provides annual training online or in person.[4]

But staff said there is not enough training offered throughout the year and the available external trainings are not beneficial to their work because the trainings are not specific to Denver's residential permitting process.

We could not determine the type of training staff received and the frequency of their training because the department does not monitor or maintain the necessary records. Instead, the residential plan review team's managers provided examples of archived emails that documented training-related activities or discussions. However, the emails did not indicate whether the department had a consistent process for monitoring and documenting staff training.

Leading practices for training say that organizations should establish policies governing employee training. They should align training and development with strategic plans, assign responsibility to ensure training goals are achieved, establish priorities for training employees, and

[4] The Building Code College is an education provider preferred by the International Code Council. It offers building code education to the construction industry. BuildingCodeCollege.com, accessed Aug. 1, 2023, https://buildingcodecollege.com/. The Colorado chapter of the International Code Council holds an annual "Educational Institute" to provide comprehensive code-related education for code professionals, design professionals, and contractors. Colorado Chapter of the International Code Council, "Educational Institute" webpage, accessed Aug. 1, 2023, https://coloradochaptericc.org/education/education-institute/.

allocate resources according to those priorities.[5]

Furthermore, managers should demonstrate a commitment to developing competent staff by enabling employees to develop skills and by tailoring training based on the needs of the role. Establishing expectations of competency — such as the knowledge, skills, and abilities gained from training — enable an organization to achieve its objectives.[6]

Staff from other cities we interviewed said they had formal training programs with requirements and processes to ensure their permit review staff were adequately trained. For example, Fort Worth, Texas, has a training manual for most positions and contracted staff participate in all training with city staff.

Austin, Texas, has 60-day and 90-day plans for new hire onboarding and ensures staff take the standard 60 hours of training for plan examiners established by the International Organization for Standardization.[7]

HOW OTHER CITIES COMPARE

See Appendix B for details on the other cities and counties we looked at to compare with Denver.

Although the residential plan review team's managers took steps to formalize the training process by creating training guidance and tools for staff, the effort is incomplete and some information was not useful to staff.

Several plan reviewers said it was easier to ask someone who was knowledgeable about a process rather than trying to find the relevant guidance and understand it.

We found no processes to manage the training guidance and tools, and we also found documents without dates or that were still in draft form even though team managers said the documents were final. Specifically, of the 26 training documents we reviewed, six did not have a date or were still in draft form. In addition, managers could not confirm whether the documentation was comprehensive and contained all training guidance available to staff.

Several plan reviewers said it was easier to ask someone who was knowledgeable about a process rather than trying to find the relevant guidance and understand it. Staff also mentioned not receiving guidance far enough in advance to prepare for building and zoning code changes.

Residential plan review team managers acknowledged that continuous pressure from the Mayor's Office and Denver residents to focus on the permit backlog makes it difficult to keep up with employee development.

Leading practices used by permitting departments in other cities such as

[5] U.S. Office of Personnel Management, "Workforce Planning Guide" (2022), accessed June 8, 2023, https://www.opm.gov/policy-data-oversight/human-capital-framework/reference-materials/talent-management/workforce-planning-guide.pdf.

[6] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, paras. 4.01, 4.02, and 4.05.

[7] The International Organization for Standardization is an independent, nongovernmental, global organization that develops international standards using subject-matter expertise in areas such as technology, health and safety, environment, energy, and information technology security.

Rochester Hills, Michigan, include tools for document control — such as a routing slip to track who made edits and when edits were approved — for new and revised policies, procedures, and changes to shared drive folders. Roseville, California's permit department established a policy to ensure its procedures and handouts are consistently implemented; do not use outdated or incorrect forms, policies, and procedures; and are reviewed and updated annually, if necessary.[8]

Furthermore, leading practices say managers should implement control activities through policies, they should document the responsibilities of the organization in policies, and they should further define the policies through day-to-day procedures.[9] Managers should also periodically review policies, procedures, and related control activities to determine their continued relevance and effectiveness in achieving the entity's objectives or addressing related risks.

The residential plan review team does not have a formal and consistent process for overseeing and monitoring plan reviewers' and contracted staff's work

Several department staff said although some oversight occurs, there is no consistent, ongoing process for overseeing plan reviews, tracking and documenting errors, and providing and documenting feedback. There is also no overall written policy that specifies oversight and monitoring requirements and no guidance that includes what should be monitored and how often or that would instruct staff on how to perform oversight and monitoring.

Although there is no formal approach, we found the department conducts some oversight and monitoring through a quality-control process. But we learned the team's managers do not conduct quality-control reviews for every plan reviewer and mostly use the process to verify whether new employees understand the work or to respond if there is a complaint or escalation.

The residential plan review team's managers told us they do not have the capacity for ongoing supervisory review or monitoring of all staff due to limited resources and a high volume of permit applications. Managers may assign experienced staff to assist with the process, as necessary.

Meanwhile, the team's managers said that although there is no written guidance that instructs staff on how to conduct quality-control reviews, written guidance is not necessary because it involves following step-by-step procedures the original plan reviewer followed in Accela.

---

[8] International Code Council Major Jurisdiction Committee, "Best Practices, Lessons Learned from the Building Department Accreditation Program and Major Jurisdiction Committee" Second Edition (2017), accessed May 18, 2023, https://iasonline.org/wp-content/uploads/2023/02/2022_best_practices.pdf.

[9] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/products/gao-14-704g, para. 12.04.

Leading practices say managers should provide qualified and continuous supervision to achieve objectives and implement control activities such as policies and procedures, so an organization can operate effectively.[10]

Six of seven municipalities we looked at had processes to oversee and monitor residential plan reviews.

Six of seven municipalities we contacted — all but Portland, Oregon — had processes to oversee and monitor residential plan reviews. Phoenix; Austin, Texas; and Mecklenburg County, North Carolina, set minimum standards for performing audits of plan reviewers. For example, Phoenix and Austin require two audits for each plan reviewer each year, while Mecklenburg County requires two audits every six months. In addition, Seattle has a team dedicated to quality-control reviews, and Fort Worth, Texas, performs regular spot-checks of plan reviews and checks contracted work before issuing a final certificate of occupancy to a homeowner.

Leading practices used in other cities include developing a comprehensive quality assurance plan and conducting internal audits. For example, Rochester Hills, Michigan, uses a quality-control manual to monitor, identify, and improve the quality and efficiency of its operations and conducts quarterly random reviews of plan reviews.[11]

Meanwhile, we also found gaps in how Community Planning and Development oversees contracted staff. Complete quality-control reviews of contracted staff happened only in the first two weeks of the contract and shifted to limited reviews and high-level technical checks afterward.

The department also focused on timeliness instead of other requirements such as technical accuracy and following established procedures when reducing contractor plan review fees. The residential plan review team's managers told us timeliness was easier and less subjective to track and quantify. For example, the department identified one instance when Bureau Veritas did not meet the timeliness requirement and reduced plan review fees by almost $18,000.[12]

HOW OTHER CITIES COMPARE

As part of our audit analysis, we reviewed residential permit review practices in the following municipalities across the country:

- **Seattle.**
- **Fort Worth, Texas.**
- **Austin, Texas.**
- **Oklahoma City.**
- **Portland, Oregon.**
- **Phoenix.**
- **Mecklenburg County, North Carolina, which serves the city of Charlotte, North Carolina.**

[10] U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government," para. 12.05.

[11] International Code Council Major Jurisdiction Committee "Best Practices, Lessons Learned from the Building Department Accreditation Program and Major Jurisdiction Committee" Second Edition (2017), accessed May 18, 2023, https://iasonline.org/wp-content/uploads/2023/02/2022_best_practices.pdf.

[12] According to the contract, the department will impose a plan review fee reduction of up to 25% per project per week when half or more assigned reviews are late.

High numbers of resubmittals can increase costs to homeowners with potential added review fees of $125 per hour.

In March 2023, due to the significant number of errors by Bureau Veritas, the department decided to limit contracted staff workloads to only resubmittals relevant to projects they had previously worked on. Additionally, the department does not have a dedicated contract administrator to oversee the contract.

Without consistent contract monitoring, the department cannot ensure its contractor is following all contract requirements, including technical accuracy in plan reviews. The city's Executive Order No. 8 requires agencies to monitor contractors for the life of the contract, including all contract requirements.[13] It also says that agencies must establish and implement policies and procedures for monitoring contracts and identify the person accountable for contract monitoring responsibilities.

Without a formal and consistent approach for training, oversight, and monitoring, errors by staff can occur more frequently and are not always caught in a timely manner, which can result in project delays and more plan resubmittal reviews.

Plan resubmittals can ultimately increase costs to homeowners and result in additional plan review fees being assessed. Additional plan review fees can be charged to a homeowner or construction contractor after three resubmittals — at a rate of $125 per hour. As shown in Table 1 on the next page, we found 577 of 14,170 approved permits — about 4% — required more than three plan resubmittal reviews from January 2020 through April 2023.

We reviewed a judgmental sample of permit records that went through one or more plan resubmittal reviews to determine whether the department consistently sent the required plan review notices to homeowners and construction contractors. We found that out of the 22 records reviewed that went through at least one resubmittal, 10 did not have a plan review notice uploaded to Accela.

We found examples of errors that were not discovered until a homeowner or construction contractor complained several months after a plan review was completed.

We were unable to determine the extent of plan review errors because the department lacks a formal and consistent approach for tracking and documenting errors, and these errors were not recorded in Accela. Only emails from managers notifying individual plan reviewers and contracted staff of their errors are tracked and documented. But not every plan review error is documented in an email and not all emails are archived by managers.

In our review of error notification emails provided by the department, we found examples of errors that were not discovered until a homeowner or construction contractor complained several months after a plan review was completed.

Several plan reviewers told us they may not be aware of an error until one of Community Planning and Development's inspectors discovers an issue

[13] Exec. Order No. 8, City and County of Denver (2020), accessed May 31, 2023, https://www.denvergov.org/files/assets/public/v/4/executive-orders/documents/xo8-contracts-other-written-instruments-ccd.pdf.

later in the process. By then, the error is likely large because of the amount of construction work completed and the amount of time that has passed. Residential plan review staff said they were not always notified when an error occurred, and usually only the reviewer who caused the error may become aware of it.

Department managers said errors occur frequently enough to cause concern and errors made by other teams involved in the permitting process are also not tracked or documented in any formal way.

PERMIT APPLICANT SURVEY

See Appendix A for details on how we surveyed homeowners and construction contractors who applied for residential permits.

TABLE 1. Number of residential applicant resubmittals, 2020 through 2023

Number of resubmittals	2020	2021	2022	2023	Total
4	109	94	80	40	323
5	58	40	35	22	155
6	13	12	10	7	42
7	9	11	7	3	30
8	7	3	5	1	16
9	2	2	2	—	6
10	—	—	—	1	1
11	1	1	—	—	2
12	1	—	—	—	1
15	—	1	—	—	1
Total applications with more than three resubmittals	**200**	**164**	**139**	**74**	**577**

Note: *Data for 2023 includes information through April 30, 2023.*

Source: *Auditor's Office analysis of Community Planning and Development's Accela data.*

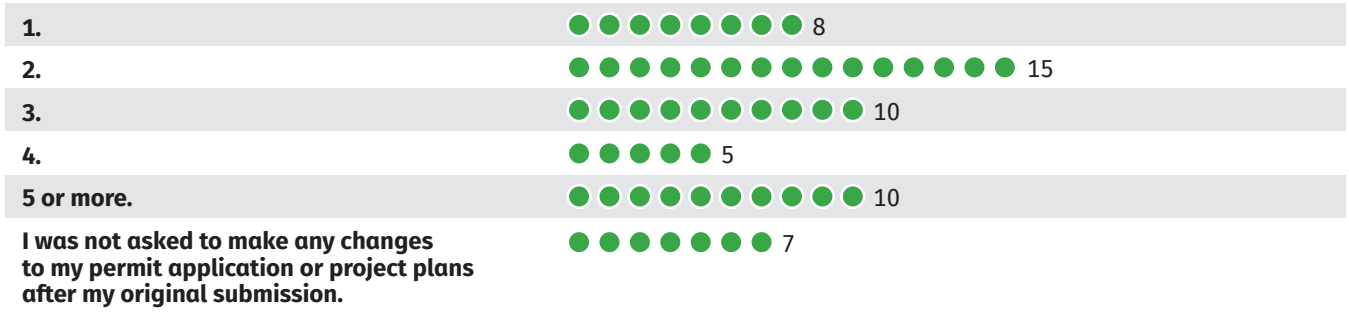
Responses to our survey of homeowners and construction contractors who had applied for residential permits showed that 10 of 55 respondents said city staff made an error when reviewing their project plans. Figure 5 on the next page shows 25 of 55 respondents said their project required three or more resubmittals before being approved.

