

## **Infrastructure Governance: Major gaps for Australian research and beyond**

*Tooran Alizadeh (The University of Sydney), Rebecca Clement (The University of Sydney), Crystal Legacy (The University of Melbourne), Glen Searle (The University of Sydney) and Linton Kamruzzaman (Monash University)*

### **Introduction**

Within Australia, the integrated planning and delivery of infrastructure to support sustainable and equitable cities sits in tension with major governance gaps and contexts of multiple intersecting crises. In the present 'infrastructure turn' (Dodson, 2009), infrastructure is a major vehicle for transnational capital investment, exacerbating governance fragmentation, disconnection from broader urban planning strategies and processes, and skewing power to private sector interests.

These splintered, neoliberal governance regimes (Graham & Marvin, 2002) weaken urban capacities for integrated planning, the representation of public interests (Campbell & Marshall, 2000; Searle & Legacy, 2021), and dealing with multiple intersecting crises such as climate change, health crises such as pandemics, and in Australia's settler-colonial context, the responsibility to engage with planning infrastructure on unceded First Nations land (Porter, 2018). Amongst complex uncertainties, urban researchers increasingly turn to infrastructure governance as a critical topic of interest, but there are still major conceptual gaps in terms of how to understand this body of literature, and its engagement with these topics.

### **Methodology**

To inform and ground the development of robust research and policy reflection on infrastructure governance in Australian cities, a systematic literature review was performed to understand the prevailing state of knowledge. The review method involved several stages of citation searches and filtering to identify a core sample of infrastructure governance literature for analysis. Three widely used databases, Scopus, Web of Science, and Google Scholar, were used to source an initial body of 2,547 unique citations, which were then manually reviewed resulting in a library of 384 texts, representing a core literature that made substantial commentary on infrastructure governance (Figure 1).

A thematic content analysis was performed across this literature using NVivo software to identify the major themes, manually reviewing and validating relevant texts. More than 50 themes were deductively and inductively identified across infrastructure sectors, scales (e.g., mega-projects or networks), development stages, governance models and factors (e.g., PPPs, or transparency), or various policy aims and contexts (e.g., sustainability).

