A **GOVERNMENT TECHNOLOGY** THOUGHT LEADERSHIP PAPER

AI and the Future of Digital Permitting

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Artificial intelligence (AI) can optimize many phases of permitting and inspections while preserving and enhancing human judgment that serves constituents. Modern, AI-driven permitting systems also help public agencies clear backlogs, improve compliance and make smarter decisions.

Success with AI in digital permitting requires understanding the value of modern digital tools, recognizing and addressing implementation hurdles, and adopting best practices.

Why Use AI for Permitting and Inspections?

An AI-powered system can guide applicants through the process of acquiring permits, which improves resident experience and reduces workloads for agency staff. “Once people understand AI is a tool for getting work done in their jurisdiction, that’s when they really see the value,” says Joshua Hamaker, senior director of product management with Accela®.

Here’s how AI revamps permitting and inspections.

Holistic, comprehensive processes. Fully AI-driven plan reviews can shrink processing time for a residential reroofing permit from several days to 24 hours. The speed comes from using AI to confirm documents have been filed properly. When everything’s in order, the bot can recommend approval and let a human sign off.

In a more complicated scenario like opening a restaurant, AI can guide applicants through steps such as checking plan documents for code compliance, navigating multiple departments, and applying for health inspections and state licensing.

Smaller backlogs. An AI assistant enhances staff efficiency by taking over routine tasks. For instance, a conversational bot can answer frequently asked constituent questions in natural language. This gives staff more time to help people who lack digital access, making service delivery more equitable.

Better compliance and accuracy. Because AI tells residents what’s required and verifies whether they’ve submitted documents correctly, code violations can be found earlier, reducing rework and delays.

Expanded economic development. Permitting and inspection data informs AI-powered predictive analytics to help government leaders discover growth trends and identify promising locations for new businesses and housing. The data can also help leaders anticipate the need for new infrastructure and develop incentives to encourage development in specific areas. Agencies can further use AI to coordinate their efforts on overlapping projects, which is especially valuable in public works and asset management.

Smarter inspections. AI can interpret on-site inspectors’ photos, videos, speech and text. If AI identifies violations, it can report them directly to the contractor.

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> — **Joshua Hamaker**, Senior Director of Product Management, Accela

Streamlined services. 311 services, for example, get much smarter with AI chatbots. The bots can analyze photos submitted with 311 requests, providing details that help route the requests to the appropriate department.

Best Practices for AI Implementation

Promote benefits, not tech. Show executives, elected leaders and staff specifically how AI improves outcomes by highlighting benefits such as accelerated approvals, higher-quality public services and increased economic growth. "Think of AI as an assistive technology that scales processes and augments staff capabilities, not as a replacement for human judgment," Hamaker says.

Acknowledge staff resistance. Agency staff may be skeptical of automation. Agency leaders must reassure staff that AI augments their skills and streamlines processes without replacing their jobs. That's why companies like Accela recommend a human-in-the-loop approach to digital decision-making processes. "Having a human check in the process is the biggest key to getting staff acceptance," Hamaker says.

Address data silos and interoperability. Fragmented systems can hinder AI's potential. Standardizing data formats and integrating data, applications and processes across departments are critical to effective AI-enhanced processes.

Establish governance to manage risk. Agencies must address privacy, explainability, bias and accountability while updating their processes. Effective governance encompasses:

- **Privacy and security.** Ensure processes apply encryption and robust access controls to safeguard sensitive data.
- **Transparency and explainability.** Establish processes to make sure AI operations remain understandable and auditable.
- **Ethics and fairness.** Test AI apps and processes to discourage biased outputs and ensure fair, equitable treatment for every user. Create guidelines to address issues like job displacement and ethical impacts of AI.
- **Audits and compliance.** Schedule regular AI system audits for compliance with legal and regulatory standards. Provide feedback mechanisms and performance monitoring.
- **Accountability and oversight.** Establish clear and specific roles. If an AI application makes a mistake, there should be no confusion about who needs to take responsibility.

Start small. High-traffic, low-risk use cases present the best places to launch pilots and then scale up.

Procure thoughtfully. Choose scalable, well-tested and reliable AI systems from vendors that have an established track record. Software should deliver clear and measurable outcomes in which AI augments staff capacity but does not replace people.

Make user experiences seamless. Map out user journeys and remove process bottlenecks. Use A/B testing to identify sources of friction and reduce them.

Smart Automation and Human Insight

Inspections and permitting inevitably create scenarios that will stump even the smartest AI bot. Perhaps a homeowner has built a workshop on the back of their lot that is a few inches too close to the property border. A human inspector would see that the land next door is undeveloped and understand that granting a small variance would cause no harm. A bot's binary decision-making could delay the project and erode the resident's trust in your organization.

Agencies will always need people with experience and intuition to guide residents through the nuances that AI can't handle. Partnering with proven vendors that focus on your core mission will help strike the balance between smart automation and human insight.

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Access where AI can reduce friction in your permitting process at www.accela.com.

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