Some respondents made specific comments about errors and resubmittals. For example, one person wrote: "Staff cited issues in code that did not pertain to our project as explanation for their concerns... so conversations took longer than needed to resolve." Another person said, "The initial reviewer approved plans that should not have been. ... We found out during the inspection process."

In another comment, a contractor said city staff and the homeowner had agreed that a sewer use permit was not needed for their project, but a later reviewer asked them to get a sewer use permit. The homeowner then had to contact the reviewer to come to the same agreement a second time.

FIGURE 5. Number of resubmittals from survey respondents

How many times were you asked to make changes to your permit application and/or project plans after your original submission?



Source: *Applicant survey responses and Auditor's Office analysis of responses.*

1.1 RECOMMENDATION Develop a formal training plan

The Department of Community Planning and Development should develop a written, formal training plan for the residential plan review team that, at a minimum, specifies:

- **The types of training required and how often each training should be taken after a staff member is hired (e.g., once, annually).**
- **How training will be tracked and documented.**
- **Which staff member is responsible for tracking and documenting training.**
- **How often the training plan should be reviewed and updated.**
- **Requirements for individual training plans that ensure a focused approach to staff training and development needs.**

AGENCY RESPONSE – AGREE

While the supervisor of each plan review related workgroup in CPD has new hire onboarding and team training identified as a core responsibility, CPD acknowledges that the documentation of the training process has not been standardized.

In January 2024, CPD rolled out a standardized framework for training expectations across all plan review related work groups, including the Residential Plan Review team. The completed plan for each team shall include, at a minimum, the elements listed in this recommendation. It is our expectation that the training documentation for the Residential Plan Review team will be completed by February 29, 2024.

We anticipate that this documentation will continue to evolve/be updated as needed on an ongoing basis.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY MARCH 1, 2024

1.2 RECOMMENDATION Review, update, and finalize training guidance

The Department of Community Planning and Development should review its training documents and guidance for the residential plan review team to determine what information should be included in the training plan. The training plan should then be updated and finalized.

AGENCY RESPONSE – AGREE

This recommendation builds off the Recommendation 1.1. After completion of the general training framework described in our response above, we anticipate that the more detailed documentation for the specific training to be provided to the Residential Plan Review Team will be completed by June 28, 2024.

We anticipate that this documentation will continue to evolve/be updated as needed on an ongoing basis.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY JUNE 28, 2024

1.3 RECOMMENDATION Written guidance for oversight and monitoring

The Department of Community Planning and Development should develop and document written policies and procedures for how to oversee and monitor plan reviews completed by the residential plan review team. These documents should specify the types and frequency of oversight, who should conduct the oversight, and how it should be documented.

AGENCY RESPONSE – AGREE

This is another example of a core expectation for all supervisors of plan review related workgroups in CPD. While the supervisors for each workgroup do currently perform quality control, there is an opportunity to provide a standardized framework for such activities. CPD agrees that these expectations should be documented for each plan review related workgroup and expects to have the broad outlines of quality control reviews for residential plan reviews drafted by March 29, 2024.

As with the other recommendation responses above, we anticipate that this documentation will continue to evolve/be updated as needed on an ongoing basis.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY MARCH 29, 2024

1.4 RECOMMENDATION Develop policies and procedures for monitoring contracted staff

The Department of Community Planning and Development should develop and implement policies and procedures for how it will monitor all requirements in contracts with third parties that support the city's residential plan reviews.

AGENCY RESPONSE – AGREE

CPD agrees generally with the recommendation to document and implement a consistent process for monitoring requirements in contracts with third parties. However, we do want to acknowledge that the current system of having a contract administrator in our Finance and Accounting workgroup, partnered with a project manager/subject matter expert to oversee the details of the project and to monitor and approve all invoices for payment, has been successful in ensuring the proper administration of CPD contracts to date.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY MARCH 29, 2024

1.5 RECOMMENDATION Appoint a contract administrator

The Department of Community Planning and Development should appoint a contract administrator or dedicated staff member to oversee contracts with third parties that support the city's residential plan reviews and ensure that all elements of the contract monitoring policies and procedures developed in Recommendation 1.4 are met.

AGENCY RESPONSE – DISAGREE

> *CPD does currently have a designated contractor administrator in place within our Finance and Accounting work group. In addition, for the Bureau Veritas contract described in this report, a specific team was clearly identified as a point of contact for the contractor and to oversee the contract management of this effort.*
>
> **— Department of Community Planning and Development**

AUDITOR'S ADDENDUM TO AGENCY RESPONSE: As we discuss on page 15, Community Planning and Development managers said they do not have a designated contract administrator for the Bureau Veritas contract and thought the residential plan review team should have a designated staff member to monitor the contract and track compliance with its requirements.

The department does have one manager responsible for billing Bureau Veritas as well as multiple leaders in the department and on the residential plan review team designated as points of contact for the contract.

Additionally, managers designated a senior staff member from the residential plan review team to perform "light" quality control reviews to verify procedural items on Bureau Veritas' permit application reviews, but one team manager said they must choose what they will monitor from the contract.

Therefore, we maintain that appointing an official contract administrator for this contract would help the department better enforce all contract requirements as specified in Recommendation 1.4.

There are no formal or consistent processes to communicate with homeowners and other permit review teams

The Department of Community Planning and Development's residential plan review team has relied on informal processes to communicate with homeowners and construction contractors, which has caused:

- Outdated and unclear online guidance for permit applicants.
- Inconsistent and sometimes confusing plan review comments.
- Difficulties in homeowners and construction contractors contacting department staff with questions.
- The department not using feedback from homeowners and construction contractors to improve the residential permitting process.
- Difficulties in residential plan review staff getting information from other permit review teams.

Without documented processes for communication, this can lead to more errors on permit applications and more resubmittals that result in longer permit approval times and potential financial costs for homeowners.

Online guidance for homeowners is outdated and unclear

Community Planning and Development's website provides resources for

homeowners going through the residential permitting process, including video tutorials on how to use the E-permits system, interactive zoning and property maps, and guidance outlining requirements for different types of residential construction projects.

But in reviewing these resources, we found several instances where online guidance provided outdated or inconsistent information. Specifically:

- Community Planning and Development's Development Services Division's homepage says the department's in-person permit counter is temporarily closed. Meanwhile, the "Single-Family and Duplex Projects Permitting Guide" lists the operating hours as noon to 4 p.m. Monday to Friday and the "Building and Land Development Fees" webpage lists the hours as 8 a.m. to 4 p.m. Monday to Thursday. In actuality, the permit counter is open to the public from 8 a.m. to 11 a.m. on Tuesdays and Thursdays.
- Ever since the residential permitting process moved to E-permits in 2020, all permit applications and payments must be submitted online. Yet multiple webpages from the department's website say permit applications and fees can still be submitted in person at the permit counter.
- The department's "Single-Family and Duplex Projects Permitting Guide" was last updated July 3, 2020. This guide includes an application for affordable housing linkage fees in accordance with the city's 2017 ordinance. But a new ordinance took effect July 1, 2022, which all permit applications must follow if they were submitted on or after that date.[14]
- One webpage on the department's website refers applicants to the Department of Public Works for information related to sewer line and transportation requirements. But the Department of Public Works was renamed the Department of Transportation & Infrastructure in 2019. Transportation & Infrastructure now handles these requirements.

A member of the intake team acknowledged that much of the documentation on the department's website is outdated. They said the guidance available online is written for in-person applications and has not been updated to reflect the current process for applying online. They also said the department's online guidance should be revamped to better address the E-permits process and be more applicant-focused.

Leading practices recommend that entities regularly update their websites to ensure they meet users' needs.[15] Federal standards also say managers should document and implement policies to ensure the organization is

[14] As part of the city's Expanding Housing Affordability ordinance, linkage fees are imposed on new developments to help fund affordable housing for Denver residents with lower incomes. On July 1, 2022, a new ordinance went into effect that increased the existing linkage fee. All residential permit applications submitted after June 30, 2022, and all building permits issued after Dec. 31, 2022, are subject to the new, higher linkage fees.

[15] Institute for Local Government, "Local Agency Website Transparency Opportunities" (2012), accessed June 15, 2023, https://www.ca-ilg.org/sites/main/files/file-attachments/website_transparency_opportunities_11122013_0.pdf?1497562083.

Staff said online guidance for homeowners and construction contractors is often unclear and the department's website is complex and difficult to navigate.

achieving its objectives and addressing related risks.[16]

Although Community Planning and Development is aware its website needs to be updated, it has no policies and procedures to update online information about the permitting process. In July 2023, department leaders said their communications team was working to create procedures for website updates and would focus on residential permitting guidance in Fall 2023.

In addition to outdated information, intake staff and residential plan review staff said online guidance for homeowners is often unclear and the department's website is complex and difficult to navigate.

Homeowners and construction contractors have also complained to staff about the website, saying they have difficulty finding the information they need. Our survey of homeowners and construction contractors who applied for residential permits also showed they are dissatisfied with the department's online guidance. Twenty of 55 respondents said the guidance was either unhelpful or very unhelpful when they were going through the permitting process.

Leading practices recommend organizations ensure their online information is available, easily located, and easy to understand so users can find what they need.[17] The City and County of Denver's communications guidance also recommends agencies communicate with the public clearly by using plain language and providing purposeful and helpful guidance.

Without adequate guidance, homeowners are often left to interpret what the city is looking for and make guesses on their applications, while others do not read the guidance and rely on city staff to tell them what is needed instead. This can lead to homeowners or construction contractors making mistakes on their applications by missing items or failing to submit required documentation. When this happens, residential plan review staff take longer to review an application and may require homeowners and construction contractors to resubmit their project plans multiple times. This prolongs the plan review process and may

WHAT IS PLAIN LANGUAGE?

Plain language helps readers find and use the information they need by using words, structures, and designs that are simple, clear, and easily understandable by the average person.

[16] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, paras. 12.01 and 12.03.

[17] Institute for Local Government, 8; Ben Shneiderman, "Research-Based Web Design & Usability Guidelines" (Authenticated by the U.S. Department of Health and Human Services and the U.S. General Services Administration, 2006), accessed June 15, 2023, https://www.usability.gov/sites/default/files/documents/guidelines_book.pdf; Georgia Municipal Association, "Local Government Best Practices: Streamlining the Development Permitting Process" (2018), accessed June 14, 2023, https://www.gacities.com/getmedia/c35fa795-10c7-4922-9c0b-1da4921a3ef0/Best-Practices-For-Streamlining-the-Permitting-Process.pdf.

ultimately cost homeowners more money as they wait for their permits to get approved.

Plan review comments are inconsistent and confusing

Homeowners and construction contractors also receive guidance on the residential permitting process through plan review notices. When a resubmittal is required, residential plan reviewers create these notices to point out areas where an applicant's project plans do not meet the necessary requirements for approval. These notices also mention building and zoning codes that need to be addressed.

However, we learned that plan review notices are not always consistent and can vary across plan reviewers. We looked at a judgmental sample of 12 plan review notices and found inconsistencies in multiple areas.

Several plan review notices did not include specific resubmittal requirements, such as the requirement to provide a written response to each comment on the plan review notice or the requirement to include a wet — or physical — stamp or digital signature on all documents prepared by a licensed design professional.[18] Additionally, some plan reviewers called attention to these requirements by bolding them or highlighting them in a different colored font, while other plan reviewers did not emphasize the requirements at all.

