CivCheck AI Pre-Screening Pilot Report

Proof of Value Duration: March 2025 – October 2025
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Executive Summary

This proof of value project tested an AI tool called CivCheck to evaluate its capacity to save time in the permitting process for construction permit applicants and for City of Seattle permit reviewers.

The pilot found that CivCheck's automated checks were accurate and had sufficient breadth of coverage to reduce the duration of the intake screening and plan review phases of the construction permitting process. Projected impact is higher for the intake screening phase; as a result, we recommend a production pilot focused on pre-screening application completeness.

This report summarizes the results of the pilot and details the pilot's alignment with the City of Seattle's Responsible AI Policy using the criteria laid out in the 2025-2026 AI Plan.

Overview and Purpose

City AI Plan Objective

Confirm that the solution aligns 100% with business goals and City values.

Your Recommendation

☐ Scale to full production
☑ **Scale to larger scale production pilot**
☐ Modify and re-run pilot
☐ Sunset

Proof of Value (PoV) Overview

What is a Proof of Value?

The term "proof of value" (PoV) means that this project was a pilot of a new technology done in a controlled, non-production environment. The purpose of a proof of value is to validate the technology's impact on business objectives before proceeding to a production use case.

Use Case and Workflow Integration

When a member of the public applies for a construction permit, they submit a complex application that goes through multiple stages of review by City staff, including:

1. **Intake screening**: SDCI staff perform Zoning and Ordinance/Structural reviews of the application, with a focus on **completeness**: does this application have all the necessary documents? Are those documents complete? A median middle housing application goes through 2.6 intake screening review cycles before approval.
2. **Plan review**: multiple teams at SDCI, SFD, and other departments do an in-depth review of the application to ensure the design is **compliant** with the Land Use Code, Seattle Residential Code, and other building codes. A median middle housing application goes through 3.7 plan review cycles before approval.

The PoV tested CivCheck as a pre-screening tool: applicants would use it to get quick feedback on their applications so they can fix errors before they submit. This proof of value investigated

CivCheck's ability to effectively pre-screen for both review stages: intake screening (application completeness) and plan review (design compliance).

An application that is pre-screened by CivCheck would still go through the normal review processes, but ideally with fewer cycles as many issues have already been addressed. As each cycle takes about one month of calendar time, fewer cycles mean applicants get their permits faster, while staff spend less time repeating the same corrections. This outcome aligns with City goal of streamlining permitting for housing.

AI Capability

CivCheck uses multiple AI techniques to read content from application documents such as PDF plan sets and assemble that content into structured data. CivCheck performs deterministic checks on that data to see if all documents are included, if the documents are missing information, and if the design complies with relevant code requirements.

Duration/Scope

- March 2025: kickoff and scoping.
- April – July 2025: testing of compliance pre-screening.
- August 2025: testing of completeness pre-screening.
- September – October 2025: gathering feedback from staff and outside stakeholders.
- November 2025 – June 2026: analysis and report writing.

Users

In a production use, the primary users would be applicants: applicants would load their applications into CivCheck and view the results themselves. However, for the PoV, CivCheck employees entered historical construction permit applications into CivCheck's platform. SDCI employees used the platform to view and verify the results. Roughly 40 employees from teams that do Land Use, Zoning, and Ordinance/Structural reviews were given access; at least 14 actively participated in checking CivCheck's results.

Key Findings Summary

Known Limitations

Automated pre-screening cannot check compliance with every code for all types of buildings: some building designs and code requirements are just too complex. The PoV focused on smaller "middle housing" dwellings (townhouses, single family homes, ADUs, etc.) that are permitted under the simpler Seattle Residential Code (as opposed to the Seattle Building Code used for larger buildings). These types of applications make up the majority of new residential construction permits issued in recent years.

What Worked Well

The checks performed were very accurate. The PoV included 34 completeness checks and 67 compliance checks that the group thought could be automatically assessed (see Appendix A).

- For intake screening, CivCheck's automated review identified 87% of the errors identified by manual reviewers.

- For plan review, City reviewers agreed with CivCheck's automated assessment 92% of the time.

Accuracy is likely to improve with more usage: it improved over the course of the test as CivCheck further calibrated the tool.

This accuracy translates into shortened review timelines for applications, including up to a 46-day reduction in intake screening duration. See the "Business Impact & Success Metrics" section for more detail.

What Didn't Work as Expected

Automated checks work well when they're checking requirements that can be easily translated into unambiguous machine logic. Our current codes, requirements, and processes do not always translate easily. Even for simple buildings, it is not clear how much of the Land Use Code and Seattle Residential Code requirements could be accurately assessed with automated checks. Given that these codes deal with important matters such as life safety, there are limits to how much those codes can be simplified.

The difficulty of automation applies to completeness screening too. The City's review processes are complex and sometimes ambiguous; for example, while configuring CivCheck, it was sometimes difficult to define which cases required which documents. To maximize the impact of automated pre-screening, the City needs to clarify its requirements so that they can be translated into clear logic. This would improve the accuracy and completeness of automated checks.

Key Learnings

Automated checks have real potential to shorten intake and review timelines. In interviews conducted with applicants, it became clear that the checks must be accurate and comprehensive, or they risk being seen as "just another hurdle" in an already-lengthy process. See Appendix E for more feedback from external stakeholders.

Bottom Line

We recommend proceeding with an in-production pilot of an applicant-facing pre-screening tool. Applicants would be able to opt in; they would use the pre-screening tool and then go through the normal process. While CivCheck (and, likely, other pre-screening tools) can support more advanced checks, we recommend starting with completeness screening at intake, which offers the highest near-term return on investment: a possible 46-day reduction in intake screening duration.

Including checks for compliance in a pilot could help reduce the occurrence of common errors and shorten response timelines, but the complex nature of plan review makes impact harder to project. Furthermore, automated compliance checks need careful expectation-setting for applicants. This is why we recommend limiting a pilot to completeness screening only.

Introducing a pre-screening tool complements other permitting improvements. The clearer the processes and requirements, the higher the impact of automated pre-screening. In a limited-resource environment, piloting a pre-screening tool must be prioritized alongside other process improvements.

Business Impact & Success Metrics

City AI Plan Objectives

Establish a benchmark and record measurable benefits compared to the previous solution/approach. Demonstrate measurable improvement.

Intended Outcomes

Pre-screening is intended to reduce the calendar-day duration of the completeness check process, which we refer to as "intake screening," and the compliance check process, which we refer to as "plan review," by reducing the number of review cycles in each phase.

Measurement Methodology

How Did You Measure Impact?

For both intake screening and plan review, we compared the actual duration and number of cycles to theoretical scenarios in which a pre-screening tool had helped the applicant fix errors in advance of submitting.

For intake screening, the PoV looked at 29 projects that had already passed intake before the pilot started:

- The "Actual" column summarizes those applications' actual intake screening via SDCI's current, all-manual process.
- "Scenario A" considers CivCheck as configured for the pilot: 34 completeness checks were performed, representing a subset of the checks done by staff in intake. This scenario assumed that the applicant fixed the errors caught by CivCheck, but that some errors were not automatically screened and were caught during manual review after the application was submitted.
- "Scenario B" considers CivCheck if it were configured to automate all of the checks in the intake screening. This scenario assumes that the applicant fixed all completeness errors before submitting their application.

