

MUNICIPAL INTERFACE

TOP STORY

HOW THE CITY OF AIRDRIE'S BUILDING INSPECTION TEAM TRADED PAPER FOR IPADS

BY ERIC EMIN WOOD



Before the City of Airdrie, Alta.'s building inspectors made the leap from paper to mobile devices in 2017, its 18-person team – made up of 10 inspectors and eight administrative staff – had printed about 50,000 building inspection reports (two per inspection conducted) and generated about 22,000 letters including commercial permits, permit service reports, permit expiration notices, and permanent occupancy letters.

Today, only the permit service reports are printed. Everything else is emailed.

According to City of Airdrie applications analyst Melissa Chouinard, the city (population 65,000) is still on track to conduct around 25,000 building inspections and generate another 22,000 letters this year, but rather than being committed to paper and mailed out or filed away, most of the documents will be saved on the CityView municipal software platform, where any worker with a valid account can access them.

"Paper works," Chouinard said during a presentation at the 2018 MISA Prairies conference in Red Deer, Alta. on May 8, 2018. "Lots of people still use it. But we wanted to be better than that."

The City of Airdrie's building inspection department officially began its transition from paper to tablet in February 2017, though Chouinard, who began working for the city in 2016, noted that it was officially its second try after an aborted attempt in 2015. She acknowledged the push was partially a response to residents, who had been asking for electronic copies of inspection reports for years.

"Customers were asking for it," she said. "They kept saying, 'When are we going to get this in email?' I just want it in email."

Another problem, City of Airdrie building inspector Richard Schalk said only half-jokingly, was that many landlords and business owners could not read the inspectors' writing.

"I got that one a lot," Schalk said during the city's MISA Prairies presentation, to chuckles. "We lost the paper" was also popular. "I never got a copy of the inspection." And my personal favourite – Airdrie's windy occasionally – "the wind blew it away."

Most importantly, Chouinard said, the relentless deluge of paper and its associated processing times had become an issue internally as well.

"We wanted faster response times," she said. "Getting the right reports to the right people right away was important... and we wanted to be consistent with our messaging to all our customers."

The time at stake

It's worth emphasizing just how much time was wasted by a paper-based inspection process – which most of the 20-odd representatives who attended Chouinard and Schalk's MISA Prairies presentation admitted their municipalities still use.

According to Chouinard, giving the City of Airdrie's building inspectors iPads with access to CityView saved the team around 430 hours during the first quarter of 2018 alone.

"When you're doing inspections on mobile, it's already in the system, whereas with paper you have to come back, sit down, log in, then fill out between 10 and 30 inspections for the day," Chouinard said.

She estimates that the city's 10 inspectors, who filed approximately 4,000 inspection reports during the 63-business-day period, were spared 310 hours of data entry alone – 30 minutes per day.

And though it's an easy number to ignore, the one minute it would take for an administrative staff member to print, gather, and file away two sheets of paper for each of those 4,000 reports added up to more than 70 hours saved.

Another 30 hours was regained by administrative staff no longer having to locate data files or retrieve physical drawings from storage, she said.

The city also saved more than \$500 in paper costs – and that number doesn't include ink or printer maintenance.

"Don't underestimate the soft benefits," Chouinard said. "We're reducing environmental waste too."

Four steps from paper to iPads

Of course, this is an IT publication, so you probably want to know how Chouinard's team convinced Airdrie's team of 10 inspectors – some of whom were considerably less enthusiastic about the idea of an electronic inspection system than their customers – to trade their papers for tablets. And she and Schalk would no doubt be glad you asked.

Chouinard credits the project's success to four crucial decisions. The first was adopting an agile approach to digital transformation.

"I wanted to be able to quickly change the way we implemented new ideas, without having to be stuck to what I would call a 'waterfall' approach," she told Municipal Interface. "I embedded myself into the department, we met twice a week, and every time we met we gave ourselves the flexibility to make changes."

The second crucial decision was her choice of platform: Chouinard went with CityView because the city had been using it to store municipal information such as permit bylaws, cemetery licensing – and yes, building inspection information – since 2011.

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"Our inspectors had been using CityView for more than five years, so they knew the system already," she said. "We could have looked for something else, but we knew that it worked for us. It was already configured the way we wanted it to, and when we tested it out it was a pretty seamless conversion from desktop to mobile."

The third crucial decision was choosing what Chouinard called her champion. Though paper could often be a redundant platform, it was a platform that many of the inspectors were used to. So rather than attempt to change their habits overnight, Chouinard started by recruiting the most tech-savvy among them: Schalk.

"I knew Richard was one of the subject matter experts, and I think he was a very good voice for the team," she said. "He knew the process very well, and he was able to influence the others."

Though Chouinard started planning the project on her own last February, it was with Schalk that she gradually developed a CityView-powered mobile building inspection platform between April and August 2017. And before a final version of the platform was released last October, a team of four other tech-savvy inspectors began testing it in August.

"Twice a week we would be making changes on the fly if we needed to," Chouinard said. "As the project team, we were empowered to make whatever decisions were necessary without the politics of getting approval."

Chouinard and Schalk's fourth crucial decision was to refine the City of Airdrie's building inspection process while they developed a new platform for doing so.

For example, while inspections of townhouses or duplexes had previously required one application per unit – "five times the paper, all with the same drawing," as Chouinard put it – the city's safety code now mandated a single permanent application per complex, which CityView made easy.

