

AI for infrastructure investment decision-making and project preparation



Artificial intelligence (AI) has the potential to help governments identify, prepare and prioritise infrastructure projects. This learning note shows how AI is being applied to support infrastructure investment decision-making, project preparation and financing, and the ways AI tools can be embedded into government systems to support the early stages of infrastructure development.

Overview

Launched by the UK's Foreign, Commonwealth and Development Office (FCDO) in December 2025, the Artificial Intelligence Accelerator aims to harness UK capabilities in AI to address complex infrastructure challenges, support evidence-based decision-making and showcase the UK as a global leader in AI-driven innovation. The AI Accelerator has four broad aims:

- To leverage UK AI capability in support of infrastructure and climate programmes.
- To work with in-country teams to identify and pilot use cases, including in Ukraine and Indonesia.
- To align with other FCDO technology initiatives to present a coherent UK offer.
- To act as a hub for AI expertise across cities, infrastructure and energy.

GCIEP recently held the fourth of four learning sessions exploring the aims of the AI Accelerator in more detail. The event focused on how AI is being applied to support infrastructure investment decision-making, project preparation and financing, and the ways AI tools can be embedded into government systems to support the early stages of infrastructure development.

This is particularly relevant for FCDO programmes. Development support is often focused on strengthening upstream processes, helping governments identify, prepare and prioritise projects that are technically sound, financially viable and aligned with development objectives. AI has the potential to support this by organising complex information, guiding users through frameworks and improving the consistency of decision-making.

AI in public investment management

The first example showed how AI is being integrated into Ukraine's Digital Restoration Ecosystem for Accountable Management (DREAM), a national platform designed to manage public investment across the project lifecycle.

Ukraine faces an unprecedented reconstruction challenge, with investment needs exceeding \$580 billion. In response, the government has developed a unified public investment management system, aligned with the UK Five Case Model, to ensure reconstruction projects are strategically aligned, financially viable and transparently delivered. DREAM acts as a single digital ecosystem connecting multiple government systems and stakeholders, enabling end-to-end tracking of projects from planning through to implementation.

AI is being introduced to help users navigate DREAM's complex methodologies and requirements. The initial focus is on an AI-powered methodological assistant, which allows users to query guidance, understand project requirements and receive structured responses based on official frameworks. This is particularly important given the scale of users and varying levels of capacity across ministries and municipalities.

A key design principle is that AI supports, rather than replaces, decision-making. The tool is intended to guide users, reduce workload and improve consistency, while maintaining human oversight.

Early insights from the pilot highlight the importance of managing expectations, ensuring transparency in outputs and designing systems that are sustainable within national contexts, including the use of domestic language models and locally governed data.

AI for infrastructure financing

The second example came from Indonesia, which faces a significant infrastructure financing gap, with a large proportion of investment for future projects expected to come from private and blended finance. However, despite the existence of frameworks and data platforms, private sector infrastructure planners face challenges including fragmented information, limited early-stage data and difficulty interpreting complex financing options.

The Public Financing and Funding Options Framework, which helps planners assess appropriate financing structures based on project characteristics, is using AI to help



planners identify funding and financing options for infrastructure projects. A pilot project explored how AI could assist by structuring project information, retrieving relevant guidance and supporting the interpretation of financing frameworks.

Findings from this pilot showed that AI can help organise information and explain options. The primary constraint is not the technology itself, but the availability and quality of underlying data. The project reinforced that AI must operate within existing data environments, and that improving data accessibility and governance is critical to unlocking its full value.

Discussion themes

Discussion at the learning session focused on how AI can be applied to strengthen infrastructure project preparation and investment decision-making.

- 1. From analysis to action:** How AI-supported insights can be translated into concrete project pipelines and investment decisions.
- 2. Data readiness as a constraint:** Structured, accessible and up-to-date data are important to enable effective AI applications.

- 3. Human-in-the-loop decision-making:** AI supports rather than replaces planners and human judgement, particularly in complex financing decisions.
- 4. Institutional integration:** AI tools need to be embedded within existing workflows and systems rather than introducing standalone solutions.
- 5. Capacity and behaviour change:** Challenges in adoption, including training, usability and managing expectations around AI capabilities.
- 6. Financing and private sector engagement:** The role of AI in improving transparency, pipeline visibility and investor confidence in infrastructure projects.

Practical takeaways

The final AI Accelerator learning session concluded by summarising several helpful insights from the preceding presentations and discussions:

- AI can play a meaningful role in strengthening early-stage infrastructure project preparation and investment planning.
- The greatest constraint to AI adoption is often data quality and availability, rather than technical capability.
- Embedding AI within existing systems and workflows is critical to ensuring adoption and usability.
- AI tools are most effective when designed to support, rather than replace, human decision-making.
- There is strong potential for AI to improve the transparency, consistency and efficiency of infrastructure investment processes.

GCIEP is a demand-driven initiative focused on sustainable green cities and climate-resilient infrastructure in lower-income countries. As the flagship programme of the UK's Centre of Expertise for Green Cities, Infrastructure and Energy, GCIEP supports the UK Government's mission to accelerate investment in, and delivery of, infrastructure and urban development that is responsible, reliable, inclusive, low-carbon and climate-resilient.

A significant proportion of GCIEP's work is carried out in seven priority countries: Ethiopia, Ghana, Indonesia, Philippines, Mozambique, Vietnam and Zambia, where a Deep Offer programme provides long-term, systemic interventions focused on transformative change and infrastructure financing.

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