For plan review, the PoV tested in-progress applications. As many of these applications were still actively in plan review, we did not yet know how long their plan review phase would take. To be able to estimate impact, we looked at the history of similar projects that have already completed the plan review phase. Specifically, we considered all "Middle Housing" projects issued in the 12 months leading up to October 2025, as reported on SDCI's Construction Permit Performance website.

For compliance screening, the checks are accurate, but CivCheck was only configured to run a limited number of checks. It is unclear what fraction of requirements can be configured in a tool like CivCheck for automated review. Scenario A and Scenario B assume different fractions of checks can be automated. Both scenarios assume that applicants fix all errors identified in the pre-screening before formal intake, thus reducing the number of corrections during plan review.

- The “Actual” column shows the historical results for the sample set.
- “Scenario A” models the impact of CivCheck catching enough corrections up front to preempt one Zoning and one Ordinance/Structural review. Those two review types were chosen because the pilot configuration focused on those two review types. Other review types (e.g. Tree, Energy, Drainage) were left unchanged.
- “Scenario B” models the impact of CivCheck removing one review of each type, i.e. removing one entire review cycle. Staff report that the first round of review often catches simpler errors; “Scenario B” assumes that the pre-screening removes this straightforward and low-value review cycle.

Known Limitations or Biases

The impact estimates assume applicants fix all errors caught by CivCheck. If the actual implementation allows applicants to proceed with some failed checks, the impact may be less than estimated. Conversely, requiring a 100% pass may frustrate users with “edge case” designs.

The “Scenario B” estimates assume that the automated checks have sufficient breadth to entirely remove rounds of review. If some completeness or common compliance checks prove too ambiguous to automate, the impact will be less than estimated.

Results

Business Metric	**Actual: No Pre-Screen**	**Scenario A: With CivCheck, Pilot Configuration**	**Scenario B: With CivCheck, Projected Configuration**
Intake Screening: Median calendar days to pass intake screening	54.5	29	8
Intake Screening: Average # of intake review cycles	2.55	1.75	1
Intake Screening: Average # of intake reviews (Zoning + Ordinance/Structural)	3.86	3.34	2
Plan Review: Median calendar days to pass plan review	161	146	117
Plan Review: Median # of correction cycles to pass plan review	3.72	3.39	2.72

Calendar days include both City Control and Applicant Control periods.

Additional Metrics Tracked

See the “Technical Performance” section below for details of the accuracy of the checks.

Interpretation

In both cases, broader coverage of automated checks yields better results. Partial coverage may remove part of a cycle, saving some time; larger reductions, however, come from removing one or more entire review cycles.

The intake screening results show a clear potential impact: even the set of checks configured in the pilot (Scenario A) would shorten the application process by almost a month.

Plan review is a complex process, with an average of 6 review teams working in parallel across 3+ cycles. While preventing common mistakes is undoubtedly beneficial, the overall duration only shortens if you shorten the specific review that is the "bottleneck" for that cycle; shortening other reviews has no impact. This means that a broader coverage of checks (Scenario B) is required before the overall results change much.

Technical Performance

City AI Plan Objectives

Meet acceptable accuracy thresholds for the use case, including bias and hallucination audit results.

Intake Screening Methodology

The proof of value looked at 29 residential construction permit applications where SDCI staff had recently completed the intake screening. CivCheck employees configured their platform for 34 checks, then ran the 29 original applications through the platform. CivCheck and SDCI employees compared the results of SDCI's screening with CivCheck's screening.

Intake Screening Accuracy

For the 29 permit applications where staff had recently completed the intake screening:

- 90 total rejection reasons were logged by SDCI reviewers in Accela records. Of those 90:
    - 35 rejection reasons were related to checks that were not included in the pilot configuration.
    - 48 rejection reasons – 87% of in-scope reasons – were identified by both CivCheck and the SDCI reviewers.
    - 7 in-scope rejection reasons were not caught by CivCheck.
- In addition, 4 applications were flagged by CivCheck as needing a topographic survey, but not flagged by the SDCI reviewers.
    - All 4 were cases where a topographic survey was typically required, but the intake screener used their discretion to exempt the requirement for the project.

Intake Screening Error Analysis

These results indicate CivCheck reliably identified the majority (87%) of intake issues before applications enter the City's review queue.

However, the 4 instances where staff waived topographic survey requirements illustrate the need for discretion. For example, one project was on a site with steep slopes. Normally, those slopes require a survey. In this case, the project's scope was confined to within an existing basement; the intake staff consulted with the geotechnical team and confirmed that, as the work was unrelated to the exterior slopes, the survey requirement could be waived. Continued tuning of checks would

help reduce these errors; thoughtful options for adding flexibility to the process (e.g. allowing applications to proceed if they pass most but not all checks) could help mitigate the impact.

Plan Review Methodology

For 57 residential permit applications in active plan review, CivCheck was used as a supplemental pre-screening tool alongside standard reviewer workflows. SDCI reviewers conducted their normal Zoning and Ordinance/Structural reviews and then used CivCheck's platform to see its preliminary pass/fail determinations for all 67 configured checks.

When using CivCheck:

- Reviewers clicked "approve" when they agreed a requirement was met.
- Reviewers clicked "needs correction" when they agreed a requirement was not met.
- Reviewers could submit structured feedback if CivCheck's determination was incorrect or required clarification.

Plan Review Accuracy

Across these 57 applications:

- 1,262 Zoning and Ordinance/Structural checks were performed.
- Reviewers provided feedback on 86 checks (6.8%).
- For the remaining 1,176 checks (93.1%), no feedback was provided, implying agreement with CivCheck's determination.

As an additional assessment of accuracy, CivCheck's preliminary determinations were compared to reviewer's final decisions:

- Overall Accuracy: 91.7%
    - Rate of agreement between CivCheck and reviewers on pass/fail conditions
- False Positive Rate: 6.4%
    - CivCheck indicated a pass where reviewers required correction (missed correction)
- False Negative Rate: 1.9%
    - CivCheck indicated a fail where reviewers approved (unnecessary flag)

Plan Review Error Analysis

Over the course of the proof of value, CivCheck calibrated their checks to better align the platform with reviewers' interpretations and saw improved results. In a production use, continued review of results and improved configuration would likely result in increased accuracy over time.

User Experience and Adoption

City AI Plan Objectives:

- 80%+ of pilot users report finding business value
- 80%+ positive rating for user experience

Staff Survey and Focus Group Feedback

A survey with 14 City staff involved in the Proof of Value showed that 71% had a more favorable view of AI after the pilot than when it started. 86% agreed with at least one of the business value statements, with more frequent users of CivCheck being more positive.

Insights from the permit reviewer focus group included five key takeaways:

1. CivCheck improves application completeness.
2. Permit approval speed is perceived as faster.
3. Views on review cycle reduction are mixed.
4. There are actionable suggestions for additional intake checks and applicant guidance.
5. CivCheck has specific user interface and technical issues to address.

Key quote from a permit reviewer: "Using CivCheck, I have come to realize how powerful and useful it can be in screening the permit application and help me as a reviewer to quickly identify common minor corrections. This allows me to focus my review time on code issues that are more complicated."

