

Committee of the Whole (2) Report

DATE: Tuesday, March 18, 2025

WARD(S): ALL

TITLE: FEASIBILITY OF THE CITY EMBRACING ARTIFICIAL INTELLIGENCE TO STREAMLINE AND IMPROVE THE PLANNING APPROVAL PROCESS

FROM:

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ACTION: FOR INFORMATION

Purpose

To respond to the Head of Council's motion ratified on December 17, 2024 by Vaughan Council, directing staff to bring forward a report in Q1 2025 for Council on the feasibility of the City embracing artificial intelligence to streamline and improve planning approval processes.

Report Highlights

- Recent legislative changes and initiatives to incentivize growth have accelerated planning application timelines to meet housing targets.
- The City of Vaughan is committed to streamlining and improving its planning processes, including using artificial intelligence (AI) technology, to meet housing targets more efficiently.
- AI enables machines to perform tasks requiring human intelligence by analyzing data and making decisions, which can improve Vaughan's planning process, by expediting approvals, and promoting a transparent, citizen-centric approach.
- In addition to leveraging AI to enhance municipal planning efforts, the City is exploring how AI can enhance municipal planning approval processes and improve efficiencies at an enterprise-wide level.

Report Highlights continued

- AI can greatly improve efficiency and decision-making in planning approvals process. However, organizations must balance AI benefits with risk assessment to ensure legal compliance, quality control, data quality, and information security.
- While AI can improve efficiency and speed up planning approvals, external factors may still affect the timing and processing of development applications.
- As next steps, the City will enhance its data foundation for AI, monitor AI market trends, test new technologies, continue with planned technological initiatives, and facilitate a Council education session in Q2 2025 on AI's impact on the planning approvals process.

Recommendations

1. THAT Council receive this report for information.

Background

Recent land use planning legislative changes and other initiatives by the Federal and Provincial government to incentivize growth have accelerated the timelines to process planning applications to achieve prescribed housing targets within a specific timeframe.

Bill 108, Ontario's More Homes, More Choice Act, 2019

Bill 108, *the More Homes, More Choice Act*, received Royal Assent on June 6, 2019, to address housing shortages by speeding up planning application reviews and enabling earlier appeals to the Ontario Land Tribunal (OLT).

The table below shows the reduced decision period from Bill 139 to Bill 108 implementation:

Instrument	Bill 139	Bill 108
Official Plan/Official Plan Amendment	210 days	120 days
Zoning By-law Amendment	150 days	90 days
Draft Plan of Subdivision	180 days	120 days

Bill 23, Ontario's More Homes Built Faster Act, 2022

Bill 23, *the More Homes Built Faster Act, 2022*, received Royal Assent on November 28, 2022, to advance the Province's plan to address housing supply concerns by building 1.5 million new homes. Bill 23 supports Ontario's *Housing Supply Action Plan* to increase housing supply and provide access to a greater range of housing options.

Housing Supply Action Plan and Municipal Housing Pledge

The Province of Ontario developed a *Housing Supply Action Plan*, which includes various programs and incentives to encourage and accelerate residential development across Ontario, including the *Building Faster Fund*. This fund is intended to support the Province's target of building 1.5 million new homes over the next 10 years.

On February 22, 2023, Vaughan Council committed to developing 42,000 new housing units by 2031. By October 2024, the City had achieved 20% of this target (8,521 units) and is on track to meet the remaining 80% (33,479 units) by 2031 ([Ontario.ca - Tracking housing supply progress](https://www.ontario.ca/tracking-housing-supply-progress)).

Canada Mortgage and Housing Corporation (CMHC) – Housing Accelerator Fund (HAF)

In October 2023, the City secured \$59 million from the Federal government's CMHC Housing Accelerator Fund to increase housing supply across Canada. The Vaughan *HAF Action Plan* includes seven initiatives to expedite housing development, including process improvements and technology investments to accelerate planning approvals, with commitments completed by 2025.