It is important that homeowners and construction contractors understand these requirements, because the department will not accept resubmitted documents that do not follow them.

How well specific plan review comments were explained also varied across plan reviewers, with some providing more detailed information on building and zoning code requirements than others.

SAMPLING METHODOLOGY

See Appendix C for more on our sampling methodology for plan review notices.

For example, one plan review notice said a setback verification would be required and the notice included a link to the department's website so the applicant could review the setback verification policy and obtain the required verification form for their project. A plan review notice for another project also noted that a setback verification was required but did not provide any further guidance.

The plan review notices in our sample also differed on whether they included links to helpful online resources or step-by-step instructions for resubmitting documents in E-permits. Additionally, only one plan review notice stipulated that homeowners and construction contractors may be subject to additional plan review fees if they resubmit their application

[18] Licensed design professionals include architects, contractors, and engineers that are licensed to perform construction work in Denver.

One applicant said the likelihood their project gets approved depends more on the reviewer they get than on the project itself.

more than three times, which costs $125 per hour.

Eleven of 55 homeowners and construction contractors who responded to our survey expressed frustration with inconsistent review comments, with one saying the likelihood of their project getting approved depended more on the reviewer they were assigned than on the project itself.

Fourteen respondents also said that when they resubmitted their plans, they either received additional review comments that had not been communicated in earlier reviews, were told to submit items that were already included in their plans, or identified mistakes made by plan reviewers. They said this caused them to go through unnecessary application resubmittals that delayed their permit approvals by weeks or months.

One residential plan reviewer said guidance given to homeowners and construction contractors was inconsistent among reviewers, saying some reviewers were "easier going" and more direct while other reviewers gave several pages of comments to applicants. They added that they often heard other reviewers telling homeowners and construction contractors ways to submit information that could potentially make it harder than necessary for them and would likely make the application process take longer.

Another plan reviewer said they had previously asked for an internal review of how their team followed protocol for communicating submittal requirements to homeowners and construction contractors but said the department has not conducted such a review yet.

While the residential plan review team has templates to help structure plan review notices, staff said it would be helpful to have a set of sample plan review comments and to have more reviews of their work to ensure plan reviewers are operating consistently. However, staff said they did not believe managers were focused on standardizing guidance given to homeowners and construction contractors.

Control activities that are performed consistently and routinely are generally more precise than those performed infrequently or irregularly.

In contacting other cities, we learned that Fort Worth, Texas, standardized its review comment language so that applicants can more easily understand what is required of them. Austin, Texas, also has templates in its permitting software with standardized comments that reviewers can change as needed.

Leading practices recommend that managers evaluate the consistency with which control activities are applied to ensure the organization meets objectives and addresses risks.[19] This helps ensure the organization's controls are operating effectively — as control activities that are performed consistently and routinely are generally more precise than those performed infrequently or irregularly.

[19] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, paras. OV3.06 and 11.01.

Homeowners and construction contractors have difficulty getting the help they need

We also learned through our survey of homeowners and construction contractors that plan review notices were often confusing to those who were trying to fix their applications for approval. Twenty-three of 55 respondents said they found plan reviewers' resubmittal instructions either difficult or very difficult to understand.

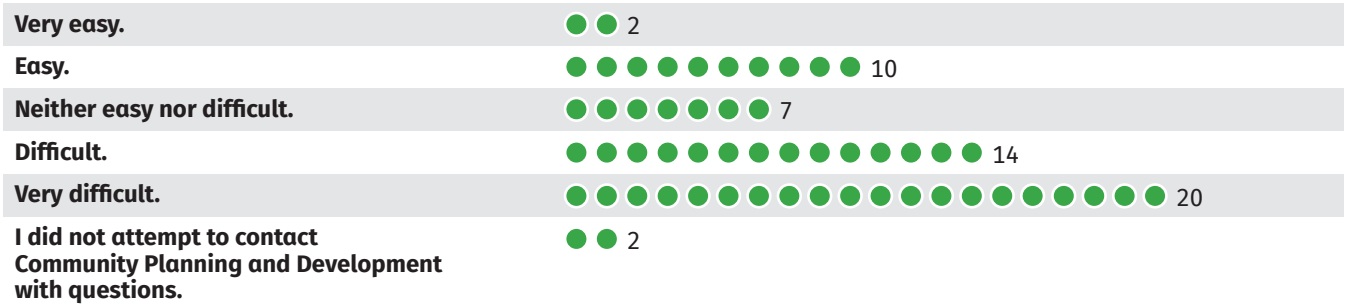
Six survey respondents specifically said they found their plan review comments confusing and burdensome, which made it more difficult to understand what was needed to get their applications approved.

When homeowners and construction contractors have questions about review comments, they can reach out to the residential plan review team through the department's general phone line and email, or they can make 20-minute appointments with staff at the department's permit counter.

Community Planning and Development's website says they will respond to applicant inquiries within 48 hours of receipt. While many of our survey respondents said staff were helpful when they reached out to the department with questions, Figure 6 on the next page shows 34 of 55 respondents said it was difficult or very difficult to contact someone to begin with. Three respondents said they never heard back from city staff when they reached out with a question.

FIGURE 6. Contacting Community Planning and Development

How easy or difficult was it to contact someone in the Department of Community Planning and Development when you had questions about your permit application?



Source: *Applicant survey responses and Auditor's Office analysis of responses.*

Department staff acknowledged this, saying they often receive complaints from homeowners and construction contractors about staff being hard to reach. Members of both the intake team and the residential plan review team said they received complaints from homeowners and construction contractors about reaching out to plan reviewers multiple times with

questions about their application and never receiving a response. One staff member said plan reviewers became harder to reach once the permitting process moved fully online and that this had gotten progressively worse over time.

Another staff member said they felt managers were aware that certain plan reviewers were not responding to homeowners and construction contractors, but they were unsure whether anything was being done to fix the issue.

In our comparison with other cities, we found that Portland, Oregon; Austin, Texas; and Seattle all offered virtual appointments in addition to their in-person appointments to help guide applicants through the permitting process. Oklahoma City had staff specifically dedicated to answer permitting-related questions, unlike Community Planning and Development where plan reviewers rotate customer service duties.

The U.S. Government Accountability Office recommends that managers regularly evaluate the organization's methods of communication so it can effectively communicate quality information to outside stakeholders on a timely basis.[20]

Contributing to untimely responses, members of the residential plan review team said they are often the main point of contact for applicant inquiries related to the residential permitting process, even if homeowners and construction contractors are told to contact other agencies' review teams.

Plan reviewers told us they spent a lot of time answering applicant questions and guiding them through the permitting process. Many questions and concerns were related to work done by other agencies' review teams, which required more time and research to address.

Team members added that it was more challenging for newer staff to handle these questions, and some plan reviewers were uncomfortable handling specific questions or issues because they specialized in certain areas, like zoning reviews, and could not speak to issues outside their specialty.

When we asked residential plan reviewers whether they had formal training or guidance for handling applicant inquiries and escalations through the department's emails, phones, or permit counter, they told us they did not. Instead, the department relies more heavily on senior staff to handle applicant inquiries by using their best judgment. Staff have also created their own guidance in the absence of formal guidance from the department.

As mentioned, leading practices recommend managers document and implement policies to ensure an organization is achieving its objectives

[20] U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government," para. 15.08.

and addressing related risks.[21] By managers prioritizing proper and consistent guidance, plan reviewers could more efficiently answer homeowners' and construction contractors' questions and guide them through the permitting process.

Feedback from homeowners and construction contractors is not used to improve the permitting process

While the department receives some feedback from homeowners and construction contractors about the residential permitting process, the feedback may not be received or addressed by the team it is about and it is often unclear which team the feedback is directed to. Additionally, the feedback is not being used in any way to inform decision-making about the permitting process.

The department receives both unsolicited and solicited feedback from homeowners and construction contractors.

UNSOLICITED FEEDBACK – Unsolicited feedback from homeowners and construction contractors is received through emails and phone calls. This feedback goes to various individuals throughout the city making it unclear how much feedback is received. Furthermore, there is no comprehensive way to track what feedback is received, and no processes exist to ensure this feedback is addressed.

SOLICITED FEEDBACK – The department also solicits applicant feedback through two surveys. One survey link is automatically distributed in the permitting system, Accela, to any homeowner or construction contractor who is issued a permit. It asks the applicant to:

- Rate their overall experience.
- Provide any other comments and feedback they would like.

The second survey is accessed via a link in the department's standard staff email signature. This survey contains eight prompts and asks the individual to rank their level of satisfaction in areas like determining the status of their project and the overall service they received.

While the department receives some feedback from homeowners and construction contractors, department leaders said survey responses were not being used in a meaningful way, and there are no documented policies and procedures for how to use the survey feedback.

When asked why the survey feedback was not being used, department leaders said system limitations and other priorities have delayed some of the plans to improve homeowners' and construction contractors' experiences.

Leading practices say managers should communicate with and solicit

[21] U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government," paras. 12.01 and 12.03.

quality information from external parties such as permit applicants.[22] Furthermore, the development of formal processes for handling feedback is required to ensure timely and consistent handling of applicants' feedback.[23]

While department staff said process improvements are underway to identify a survey system that will best meet the department's future needs, no formal process exists for the department to use the feedback it receives. Without a formal process guiding staff on how feedback should be handled, information from homeowners and construction contractors cannot be used to help make the city's residential permitting process easier for applicants.

Communication across agencies' review teams is informal and inconsistent

Even though the residential plan review team often fields questions related to other agencies' review teams' work, Community Planning and Development does not have any formal processes for coordinating with other review teams and city agencies involved in the residential permitting process.

Instead, each team involved in the permitting process speaks with each other on an as-needed basis, such as when one team asks about the status of another team's review. This lack of coordination across the various review teams has presented several problems in the residential permitting process.

TIMELINESS – Community Planning and Development is considered the clearinghouse for the permitting process because it gives the final approval for a permit once each agency has completed its review.

While the goal is for all agency reviews to be done at the same time, other agencies can be behind because of scheduling issues or backlogs of their own, meaning residential plan reviewers sometimes have to wait for an agency to complete its review.

The department has its own internal dashboard called "The Last Review Standing" that tracks the number of permit applications that need only one more review before they can receive final approval. The dashboard breaks down the number of outstanding reviews by type of review, like residential and zoning

AVERAGE REVIEW TIME

See Appendix C for more on our analysis of average review duration by type of review and project type.

[22] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, para. 15.02.

[23] IBM Center for the Business of Government, "An Open Government Implementation Model: Moving to Increased Public Engagement" (2011), accessed June 14, 2023, http://www.businessofgovernment.org/sites/default/files/An%20Open%20Government%20Implementation%20Model.pdf.

reviews, so department staff can see which agency is holding up the review process.

When we reviewed this dashboard in April 2023, and again in August 2023, the highest number of outstanding reviews belonged to Community Planning and Development's electrical team and the sewer use and drainage permit review team in the Department of Transportation & Infrastructure, with more than 50 permits awaiting each team's review before final approval.

Community Planning and Development staff said their final approval for residential permit applications was often delayed by Transportation & Infrastructure's sewer use and drainage permits review team.

While the electrical team appeared to be holding up reviews the most, residential plan review team managers said the electrical team primarily worked on commercial projects and mostly did only limited reviews related to energy efficiency for residential projects. Meanwhile, the Transportation & Infrastructure team that conducted sewer use and drainage permit reviews was involved in most types of residential projects.

Both Community Planning and Development managers and plan review staff said their final approval for residential permit applications was often delayed by the sewer use and drainage permits review team.

We looked at Accela data from January 2020 to April 2023 to understand how long it took Community Planning and Development's intake, residential, and zoning review teams, as well as Transportation & Infrastructure's sewer use and drainage permit review team, to conduct their reviews from the time each review began to the time each team gave their final approval for an application.

As shown in Figure 7 on the next page, residential reviews and zoning reviews took roughly the same amount of time for each type of permit application, whereas sewer use and drainage permit reviews for intermediate residential projects took roughly 20 days less than residential and zoning reviews and around five days less for residential walk-through projects.