See Appendix D for further details of City staff engagement.

External Stakeholder Feedback

The City conducted one-on-one interviews with 20 external stakeholders, including homebuilders and small business owners navigating permitting for the first time, as well as more experienced Seattle-based architects, developers, and contractors. The City began each interview with a description of CivCheck and a walkthrough of the intended use case.

External users described a permitting culture they feel is rigid and over-regulated. They consistently emphasized the benefit of knowing what is required upfront, reducing uncertainty, and receiving tailored, actionable feedback before formal submission, stressing the need for a pre-screening tool that is responsive to each project's specific characteristics. Some users expressed concern that, if implemented poorly, a pre-screening tool could become another hurdle in an already-lengthy process.

Key quote from a developer: "I'm hoping that this tool is something that will be available to [applicants] to…flag problems that you could fix today. I would rather wait a day or two to fix those problems and then potentially get through our first real review once it's in the city … Time is everything."

See Appendix E for further details of stakeholder engagement.

Change Management

To support implementation of new Completeness or Compliance tools, the following communications, trainings, and resources are recommended to support change management:

- All SDCI staff should receive a short introduction to the pre-screening tool so they are aware of the effort, understand the limited use of AI, understand the scope of what is (and isn't) being checked, and prepare them to answer basic questions from applicants.
- SDCI staff related to intake screening and Zoning and Ordinance/Structural plan review should be trained on the specifics of what can and can't be screened.
- The City should offer training sessions and website materials to help applicants set expectations for what can and can't be screened and what getting a "pass" from CivCheck means for their application.

Responsible AI

City AI Plan Objectives:

100% of pilot users educated on City's Responsible AI policies

How were users educated on RAI policies?

Confirmation:

100% of users were educated on City's Responsible AI policies.

Adherence

CivCheck was selected in part because of the company's alignment with the City's Responsible AI policies. The tool has a limited use of AI: the core logic of the checks is deterministic, not probabilistic. It is built around a transparent, human-in-the-loop approach: at every step, users can see the logic behind a suggestion, override automated suggestions, add clarifications, and make independent determinations. See Appendix C for further details about why the City selected CivCheck.

Equity Considerations

Construction permitting in Seattle is complex and can be hard to navigate: a housing project may need 30+ approvals from 7 departments. Inexperienced applicants often struggle to navigate these multiple processes. pre-screening tools like CivCheck are intended to lower the barrier to entry by providing every user with the same information about what is needed for a permit-ready submission. In addition, by increasing review consistency, the platform also helps reduce the potential for reviewer bias. This approach lowers the risk of uneven applicant experiences and promotes equitable access to the permitting system.

Privacy & Security

CivCheck passed the City's privacy review process conducted by Seattle IT. Permit applications data poses relatively low privacy risk, as much application data is already public via the Seattle Services Portal. Plan sets for the residential projects that would use CivCheck are available via Public Disclosure Requests.

The proof of value was done under a risk acceptance agreement between the City and CivCheck, partially due to CivCheck's lack of third-party certifications. Since the start of the proof of value,

CivCheck was acquired by Clariti, a more established software company; in addition, the City implemented a new AI review process. In order to proceed with a production pilot, CivCheck would need to pass a new security review and the updated AI review.

Support/Scalability

City AI Plan Objectives

Demonstrate supportability and scalability of the piloted solution at the City of Seattle.

Challenges with Integration or Infrastructure

The proof of value was conducted with CivCheck as an isolated platform: application data was extracted from Accela by City staff and loaded into CivCheck by their staff. In an ideal production use, data integrations would allow CivCheck and Accela to share application documents and screening results. In addition, CivCheck would be able to read from existing City data sources like GIS and permit history. However, the proof of value did not explore integration.

How do you plan to scale/support this solution for full-scale deployment?

A production pilot would require:

- SDCI product manager: 0.75 FTE to project manage the deployment, monitor progress, and analyze results.
- Intermittent support from SMEs to configure and tune the checks.
- Intermittent support from communication teams to publicize and recruit applicants.

A full-scale production deployment would require:

- SDCI product manager: 1.0 FTE to project manage the deployment, dropping to 0.5-0.75 FTE after deployment to monitor and maintain.
- Intermittent support from subject matter experts and communications staff, with a large initial push to produce training and documentation.
- Ongoing configuration support from CivCheck to continuously "tune" the checks.
- Optional but recommended: build an integration with Accela that lets applicants push a "passed" application (and metadata) from CivCheck to Accela. While exact scope hasn't been determined, this is likely a 6+ month project for one of the City's Accela development teams.

What is the cost structure and costs of this software at scale?

Exact cost structure has not been agreed to. Research into other jurisdictions' pre-screening tools indicates cost is likely to depend on a mix of the City's total annual applications received and the number of times applicants pre-screen their applications.

Funding Source

The 2026 budget includes funding from the Construction and Inspections Fund for a production pilot. If the pilot shows strong value, additional funding would need to be secured. Some jurisdictions partially offset their AI pre-screening costs via direct charges to applicants. For

example, the City could cover an applicant's first several uses of the software, but after a certain threshold require the applicant to pay for additional usage.

Appendix A: Proof of Value Configured Codes and Checks

Plan Review Checks

Plan Review Checks: Zoning

#	Plan Review Checks	Source	Section
1	Minimum Lot Area	2025 Seattle Municipal Code	23.44.010
2	Lot Coverage Exemptions	2025 Seattle Municipal Code	23.44.010
3	Maximum Lot Coverage	2025 Seattle Municipal Code	23.44.010.C
4	Building Height	2025 Seattle Municipal Code	23.44.012
5	Front yard	2025 Seattle Municipal Code	23.44.014
6	Rear yard	2025 Seattle Municipal Code	23.44.014
7	Side yards	2025 Seattle Municipal Code	23.44.014
8	Exceptions from standard yard requirements	2025 Seattle Municipal Code	23.44.014.C
9	Structures in rear yard: Height & location	2025 Seattle Municipal Code	23.44.014.D(1)
10	Structures in rear yards: Maximum coverage	2025 Seattle Municipal Code	23.44.014.D(1)
11	Garage: In Required Yards	2025 Seattle Municipal Code	23.44.016.E.1.b
12	Garage: Setback requirements	2025 Seattle Municipal Code	23.44.016.F.1.a
13	Garage: Entrance Width	2025 Seattle Municipal Code	23.44.016.F.2
14	Dwelling – Density Limit	2025 Seattle Municipal Code	23.44.017.A
15	DADU Minimum Requirements	2025 Seattle Municipal Code	23.44.041 Table A
16	ADU Existing Parking Space	2025 Seattle Municipal Code	23.44.041.A.6
17	Attached ADUs: Maximum Size	2025 Seattle Municipal Code	23.44.041.B.1
18	Attached ADUs: Street-Facing Entrances	2025 Seattle Municipal Code	23.44.041.B.2
19	Floor Area Ratio (FAR)	2025 Seattle Municipal Code	23.44.11
20	Number of parking spaces	2025 Seattle Municipal Code	23.54.015 Table B