Bill 185, *Cutting Red Tape to Build More Homes Act, 2024*

Bill 185, *Cutting Red Tape to Build More Homes Act, 2024*, received Royal Assent on June 6, 2024, and includes amendments to the *Planning Act* which subsequently impacted the City's Pre-Application Consultation process resulting in this stage becoming voluntary.

Streamline Development Approval Fund (SDAF)

In January 2022, the Province announced \$1 million in funding to modernize and accelerate development approvals. Vaughan, with KPMG LLP, reviewed the process and proposed improvements. By October 31, 2023, City staff reported faster processing times for residential planning applications, aiding efforts to increase housing supply.

The City of Vaughan continues to be a destination for investment and growth, however, the volume and complexity of development is changing.

Vaughan is transitioning to a more urban environment, increasing the need for housing and supportive land uses. Since 2020, the City averaged 164 new development planning applications and approximately 3,100 new building permits annually. In 2024, the Building Standards Department issued 2,294 building permits, worth over \$1.89 billion in construction value with \$700 million is generated from residential, \$200 million from commercial, and \$816 million from industrial, and \$101 million from institutional, and \$74 million from other developments.

Previous Reports/Authority

[Council Extract - December 17, 2024 - NEW BUSINESS – ARTIFICIAL INTELLIGENCE TO STREAMLINE PLANNING APPROVAL PROCESSES](#)

[CW Report – June 4, 2019 - ANALYSIS – ONTARIO GOVERNMENT’S BILL 108 AND BILL 107](#)

[CW \(WS\) Report - Nov 23, 2022 - BILL 23, MORE HOMES BUILT FASTER ACT, 2022](#)

Housing Supply Action Plan - [Ontario.ca - Tracking housing supply progress](#)

Vaughan News March 21, 2023: [Vaughan commits to Province's Housing Pledge](#)

[CW \(2\) Report - February 14, 2023 - MUNICIPAL HOUSING TARGET AND MUNICIPAL HOUSING PLEDGE, MORE HOMES BUILT FASTER ACT, 2022](#)

[Vaughan News October 5, 2023 - Mayor Del Duca welcomes \\$59 million in historic federal housing investment to Vaughan](#)

[CW \(2\) Report - April 12, 2022 - STREAMLINE DEVELOPMENT APPROVAL FUND](#)

[Streamline Development Approval Fund | City of Vaughan](#)

[Final Report Vaughan - Streamline Development Approval Fund Final Report, October 31, 2023](#)

Analysis and Options

Integrating AI to further streamline Vaughan’s planning processes can enhance service delivery, expedite approvals and promote transparent, citizen-focused development, reinforcing the City’s leadership in innovation.

What is Artificial Intelligence?

Artificial Intelligence (AI) empowers machines to perform tasks traditionally requiring human intelligence. It applies advanced analysis and logic-based techniques to interpret events, support and automate decisions, and act. A key component of AI is system automation, enabling machines to handle repetitive and complex tasks without human intervention. It is important to note that the industry is rapidly changing, and new categories of AI are quickly emerging.

Benefits of Integrating Artificial Intelligence Technology into the Planning Approval Process

Ongoing implementation of AI could further optimize the City's planning approval processes by driving efficiency, transparency and informed decision-making through:

- **Application Review and Pre-Screening:** streamlining document analysis and compliance checks, automating pre-screening to reduce processing times while ensuring accuracy and policy adherence. Helps applicants understand the planning process and provides instant compliance feedback on submissions.
- **Data-Driven Decision-Making:** using predictive analytics for scenario modelling and GIS integration to empower data-driven insights, enabling planners to anticipate impacts and evaluate development options effectively.
- **Workflow Optimization:** automating routine tasks and offering real-time tracking to enhance process efficiency, reduce circulation distribution times, and provide applicant transparency.
- **Improved Stakeholder Collaboration:** With the right tools and data, AI and automation can facilitate long-term urban planning by analyzing growth patterns and forecasting needs. It can also enhance compliance and risk management and support sustainable urban growth.
- **Improved Service Delivery:** Use of AI technology to create smarter, faster, cost-effective and high-quality services. This can increase value-added work, provide opportunities to improve services based on data and trends collected, provide better predictive modelling, and improve financial management.