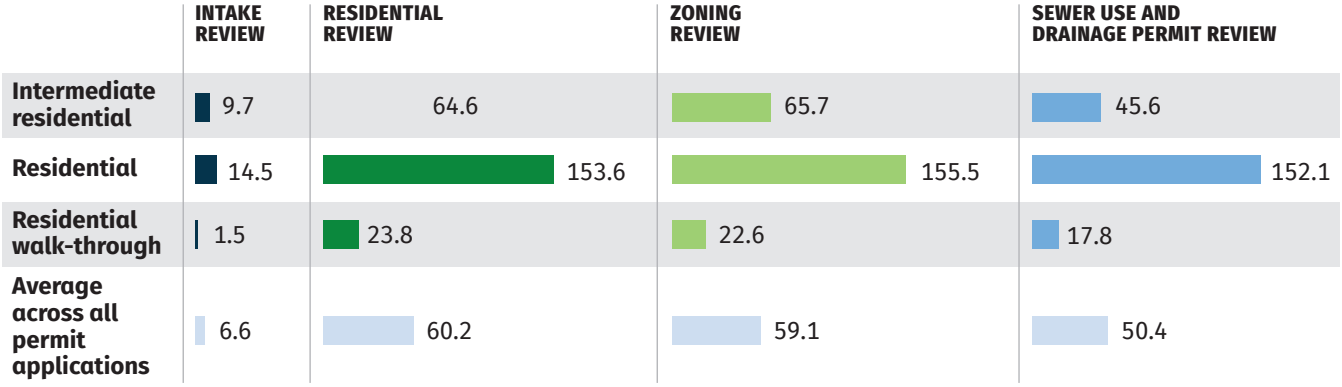
Overall, residential and zoning reviews took roughly 10 days longer to complete on average than sewer use and drainage permit reviews across all project types.

Even though sewer use and drainage permit reviews appeared to take less time than zoning and residential reviews, the residential plan review team does not give final approval for residential permits or zoning permits until the entire project is ready for approval, which may account for this discrepancy.

Community Planning and Development also has an internal dashboard that tracks the average number of reviews each team conducts on a permit — such as initial reviews versus resubmittal reviews. According to this dashboard, most review teams averaged around two and a half reviews per permit, while the sewer use and drainage permits team averaged around four reviews per permit.

FIGURE 7. Average review time by review type

The average review time in the top three rows counts the average number of calendar days it took for each team to make a final approval decision on applications for each project type (i.e., intermediate residential, residential, and residential walk-through). The calculations also account for the time homeowners and construction contractors spent making corrections to their applications in response to each review team's comments. The bottom row shows the average time it took for each team to complete its review across all project types.



Note: *This figure does not account for all walk-through permit applications before March 2020 because walk-through applications were primarily reviewed at the in-person permit counter before this time.*

Source: *Auditor's Office analysis of Department of Community Planning and Development review time data.*

As shown in Figure 8 on the next page, we examined Accela data to determine the average number of resubmittals for Community Planning and Development's intake, residential, and zoning reviews, and the Department of Transportation & Infrastructure's sewer use and drainage permit reviews. We found, on average, intake reviews had the lowest number of resubmittals per residential permit at less than one, while sewer use and drainage permit reviews had the highest at nearly three resubmittals per permit.

Although Community Planning and Development must wait for all reviews to be completed before giving final approval for permits, the residential plan review team told us it is difficult finding what other agencies' review teams have done on a given application. They often learn a review is held up when a homeowner or construction contractor asks about the status of a specific team's review.

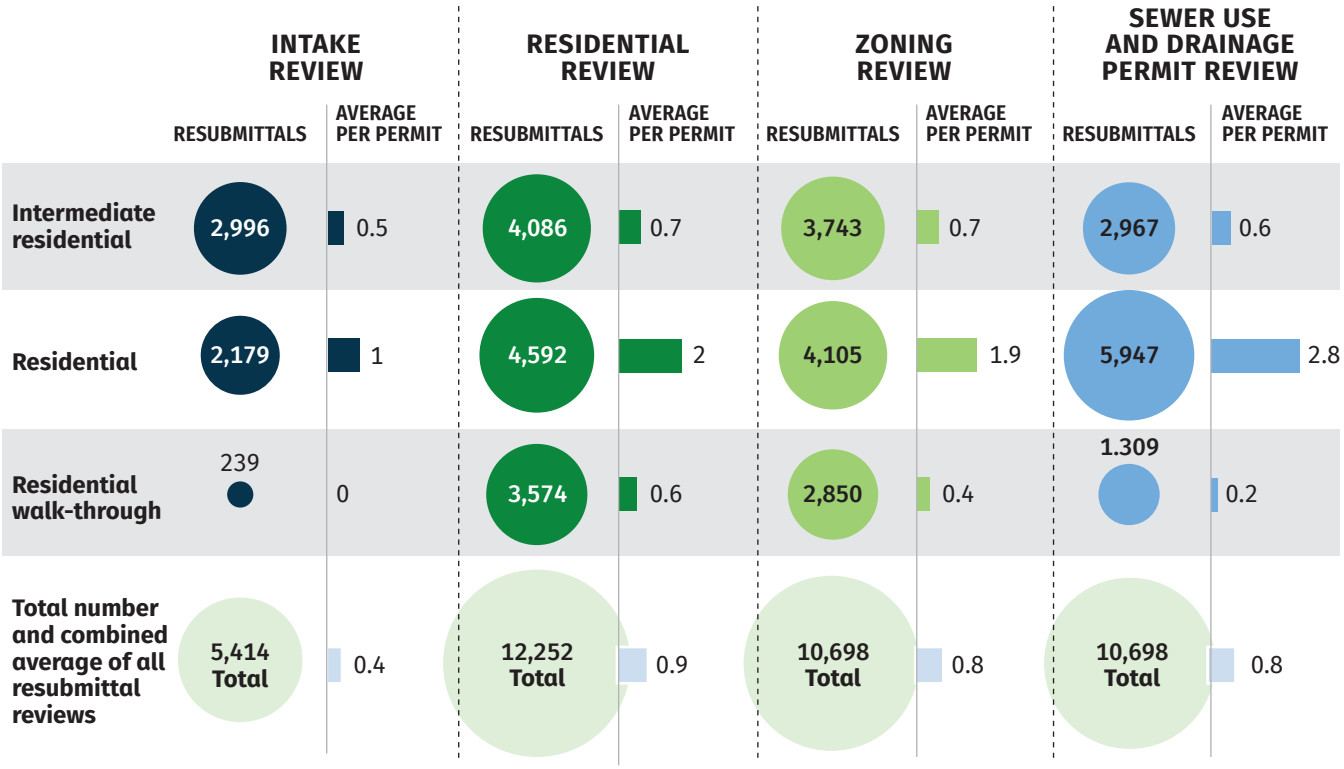
One residential plan reviewer said they often have difficulty contacting other agencies and are frequently ignored.

When applicants have these kinds of questions, it is difficult for residential plan review staff to help because they often do not know where to find other teams' review comments. In these instances, the residential plan review team must reach out to other teams to answer applicants' questions.

However, one residential plan reviewer said they often have difficulty contacting other agencies and are frequently ignored. They told us about one incident where they were trying to get help from another team in

person — while wearing their City and County of Denver employee shirt — and was told to call the general line.

FIGURE 8. Total and average number of resubmittals by review type



Note: *The total number of resubmissions for each group is a count of the number of resubmittal reviews associated with each type of review (i.e., intake, residential, zoning, and sewer use and drainage permits) for all permits issued from January 2020 through April 2023.*

Source: *Auditor's Office analysis of Department of Community Planning and Development review time data.*

They said contacting review teams within the Department of Transportation & Infrastructure, like the sewer use and drainage permits review team, are the most difficult.

Community Planning and Development leaders said they have tried to find solutions for delayed review times from other agencies, but Community Planning and Development does not have the authority to dictate how work is completed in other agencies. Leaders also said they do not have adequate staffing to prioritize collaboration and process improvements.

When we interviewed staff from other cities about their permitting processes, Fort Worth, Texas; Portland, Oregon; and Oklahoma City said they left comments in their online permitting system for other teams to view. These cities, in addition to Seattle, also met regularly (e.g., weekly, monthly, or quarterly) with other agencies involved in the permitting

process.

Leading practices recommend managers establish reliable lines of communication with relevant stakeholders to provide and receive quality information.[24] By establishing these reporting lines, other parties can help the organization achieve its objectives and address issues that arise. Leading practices also advise agencies to identify effective coordination processes for collaborative projects, particularly for those that are complex and involve a wide range of collaborators.[25]

ERRORS – Residential plan review team managers said there were instances where different review teams involved in the residential permitting process have made mistakes that needed correcting, which ultimately delayed some permit approvals. Residential plan review staff said most errors they saw appeared to come from the intake team.

The intake team can make errors by not accepting documents for review, putting documents in the wrong folder, or not initiating all the required reviews. This is especially problematic when the department learns about these errors from homeowners and construction contractors after they have not heard anything from the city for a long period of time.

We analyzed Accela data to determine how often the intake team was late in initiating required reviews for permits that were issued from January 2020 through April 2023.

For 1,830 permits out of the 14,967 we looked at — or 12%, we found at least one review that was initiated a day or more after the intake team accepted the application. When we provided residential plan review team managers with an example of these errors, they explained that for that particular permit, the review that started late was added in error and was marked in Accela as "review not required."

To account for this, we filtered through the 1,830 permits to include only reviews that ended up being "approved," which implies the specific review was required. After filtering for approved reviews, we still found 1,613 permits that had at least one review that was initiated a day or more after the intake team accepted the application.

Because each project has unique requirements and other agencies' involvement varies from project to project, the intake team can manually select or de-select reviews for a permit. One residential plan review manager told us errors from

INTAKE REVIEWS INITIATED LATE

See Appendix C for more on our analysis of required reviews being initiated late by the intake team's acceptance.

[24] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, paras. 15.02-15.04.

[25] IBM Center for the Business of Government, "An Open Government Implementation Model: Moving to Increased Public Engagement" (2011), accessed June 14, 2023, https://www.businessofgovernment.org/sites/default/files/An%20Open%20Government%20Implementation%20Model.pdf.

intake staff were not due to poor-quality work but rather a lack of training on construction and plan reviews, as well as a large workload. They said these factors made some intake staff unable to easily identify their mistakes.

Even though the department has checklists for the intake team to follow for different types of projects, the checklists do not explain why those reviews are required or when additional reviews may be applicable.

Leading practices recommend that teams work with managers to determine the policies necessary to conduct their work based on the objectives and risks related to those processes.[26] They also advise managers to review policies and procedures for continued relevance and effectiveness in achieving the organization's objectives and addressing risks.

Staff on the intake team said the department holds weekly meetings with supervisors from all teams, including the residential plan review team and the intake team — which allows them to collaborate and discuss issues or concerns. However, in most cases, the intake team and the residential plan review team do not interact unless an issue was missed during the intake process or intake staff have questions about approving an application for plan review. Additionally, the residential plan review team does not always provide feedback to the intake team when they make mistakes.

Leading practices recommend that organizations select appropriate methods of internal communication so quality information can be communicated throughout the organization to help achieve its objectives.[27] Managers should also periodically evaluate methods of internal communication to ensure that quality information is distributed throughout the organization on a timely basis.

Errors in the plan review process can also occur when other teams begin reviewing submitted documents before the intake team officially "accepts" them. Beginning a review before then removes the tasks from the intake team's queue before all necessary reviews for other teams have been initiated. This can lead to documents remaining "unaccepted" for review, and applications end up sitting in a queue until someone notices a mistake has been made. But these errors are not usually caught until a homeowner or construction contractor contacts the department to ask about their application.

We analyzed Accela data for permits that were issued from January

REVIEWS BEFORE INTAKE'S ACCEPTANCE

See Appendix C for more on our analysis of reviews beginning before the intake team's acceptance.

[26] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, paras. 12.03 and 12.05.

[27] U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government," paras. 14.01-14.04 and 14.07-14.08.