Plan Review Checks: Fire & Smoke Protection

#	Plan Review Checks	Source	Section
21	Exterior Walls	2021 Seattle Residential Code	R302.1
22	Fire Separation Distance (non-sprinklered)	2021 Seattle Residential Code	R302.1
23	Fire Separation Distance (sprinklered)	2021 Seattle Residential Code	R302.1
24	Fire Separation Distance between buildings	2021 Seattle Residential Code	R302.1
25	Fire Protection: Walls between dwellings	2021 Seattle Residential Code	R302.3.1
26	Fire Protection: Doors between dwellings	2021 Seattle Residential Code	R302.3.4
27	Fire Protection: Shared Accessory Rooms	2021 Seattle Residential Code	R302.3.5
28	Garage: Door requirements	2021 Seattle Residential Code	R302.5.1
29	Garage: Fire Separation	2021 Seattle Residential Code	R302.6
30	Stairway: Enclosed spaces	2021 Seattle Residential Code	R302.7
31	Garage: Floor Surface	2021 Seattle Residential Code	R309.1
32	Garage: Heat Detector	2021 Seattle Residential Code	R314.2.3
33	Smoke Alarms	2021 Seattle Residential Code	R314.3
34	Carbon Monoxide Alarms	2021 Seattle Residential Code	R315.2.1

Plan Review Checks: Structural

#	Plan Review Checks	Source	Section
35	Design Criteria	2021 Seattle Residential Code	R301.1
36	Foundation Drainage	2021 Seattle Residential Code	R405.1

Plan Review Checks: Room Requirements

#	Plan Review Checks	Source	Section
37	Required Heating	2021 Seattle Residential Code	R303.10
38	Floor Area: Habitable Rooms	2021 Seattle Residential Code	R304.1
39	Room width: Habitable Rooms	2021 Seattle Residential Code	R304.2
40	Ceiling height: Bathrooms, kitchens, laundry	2021 Seattle Residential Code	R305.1
41	Ceiling height: Habitable rooms	2021 Seattle Residential Code	R305.1
42	Ceiling height: Non-habitable basements	2021 Seattle Residential Code	R305.1.1
43	Bathrooms: Bathing fixture clearances	2021 Seattle Residential Code	R307.1
44	Bathrooms: Water closet & lavatory clearances	2021 Seattle Residential Code	R307.1
45	Bathrooms: Non-absorbent surfaces	2021 Seattle Residential Code	R307.2
46	Safety Glazing: Doors	2021 Seattle Residential Code	R308.4.1
47	Safety Glazing: Adjacent to doors	2021 Seattle Residential Code	R308.4.2
48	Safety Glazing: Windows	2021 Seattle Residential Code	R308.4.3
49	Safety Glazing: Guards	2021 Seattle Residential Code	R308.4.4
50	Safety Glazing: Showers, Bathtubs, Pools, etc.	2021 Seattle Residential Code	R308.4.5
51	Safety Glazing: Near stairways	2021 Seattle Residential Code	R308.4.6
52	Lofts	2021 Seattle Residential Code	R333
53	Sound Separation	2021 Seattle Residential Code	R336.2
54	Crawl space: Ventilation and Access	2021 Seattle Residential Code	R408.2

Plan Review Checks: Means of Egress

#	Plan Review Checks	Source	Section
55	Emergency Escapes: Basements	2021 Seattle Residential Code	R310.1
56	Emergency Escapes: Bedrooms and Attics	2021 Seattle Residential Code	R310.1
57	Emergency Escapes: Opening Dimensions	2021 Seattle Residential Code	R310.2.1
58	Egress door: Size & location	2021 Seattle Residential Code	R311.1
59	Hallway width	2021 Seattle Residential Code	R311.6
60	Stairway: Minimum width	2021 Seattle Residential Code	R311.7.1
61	Stairway: Headroom clearance, landing, rise	2021 Seattle Residential Code	R311.7.2–7.6
62	Stairway: Treads and risers	2021 Seattle Residential Code	R311.7.2–7.6
63	Stairway: Handrail	2021 Seattle Residential Code	R311.7.8
64	Ramp: Slopes	2021 Seattle Residential Code	R311.8.1
65	Guards: Open surfaces	2021 Seattle Residential Code	R312.12
66	Stairway: Guards	2021 Seattle Residential Code	R312.12, Exc. 1&2
67	Operable window: Fall protection	2021 Seattle Residential Code	R312.2.1

Intake Screening Checks

File checks

- Drainage plans
- ECA exemptions
- Shoreline exemptions
- Statement of Financial Responsibility Form
- Topographic Survey
- Geotechnical Report
- King County Sewer Capacity Charge
- Neighborhood Certificate of Approval
- Rat Abatement Declaration Form
- Salvage Assessment
- No Protest Agreement
- Water Availability Certificate
- Cover Page (Project Information)
- Site Plan
- Floor plans (proposed and existing)
- Exterior elevations
- Building sections
- Foundation and framing plans
- Green Building Inspection Form

Review / Process routing

- Pre-Application Site Visit
- Department of Neighborhood

Intake checks

- File contrast and legibility
- Font size
- Sheet orientation and size
- Form completion
- Form signatures
- Sheet stamps
- Sheet scales
- Cover page information (code references, legal description, scope of work, etc.)
- Site plan information (structures on lot, scale, north arrow, calculations, etc.)
- Floor plan information (scale, north arrow, room labels, etc.)
- Building elevation information (scale, label, existing and finished grade, etc.)
- Building section information (floor-to-floor dimensions, roof pitch and slope, etc.)
- Foundation and framing information (north arrow, scale, etc.)

Appendix B: Common Sources of Application Errors

Zoning Reviews

Among the code checks evaluated in the Proof of Value (see Appendix A), these were the most common sources of errors or omissions in the sampled permit applications.

Zoning Correction	Frequency of Issue	Error Rate	Issue Type
Maximum Lot Coverage	9	**75%**	Code noncompliance
Trees: Caliper Inches	8	**67%**	Missing information
Building height	6	**50%**	Missing information, Code noncompliance
Front yard	6	**50%**	Code noncompliance
Floor Area Ratio (FAR)	5	**42%**	Code noncompliance
Rear yard	5	**42%**	Code noncompliance
Structures in rear yard: Height & location	4	**33%**	Missing information, Code noncompliance
Side yards	2	**17%**	Code noncompliance
Attached ADUs: Maximum Size	2	**17%**	Code noncompliance, Highlight issue
ADU Existing Parking Space	1	**8%**	Code noncompliance
DADU Minimum Requirements	1	**8%**	Code noncompliance
Dwelling - Density Limit	1	**8%**	Missing information
Garage: Setback requirements	1	**8%**	Code noncompliance
Garage: Entrance Width	1	**8%**	Missing information
Number of parking spaces	1	**8%**	Code noncompliance

Ordinance/Structural Reviews

Among the code checks evaluated in the Proof of Value (see Appendix A), these were the most common sources of errors or omissions in the sampled permit applications.

