

The use of Artificial Intelligence in Planning – Evaluation Outputs

This report forms part of an evaluation into the use of Artificial Intelligence (AI) systems, particularly Large Language Models (LLMs), for developing tools to support planning officers in reviewing representations submitted in response to local plans.

Greater Cambridge Shared Planning (GCSP) worked with the University of Liverpool to develop an AI tool – known as a Large Language Model (LLM) – that was specifically designed to process and summarise thousands of comments that are submitted during planning consultations. The project has been developed using funding from the Ministry of Housing, Communities and Local Government (MHCLG) PropTech programme.

In late 2024 / early 2025, following development of the AI tool, GCSP consulted on three draft supplementary planning documents (SPDs). Planning officers summarised the comments as usual, and then the AI tool was run to complete the same exercise. While it took planning officers 18.5 hours to complete the exercise, the AI tool did it in just 16 minutes. The team went on to compare the quality of the outputs – you can see below a sample of that evaluation which shows the standard of the AI tool’s responses and the level of detail it can generate.

Representation 1

Officer summary: We are concerned that the aspirations and goals of the SPD will only be achieved with a spatial strategy set out in a master plan. The SPD states good decisions need to be made but does not set parameters for those decision other than these worthy aspirations.

The master plan needs to set out specific requirements on where development is going to go and what it’s going to look like, including how design equality across the site will be achieved, bridging the gap between Addenbrookes and world class laboratories.

AI tool summary: The representation expresses concerns regarding the Spatial Planning Document (SPD) and its effectiveness in achieving its aspirations and goals. It argues that a master plan is necessary to provide a spatial strategy, as the SPD currently lacks specific details on development locations and characteristics. Key points highlighted include:

- The need for clear parameters for decision-making beyond general aspirations.
- Specific requirements that should be included in the master plan, such as:
 - Identification of constraints.
 - Designation of expected development areas.
 - Specifications on building heights and quality.
 - Strategies for achieving design equality between different areas, particularly between Addenbrookes and laboratories.
 - Identification of areas for improvement and safeguarded zones.

The representation also raises concerns about a lack of cohesive planning, citing the approval of a new car park that may increase congestion, contradicting the SPD’s goal of managing it. Additionally, it notes difficulties in navigating the area by various transport modes, suggesting that solutions require more than just signage, but rather a clear route for active travel and

buses. Finally, it highlights the need for additional facilities, such as hotels and conference centres, to alleviate pressure on surrounding communities affected by developments like aparthotels.

Representation 2

Officer summary: This document is useful to fill a planning gap that CBC has chosen not to fill with an update of the 2010 Strategic Masterplan and Vision following the adoption of the South Cambridgeshire Local Plan (2018).

AI tool summary: The representation highlights the importance of the document in addressing a gap left by the Cambridge Biomedical Campus (CBC), which has not updated its 2010 Strategic Masterplan and Vision after the adoption of the South Cambridgeshire Local Plan (2018). The author, who was part of a Local Liaison Group for CBC Ltd, notes that the group had urged the preparation of a Spatial Framework for the existing Campus and Phases 1, 2, and 3, but CBC Ltd did not comply. Additionally, the representation points out that the emerging Spatial Framework is not referenced in the Supplementary Planning Document (SPD), although a summary is available on the CBC website.

Representation 3

Officer summary: Discovery Drive runs between ABCAM and Discovery 1000. Please can a bridge be placed over the ditch at the end of Discovery drive to enable cyclists and pedestrians to reach the cycle way running along the "bottom" of the map on p.18.

AI tool summary: The representation requests the construction of a bridge over the ditch at the end of Discovery Drive, which runs between ABCAM and Discovery 1000. This bridge is proposed to facilitate access for cyclists and pedestrians to the cycleway located along the "bottom" of the map on page 18 of the policy document.

Representation 4

Officer summary: Treatment of the need to improve existing hospital infrastructure (Addenbrooke's) in 4b.1 is extremely thin, especially considering that the SPD claims to aspire to excellence in healthcare. This is, of course, reflective of the NPPF which is equally thin in its discussion of healthcare infrastructure, preferring to major on 'healthy places'. GCSP needs to do more than just cut and paste NPPF into this chapter for this SPD to offer an adequate response to the challenges posed by the existing CBC.

AI tool summary: The representation provides critical feedback on various sections of the policy document.

1. **Para 2.4:** It challenges claims made in the SPD regarding Addenbrooke's Hospital being a world-leading facility and the uniqueness of co-location on the Cambridge Biomedical Campus (CBC). The representation argues that evidence does not support these claims and suggests that GCSP should refrain from making unsubstantiated assertions.

2. **Para 2.6:** The representation questions the status of the ‘holistic spatial framework’ mentioned by Cambridge Biomedical Campus Ltd (CBCL) and whether it serves as an update to the 2010 Masterplan or the 2020 masterplan.
3. **Para 2.8:** It states that the information regarding the approval and construction of two hospitals is incorrect, noting that while prospects for the Cancer Hospital are improving, the Children’s Hospital faces uncertainties due to funding issues. The representation advises caution in overstating the certainty of NHS developments.
4. **Para 2.9:** The ambition statement is deemed inadequate, as it oversimplifies the role of the campus. The representation outlines a broader mission that includes not only rapid translation of research but also safe care, education, discovery research, and innovation. It proposes an alternative ambition statement that encompasses these elements and emphasises the importance of balanced development and connections between various sectors.
5. **Para 2.11:** It calls for the source of data in an infographic to be disclosed to validate the claims made, suggesting that if the sources are not public, they should be made available.

Overall, the representation advocates for a more nuanced and evidence-based approach in the policy document.

Representation 5

Officer summary: I generally support the objectives of this document and think it will materially help the planning officers and committees and also developers. I wish to comment only on the development principle of the public realm, and in particular para 4b.3 Culture, services and facilities. I think this is the area where there will be most benefit to the residents nearby and make the site more permeable. It is vital that there are adequate community services. A public sports area would be great such as a swimming pool or gym. I also support retail offerings and suggest a supermarket also.

AI tool summary: The representation expresses general support for the objectives of the policy document, noting that it will benefit planning officers, committees, and developers. The respondent specifically comments on the development principle of the public realm, particularly referencing paragraph 4b.3, which addresses culture, services, and facilities. They emphasise the importance of adequate community services for nearby residents and suggest the inclusion of a public sports area, such as a swimming pool or gym, as well as retail offerings, including a supermarket.