2020 through April 2023 to determine how often other teams began their reviews before the intake team accepted the application. Of the 14,967 permits we examined, 248 permits had at least one instance where a review team began their review before the intake team had accepted the application.

When we notified residential plan review managers of this, they explained that key dates for a record can be manually updated. For the example we sent to the team, one manager speculated that the intake team accidentally changed the date on the permit record for when the team "accepted" the application.

To account for this speculation, we identified all permits where the status date had not been manually changed by staff. This removed only four permits and still left us with 244 permits that had at least one instance where a team's review occurred before the intake team initially accepted the application.

Despite these errors causing delays in the review process, there are no system controls in Accela to prevent other teams from starting their reviews before the intake team accepts documents from applicants.

Leading practices advise organizations to design input controls to prevent inappropriate access and unauthorized use of information systems.[28] Input controls would also help ensure the validity, completeness, and accuracy of data during application processing.[29]

While some intake and residential plan review staff view their work as siloed from other review teams and do not want to "step on anyone's toes," other staff note that better coordination among teams could produce better results and reduce errors without imposing on another agency's review process.

Leading practices say that regularly scheduled meetings across relevant agencies can help create a collaborative work environment and improve communication. This can lead to less rivalry among teams and create a space to collaborate on process improvements, new regulations, and policies.[30]

Without formal processes for communicating with applicants and other review teams, errors will continue to affect the permit application process, which can lead to longer review times and added costs for homeowners.

[28] U.S. Government Accountability Office, "Standards for Internal Control in the Federal Government," para. 11.12.

[29] U.S. Government Accountability Office, GAO-20-283G, "Assessing Data Reliability" (2019), accessed Sept. 12, 2023, https://www.gao.gov/assets/gao-20-283g.pdf, 6.

[30] Georgia Municipal Association, "Local Government Best Practices: Streamlining the Development Permitting Process" (2018), accessed June 14, 2023, https://www.gacities.com/getmedia/c35fa795-10c7-4922-9c0b-1da4921a3ef0/Best-Practices-For-Streamlining-the-Permitting-Process.pdf.

1.6 RECOMMENDATION — Develop and implement policies and procedures for website updates

The Department of Community Planning and Development should develop and implement policies and procedures to periodically evaluate and update online guidance related to the residential plan review process to ensure it aligns with current practices.

AGENCY RESPONSE – AGREE

This recommendation aligns with work that Community Planning and Development's Communications Team began planning in 2023 to create a recurring process for Development Services work teams to review and provide updates and feedback on their respective webpages. Our intention is to have an approved process and workplan in place by the end of February and to hold the first review meetings by the end of the first quarter 2024.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY FEB. 29, 2024

1.7 RECOMMENDATION — Identify and document applicant guidance in need of improvement

The Department of Community Planning and Development should work with its communications team to identify and document areas where the department may improve applicant guidance for the residential plan review process by streamlining the department's website and simplifying language and instructions about submittal requirements.

AGENCY RESPONSE – AGREE

The Community Planning and Development Communications Team completed a reorganization of the Development Services section of its website in December 2023, which makes it easier to navigate the website and to locate information on residential and other projects. In addition, plans to create a process for reviewing and updating the website (noted in Recommendation 1.6) will include reviewing content not only for accuracy, but also for clarity, readability and usability. We also anticipate having additional updates to provide on the website at the completion of the Residential Plan Review Guide update effort that began in August 2023.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY APRIL 30, 2024

1.8 RECOMMENDATION Revise guidance and templates for plan review notices

The Department of Community Planning and Development should revise its existing guidance and templates for information required in plan review notices to ensure plan reviewers are communicating resubmittal requirements thoroughly and consistently.

AGENCY RESPONSE – AGREE

This is an effort that is already in process as part of the larger Residential Plan Review Guide update effort that began in August 2023. While the update of the standardized plan review notice and comments is anticipated to be complete by the end of March, we anticipate that this documentation will continue to evolve/be updated as needed on an ongoing basis.

In addition. we will work to reinforce the expectation around the usage of the standardized plan review comments across the Residential Plan Review team.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY MARCH 29, 2024

1.9 RECOMMENDATION Develop and implement policies and procedures for communication across review teams

The Department of Community Planning and Development should work with all review teams involved in the residential permit review process to develop and implement policies and procedures for how and when various teams should be communicating.

AGENCY RESPONSE – AGREE

CPD is open to the idea of restarting regularly scheduled multi-agency coordination meetings and other mechanisms to collaborate with our partner agencies around this issue, updating general communication expectations, and defining circumstances/ thresholds for when Residential Plan Review staff should reach out to partner agencies. We have, however, made the conscious decision not to dictate how individuals may choose to reach their peers in other review groups.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY MARCH 29, 2024

1.10 RECOMMENDATION Determine resource needs for answering applicant questions

In conjunction with Recommendation 2.1, the Department of Community Planning and Development should determine whether it has the necessary resources or needs

additional resources for dedicated staff to answer applicants' questions on the permitting process.

AGENCY RESPONSE – AGREE

CPD regularly assesses staffing levels needed to serve our stakeholders. In addition to the standard approach to completing Strategic Resource Alignment assessments, with the roll out of the Cisco Jabber and Finesse phone system, we now have the ability to track the volume of calls coming in to better assess if additional resources are needed to answer customer phone inquiries. CPD will also examine options to better understand the volume of email inquiries.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY JUNE 28, 2024

1.11 RECOMMENDATION — Develop and implement policies and procedures for reviewing and incorporating feedback

The Department of Community Planning and Development should develop and implement policies and procedures to periodically review applicants' feedback, track trends, and evaluate how feedback should be used to improve existing residential permitting processes.

AGENCY RESPONSE – AGREE

With the guidance of the Director of Performance and Operations, our Customer Experience Administrator is leading a Customer Experience Strategic Planning effort this year. As a part of this effort, an updated approach to reviewing customer feedback from multiple sources will be developed and documented and is expected to be completed by the end of June 2024.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY JUNE 28, 2024

1.12 RECOMMENDATION — Develop and implement guidance to address inquiries and escalations

The Department of Community Planning and Development should develop and implement written guidance for how the residential plan review team should address applicants' inquiries and escalations.

AGENCY RESPONSE – AGREE

Currently plan review related work groups are expected to comply with the existing customer service policy that was rolled out to address this item. However CPD is open to

revisiting and updating these expectations as needed, and can quickly accomplish this task by February 29, 2024.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY FEB. 29, 2024

1.13 RECOMMENDATION Limit user access in Accela

The Department of Community Planning and Development should limit staff's user access to specific functions in Accela — to prevent errors arising in the permitting process — including restricting access to the intake queue to only the necessary team members.

AGENCY RESPONSE – DISAGREE

Within the current configuration of Accela, this recommendation would be an overcorrection that would limit supervisors' and plan reviewers' ability to complete essential functions of their jobs. (The Intake team is expected to identify only the primary required referrals; plan review supervisors and staff are expected to add specialized referrals as needed.)

However, as part of Technology Service's current Accela Modernization efforts, we are open to identifying a new way to add referral reviews to the LOG that would not require modification of the application intake workflow, which would allow us to further restrict access to application intake tasks to the Intake team only.

— Department of Community Planning and Development

AUDITOR'S ADDENDUM TO AGENCY RESPONSE: We believe the Department of Community Planning and Development's response meets the intent of this recommendation. As the recommendation says to restrict access to the intake queue to only necessary team members, we think this would allow residential plan review team staff and supervisors to maintain access to this queue while potentially restricting access to review teams in other city agencies. However, we are encouraged that the department is looking for other ways to prevent review tasks from accidentally being removed from the intake team's queue.

1.14 RECOMMENDATION Revise training and guidance for intake staff

The Department of Community Planning and Development should document and revise existing training and guidance to ensure its intake team has the necessary information to accurately determine which reviews are needed for residential permit applications.

AGENCY RESPONSE – AGREE

As stated in the response to Recommendation 1.13 above, it is not the expectation of

the Intake team to be able to identify every referral required for every scope of project. The Intake team identifies the primary referrals; plan review supervisors and staff are expected to identify additional referrals that may be required based on the specific scope of any given project.

The Intake team does currently have documented training material; however, we recognize the need to update the training documentation and processes on a regular basis and intend to include the Intake team in the training documentation efforts outlined in response to Recommendation 1.1 above.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY JUNE 28, 2024

Residential permitting data is not sufficiently reliable

The dashboards the residential plan review team uses to monitor the permitting process are often inaccurate because of unreliable data in Accela.

Community Planning and Development's residential plan review team has various dashboards to help staff manage workloads, track backlogs and team productivity, and identify areas for potential process improvements. These dashboards pull information about the permitting process from Accela's databases several times a day.

Although these dashboards serve oversight and monitoring purposes, we identified several issues with the programming code that populates these dashboards as well as the reliability of the Accela data itself.

DUPLICATE REVIEW TASKS – The residential plan review team uses dashboards to track how long the department takes on average to review permit applications. One of them — "Time in Possession" — tracks the time it takes for the department to review applications, and it measures that against the time it takes for applicants to send their application corrections back.

Another dashboard, which is publicly available on the department's website, shows the average time over the previous 90 days it took for the department to conduct initial reviews and resubmittal reviews for both residential and commercial project applications.

These dashboards calculate how long the department spends reviewing permit applications by measuring the number of days between when the intake team initiates an application review and when a decision is subsequently made on the application, such as "approved" or "not approved."

But there is a glitch in Accela where initial reviews may get generated two or more times for a given application once the application is accepted for review. Sometimes these are generated on the same day, while at other

times they are generated a day or more after the first review was initiated.

When we asked department staff how their dashboards were accounting for this, they said the dashboard starts counting review times from the most recently generated initial reviews.

According to our analysis of Accela data from January 2020 through April 2023, there were 771 instances where multiple initial review tasks related to 524 unique permits — or 3.5% of unique permits issued — were generated on different days.

Because the dashboards start counting review times from the most recently generated initial review tasks, these dashboards understated how long the department was taking to review applications by at least one day for all 524 permits.

We calculated the difference between the two initial review tasks that appeared on different days for all 771 instances and found the department is understating its review times on these permits by an average of 22 days — or roughly three weeks.

These dashboards also do not account for the department's "final review" and "pending final review" statuses in Accela. When these statuses show up on a permit record in the system, the time associated with these review tasks are attributed to applicants and understates the department's review time.

These inaccurate dashboard numbers — reported internally and to the public — make it appear as though the department took less time to review permit applications than it actually did.

These inaccurate dashboard numbers — reported internally and to the public — make it appear as though the department took less time to review permit applications than it actually did.

Leading practices recommend that government agencies ensure the data they publish online for the public is accurate, consistent, timely, and useful.[31] To do so requires entities to establish effective management processes and governance structures for identifying, collecting, and sharing data.

Meanwhile, we identified 40,287 instances where the same review task was generated multiple times for 6,854 unique permits on the same day.

Initial reviews accounted for most of these duplicate tasks — with 31,941 instances of initial reviews being generated more than once on the same day. Although these duplicates did not affect the dashboards' calculations for how long the department took to conduct reviews, they present

DUPLICATE REVIEW TASKS

See Appendix C for more on our analysis of duplicate review tasks being generated multiple times in Accela.

[31] IBM Center for the Business of Government, "An Open Government Implementation Model: Moving to Increased Public Engagement" (2011), accessed June 14, 2023, https://www.businessofgovernment.org/sites/default/files/An%20Open%20Government%20Implementation%20Modelpdf.

an inefficient use of the department data team's time if they have to sift through these duplicates to understand the total count of tasks assigned to the residential plan review team.

Community Planning and Development staff are aware of the issues with Accela's programming, but the department does not have any documentation that explains how the programming works or how various fields in the system are populated.

Department staff know that duplicate initial review tasks can get created in Accela when changes are made to a task, such as when plan reviewers add comments. But the department has not found a solution for this problem.

Leading practices say it is important for organizations to document all aspects of system support and operations to ensure continuity and consistency.[32] Having formalized procedures with sufficient detail helps organizations avoid security lapses and oversights, provides instructions for staff new to the system, and helps ensure that processes are performed correctly and efficiently.