The inspection team also took advantage of the opportunity to refine its re-inspection fines practices: before the department traded paper for mobile devices, each fine had required a printed letter, which the department was then required to sign before it was scanned into CityView, then faxed, mailed, or dropped off to the recipient of the inspection in question.

Now, with inspections stored and readily accessible from CityView, no such process is needed.

Digitally transformed

During his and Chouinard's MISA Prairies presentation, Schalk emphasized that the inspection process itself has been little changed by the iPads: The inspection department still receives calls from customers, and it always sent an email confirming inspections, but the scheduling and inspection data entry is now frequently digital – and it's no longer necessary for inspectors to re-enter the information back at the office.

"Before I've left a house or building I've already sent my report," Schalk said, holding up his iPad. "I don't have to do anything back at the office, and this is all I carry now."

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That doesn't mean there haven't been growing pains. Chouinard admitted the city hasn't developed a central portal yet for the reports, limiting access to them, and there are locations in Airdrie where the inspectors cannot access wireless data, a quirk they've adjusted to.

"If you go into a basement you'll lose your connection occasionally," Schalk said. "But you're able to enter your deficiencies, and when you get upstairs you can reconnect and it will you're your data back to the server and complete the inspection."

And while the majority of customers prefer the new system, Schalk said that many superintendents ask to have the inspectors' reports emailed directly to them, which isn't quite how the system works: When an application is created, it's under the name of the company employing the superintendent, and each company has one designated contact whom the reports are sent to.

"However the company manages that is up to them," Schalk said. "We don't want to have five emails for one company and force our inspectors to decide who to send it to – it just gets too complicated."

Then there was the customer who failed his inspection and confronted Schalk before he left his property.

"I've sent my inspection before leaving the site and had the site superintendent pull up and be like, 'What do you mean I've failed?!'" he said, to laughter. (Asked later what happened, Schalk said he simply had the same conversation with the superintendent that he would have over the phone in the office.)

It's also worth noting that not every inspector finds an iPad faster than paper.

"Some have said it takes them longer now on-site to do the inspection," Schalk said. "I myself find it's about the same. But we're saving time on the other end, so there's still that benefit."

Overall, Chouinard and Schalk both emphasized that once the new system was officially launched last October, the inspectors embraced it quickly.

It's even received a thumbs up from MISA/ASIM Canada President Corey Halford, who in his day job serves as the data services team leader with the City of Airdrie.

Though he doesn't use the platform himself, Halford regularly communicates with the city's building inspection team, and called their switch from paper to mobile devices a "significant" and "phenomenal" accomplishment.

"For me, there's nothing more satisfying than having key stakeholders really take the lead in changing how their business runs, whether it's by adopting a new platform or bringing on staff like [Chouinard] to maximize the use of their tools," Halford told Municipal Interface. "It lets me focus on how IT can support the city moving forward instead of dragging it forward myself."

The benefits of KPIs, and other lessons learned along the way

Illustrating the public sector's open-natured, collaborative approach to digital transformation, Chouinard was also happy to discuss the lessons that she and her colleagues learned as they transitioned from paper to mobile, such as the importance of change management and providing hands-on support to less tech-savvy employees. She even shared a few shortcomings that were only identified after the initial project was complete, such as a lack of established KPIs.

"The words 'change management' aren't used nearly enough," Chouinard said. "No matter how much you think you've prepared, it's never enough."

During her presentation, Chouinard acknowledged that like many organizations transforming their operations, the City of Airdrie's inspection department believed its change management efforts were effective – "We did a really good job of communicating our goals internally," she said – before learning otherwise.

In particular, the project leaders' decision to invite only a few inspectors to participate in tests until they could perfect the digital inspection process led to unintended consequences.

"Early on we had a couple of guys using it, and they loved it," Chouinard said. "That kind of failed for us because [the other inspectors] were hearing about it and were like, 'When are we going to get it?' 'What's going on?' 'We don't care what bugs it has. We want it now!'"

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"We felt like even though the inspectors knew the project was underway and I was in their department testing it with them, they still had questions, or were saying they didn't get enough information," she said.

More successful was the city's efforts to train all 10 inspectors with the technology once it was ready. While everyone on the team knew a change was coming and was already familiar with the CityView platform, there was concern on both sides that not every inspector would embrace the switch equally. So the project leaders identified the less tech-savvy inspectors, and scheduled ride-alongs with testers to help them out.

"The ride-alongs worked really well," Chouinard said. "The teams would do the inspections together, and instead of writing on paper the inspector comfortable using the iPad would say, 'okay, this is where you click, this is how you enter the condition, this is how you email it out.' And after half a day their partners were like, 'okay, maybe we feel comfortable using it.'"

The city also set up what Chouinard called "comfort measures" to help inspectors out.

"Some of the guys couldn't fully let go of paper, so we created a daily mobile inspection report for them, which is a printed list of where they're going for the day just in case their iPad fails," she said. "Interestingly enough, the person who asked me to write those reports never used it. But there are a couple of guys who still print it off."

Chouinard also admitted that the project would have benefitted from establishing and tracking key performance indicators (KPIs).

"It's much easier to measure KPIs in the past than to try and go back into the past to recreate those numbers," she said, noting that in particular, the city should have measured the pre-mobility review process, since the digital tools save time after the inspection process, not before.

"We had to go back and figure out how long it takes to print something, or how long it takes to look up something," she said.

She was quick to note that a few hard-earned lessons haven't dampened the project's overall success.

"Our customers absolutely love it," Chouinard said. "We get comments all the time, like 'It's about time you guys did this!'"