*Planning fundamentals for public officials and engaged citizens*

QUICKNOTES

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# Artificial Intelligence

From what we buy, to how we get around, to how we structure and govern our communities, Artificial Intelligence (AI) is a growing but often unseen force influencing the many choices made by businesses, governments, and people across the globe. AI is no longer the exclusive domain of science fiction or computer scientists but a very real presence in the lives of people today.

Elected officials, government administrators, and planners and allied professionals should have a strong understanding of the potential impacts and benefits posed by AI in their communities. AI is already reshaping the local landscape, and it is important to understand how communities can use AI equitably and productively.

## BACKGROUND

AI can generally be understood as machines and programs that can make complex decisions and choices based on large amounts of data. While not yet nearing the ability of the human brain, this simulated process of decision making based on audio, visual, and text-based data is generally consistent with how people make decisions. AI is notable for its ability to quickly make "intentional" choices based on large amounts of data, and to adapt when that data changes. This ability to adapt and decide is a critical distinction when compared with traditional programs and software.

The rapid growth of AI as a major force in the lives of people and their communities is largely a result of the availability of enormous amounts of data (owing to the internet and smartphone revolutions) and vast increases in computer processing power. Simply put, computers have gotten very good at crunching a lot of data very quickly.

For the elected official, city manager, or community planner, the role of AI at the local level may be difficult to discern. Yet communities are already using AI in innovative ways to improve their abilities to make informed decisions, communicate more effectively, and improve public safety. Conversely, the development of advanced AI platforms in the private sector and their use by the public can have a variety of major impacts on a community.

## HOW COMMUNITIES CAN USE AI

Communities are already using AI to assist in a variety of functions. AI can improve the timing of traffic signals and predict public transit arrival. AI customer service "chatbots" can provide information directly to residents or refer them to the proper staff or departments. AI can automate the collection of public feedback online to inform a planning process or policy initiative. Planners can use digital city twins to model future scenarios, evaluate proposed development impacts, and analyze urban systems. Cities are already contracting with developers of autonomous vehicles to close gaps in local transit networks. AI's wide-ranging applications can help improve government responsiveness, compensate for limited capacity, and reduce the burden of repetitive labor-intensive tasks.

AI can also support infrastructure asset management. "Smart" infrastructure that is able to assess and report on its own condition, monitor the impacts of floods and other natural hazards, and communicate with other infrastructure can greatly improve the ability of local staff to plan for upgrades and replacements and project future costs.

*AI holds promise for cities, but local governments should be aware of its potential impacts and unintended consequences. Image by* Tumisu *from* Pixabay

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## THE LOCAL IMPACTS OF AI

Communities must be prepared for the potential local impacts of AI, which may be unanticipated, complex, and challenging. Consider the role of a smart navigation app on driver behavior that analyzes complex traffic information and uses this data to recommend less congested routes to drivers. While this may alleviate traffic along a major interstate, those redirected cars will bring noise, pollution, added stress on surfaces, and potentially more dangerous conditions to neighborhood streets. Residents may demand more stoplights, the local DOT may face increasing road maintenance costs, and the local health department may suddenly see an uptick in collision rates and impacts to public health.

Similar situations may manifest in the form of a ride-sharing algorithm that encourages drivers to circle the block, increasing emissions and local traffic; a housing-search AI that engages in digital redlining; or a local social network's recommendation algorithm that can drive bias and paranoia among residents.

These very real dilemmas facing cities and local practitioners are a product of both the behavior of the AI and its wide acceptance by the general public. While some negative impacts of widespread AI adoption are being identified, without legislative action there is little to compel AI developers to factor these externalities into their algorithms. Local governments must be prepared to adapt quickly to the impacts of AI, and to proactively prepare for potentially disruptive industries that use AI.

## RESPONSIBLE AI USE

Local governments have been far slower than the private sector to adopt AI in their operations. This represents an opportunity to think critically about the potential benefits and drawbacks of AI. Some important issues to consider are privacy concerns, data quality, and the potential bias of AI.

Given the reliance of many AI tools on large volumes of collected data, local governments must be extremely thorough in ensuring that their use of AI respects the privacy of residents and stakeholders. This requires a dedicated focus on the part of local officials on data security and proper disclosures to the public of the type of data that is collected and retained.

Additionally, local governments must remember that AI is only as good as the data that it has access to. The type, quality, and accessibility of the data used can lead to significant unintended consequences that have the potential to worsen existing inequalities.

While AI has the potential to reduce bias in decision making, it is vital to understand that AI is ultimately developed by people. Development teams that do not draw from diverse age, racial, and cultural backgrounds or that do not consider marginalized groups may inadvertently create AI tools with embedded biases that are unintentional but no less impactful. In particular, surveillance AI software is increasingly marketed by the private sector to local governments as a tool for improving public safety. Local government officials and staff must think deeply and seriously about these systems' embedded biases, their potential for perpetuating the marginalization of communities, and the data security and privacy issues that are part of managing and analyzing vast amounts of potentially private information.

## CONCLUSIONS

We live in an age of disruption. There is a high degree of uncertainty about the possible impacts and usefulness of AI systems for local governments. Officials, planners, and residents alike must therefore think carefully about the prospective uses of AI, the consequences of widespread adoption of these tools to local operations, the safety and privacy of the public, and the potential for alleviating or perpetuating biases. With careful consideration, AI has immense potential as a valuable tool to help local governments do their jobs better, improve quality of life, and create more equitable communities.

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## FURTHER READING

### Published by the American Planning Association

Wright, Norman. 2019. "Applying Algorithms to Land-Use Decision Making." *Zoning Practice*, March. Available at www.planning.org/publications/document/9172435.

"Technology's Impact on Planning Practice." 2019. APA Learn. Available at www.planning.org/learn/course/9181559.

### Other Resources

Dimina, Frank. 2019. "How Local Governments Can Harness AI." *American Town and City*, August 12. Available at www.americancityandcounty.com/2019/08/12/how-local-governments-can-harness-ai.

Safir, Inbal Naveh. 2018. "Using Artificial Intelligence as a Tool for Your Local Government." *ICMA Blog*, April 24. Available at https://icma.org/blog-posts/using-artificial-intelligence-tool-your-local-government.

West, Darrell M. 2018. "What is Artificial Intelligence?" *A Blueprint for the Future of AI*, The Brookings Institution, October 4. Available at www.brookings.edu/research/what-is-artificial-intelligence.