MISSING DUE DATES – Dashboards such as the "Reviews Open & Past Due" dashboard use the due dates for review tasks in Accela to determine whether they are on time or late. But our analysis of Accela data showed several instances where no due dates were associated with review tasks and review decisions in Accela.

We analyzed 148,685 review tasks — initial reviews, resubmittal reviews, and final reviews — for permits issued from January 2020 through April 2023. We found nearly a third — or 44,554 — were missing due dates in Accela. For those review tasks specific to the residential plan review team, again nearly a third — 20,079 out of 77,420 — were missing due dates.

We discussed these issues with the department's data team, but staff were not sure why due dates were not being populated in Accela when it is supposed to be an automated process. We also confirmed with the department that it does not have documentation explaining the logic behind Accela's automated process for this field.

Leading practices say organizations should ensure all aspects of their information systems are documented for consistency.[33]

MORE INFORMATION

See Appendix C for more on our analysis of:

- **Missing due dates in Accela.**
- **Review tasks that do not follow the standard workflow in Accela.**
- **Task status dates that differ from system-generated dates.**

[32] National Institute of Standards and Technology, Special Publication 800-12, "An Introduction to Information Security" (2017), accessed June 14, 2023, https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-12r1.pdf.

[33] IBM Center for the Business of Government, "An Open Government Implementation Model: Moving to Increased Public Engagement" (2011), accessed June 14, 2023, https://www.businessofgovernment.org/sites/default/files/An%20Open%20Government%20Implementation%20Modelpdf, 49.

We also analyzed Accela data related to review decisions for the Department of Transportation & Infrastructure's sewer use and drainage permits team — such as "approved," "not approved," "review not required," or "approved pending final review" — and found 1,109 were missing due dates for permits issued from January 2020 through April 2023.

When review tasks and review decisions do not have due dates, it can prevent the department and other agencies' review teams from knowing whether they completed a task on time and are meeting their performance goals.

Leading data practices recommend managers evaluate their data sources to ensure data is reliable — meaning the data is reasonably free from error and accurately represents what it is intended to represent.[34] They also recommend managers process data into quality information to help inform decision-making and evaluate the organization's performance in achieving its objectives and addressing risks.

TASK STATUSES – In addition to missing due dates, we identified issues with the status of the review tasks. We found:

- 219 permit applications where a review team approved its review but later changed the status to "not approved."
- 114 permit applications that were approved by a review team after the team determined its review was not required for that permit.
- 724 permit applications that went through a resubmittal review by a team that already approved the application.

When we provided Community Planning and Development staff with examples of these issues and asked why they were occurring, they said it may have been because they were making mistakes when setting task statuses. While department staff said some of these issues could be explained by legitimate review practices, the department's data team said they do not have policies or procedures to identify what changes are made in error.

When a task status is set, an automated email goes to the homeowner or construction contractor to let them know the new status of their application. If someone makes a mistake setting the task status, plan review staff must reach out and tell the applicant to disregard the status update they received and let them know of the actual status of their application.

These kinds of mistakes also affect the department's "Current Week Productivity" dashboard, which tracks the residential plan review team's workload, and the "Reviews Open & Past Due" dashboard, which tracks late projects.

For example, if the residential plan review team accidentally sets the status

[34] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, paras. 13.04 and 13.05.

of a review as "review not required" but later approves the application, the dashboards count the review as being completed on time because they count both status changes as a review task completed by the team, even though the first status change was an error.

This can inflate the review team's productivity metrics because both status changes are counted as a completed task. But Community Planning and Development staff told us the department does not have procedures to identify and remove staff errors from dashboard results.

Meanwhile, the number of on-time tasks that are counted in the department's "Current Week Productivity" and "Reviews Open & Past Due" dashboards can also be affected when staff edit the date associated with task status changes.

A residential plan review manager said there have been times when staff needed to manually change target due dates in Accela for certain types of projects, and staff may have mistakenly edited some task status dates for those projects instead.

A task is considered "on time" if the task status date shows it was completed on or before the due date. But if a reviewer continues working on a task after the status was changed, Accela will show the date additional changes were made in another date field that is system generated and which is not accounted for in the dashboards.

This means if the date that additional changes were made falls after the task status date and after the due date, the task should be considered "late" — but the dashboards do not reflect that.

From our analysis of Accela data, we found 958 tasks that had status dates that differed from the system-generated date field. Of those:

- 652 tasks differed by one day.
- Three differed by 170 days.
- Two differed by 548 days.

Leading practices recommend managers obtain relevant data from reliable sources, evaluate data sources to determine reliability, and process data into quality information to evaluate the organization's performance in achieving its goals and addressing risks.[35]

Without reliable data from Accela and its dashboards, the Department of Community Planning and Development cannot determine whether the residential plan review team is effective at achieving its goals. Additionally, homeowners and construction contractors will be misinformed about how long a permit review might truly take.

[35] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/assets/670/665712.pdf, paras. 13.04 and 13.05.

1.15 RECOMMENDATION — Document and implement policies and procedures to determine data reliability

The Department of Community Planning and Development should document and implement policies and procedures to periodically evaluate the residential plan review team's data and dashboards to ensure the data is reliable and meets the team's objectives. This process should also include identifying data reliability issues and solutions to address any identified issues.

AGENCY RESPONSE – AGREE

CPD's data team does periodically evaluate team performance dashboards to review for code accuracy and visualization enhancements. By 2/29/2024, this process will be formalized and documented, with specific procedures outlined for identifying data reliability issues and steps to resolve.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY FEB. 29, 2024

1.16 RECOMMENDATION — Review and update the programming code

In conjunction with Recommendation 1.15, the Department of Community Planning and Development should periodically review and update the programming code used to create the residential plan review team's internal and public dashboards to ensure the data is accurate and aligns with current department practices. This process should be documented.

AGENCY RESPONSE – AGREE

See response to Recommendation 1.15, which outlines a timeline to document the process for reviewing code accuracy by 2/29/2024. In addition to this process being documented, by 3/31/2024 a thorough review will be completed specifically for the "Residential Performance" dashboard to ensure the current code is accurate and aligns with current department practices.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY MARCH 29, 2024

1.17 RECOMMENDATION — Obtain and review documentation on Accela fields

The Department of Community Planning and Development should obtain and review Accela documentation on how fields are populated in the system, including the "due date" and "task status date" fields.

AGENCY RESPONSE – DISAGREE

While we agree that obtaining system documentation is important, all existing documentation on Accela fields has already been previously obtained and reviewed by the data team, with two resource options provided:

1. A PDF file, "Data Dictionary of Common Accela Automation Fields"

2. Tables on the back-end server that are able to be queried, with descriptions for each column on each table in the back-end data store

— Department of Community Planning and Development

AUDITOR'S ADDENDUM TO AGENCY RESPONSE: While we were provided with the "Data Dictionary of Common Accela Automation Fields" during the audit, the data dictionary does not contain descriptions of what information is stored in the "due date" and "task status date" fields or how they are populated.

However, we were not provided with or told about any back-end server tables when we asked whether the department has a data dictionary for Accela. Members of Community Planning and Development's data team said the current data dictionary is old and outdated and that the department did not have any other documentation explaining how the "due date" or other fields in Accela are populated.

As we discuss on page 41 of the report, leading practices say organizations should ensure all aspects of their information systems are documented for consistency.

1.18 RECOMMENDATION Work with Accela to fix errors

The Department of Community Planning and Development should work with Technology Services and Accela to fix the scripting errors that are causing duplicate entries in the system.

AGENCY RESPONSE – AGREE

CPD regularly coordinates with the Development Systems Performance team to identify and address Accela bugs or needed enhancements to forward to Technology Services. This bug is a known issue and is currently on the Technology Service's list of fixes that have been requested.

There is the possibility that this issue may also be addressed as part of Technology Service's Accela Modernization effort that is currently underway.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY DEC. 31, 2024

FINDING 2 AND RECOMMENDATIONS

The residential plan review team needs more consistent, reliable data to effectively allocate staff resources

We found the residential plan review team does not have a consistent approach for assessing staffing needs, and although it makes a data-informed case about its resource needs, the team needs better data to make effective decisions. Specifically, the Department of Community Planning and Development has not conducted annual assessments on the residential plan review team's staffing needs. Senior leaders did not make it a priority and instead decided to conduct these assessments and prioritize this activity across many teams throughout the department.

Department leaders could only provide a staffing analysis tool to determine the resource needs of the residential plan review team beginning in 2022.

In our review of this tool, we found the department used data on the volume of permits and the estimated hours it took for plan reviewers to complete tasks to determine that four additional people were needed in 2022 and 2023. But department managers said they did not ask for more funding for additional plan review specialists because they had problems filling existing vacancies.

For example, in April 2023, to be fully staffed the department should have had 21 people assigned to the residential plan review team, but the team had only 18 staff members. In July 2023, the department hired additional staff — leaving one vacant position on the team. But by August, the team's managers told us there was additional turnover, which resulted in the need to fill two vacant positions.

We asked for trend information on the total number of plan reviewers for 2020 through 2023, but department managers told us they could not provide this because it was difficult to track persistent fluctuations in staffing levels.

Department managers said they usually do not determine resource needs until after they see an increase in permit applications.

Department managers said that because it is challenging to accurately forecast the volume of permit applications the team receives, they usually do not determine resource needs until after they see an increase in applications. At that point, they use temporary solutions such as staff overtime, on-call workers, and contracted staff.

Community Planning and Development managers said there was an unexpected increase in the volume of permit applications during the COVID-19 pandemic, which outpaced the residential plan review team's capability to process them. At the time, the team lost between a third to a half of its staff and the department faced challenges with staff retention, a

lack of experience, low morale, and difficulties filling vacancies to rebuild the team.

Although temporary solutions enable the department to respond to increases in permit volumes, a consistent staffing assessment would be more effective to anticipate and prepare for resource needs — particularly when it is difficult to quickly adapt to permit volumes.

The supervisor-to-employee ratio is high and does not allow time for supervisors to dedicate adequate attention to major operational practices and processes such as training and oversight.

Leading practices say local governments should prepare for increases in permit applications by assessing current capacity before permit applications rise to ensure a well-resourced and timely process.[36]

Additionally, department managers said having adequate supervisors is a concern because the supervisor-to-employee ratio is high — with two supervisors responsible for over 20 employees — and does not allow time for supervisors to dedicate adequate attention to major operational practices and processes such as training and oversight, particularly when issuing permits is the pressing priority.

Compounding this problem, the residential plan review supervisor has other competing responsibilities. We reviewed informal documentation the supervisor used to track their tasks and responsibilities. Although the information was inconclusive about the amount of time spent on each task, the information illustrated the varied responsibilities that are outside the scope of day-to-day management of the residential plan review team, such as developing and adopting building and zoning codes.

Department managers told us they do not formally track the supervisor's workload or the time spent on tasks when determining the need for additional supervisors — even though the supervisor's job description says "the allocation of positions will be determined by the amount of time spent in performing essential duties listed."

In 2022, the department addressed the need for additional supervisors by creating an assistant supervisor position. However, with the recent increase in the size of the residential plan review team, only two supervisors manage over 20 people. To address this, department leaders said they would continue to look for other options to add additional supervisory support to the team.

Leading practices say workforce planning is a systematic and continuous process to identify the resources needed to achieve goals and objectives, and it requires coordination, commitment, and active engagement from all levels of leadership, including senior leaders, to be successful.[37] These practices also advise using a roadmap such as a workforce planning model that includes steps for setting strategic direction, conducting a workforce analysis, and developing a workforce action plan.

[36] National Telecommunications and Information Administration, "Examples and Best Practices of Streamlining Permitting, Broadband Equity, Access, and Deployment Program" (2023), accessed Aug. 19, 2023, https://broadbandusa.ntia.gov/sites/default/files/2023-03/Permitting_Best_Practices_Case_Studies.pdf.

[37] U.S. Office of Personnel Management, "Workforce Planning Guide" (2022), accessed June 8, 2023, https://www.opm.gov/policy-data-oversight/human-capital-framework/reference-materials/talent-management/workforce-planning-guide.pdf.