Many North American municipalities are leveraging technology to modernize planning and permitting processes. AI offers significant potential to automate routine tasks, enhance efficiency, and expedite application processing times.

Municipal Benchmarking

Staff interviewed stakeholders and conducted a jurisdictional scan to explore AI use in planning approvals processes (Attachment 1). The majority of cities in North America like Burlington, Markham, Surrey (BC), Vancouver (BC), Burnaby (BC), and Edmonton (AB) are in the early stages of implementing the 'Automated Compliance Check' for pre-application zoning assessments, which provides instant reviews of proposed permit application submissions, letting the applicant know if and where their permit application complies or does not comply with the local zoning bylaw standards.

Where potential AI opportunities were identified for Vaughan, it is important to consider regulatory differences across provinces. Various Provincial Planning Acts and Building

Codes assign different responsibilities, each requiring rigorous evaluation for appropriate automation.

Planning, Growth Management & Housing Delivery Completed and Planned Technology Initiatives

1. *Completed Technology Initiatives:*

Vaughan has implemented key technology platforms, which will enable the integration of advanced AI solutions to streamline services and enhance the planning approvals processes (Attachment 2). AI will continue to be integrated as existing technology evolves.

2. *Planned Technology Initiatives:*

The City of Vaughan Planning, Growth Management and Housing Delivery 2025-2026 Planned Technology Initiatives Roadmap (Attachment 3), summarized below, includes AI capabilities used at various stages of the planning and building approvals process that some Canadian cities are beginning to pilot and/or implement:

AI Capability	Description	Service Improvements	Scanned Municipalities	PGM&HD 2025-2026 Technology Roadmap
<i>Development Planning Pre-Application Stage</i>				
Portal Enhancements for AI – Building Standards	Migrate the Online Citizen Portals for several departments, including digital application submissions into a single portal (repository) for comprehensive access.	Convenience, improved business efficiencies, transparency, improved communication, user friendly experience	N/A	Planned Q4 2025 - 2026
Rapid Automated Compliance Check (Pilot) – Building Standards	AI-automated Zoning Compliance Checking for Citizen drawing submissions using AI. The solution can provide instant feedback on compliance, which can result in higher quality drawing submissions prior to applicants submitting their building permit applications	Higher quality drawing submissions, fewer resubmissions and recirculation's, faster approvals, improved efficiency	City of Burlington, City of Markham (Pilot), City of Surrey (BC), City of Burnaby (BC), Austin (USA), Honolulu (USA)	Planned Q3 2025

AI Chatbots and Virtual Assistance (Pilot) – Building Standards	Address inquiries about the city’s permit applications, Zoning Bylaws and other information.	Improved efficiency, convenient access to information, accuracy, easy accessibility to information, consistency (uniform responses), resource optimization (frees up staff time to focus on complex tasks), transparency (enhances clarity), and understanding of Building Standards materials)	Kelowna, (BC), Surrey (BC), Town of Innisfil	Planned 2026
Development Planning Review & Approval Stage and Public Consultation & Engagement Stage				
Digital Twin 3D – Development Planning	Digital twins are virtual replicas of physical entities, enabling real-time simulation and analysis. They help planners assess development proposals through a dynamic, holistic view of city systems, integrating real-time data from sensors and historical records for an up-to-date representation of urban environments	Improved product design, enhanced safety and risk management, improved long-term planning and citizen engagement opportunities	Boston (USA), Singapore, Helsinki (Finland)	Pilot – Implemented 2024 Go-Live – Planned Q3 2025
Building Permits Stage				
ePlans – Building Standards	Advanced automation will enhance the efficiency of permit intake and plan review, leading to expedited approvals.	Expedited approval times, transparency, consistency (uniform responses), enhanced efficiencies	City of Markham, City of Mississauga, City of Hamilton, City of Miami (USA), City of Chicago (USA), City of Austin (USA), City of Honolulu (USA)	Implemented Q1 2025