O/S Correction	Frequency of Issue	Error Rate	Issue Type
Carbon Monoxide Alarms	8	**44%**	Code noncompliance
Smoke Alarms	8	**44%**	Code noncompliance
Fire Separation Distance (non-sprinklered building)	5	**28%**	Code noncompliance
Fire Separation Distance between buildings (Detached ADUs)	3	**17%**	Code noncompliance
Required Heating	3	**17%**	Code noncompliance
Stairway: Handrail	3	**17%**	Code noncompliance
Ceiling height: Bathrooms, kitchens, laundry rooms	2	**11%**	Code noncompliance
Emergency Escapes: Bedrooms and Attics	2	**11%**	Code noncompliance
Garage: Heat Detector	2	**11%**	Code noncompliance

O/S Correction	Frequency of Issue	Error Rate	Issue Type
Operable window: Fall protection	2	**11%**	Code noncompliance
Safety Glazing: Near stairways	2	**11%**	Code noncompliance
Stairway: Enclosed spaces	2	**11%**	Code noncompliance
Fire Protection: Walls between dwellings	2	**11%**	Code noncompliance
Garage: Floor Surface	2	**11%**	Code noncompliance
Ceiling height: Habitable rooms	1	**6%**	Code noncompliance
Design Criteria	1	**6%**	Code noncompliance
Egress door: Size & location	1	**6%**	Code noncompliance
Emergency Escapes: Opening Dimensions	1	**6%**	Code noncompliance
Fire Protection: Doors between dwellings	1	**6%**	Code noncompliance
Fire Protection: Shared Accessory Rooms	1	**6%**	Code noncompliance
Floor Area: Habitable Rooms	1	**6%**	Code noncompliance
Foundation Drainage	1	**6%**	Code noncompliance
Guards: Open surfaces	1	**6%**	Code noncompliance
Hallway width	1	**6%**	Code noncompliance
Safety Glazing: Adjacent to doors	1	**6%**	Code noncompliance
Safety Glazing: Showers, Bathtubs, Pools, etc.	1	**6%**	Code noncompliance
Safety Glazing: Doors	1	**6%**	Code noncompliance
Safety Glazing: Windows	1	**6%**	Code noncompliance
Sound Separation	1	**6%**	Code noncompliance
Stairway: Handrail	1	**6%**	Code noncompliance
Stairway: Headroom clearance, landing length, vertical rise	1	**6%**	Code noncompliance
Stairway: Guards	1	**6%**	Code noncompliance
Stairway: Minimum width	1	**6%**	Code noncompliance
Stairway: Treads and risers	1	**6%**	Code noncompliance

Appendix C: Why the City Chose CivCheck

While several tools on the market advertise similar functions, the City selected CivCheck for the proof of value based on the following:

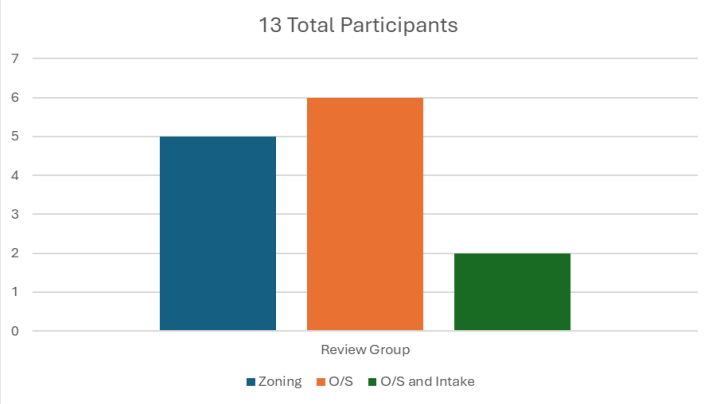
- **Ability to customize for Seattle's complexity.** We sought a flexible tool, not an off-the-shelf solution that assumed all cities permit the same way. Seattle's process is uniquely complex and acknowledging that was critical to success.
- **A learning-oriented, patient partner.** Both CivCheck and Seattle had learning objectives coming into the PoV. Because staff understanding and trust were essential to this pilot, Seattle needed a vendor willing to explain the technology, answer detailed questions, and iterate with us. CivCheck benefited by trying their technology in a different context and learning from Seattle's permit reviewers about how it was performing, where they saw value, and where improvements were needed.
- **Maturity without rigidity.** CivCheck was small enough to be responsive, adaptive, and deeply engaged, while offering a level of maturity beyond that of an untested startup. Seattle was one of CivCheck's earliest and longest collaborators. During the Proof of Value, CivCheck was acquired by Clariti, strengthening organizational stability and capacity. CivCheck has now worked with 13 jurisdictions across North America and expects to have four full implementations completed or underway by the time Seattle would be ready to begin implementation later this year.
- **Founder expertise.** The founding team brought a rare combination of operational permitting expertise, passion for government innovation, and responsible AI leadership. Both founders were available and highly collaborative for the duration of the PoV:
    - **Neha Gaonkar, AIA**, is an AIA-licensed architect and experienced building code specialist who has served as a plan reviewer, building code consultant, and third-party reviewer for complex projects, including high-rise development in Chicago.
    - **Dheekshita Kumar** is a public-sector technologist with deep experience in AI/ML and responsible technology design, including teaching and applying Responsible AI principles at MIT.

Appendix D: City Staff End-of-PoV Feedback

Participant Survey Themes

13 permit reviewers responded to a survey after participating in the CivCheck testing process.

1. **CivCheck Improves Application Completeness**: Most respondents (seven strongly agreed, four agreed) said CivCheck helps applicants submit more complete and compliant applications.
2. **Permit Approval Speed Perceived as Faster**: Most respondents agreed CivCheck will speed up permit approvals, but three reviewers said it would not.
3. **Mixed Views on Review Cycle Reduction**: Regarding reducing permit review cycles, seven participants agreed, five neither agreed nor disagreed, and no one disagreed.
4. **Suggestions for Intake Checks and Guidance**: Reviewers specifically suggested more checks for application completeness, like guidance for plan types (floor/site plans), coverage for SDOT ROW and ECA exemption permits, and checks for fire-resistive roof construction and ventilation.
5. **User Interface and Technical Issues**: Multiple reviewers directly reported that the CivCheck interface is clunky, defaults to irrelevant documents, requires extra navigation, and fails to recognize text in images.



Summary Quotes

- I am positive that a tool such as CivCheck will have a big impact on the quality of the permit submission and our internal review efficiency.
- I think CivCheck would be a useful tool for the zoning team to help reduce correction cycles.
- Using CivCheck, I have come to realize how powerful and useful it can be in screening the permit application and help me as a reviewer to quickly identify common minor corrections. This allows me to focus my review time on code issues that are more complicated.

- How [CivCheck] functions and what it does (and doesn't do) is required to be transparent to build trust for all users (applicants and reviewers)
- I think of AI as a tool and how a tool is used will determine its effectiveness. We don't have enough experience with AI to know how to use it most effectively.
- I have enjoyed getting a sneak peek on how AI can help our department and be part of my daily workflow. I look forward to seeing where we land on the adaptation of CivCheck and other AI tools.
- Changing department policies to encourage use of checklists has the potential to improve efficiency in permit review and quality of applications with or without the use of AI.
- I think that the task [of shortening review time] Is more difficult than helping applicants with more complete submissions.