By actively managing the workforce and developing agile operations, agencies are in a better position to effectively and efficiently achieve their mission and goals.

Community Planning and Development lacks reliable data to determine resource needs

When we examined Accela data on timeliness, we found it was not reliable and could not be used by the department to make effective decisions about staffing and resources.

For example, we found review due dates in Accela were set further out than the goals set for residential plan reviews. Specifically, 1,374 residential and intermediate residential permit review tasks had a due date of 12 days or more to complete a review in Accela since Oct. 7, 2021, when the department revised its review time goal to 10 business days.

When asked why the due dates were longer in Accela than the plan reviewers' goals, department staff said they do not have documentation on how Accela populates the due date field to understand why the due dates are not always correct in Accela.

Nearly 1,400 residential permit review tasks had a due date of 12 days or more after the department revised the review time goal to 10 business days.

Due dates further out than 10 business days in Accela can result in a review being considered "on time" on the residential plan review team's internal monitoring dashboards when a reviewer may have actually taken longer than 10 days to complete the review.

Additionally, Accela does not track the time when a reviewer begins a review and tracks only the day a review is started. This could help the department determine how long a review takes and whether staff are achieving their timeliness goals.

Plan reviewers must complete plan reviews within two and a half hours, and department leaders use this goal to calculate the amount of additional staff needed. However, the two-and-a-half-hour goal was determined by having each plan reviewer manually time how long it took them to complete a review.

Additionally, information about when a review started could be inconsistent because some reviewers wait until the end of the day to enter that information in Accela.

Without a formal way to determine how long reviews take to complete, residential plan review leaders cannot accurately determine whether two and a half hours is an appropriate amount of time when estimating staffing needs.

To achieve an organization's objectives, leading practices say managers should use quality information and data from reliable sources that is free

from errors and biases and is timely and relevant.[38] Managers should also evaluate data sources for reliability.

Without consistent, formal staffing analyses and reliable data, Community Planning and Development leaders do not have the information they need to know whether they have sufficient resources to address permit volumes and manage staff. Nor do they have the information to effectively develop formal processes for training, overseeing, and monitoring staff as we discussed in Finding 1.

2.1 RECOMMENDATION Develop a formal workforce plan

The Department of Community Planning and Development should develop a formal workforce plan that addresses the need to maintain adequate resources for the residential permitting process. This plan should align with the department's mission, goals, and objectives and include:

- **Data elements used to assess workforce needs (e.g., permit volumes, workloads, and trends).**
- **Strategies to address gaps in resources.**
- **Time frames for implementing strategies.**
- **Steps and tools for measuring success, including time frames.**
- **How often to reassess and revise the workforce plan.**

AGENCY RESPONSE – AGREE

CPD does have a process in place for completing Strategic Resource Alignment (SRA) analyses to better understand needed staffing levels. The SRA looks at development activity trends and economic indicators, and other key data points, to forecast anticipated residential plan review activity levels. The findings of the SRA are key to the development of annual budget proposals.

CPD also has a weekly data-driven "STAT" meeting where measures of success are identified and tracked, and where strategies are developed to address gaps in resources.

CPD is open to revisiting and updating, if necessary, our SRA methodology and is continually working on addressing the other bullet points identified in this recommendation.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY DEC. 31, 2024

[38] U.S. Government Accountability Office, GAO-14-704G, "Standards for Internal Control in the Federal Government" (2014), accessed April 21, 2023, https://www.gao.gov/products/gao-14-704g, paras. 13.01 and 13.04.

2.2 RECOMMENDATION Formally evaluate data

In conjunction with Recommendation 1.15, the Department of Community Planning and Development should conduct and document a formal evaluation of residential plan review team data used to make staffing decisions and determine how to address any data reliability issues or data limitations identified.

AGENCY RESPONSE – AGREE

In conjunction with Recommendations 1.15 and 1.16, and as part of our internal Strategic Resource Alignment (SRA) process, we will conduct a formal evaluation of residential plan review data to determine team staffing needs by 3/31/2024. This process will be documented and will include notes on how to address data reliability or limitations when drawing staffing conclusions from the volume-based data that is utilized.

— Department of Community Planning and Development

IMPLEMENTATION EXPECTED BY MARCH 31, 2024

OBJECTIVE, SCOPE, AND METHODOLOGY

Objective

To determine how effectively the Department of Community Planning and Development manages the city's residential permitting process by:

- Assessing how effective the department's resources, monitoring, oversight, and training are for achieving its goals and objectives for residential permitting.
- Evaluating how well Community Planning and Development uses and assesses its processes and tools to meet applicants' needs.

Scope

We reviewed documentation and data related to the Department of Community Planning and Development's residential plan review team from Jan. 1, 2018, through April 30, 2023, to compare data trends with the performance goals and objectives for the residential plan review team.

We also reviewed documents and data from Jan. 1, 2020, through April 30, 2023, to compare the residential plan review team's processes with leading practices for oversight, contract monitoring, training, resources and staffing analyses, communication, and data reliability.

Methodology

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

- Interviewing staff members from:
  - The Department of Community Planning and Development.
  - The Denver City Council.
  - Municipal residential plan review teams in:
    - Seattle.
    - Fort Worth, Texas.
    - Oklahoma City.
    - Portland, Oregon.
    - Phoenix.
    - Mecklenburg County, North Carolina.
    - Austin, Texas.
- Reviewing and analyzing:
  - Leading practices from the International Code Council, such as:

    - "Best Practices: Lessons Learned from the Building Department Accreditation Program and Major Jurisdiction Committee."
    - "Best Practices: Lessons Learned from the Building Department Accreditation Program and Major Jurisdiction Committee," Second Edition.
    - "Model Program for Online Services: Permitting, Plan Review and Remote Inspections."
- The U.S. Office of Personnel Management's "Workforce Planning Guide."
- The U.S. Department of Health and Human Services' and the U.S. General Services Administration's "Research-Based Web Design & Usability Guidelines."
- The U.S. General Services Administration's Digital.gov webpage on "Guidelines for Improving Digital Services."
- The National Association of State Procurement Officials' 2019 article on proactive contract management.
- The National Institute of Standards and Technology's "An Introduction to Information Security."
- Guidance from the U.S. Government Accountability Office:
    - "Standards for Internal Control in the Federal Government."
    - "Assessing Data Reliability."
- The National Association of Home Builders' "Development Process Efficiency: Cutting Through the Red Tape."
- The Massachusetts Association of Regional Planning Agencies' "A Best Practices Model for Streamlined Local Permitting."
- The IBM Center for the Business of Government's "An Open Government Implementation Model: Moving to Increased Public Engagement."
- The Society of Human Resource Management's "2022 Workplace Learning & Development Trends."
- The Georgia Municipal Association's "Local Government Best Practices: Streamlining the Development Permitting Process."
- The U.S. Department of Commerce and National Telecommunications and Information Administration's "Examples and Best Practices of Streamlining Permitting."
- The Institute for Local Government's "Local Agency Website Transparency Opportunities."
- U.S. Census Bureau population data from 2010 to 2022 for Denver and all other municipalities interviewed.
- The City and County of Denver's ordinances.
- The city's executive orders No. 8 and No. 146.
- The city's budgets for 2018 through 2023.
- The city's 311 data related to permit review and approval.
- The contract and associated amendment between the City and County of Denver and Bureau Veritas North America Inc.
- Organizational charts for the Department of Community Planning and Development.
- Community Planning and Development's 2022 strategic plan.
- Community Planning and Development's policies, procedures, guides, and trainings related to the residential plan review team.
- Permit records and permit review data from Accela.

    - Community Planning and Development's website.
    - Examples of feedback provided to plan reviewers and the contractor.
    - A judgmental sample of plan review notices provided to permit applicants.
    - The department's staffing and resource analyses.
    - Documentation of Community Planning and Development's process improvements.
    - Applicant feedback and survey questions.
- Observing walk-throughs of Accela and residential plan review team dashboards.
- Comparing the residential plan review team's processes for oversight, contract monitoring, training, resource analysis, communication, and data use to leading practices.
- Performing data reliability tests on Accela data, as discussed in Appendix A.
- Analyzing other comparable cities' and counties' residential permitting operations, as discussed in Appendix B.
- Conducting a survey of applicants who received a residential permit from the city, as described in Appendix C.

APPENDICES

Appendix A – Selection of applicants for survey

We surveyed a sample of permit applicants who received an approved residential permit from Jan. 1, 2022, through April 30, 2023, to learn about homeowners' and construction contractors' experiences with the residential permitting process.

Sample selection

To determine our sample for the applicant survey, we divided the total population of approved permits into four groups based on the type of permit applied for, who the applicant was, and the length of the permit review. We created these four groups to identify any differences or trends among them. These groups included:

- Walk-through permits.
- Intermediate residential and residential permits with the homeowner as the applicant.
- Intermediate residential and residential permits with a construction contractor as the applicant.
- Long review times of 500 days or more.

We randomized the total populations of walk-through permits, homeowner applicants, and construction contractor applicants. We then judgmentally chose the first several permits in the randomized lists to send survey questions to based on the total population for each group and our available resources to manually analyze the open-ended survey responses. We also selected all permits with review times of 500 days or more. Our final sample sizes for the survey were:

- Walk-through permits: 75.
- Homeowner applicants: 50.
- Construction contractor applicants: 75.
- Long review times: 38.

Our total sample size was 238 among all groups, but we received responses from only 55 permit applicants. We received the following number of responses from each survey group:

- Walk-through permits: 17.
- Homeowner applicants: 17.
- Construction contractor applicants: 12.
- Long review times: 9.

Because we did not identify any noticeable trends in the responses from each survey group, we reported all survey results together in the audit report.

Appendix B – Other municipalities' practices for managing residential permits

We researched six U.S. cities and one county similar to the City and County of Denver to identify best practices in residential permitting. We focused on communication, training, use of contractors, monitoring and oversight, applicant experience, and backlog management.

The cities and county we compared Denver to were:

- Seattle.
- Fort Worth, Texas.
- Austin, Texas.
- Oklahoma City.
- Portland, Oregon.
- Phoenix.
- Mecklenburg County, North Carolina, which serves the city of Charlotte, North Carolina.

We interviewed staff at each municipality. We chose these cities and county by comparing population sizes and population growth trends from U.S. Census Bureau data. We then manually calculated population growth trends.

Important notes from our analysis

While practices and procedures for residential permitting varied among these cities and county, a few themes stood out:

- All municipalities' residential permitting processes involved multiple teams or agencies that had designated methods of communication.
- Four of seven municipalities had formal training processes for plan reviewers: Seattle, Fort Worth, Mecklenburg County, and Austin.
- Only two cities — Fort Worth and Phoenix — used third-party contractors to support plan reviews at the time of our interviews.
- All municipalities provided online guidance to permit applicants on the permitting process.
- Six municipalities — all but Portland — had oversight and monitoring processes for plan reviewers.
- Six municipalities — all but Portland — had systems for receiving applicant feedback and direct lines of communication to plan reviewers.
- Six municipalities — all but Portland — did not have a permit review backlog at the time of our interview.

Results of our analysis

COMMUNICATION AMONG MULTIPLE REVIEW TEAMS – Staff at all the municipalities we interviewed said they communicated with other permit review teams primarily for identifying and resolving issues.

The cities and county used a variety of communication channels among teams and agencies. For instance, four of the cities — Seattle, Fort Worth, Oklahoma City, and Portland — had regularly scheduled meetings with all

teams and agencies in the permit review process. Another four municipalities — Fort Worth, Oklahoma City, Portland, and Mecklenburg County — used their internal permit review software to leave notes or establish workflows to communicate with other review teams or departments about identified issues.

PLAN REVIEWER TRAINING – Training for new plan reviewers primarily involved shadowing experienced staff, probationary periods, reading codes, training manuals, and classroom sessions.

For example, Seattle gave its staff a one-year probationary period where continuous feedback was provided, audits were completed on all projects until the staff member "graduated" to more complex tasks, and smaller projects were identified for shadowing and zoning code application practice.