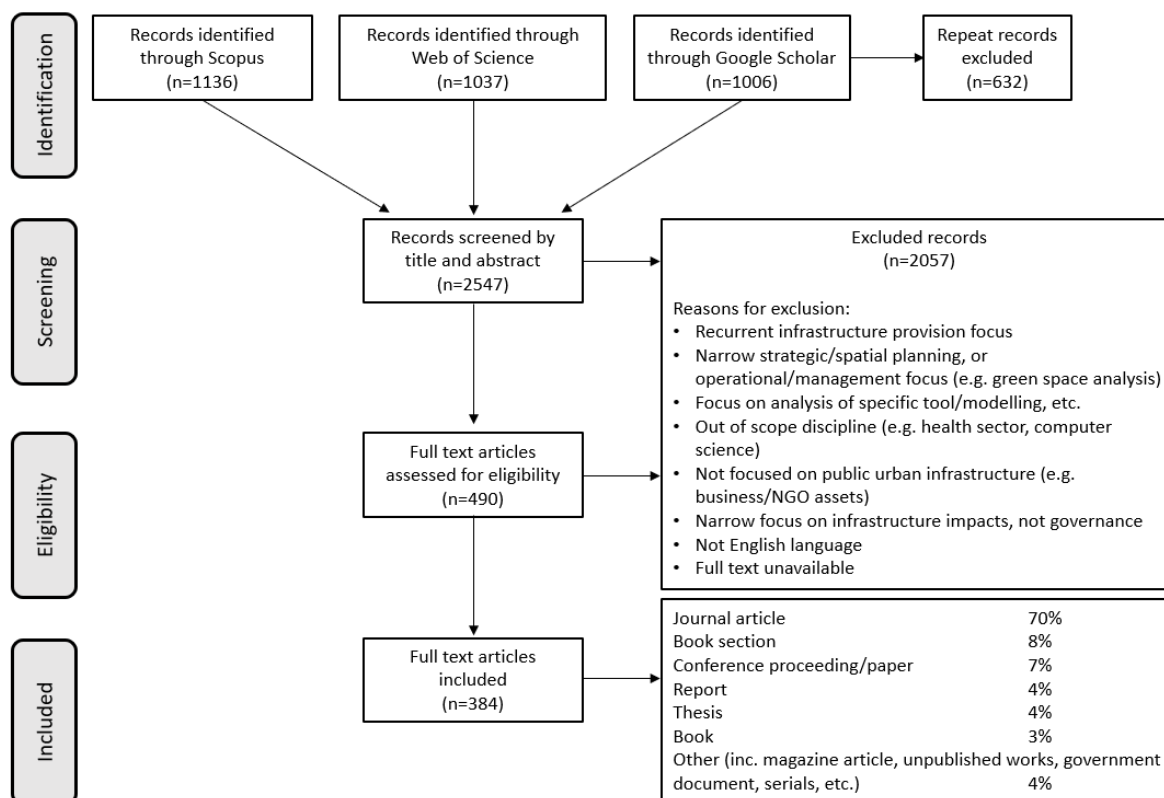


Figure 1: PRISMA diagram of the protocol of identification, screening, eligibility, and inclusion of texts (Source: Authors)

## Results

Three major research gaps identified in this review are of particular relevance to Australian cities in this moment of change, crisis, and opportunity:

First, despite a rising consciousness of the role and responsibilities of planning professions within settler-colonial states, there is little infrastructure governance literature that explicitly and robustly discusses First Nations in the context of decolonisation, or the context of First Nations land. While the reviewed literature covers diverse international contexts, at least 70% of the papers were originated from a settler-colonial context such as Australia, Canada, the United States, and Aotearoa/New Zealand. Only 19% of papers referenced Indigenous themes in some way, most briefly, meaning that 81% make no mention at all.

The theme of decolonisation was rarely referenced, only present in 11 papers total, with only three papers (Bosworth, 2018; Gergan, 2020; Hurl, 2017) making more than a single reference. While some others frame decolonisation as a historical period, these three papers refer to decolonisation as a critical, future-oriented political project, and call for the decolonisation of existing systems, and the furthering of Indigenous rights and self-determination. Notably, amongst papers identified with Australian contexts, there were no references to decolonisation. This represents a critical gap in the infrastructure governance literature, particularly in the Australian context.

The second finding concerns the explicit links made between infrastructure and climate change in infrastructure governance research. Sustainability was the most prevalent theme, across over 50 identified themes, both in terms of papers discussing the theme, and unique references to the theme across the literature. This is a marker of the successful embedding of sustainability within infrastructure governance discourses as a topic of engagement and policy aim. However, this review notes a substantial research-policy gap regarding the engagement with sustainability imperatives within infrastructure research, and the reality of infrastructure planning and delivery, particularly given Australia's weak political leadership on climate change at higher levels of government.

This gap suggests the need for additional research to gauge the implications of the Australia's current political stance on climate change in infrastructure decision-making realms, as well as seeking governance approaches that can better ensure accountability for adequate climate commitments. A related finding reveals integration to be one of the largest topics of discussion, however discussion is often shallow and fragmented, oriented to problems of integration and less so to workable solutions. This likely reflects the difficulty of effectively acting on sustainability imperatives in practice and suggests that integration for climate just infrastructure ends requires more targeted research focus and theoretical development.

The third research gap identified is that despite the considerable literature noting the shortcomings of fragmented governance and privatisation, there is a shortage of critical research on the societal end goals of infrastructure with explicit reference to equity and justice. These are critical societal issues which have renewed importance in the wake of shifts to social needs, values, and power related to the COVID-19 pandemic.

Two specific findings in the review give weight to this literature gap. Firstly, relative to other policy goals such as sustainability, there is substantially less attention in the literature given to the issues of equality and justice. Justice is largely discussed in relation to climate justice, rather than other issues of social justice such as race and gender. Secondly, there are many questions regarding the social legitimacy of infrastructure, from how it is understood, to how it can be enacted and prioritised through governance approaches. In simple terms, substantial work is needed to understand potential alternative approaches.

## **Conclusion**

The findings from this study suggest that the infrastructure governance literature would enrich if future research explicitly focuses on: a) identifying pathways in which Indigenous issues/factors can be integrated into infrastructure decision making; b) deriving a joint strategy for infrastructure and climate polity; and c) infrastructure governance and delivery should be decided based on social equity and justice, in addition to their economic viability.

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