

PAS QUICKNOTES

ChatGPT: Implications for Planning

Recent years have seen growing interest in the impact of digital technologies, such as artificial intelligence (AI), on planning practice. Although AI capabilities have been building over many decades, the release of [ChatGPT](#) by OpenAI in November 2022 brought AI-writing capabilities into the mainstream overnight. These capabilities have [significant implications for planning work](#), and it is important for planners to be aware of both the positive and negative factors.

BACKGROUND*

ChatGPT is an example of generative AI, a type of artificial intelligence that uses machine learning algorithms to generate new content, such as text, images, or music. In the case of ChatGPT, it is a large language model (LLM) that has been trained on massive datasets of text data, allowing it to generate humanlike responses to text prompts.

The use of ChatGPT has had a disruptive influence on many professional industries, particularly those that rely on written communication. ChatGPT has the potential to automate many tasks that were once done manually, such as customer service chatbots and content creation. This technology is rapidly advancing, and as it becomes more sophisticated, it will continue to transform the way we work and communicate.

[*These background paragraphs were written by ChatGPT in response to the prompt: *Please write me a paragraph about ChatGPT that achieves the following things: explains the concept of generative AI; explains what ChatGPT is in reference to generative AI; describes the disruptive influence of ChatGPT on professional industries.*]

AUTOMATION AND AUGMENTATION OF PLANNING WORK

Whether or not we realize it, [AI is already used](#) to optimize a variety of different websites and software used by planners each day, including AI algorithms to detect spam emails and filter search engine results. LLMs such as ChatGPT represent the next level of office AI assistant, making many procedural writing tasks—whether drafting emails, requests for proposals, or staff reports—easier. ChatGPT is also able to perform many simple computer coding tasks, potentially making coding more accessible to planners and other nontechnical specialists. And ChatGPT can create workflows for various functions and outputs in applications such as ArcGIS, SketchUp, Photoshop, game engine platforms, and CAD software.

Like previous technological advancements, such as the introduction of personal computers and adoption of GIS software, LLMs are likely to free up planners' time for higher-value work, raising the bar on what it is possible for planners to achieve. LLMs produce relatively generic and sometimes inaccurate content, however, that needs to be fact-checked. As such, ChatGPT is best used for generating first drafts or plain-language summaries of existing technical material.

TRUTH AND TRUST IN PLANNING SYSTEMS AND PROCESSES

The fluency of LLMs masks an important fact: ChatGPT has no sense of "truth" but instead constructs sentences based on patterns in the text it was trained on. This means that the content generated by LLM will be reflective of historic trends and biases. As planning is a profession focused on proactively shaping better futures, it is important that AI-generated content is subject to critical review before publication.

This lack of truth also means that ChatGPT gets things wrong, particularly when it comes to specific places or events. Planners are entrusted to help govern cities, and as such must be able to explain decisions and be held accountable for them. Unsupervised use of AI that "makes up" facts or content puts this fundamental principle of good governance at risk—a key reason why planners must understand the capabilities and limitations of AI to determine its appropriate use.

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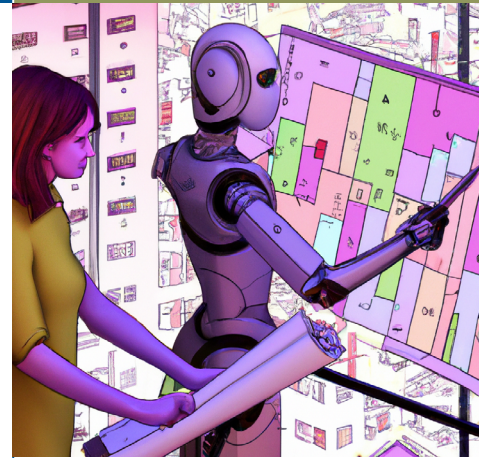


Image produced by DALL-E 2 with the prompt, "A image of a female human urban planner and a robot working together to create zoning map on a screen with many colors on the map, digital art". (Credit: [DALL-E 2](#) by OpenAI).



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More work is needed to make planning fully “AI ready.” Most planning content is stored in paper or PDF documents that are not accessible to machines or algorithms. Zoning maps and codes in particular are not commonly available in machine-readable file formats and databases, and they differ widely among jurisdictions. To overcome this gap in AI training data, such information must be provided in machine-readable and interoperable formats. Additionally, the principles of ethical AI use are still being defined and developed, both in [planning](#) and across [society as a whole](#).

AI tools such as ChatGPT have great potential to make planning much more accessible to the public, but only as an interface to a [source of consistent and reliable information to which decision paths may be traced](#). Governments and planning organizations should invest in building a solid foundation of digital planning infrastructure, and collaborative efforts are needed to develop standards for digitizing planning information, zoning codes, and building permits, as well as ensuring AI is used in ethical and equitable ways.

AI-GENERATED CONTENT AND DISINFORMATION IN PUBLIC PROCESSES

Research shows that AI-generated content and disinformation disseminated through social media channels is already prevalent in [planning and real estate processes](#), and ChatGPT has dramatically lowered the barrier to generation of AI content indistinguishable from human-generated content.

In some contexts, this may be a force for good—for example, helping those for whom English is a second language to express themselves and their views on planning matters more fluently in writing. On the other hand, AI-generated content has the potential to overwhelm public engagement processes, a risk that should be monitored as the use of LLMs becomes more common in the next few months and years.

Various forms of digital and analog verification systems will become more important in response; however, instead of depending on superficial forms of submission-based outreach, planners should focus on more collaborative and targeted forms of public engagement in which they speak directly with members of the public.

CONCLUSIONS

ChatGPT and other LLMs are powerful tools that will augment planners’ abilities to govern cities and places. Because generative AI is an emerging technology that has only recently come into the mainstream, however, research will be needed to track implementation and actual effects on planning processes. As planners start learning about and experimenting with the use of ChatGPT and other LLM products, organizations must invest in testing and training to achieve effective and ethical use of these and other new technology tools.

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FURTHER READING

Published by the American Planning Association

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Sanchez, Thomas. Forthcoming. *Planning With Artificial Intelligence*. PAS Report 603. Chicago: American Planning Association.

Wasserman, David, and Michael Flaxman. 2022. [“Artificial Intelligence and Planning Practice.”](#) PAS Memo 111.

Other Resources

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