Staff in both Fort Worth and Austin said they had 60-day and 90-day plans with set expectations to establish new hire competencies. Fort Worth staff also said they provided training manuals and links to training videos for staff in most positions. Austin followed the standard requiring 60 hours of technical training for plan examiners established by the International Organization for Standardization.

CONTRACTOR MONITORING – While the use of third-party contractors to support plan reviews was not common among the municipalities we contacted, staff in both Fort Worth and Phoenix both said they found using contractors was effective for addressing workload fluctuations and minimizing permit backlogs.

Fort Worth staff said they used permit review contractors that are certified and can conduct plan reviews and inspections when city staff get overloaded. City staff must review all contractor work before issuing a certificate of occupancy and perform spot-checks on contractors, and contractors are required to participate in all city staff trainings. Contractors must also sit on a development advisory committee with city staff.

Austin staff said they used contractors in the past and monitored them with random audits of their work as well as audits because of an error identified by the inspections team. The contractor staff performing reviews have required certifications and are provided the same technical review checklist provided to their own plan examiners.

Phoenix staff said they used contractors when vacancies needed to be filled to alleviate city staff workloads and were given the same oversight and supervisory review as city staff.

COMMUNICATION AND GUIDANCE FOR PERMIT APPLICANTS – All the municipalities we contacted had online guidance for permit applicants to view the permit review process.

Fort Worth's website uses OpenCounter software so applicants can type in their address and explain what project they intend to do. The software provides the information needed to complete the project in one document. The website also has how-to videos, all ordinances sorted by type, and step-by-step process maps.

Oklahoma City has a call center with dedicated customer service staff to answer most permit questions, and the city has a station of computers in its building with a staff member available to answer questions.

Three cities — Seattle, Portland, and Austin — offer virtual or in-person appointments to help applicants navigate the permit submission and review process.

Additionally, when providing review comments to applicants, Fort Worth standardized its review comment language so it does not require a lot of knowledge to understand review comments.

Phoenix and Austin clarify review comments by requiring references to specific codes that apply.

MONITORING PLAN REVIEWS – Staff at six of the seven municipalities – all but Portland – we spoke to said they had formal processes for monitoring plan reviews. Seattle has a team dedicated to quality control of plan reviews. Both Fort Worth and Oklahoma City perform spot-checks on plan reviews. Phoenix, Mecklenburg County, and Austin set minimum standards for the number of plan reviews to audit for each plan reviewer

a year. Phoenix and Austin require two audits a year, and Mecklenburg County requires two audits every six months.

STRATEGIES TO ADDRESS PERMIT BACKLOG – Staff at six of the seven municipalities — all but Portland — we interviewed said they did not have a backlog of unreviewed permits. However, they provided strategies they used to address their permit backlogs in the past. For example:

- Fort Worth approved additional staff to help it reduce its backlog.
- Oklahoma City had one plan reviewer dedicated to working on applications over a day old, moved the responsibility for certain types of reviews such as solar panel reviews to other teams, and used dedicated customer service staff to minimize review times.
- Austin's residential team focused on resubmittals and did not respond to applicant inquiries on Fridays to shorten turnaround times.
- Phoenix had a team dedicated to minor permits and administration tasks to mitigate backlogs.
- Mecklenburg County said its staff level and reviewing master plans for houses that are built multiple times during the year have reduced permit review times.
- Seattle accepts only online applications to reduce potential backlogs.

Appendix C – Assessing residential permit data

This appendix explains our methodology to:

- Identify potential issues in the permit review data.
- Analyze the permit review process.
- Perform trend analysis.
- Obtain our sample for manual testing.

For each area, we used a report provided by the Department of Community Planning and Development containing all residential permit review tasks from Jan. 1, 2018, through April 30, 2023. That report from Accela — the city's permitting system — included 607,003 review tasks across 24,420 unique permits.

Data completeness and accuracy

We started our review of the data by checking for missing values:

1. We included only permits where their most recent status dates were from Jan. 1, 2020, through April 30, 2023.
2. We separated the data into two testing groups. We created one group with 148,685 review tasks (i.e., initial review or resubmittal review). We then created a second group with 124,168 tasks where the reviewer entered the outcome of their review (i.e., approved or not approved).
3. For each testing group, we counted the number of missing values in the due date column and in the column that indicated which reviewer was assigned to the task.

We also assessed whether the data was accurate. First, we looked for duplicate information. We included only permits issued from Jan. 1, 2020, through April 30, 2023. We checked for duplicate review tasks by flagging those with identical information in the columns that showed the permit number, the review team, the review due date, the assigned reviewer, the assigned date, and the date the reviewer completed the task.

Next, we checked for inconsistencies in the permit review workflow by looking for tasks that did not follow the logical order of the review process:

1. We included only tasks related to the plan review team.
2. We sorted the tasks from oldest to most recent.
3. We flagged permits where a reviewer indicated the review was approved then later indicated the review was not approved for the same type of review.
4. We flagged permits where a reviewer indicated the review was not required then later indicated the review was approved for the same type of review.
5. We flagged permits that had a task related to a resubmission after a reviewer indicated the review was already approved.
6. We flagged permits with two initial review tasks occurring on different days for the same type of review. To isolate instances where this task occurred on different days, we dropped duplicate tasks occurring on the same day. For the permits flagged in our test, we then calculated the number of days between the two initial review tasks for the same type of review.

Lastly, we flagged permits with an initial review task that either occurred before or at least one day after the intake team reported the permit was ready for the next set of reviews. For this test, we used all permits issued

from Jan. 1, 2020, through April 30, 2023.

1. For each permit, we identified the date when the intake team indicated the permit was ready for the next set of reviews. We then identified the oldest initial review date for each review team.
2. We then tested whether the date of the intake's task was greater than the date for any of the review team's initial review tasks.
3. We also tested whether the date for the intake team was less than the date of each review team's initial review tasks.

We discuss the results of this review on pages 31, 34, 39, 41 and 42 of the report.

Permit review process

We created two tests to check whether the length of review complied with the department's policy to complete reviews within 10 business days of the task's first status date.

First, we checked whether all review tasks had due dates set for 10 business days by:

1. Filtering the report provided by the department to include only initial review and resubmittal review tasks for permits issued from Jan. 1, 2020, through April 30, 2023.
2. Removing all review tasks that did not have a due date assigned. This left us with 128,828 review tasks to test.
3. Using this testing group to calculate the number of business days between the date the task was assigned and the due date.

   Community planning staff did not have documentation explaining how Accela populates the due date column. Therefore, we applied our calculation twice — once to account for federal holidays and a second time to account for all city holidays. Because we did not know how the due date field was populated, we summed all tasks that were greater than 11 business days. This cut-off accounted for the possibility that the start date for the 10-day due date was the day after a task was assigned.

Second, we calculated how long it took staff to complete their reviews. Our testing group included 266,221 tasks in which staff recorded the outcome of the review for every permit issued from Jan. 1, 2020, through April 30, 2023.

1. We subtracted the date when staff recorded the outcome of the review (e.g., approved, additional information required) from the date when the task was assigned (e.g., initial review or resubmittal review).
2. We converted the difference in these dates to business days. Similar to the first test, we did this twice to account for federal holidays in one test and to account for city holidays in the other.
3. For each review team, we summarized the results of both tests by the type of permit.

We also compared the time it took staff from different teams to complete a review task. For this analysis, we used our professional judgment to select the reviews assigned to application intake, residential review, zoning review, and the Department of Transportation & Infrastructure's sewer use and drainage permit teams.

Our testing group for this analysis included 295,790 tasks for all permits issued from Jan. 1, 2020, through April 30, 2023. For each review team in this analysis, we calculated the number of days staff took to record the outcome of their review:

1. We sorted the review tasks from the oldest to most recent. Then, we subtracted the date when staff recorded the outcome of the review (e.g., additional information required, or not approved) from the task's most recent status date (e.g., initial review, or resubmittal review).

2. Using this calculation, we found the average number of days each team took to complete their review tasks. We summarized this information by permit type.

We also calculated the number of days staff waited for an applicant to resubmit portions of their application.

1. Using the tasks sorted by date, we subtracted the date when staff indicated the applicant needed to submit updates to their application from the date when the applicant uploaded their resubmission to Accela.
2. We counted how many times the applicant had to resubmit information for the review by flagging each review task that indicates staff needed more information from the applicant.
3. We summarized these results by permit type.

We discuss the results of this testing on pages 8, 28, and 48 of the report.

In addition, we assessed whether the department's reviewers met their performance goals. In 2020 and 2021, plan reviewers were supposed to complete an average of 16 reviews for residential and intermediate residential permits each week. In 2021, reviewers were supposed to complete an average of 10 reviews for residential walk-through permits. Lastly, the department had a goal to complete 75% of reviews on time in 2022 and decreased the goal to 60% in 2023.

We started by assessing whether staff met their weekly review goals:

1. We created three testing groups. The first group included 13,045 plan review tasks related to residential and intermediate residential permits that were completed in 2020. The second group included 15,139 plan review tasks for residential and intermediate residential permits that were completed in 2021. The last group included 7,889 plan review tasks for residential walk-through permits completed in 2021.
2. For each testing group, we summed the number of tasks each reviewer completed and found the average number of reviews completed by each reviewer per week.
3. We created a flag for each testing group to indicate whether the reviewer met their weekly goal.

Next, we assessed whether each permit review team completed 75% of reviews on time in 2022 and whether they completed 60% of reviews on time in 2023.

1. We included only tasks completed in 2022 and 2023 where the tasks showed the outcome of the reviews.
2. We tested whether the reviewer entered the outcome of their review on or before the due date listed for that task.
3. We grouped all the tasks by the type of review and created a flag to indicate whether each review team completed 75% of their tasks on or before the due date.

We discuss the results of this testing on page 8 of the report.

Trend analysis

We performed three trend analyses to learn about the permit review process over time.

- For the first trend, we identified the number of residential permit applications the city received from Jan. 1, 2018, through April 30, 2023. We grouped the permit review data by each permit's start date — which indicated when the applicant or city staff entered the application into Accela. We summarized the number of permits the city received by month and by year for each type of permit.
- For the second trend, we analyzed how many residential permits the city issued from Jan. 1, 2018, through April 30, 2023. We filtered the permit review data to include only permits that were issued. Next, we grouped this list of permits by their last status date — which indicated when the city issued the permit.

We summarized the number of permits issued by month and year for each type of permit.

- For the third trend, we calculated how long the city took to issue residential permits. We included only permits issued between Jan. 1, 2020, and April 30, 2023. We subtracted the date the permit was issued from the date when the intake review team indicated the permit was ready for the next round of reviews. We found the average length of time the city took to issue each permit and summarized the results by permit type and year.

The results of these analyses are discussed on pages 1 and 8 of the report.

Plan review notice sample

We included only issued permits where the application was submitted between Jan. 1, 2020, and April 30, 2023. This left us with 14,472 permits to sample from.

Of the 14,472 permits, we randomly selected 50 for the sample. We manually looked at the workflow in Accela for all 50 permits to identify whether the permit required multiple rounds of residential reviews.

Of the 50 randomly selected permits, there were 22 permits that had at least one resubmittal review required by the residential review team. We looked at all 22 permits in our testing.

We discuss the results on pages 15 and 23 of the report

Office of the Auditor

The **Auditor** of the City and County of Denver is independently elected by the residents 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.

The **Audit Committee** is chaired by the Auditor and consists of seven members. The Audit Committee assists the Auditor in his oversight responsibilities regarding the integrity of the city's finances and operations, including the reliability of the city's financial statements. The Audit Committee is structured in a manner that ensures the independent oversight of city operations, thereby enhancing residents' confidence and avoiding any appearance of a conflict of interest.

201 West Colfax Avenue, #705

Denver, CO 80202

(720) 913-5000

www.DenverAuditor.org

Our Mission

We deliver independent, transparent, and professional oversight in order to safeguard and improve the public's investment in the City and County of Denver. Our work is performed on behalf of everyone who cares about the city, including its residents, workers, and decision-makers.