Ontario Building Code (OBC) mobile application with AI search – Building Standards	<p>Replace the Building Standards department's use of the paper-based Ontario Building Code.</p> <p>More efficient and effective search, navigation, copying, and comparison of the Ontario Building Code material faster</p>	<p>Enhanced efficiencies, accuracy, accessible information (convenient easy access), reduces paper usage, and transparency</p>	<p>N/A</p>	<p>Planned Q2 2025</p>
Permitting system search enhancement using AI (Pilot) – Building Standards	<p>AI-powered search capabilities to convert natural language queries into complex data searches, facilitating more efficient navigation of the system.</p> <p>Enhanced productivity by automating and streamlining the system searches and navigation</p>	<p>Enhanced efficiencies and productivity, user friendly experience, increased accuracy.</p>	<p>N/A</p>	<p>Planned Q2 2025</p>
Auto Permit and Zoning Approvals (Pilot) – Building Standards	<p>This solution could automate the zoning compliance reviews for small additions to houses, decks, sheds, cabanas, and sign permits. This solution could provide "same day" turnaround on the zoning review for several permit types and full review for Sign permits. Due to this implementation, staff would be able to focus on more complex development applications.</p>	<p>Enhanced efficiencies, faster approval times, resource optimization (frees up staff time to focus on complex tasks), consistency (uniform responses), increased service delivery (reduction in wait times, improving applicant experience), resource optimization</p>	<p>City of Edmonton (AB)</p>	<p>Planned 2026</p>
<p>Building Inspections Stage</p>				
Drone Usage for building inspections	<p>City is issuing new rules setting forth a permitting process and guidelines for the take-off and landing of unmanned aircraft in New York City. The rules including building inspections, infrastructure inspections, and capital project planning.</p>	<p>Improved inspections, efficiency, transparency, and cost effectiveness</p>	<p>New York (USA)</p>	<p>Not planned</p>

The City of Vaughan is exploring how AI can enhance municipal planning approvals, as well as support broader process improvements and efficiencies across the entire corporation.

Staff have engaged in continuous AI learning and development initiatives by attending and hosting AI-focused seminars such as the *AI for Real Estate & Development Workshop* hosted by Urban Land Institute in partnership with Microsoft, and the *AI In Action: Preparing Municipalities for the Future* where municipalities and subject matter experts showcased how AI is being integrated to municipal business functions.

Additionally, Economic Development has undertaken training for the use of AI in business retention, expansion and attraction services. Focused on helping staff, as knowledge workers and business advisors, use AI to improve their services, the two-part training took place in December and January 2024/2025. Economic Development welcomed colleagues from York Region, Markham, Mississauga, Clarington, Richmond Hill, Newmarket, the Great Toronto Airports Authority, Sarnia and other offices to participate.

The City is also looking to lead an “AI for Improved Planning Processes” Community of Practice (COP) with other GTA municipalities to share information and best practices as this area continues to evolve. The City continues to engage stakeholders to better understand the risks and opportunities AI presents.

Financial Impact

There are no financial impacts to this information report.

Operational Impact

There are no operational impacts however, in looking ahead, while AI can enhance efficiencies and improve turnaround times for planning approvals, the timing and processing of development applications remain significantly influenced by external factors beyond our control.

