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Transport is one of the fastest-growing sources of carbon emissions and, in car-dependent cities, a sustained source of road trauma, congestion, and unequal access. In Auckland, transport accounts for 46.8% of gross emissions, the single largest source (Auckland Council, 2025). Improving alternatives alone rarely loosens car dependence, which is better understood as a feature of a wider system of provision than as a sum of individual choices (Mattioli et al., 2020). The Energy Cultures Framework treats behaviour as shaped by interactions between material conditions, everyday practices, cognitive norms, and external influences (Stephenson et al., 2010). It therefore provides the common analytical structure for examining car dependence as an embedded mobility culture, rather than only an individual travel choice. What remains less clear is how these systemic forces play out across radically different urban contexts, and which are context-specific rather than general. Single-city studies cannot fully answer this question. This doctoral study asks how, and why, sustainable mobility behaviour systems differ between Auckland and Guangzhou, studied as theoretically useful contrasting cases: a low-density, car-oriented Western city and a dense, transit-rich, rapidly motorising non-Western one. The study combines a systematic review-based synthesis of reported influences on mobility behaviour, an Auckland resident survey (target $n = 250$ to 300) covering the framework's dimensions, and a parallel Guangzhou survey supporting a dimension-by-dimension comparison. Preliminary review work points to car dependence as a self-reinforcing mobility system shaped by interacting material, practical, normative, and external conditions. In this presentation, I will focus on how the Energy Cultures Framework helps explain why improving transport alternatives may not be enough to loosen car dependence, and how this idea will guide the planned comparison between Auckland and Guangzhou.

Keywords

sustainable mobility, car dependence, mobility cultures, Energy Cultures Framework, Auckland and Guangzhou

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