Participant Focus Group Insights

1. Data integration and upfront services are critical to value.

Participants consistently emphasized that CivCheck is most effective when tightly integrated with existing City data and tools, including GIS, permit history, legal descriptions, Street View, Accela, and Bluebeam. There is strong interest in recreating—at scale—the counter-based support once provided by staff, such as generating compliant 11x17 site plans directly from GIS and parcel data. Rather than duplicating functionality, CivCheck should point applicants toward existing resources, such as GIS tools, permit history, and guidance materials. Accessibility and inclusion, particularly for English language learners, were repeatedly identified as essential design requirements.

2. Intake acceleration alone may not reduce overall timelines.

While CivCheck is widely seen as a way to accelerate intake, there is less consensus that faster intake alone shortens total project timelines. Some staff believe the longest delays stem from complex reviews (e.g., structural), while others argue that early "completeness" cycles are inefficient and that the second review is often the first substantive one. To be valuable, CivCheck must either significantly shorten the initial review cycle or eliminate it altogether; flagging only minor issues that are typically resolved anyway limits impact. Participants also noted that a single stalled permit or review can delay an entire project, underscoring the need for better sequencing, triage, and decoupling of reviews. There was interest in fast-tracking simpler projects and in safeguards to prevent abuse of expedited pathways.

3. Checklists should function as completion checks, not code substitutes.

Checklists were viewed as helpful for surfacing common issues that drive correction cycles, but concerns were raised about over-reliance or misinterpretation. Risks include applicants assuming the checklist replaces code compliance, reviewers focusing only on listed items, or added bureaucracy when items do not apply. A clear solution emerged: frame checklists as completion checks that reinforce applicant accountability to the full code. Adaptive, project-specific checklists—similar to the tailored guidance once provided in pre-intake meetings—were strongly preferred. Even complex disciplines like structural

review could include limited self-certification signals (e.g., confirming calculations are required) without implying approval.

4. Applicant engagement and incentives matter.

CivCheck's success depends on applicant buy-in and clear communication about its role. Participants highlighted an opportunity to reframe review as a value-adding, safety-focused process rather than gatekeeping. There was discussion about when applicants should interact with staff—early versus after automated screening—and strong interest in incentive-based adoption. Potential incentives include recognition as a "consistently prepared" applicant, faster intake dates, triage benefits, or expedited review pathways.

5. Front-end screening can improve staff effectiveness, with limits.

Staff generally agreed that upfront screening can remove basic issues and free reviewers to focus on complex cases. However, perceptions of CivCheck's usefulness varied by discipline, with greater skepticism from structural reviewers about AI's ability to assess complex engineering. A recurring issue is applicants submitting incomplete or non-functional designs until later cycles, which significantly slows reviews. Some suggested splitting review cycles so one stalled review does not hold up others, citing the City of Bellevue's process as a possible model.

6. Analytics present a major opportunity for continuous improvement.

Years of correction letters represent an underused dataset that could identify recurring issues responsible for repeated cycles. Participants saw opportunities for research partnerships, public education, and transparency tools—such as highlighting characteristics of consistently successful design professionals—to improve outcomes systemwide.

Appendix E: External Stakeholder User Research

To ensure the CivCheck Proof of Value is informed by direct engagement with end users, we conducted feedback sessions with 20 external stakeholders in September and October 2025.

Research Goals

1. Understand how participants respond to the idea of CivCheck becoming a part of the Seattle permitting process.
2. Gauge whether participants believe that using CivCheck will result in a more positive applicant experience than what they are accustomed to.
3. Gauge whether participants believe that using CivCheck will help applicants submit more complete permit applications.

Methodology

To achieve these goals, we provided participants with a demo of the CivCheck prototype in 1:1 virtual meetings and asked interview questions throughout.

Participants were asked to introduce themselves, describe their experiences so far with the Seattle permitting process, and to share their initial reactions to the prospect of using an AI-powered pre-screening tool for permit applications. Then, participants were given a demo of the prototype via screensharing, using either a pre-loaded sample project or actual project files shared in advance by the participant.

Throughout the demo, participants were asked for their reactions to what they were seeing, whether items felt helpful or unhelpful, and if they had ideas for improvement. At the end of sessions, participants were asked for their final thoughts – whether they feel CivCheck would fit into their workflows, as well as whether they think it could help them submit more complete applications, reduce back and forth with reviewers, and clarify requirements.

Study Limitations

The demos provided to participants during the feedback sessions used a non-functional prototype: while the interface and features were shown in full, AI capabilities were not active or running. At each step, the platform's automated review and pre-fill behaviors were described but not executed.

Additionally, applicants were not shown the Code Check portion of CivCheck, which conducts compliance checks. Demos focused on the Upload Files, Project Details, File Check, and Intake Check sections. Consequently, participant feedback is relevant only to inform understandings of whether CivCheck could meaningfully help applicants prepare the most complete applications possible.

Who Did We Learn From?

We met with 20 people engaged in Seattle's permitting process. This included a range of experienced homebuilders – architects, developers, and designers responsible for permitting

around 12 to 120 projects a year in the city. We also spoke to two homeowners. One participant is currently navigating the system as an applicant for a garage construction permit, and the other is a local homeowner exploring city processes and considering possible future projects. We also heard from two small business owners who are current applicants as well as a range of advocates, including builders engaged in City initiatives to provide permitting guidance to small business owners.

Through our research findings, we highlight what we heard from these various groups, which informed our recommendations.

Group	#	Description
Homebuilders	12	A mix of Seattle-based architects, developers, and designers working in organizations including development companies, architecture studios, and contractors.
Architects	7	
Developers	3	
Designers	2	
Homeowners	2	Seattle homeowners engaged in the permitting process.
Small Business Stakeholders	6	A mix of builders who are also engaged in efforts to provide permitting guidance to small businesses, and small business owners currently navigating the permitting process.
Advocates	4	
Owners	2	

Research Findings

Across interviews, three overarching themes were synthesized to capture participants' perspectives on AI-powered pre-screening for permit applications: perceptions of AI and pre-screening tools, desired outcomes and impacts, and interface and usability considerations.

Perceptions of AI and Pre-Screening Tools

When we asked participants how they feel about the prospect of an AI-powered pre-screening tool for permit applications, we heard:

- Users are broadly supportive of the CivCheck Pilot and of pre-screening tools.
- Users are concerned that an AI-powered tool could overlook nuance and erode control.

Key Themes and Users' Desired Outcomes

The following are key findings that summarize what participants want to see from an AI-powered pre-screening tool impacting their permit application experience:

- Users want a pre-screening tool that will facilitate discretion and right-sized review.
- Users want a tailored pre-screening experience determined by the city's "trigger logic."
- Users emphasize the need for a pre-screening tool that is reliably accurate and lightweight.
- Users want project-specific guidance and screening as early in the process as possible.
- Users want a frictionless, integrated, and interoperable permit application experience.

Interface and Usability Feedback

The following summarize feedback on the usability of the CivCheck platform based on the demo, and specific suggestions they made for improvements to the interface:

- Users want an adaptive, responsive UI with flexible data entry.
- Users want better data integration and harmonization with City records.
- Users want a task-oriented and actionable UI.