- **Changing Legislation** – Development of AI regulations and changes in planning legislation can significantly influence internal business processes, shaping the level of scrutiny and detail required from staff and reviewers. Legislative changes also necessitate effective change management, encompassing training and practical adoption of modified business processes. These adjustments impact the efficiency of the planning application and approval workflows, potentially disrupting how they are streamlined and carried out.
- **External Agency Reviews** – Processing development applications often involves multiple external agencies with varying review timelines. The timing and responsiveness of these reviews are critical factors influencing the overall turnaround time for planning applications.

- **Applicant Submission Quality** – Incomplete or poor-quality application submissions hinder the review and approval process causing delays, increasing staff workload, disrupting timelines, ultimately slowing overall progress.
- **Applicant Response Times** – Applicant turnaround times are crucial for the progress of development applications. Delays in providing information, addressing feedback, or submitting revisions can extend timelines and potentially impact development schedules. Timely responses are essential to maintaining momentum and ensuring an efficient approval process.
- **Market Conditions** – Current market conditions in Ontario, such as economic uncertainty, interest rate fluctuations, rising construction costs, and home affordability concerns, may affect the timing of development. These factors have the potential to slow progress, reduce active projects and challenge long-term growth objectives for the City.
- **Ontario Land Tribunal (OLT) Appeals Process** – OLT is an independent adjudicative tribunal responsible for resolving land use planning and land compensation appeals. Under the *Planning Act*, public members can appeal development applications, affecting timing and approvals processes.

In terms of next steps, the City of Vaughan will continue leveraging innovative technologies to enhance planning and permitting approval processes. The City remains committed to exploring new AI-driven solutions to further modernize and improve efficiency in its planning and development services.

Next steps include:

- **Continue to Build Planning and Growth Management Data** – The City will continue to develop a robust data foundation to support AI integration in development planning approvals processes. This includes prioritizing key data categories like application types, GIS, compliance, and performance metrics. Ensuring data quality through cleaning, validation, and standardization while adhering to privacy and security standards is crucial.
- **Continue to Monitor the Rapidly Evolving Market for AI Solutions** – Staff will continue streamlining planning processes as new AI features become available within solutions already implemented at the City where possible. The City will continue to conduct feasibility analyses, test various technologies, and monitor the market trends and early adopter pilots related to enhance and streamline municipal planning and development processes.
- **Continue with Planned Technological Initiatives** – Maintain existing technological plans and roadmaps within Office of the Chief Information Officer and Planning, Growth Management & Housing Delivery groups to enhance planning approvals processes and provide annual updates to Council on the progress of these initiatives

(Attachment 3). Explore best practices for corporate AI Strategy, monitor market trends, stay updated on evolving AI regulations, assess the value and organizational readiness, and build upon existing organizational strategies and policies.

- **Facilitate a Council Education Session** – Staff will facilitate a Council Education Session in Q2 2025 to overview AI capabilities and their impact on the planning approvals process, and their impact on the broader organizational implementation. This session will present technological and process enhancements and, enable a comprehensive discussion on application of AI in the organization.

Broader Regional Impacts/Considerations

There are no broader regional impacts pertaining to this information report. However, City staff will continue engaging with other municipalities and stakeholders to successfully adopt AI solutions.

Conclusion

City staff continue demonstrating a commitment to embracing AI to streamline and improve the planning approval process through various completed and planned upgrades.

Beyond planning approvals processes, the City will also explore AI integration for enterprise-wide processes, ensuring staff have access to training and development opportunities. As next steps, staff will continue to develop planning and building datasets, monitor best practices, and continue planned technological upgrades. Vaughan Council will continue to be provided with further updates and information on AI technology to deliver Service Excellence.

For more information, please contact: Melissa Rossi, Manager Strategic Initiatives Portfolio, extension 8614 or: melissa.rossi@vaughan.ca.

Attachments

1. Municipal Benchmarking Review
2. Planning & Growth Management Completed Technology Initiatives
3. Planning, Growth Management and Housing Delivery 2025-2026
Planned Technology Roadmap

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