Key Takeaways

The findings from this user research should inform the design and scope of any future pre-screening tool pilot. The pilot should prioritize early, actionable feedback, reflect users' strong preference for a human-in-the-loop approach, and support context-aware, right-sized review based on clearly defined logic. Due to resource limitations, the proof of value was not fully configured to reflect a production implementation, and some applicant feedback reflects features not demonstrated during the pilot, including capabilities that already exist within the CivCheck platform. This feedback is included to surface key stakeholder requirements to inform future design, not as a critique of CivCheck.

To address one of applicants' most consistent pain points, any future pre-screening platform should be explicitly designed to reduce unnecessary or irrelevant reviews, enabling permits to be fast-tracked where appropriate rather than simply surfacing additional requirements. This outcome should be treated as a core success metric. Applicants expressed strong interest in citywide, project-specific rules that determine which requirements apply based on project details. While permitting includes edge cases requiring professional judgment, many high-volume rules can be made more transparent and generalizable. Applicants would like the City to incorporate ongoing rule documentation and clarification efforts into the platform to more accurately identify when requirements do—and do not—apply, supporting lighter and faster review paths.

Finally, the City should position any AI-assisted pre-screening tool as supportive aid, not an enforcement mechanism or building code interpreter. Applicants emphasized the tool should be opt-in until proved out, citing concerns it could add work for experienced users. Stakeholder feedback should inform upfront messaging that clearly explains what the tool is and is not, and transparency about retained human oversight will be essential to building trust and confidence.

Perceptions of AI and Pre-Screening Tools: Insight #1

What We Heard: Participants are broadly supportive of the CivCheck Pilot, and feel that a pre-screening tool could provide them with actionable feedback prior to submission.

Themes:

Participants generally expressed optimism about CivCheck's potential to help raise the baseline of application completeness, clarify requirements, help to shorten the review timeframe and make it more predictable. Participants, many of which are highly experienced permit applicants, suggested

that CivCheck's completeness checks would be especially beneficial for newer and less experienced applicants.

They suggested that the main value of the pre-screening tool would be in providing applicants with actionable information concerning the readiness of their materials early enough to allow them to address gaps before submission.

Recommendations:

- Ensure that all of the information and feedback users receive from a pre-screening tool is actionable.
- Consider targeting a pre-screening tool for use earlier in the application process.

Key Quotes:

- "I think it's a wonderful idea, especially if … we get that immediate evaluation." – Architect
- "I'm hoping that this tool is something that will be available to [applicants] to … flag problems that you could fix today. I would rather wait a day or two to fix those problems and then potentially get through our first real review once it's in the city … Time is everything." – Developer
- "In concept, it sounds like a great idea [and] could be an amazing asset." – Small Business Advocate
- "Sometimes we don't know exactly what's needed … We could be more prepared if we had more information earlier on." – Architect
- "Especially if I was a non-expert in the field, sometimes when you get a notation that something's wrong, it's really hard to [know] exactly what I need to do to correct that if I don't speak the language. So, I think having a [tool] to be able to flag and clearly state what the problem is and how to correct it would be potentially really helpful." - Small Business Advocate
- "[This] kind of tool doesn't exist right now. You just have to hope…you have to double check everything and hope your massive team got every little piece together." – Developer

Perceptions of AI and Pre-Screening Tools: Insight #2

What We Heard: While hopeful, participants are concerned that an AI-powered tool will overlook nuance and erode control.

Themes:

While mostly optimistic about the potential for an AI-powered screening tool to positively impact their experience, participants expressed some concern that an AI-powered tool could inadvertently add rigidity to the process by overlooking the nuanced and context-dependent elements of applications in order to enforce compliance.

Several participants emphasized the importance of retaining human oversight.

Recommendations:

- Present any AI-powered pre-screening tool as a decision-support assistant, not an enforcer, and ensure transparency with stakeholders about human-in the-loop design

Key Quotes:

- "My only concern is access to a person that can help us override in unique cases." – Architect
- "I'm a little worried … We do not recapitulate the entire … code … in our drawings – we show the things that are necessary to show compliance … The question is, can the screening tool understand what's relevant to the project?" – Architect
- "We're so over-regulated right now that if we have a tool perfectly regulating everything, that could certainly increase the paperwork load and not really change the outcome of built homes and built buildings." – Developer

Key Themes and Users' Desired Outcomes: Insight #1

What We Heard: Users want a pre-screening tool that will facilitate discretion and right-sized review.

Themes:

Participants experience a permitting system that they feel is rigid and over-regulated. They are frustrated with what they describe as a culture defined by unnecessary checks, irrelevant corrections, and review scopes that are out of proportion with project attributes. They are concerned that a pre-screening tool could exacerbate these challenges.

Participants want a pre-screening tool that will increase rather than erode user ability to ensure their applications are handled with discretion – in particular, they want a tool that helps to ensure that submittals are reviewed only to the degree warranted by their characteristics.

Recommendations:

- Ensure pre-screening tool is configured to identify when project characteristics could enable a lighter review – when projects do NOT meet the threshold conditions that require certain permits and related checks
- Ensure tool includes features that enable users to bypass completeness checks by providing qualifying information for reviewers
- Configure tool to clarify whether eligibility for STFI review has been met and to facilitate that process

Key Quotes:

- "The question is, can [CivCheck] understand what's relevant to the project? … I worry about the problem of having projects that self-evidently comply, but the screening tool is saying, 'I don't see it.'" – Architect

- "I think as long as [CivCheck] can … let [reviewers] know that projects aren't eligible for whatever they're trying to ask for, for whatever reason – that could be really helpful." – Small Business Advocate
- "My contractor had to come out and measure the diameter of all of the trees on my property, even though they were at the other end of the property. [He had to] measure the drip line of all the trees on the property. There are no trees to be removed in the build area." – Homeowner

Key Themes and Users' Desired Outcomes: Insight #2

What We Heard: Users want a tailored pre-screening experience determined by the city's "trigger logic."

Themes:

Participants are frustrated by a permit application system that they feel does not provide them with the information they need to submit complete applications. When they inevitably receive corrections, they often describe feeling blindsided by requirements they didn't know existed or didn't realize were applicable to their project. "Trigger logic" is shorthand for a documented set of project-specific rules that determine or trigger which requirements apply based on project details.

Participants feel that for a pre-screening tool to meaningfully improve the quality of their applications, it will have to be able to intelligently understand project-specific triggers in even the most complex scenarios, such that it is able to identify requirements not needed for every application but necessary for others – especially across departments.

Recommendations:

- Ensure pre-screening tool is embedded with knowledge gained from trigger logic documentation efforts aimed at understanding the threshold conditions that require permits and reviews across city departments

Key Quotes:

- "The expectation should be to receive concrete, specific feedback of [whether] something is missing … and about what [applicants] are going to need to do, so there is no playing 'gotcha' – you forgot this, now you need another three months of reviews." – Small Business Advocate
- "There obviously is a disconnect [between city departments] … That did make it feel very discombobulated. We went through everything that we've done – we've built out the entire space, everything is ready to go, and we've just received this curveball in the eleventh hour." – Small Business Owner, on receiving a denial from SDOT
- "This would be the number one request I would have from the city is a trigger checklist." – Architect

Key Themes and Users' Desired Outcomes: Insight #3

What We Heard: *Users emphasize the need for a pre-screening tool that is reliably accurate and lightweight.*

Themes: Participants expressed concern that a required pre-screening tool could create more work for applicants who are already familiar with the codes. They highlighted features that prompt users to verify that the AI has located information in the right files, and to verify that it has correctly found elements on plan sheets. Some suggested that this verification work is a category of work that doesn't currently exist for applicants.

Nearly all participants expressed a low tolerance for inaccuracy – that if the tool fails to locate met requirements or pre-fills data fields incorrectly, that will significantly reduce the value-add in their eyes. Nearly all participants suggested that making a pre-screening tool optional rather than mandatory would help to alleviate their concerns.

Recommendations:

- Continue to prioritize pilot tools' high accuracy, and their strong alignment with human reviewers in identifying complete/incomplete as well as compliant/noncompliant conditions.
- Assess the role a pre-screening tool plays within the city's permitting process to ensure it complements existing workflows for all user types
- Consider mapping all user tasks the pre-screening tool requires and classifying each by necessity in order to iterate towards the lowest-burden interface
- Establish a policy that defines the required level of adoption for any pre-screening tool deployed for permitting (ex: mandatory, voluntary, or conditional). Consider participant feedback that opposes mandatory use.

Key Quotes:

- "If it's not 80 percent accurate, then I start to question the suggestions it's making." – Small Business Owner
- "I would not like to live in a future where we end up doing work that SDCI does now, like screening [applications] for intake … I just don't think that onus should be on us. We already produce that information." – Architect

Key Themes and Users' Desired Outcomes: Insight #4

What We Heard: *Users want project-specific guidance as early in the process as possible.*

Themes: Participants are frustrated by a permit application system that they feel does not provide "bad news early." They emphasized the need to receive application readiness information and project-specific guidance as early in the permit application process as possible.

Some suggested that a pre-screening tool could be targeted for use earlier than just before intake – even during pre-application, when teams are already spending time on completeness checks.

Recommendations:

- Consider how a pre-screening tool may integrate with existing or proposed pre-application and feasibility resources.

Key Quotes:

- "These things I find helpful as a first check, but I feel like they're a little late in the process – like these things should be happening when we do the preliminary application." – Architect, reacting to Intake Check section
- "How do we find out earlier on whether or not we need a geotech report? … The engineers sometimes say we shouldn't need one but then the city requires it, and it just takes a lot more time communicating back and forth with everybody when you get a revision back and they say you need one. Something like that – knowing up front that I'm going to need it and to include it, would be nice to know." – Architect

Key Themes and Users' Desired Outcomes: Insight #5

What We Heard: *Users want a frictionless, integrated and inter-operable permit application experience.*

Themes: Some participants expressed concern that CivCheck requires users to provide information they have already provided to the City during the pre-application period. They suggested that the City could better consolidate its permitting records and integrate them with a pre-screening tool. Overall, participants communicated a practical urgency to reduce wasted time for applicants. Participants also shared stories about challenges experienced due to a lack of early awareness of requirements with external jurisdictions.

Recommendations:

- Map the current ecosystem of City permitting tools and software to ensure new tools complement existing systems and do not create duplicative steps for applicants.
- Assess opportunities for pre-screening tool(s) to improve integration with and guidance on non-City permitting requirements.

Key Quotes:

- "The city has all of this information … I mean, it's all already recorded. … We're just reiterating information that the city already has." - Designer
- "If we can just pull from Accela all these things that have already been submitted and completed, that'd be nice for it to do instead of having the applicant download those items from the portal and then just re-upload them to CivCheck." – Developer
- "This is all county stuff, and I know that we're talking about the city, but honestly this needs to be integrated. If you guys actually want to help businesses, you and the county need to work seamlessly together or, otherwise, this is all for naught … As an end customer, I want one portal." – Small Business Owner

Interface and Usability Feedback: Insight #1

What We Heard: *Users want an adaptive, responsive UI with flexible data entry.*

Themes: Participants made requests to improve the CivCheck tool by making the form logic more flexible, particularly for sections that help the system understand project scope.

Participants also requested that CivCheck enable users to bypass completeness checks the system has flagged as relevant to their project, if they can provide reviewers with explanatory information.

These requests signal a desire for an interface with adaptive, expressive behavior that responds correctly to varied project and user needs.

User Requests:

- Add the ability to select multiple options for certain Project Details questions (e.g., ground disturbance *and* demolition; new construction *and* addition/alteration)
- Add features in Intake Check section that allow users to bypass certain completeness checks by providing qualifying or explanatory notes for reviewers.

Interface and Usability Feedback: Insight #2

What We Heard: *Users want better data integration and harmonization with City records.*

Themes: Participants made requests to improve the CivCheck tool by enhancing its integration with external data sources. They also requested that, in order to minimize duplicative steps for applicants, CivCheck integrate with City records where information its pre-screening tool requires may already have been provided.

These requests suggest an overall emphasis on maximizing operational efficiency within the city and reducing redundant and time-consuming tasks for applicants in order to simplify the entire submission process.

User Requests:

- Enable users to share links to external folders rather than uploading files individually to CivCheck.
- Enable, where possible, pulling required files from Accela so applicants do not re-gather and re-upload materials.

Interface and Usability Feedback: Insight #3

What We Heard: *Users want a task-oriented and actionable UI.*

Themes: Participants made requests to improve the CivCheck tool by ensuring contextual and intuitive navigation within the interface by, for example, prioritizing design that takes users straight to the relevant detail based on what they clicked.

Participants also made requests that would increase the ease with which users can act on the reviews provided by the pre-screening tool by adding export features and improving how the tool gives users access to guidance on completing missing items.

These requests signal an emphasis on making it easier for users to navigate, understand, and act on CivCheck's plan review feedback.

User Requests:

- Ensure that clicking individual elements jumps users directly to that element (e.g., highlights in Intake Check or file page in File Check thumbnails).
- Add ability to export the list of missing requirements from Intake Check, in both .XLSX and .PDF form, so that users can easily act on these items offline.
- In File Check, direct users to links for each required form containing blank forms and reference materials explaining the form's purpose and instructions to complete it.
- In File Check, provide embedded, fillable versions of at least some forms (with autosave) so that applicants can submit forms from within CivCheck.
- In Intake Check, ensure that requirement explanations are helpful for all user types – i.e. individual homeowners, not just experienced builders.

Appendix F: About the Innovation & Performance Team

The Innovation & Performance (IP) Team, housed in the City Budget Office, was created in 2015 to provide City leaders with dedicated research, data science, human-centered design, and experimentation capacity. The team crystallized the innovation model during the pandemic when we designed and scaled COVID-19 testing sites that were replicated 13 times across King County and served over 800,000 residents, as well as launched the nation's largest civilian-run vaccination site at Lumen Field. Today, we apply the same urgency to the City's most complex, cross-departmental challenges, where there are no clear solutions.

Seattle's toughest challenges don't live neatly within departmental lines. Issues like affordability, community safety, homelessness, or navigating City services require a coordinated response. IP partners closely with the Mayor's Office and City departments to deliver on core priorities and improve residents' day-to-day experience with government. Through modern data approaches, project leadership, and empathy with those with lived experience, we make sense of complexity, redesign systems, and spark new ideas to make lasting change.

Learn more at seattle.gov/innovation-and-performance.