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FUTURE CITY PASSENGER TRANSPORT SYSTEM SCENARIOS AND IMPLICATIONS

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Annotation. The world is rapidly changing and the future is uncertain, yet until recently the dominant assumption of the local passenger transport community has been that the existing modal landscape of cars, buses and taxis will remain much as it is now. Such a view is now shifting however, with decision makers now appreciating the need to understand the implications of potentially radical changes in the technological, political, economic, social and environmental spheres. Accordingly, in August 2015 the Public Transport 2045 study was commissioned to consider how different local public transport futures might affect society over the next 30-years, and at how governments might best respond.

Key words: transport, passenger transport, public transport sector, education, system.

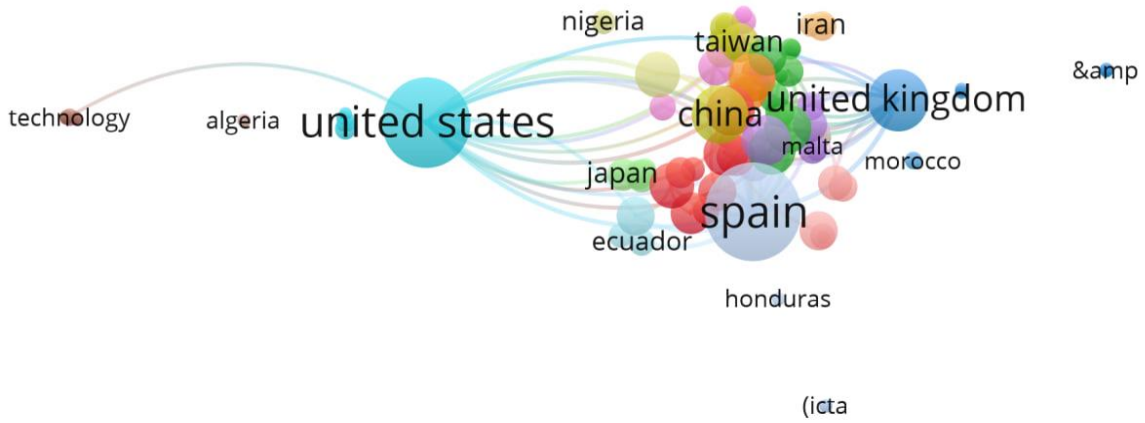

Fig 1. Countries engaged in urban passenger transport

The multi-phase study was based on individual in-depth interviews with 50 senior local passenger transport operators, government officials, lobbyists and experts from

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New Zealand and around the world; and four validation workshops with 28 sector stakeholders [1,2,3,4]. The data was analysed using mostly pre-determined themes from which four scenarios were constructed and then validated. The implications are that the local passenger transport system is about to transition to a system of 'shared mobility; public transport will need to evolve to stay relevant but will remain important in any scenario; and the role of Government will be vital in overseeing the transition to the shared mobility era. These lessons are now being used to inform transport and broader policy decisions across New Zealand [5,6,7,8]. Overall, the study is the first to apply such a global and qualitatively rich dataset to view the long-term future local passenger transport system as a whole [9].

Much has been written about the accelerating pace of societal and technological change, but, until recently, such statements have not typically been applied to the public transport sector [10,11,12,13]. Indeed, the operational concept underlying the bus for instance (i.e. large vehicles on fixed routes and operating on fixed timetables) has not fundamentally changed as a concept since its introduction almost 200 years ago (Agarwal et al., 2019; Vuchic, 2007; Potter et al., 2019). There is however growing evidence that this perspective is now beginning to change, with several recent reports serving to emphasise the need to understand the changing mobility landscape and the implications for the public transport sector [14,15,16,17]. Thus, the UK government policy paper, The Future of Mobility (GOfS 2019) proclaimed this to be "a time of unprecedented change in the transport system", whilst KPMG's Mobility 2030 study reported that technological innovation will "completely disrupt" the mobility ecosystem within a decade (KPMG, 2019) [18,19,20,21].

In response to this situation, in August 2015 the New Zealand Ministry of Transport (NZMOT) commissioned the Public Transport 2045 (PT2045) study to consider how different local public transport futures might affect society over a 30-year time horizon, and at how governments might best respond to secure the 'best' outcomes possible [22,23,24,25,26]. The latter aim reflects the strong influence that transport systems have on the liveability of cities. A role for policy makers at a time of technological and behavioural transition is to envision the types of places that their citizens can live in and to shape the urban transport systems involved. The purpose of this paper is to present the results of this study [27,28,29].

The transport system is about to transition to a system of 'shared mobility'. Three of the four scenarios envisage futures where private car ownership has dramatically fallen because alternatives have developed that people find more attractive. So, in 'Shared Shuttles', increasing urban density makes it easier for many people to access work, education, recreation, and friends or

Overall, this work is original because it is the first study to take such a broad view of the long-term future passenger transport system whilst using such a qualitatively

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rich and globally diverse set of interview and workshop data. Specifically, the study draws on 50 in-depth interviews with practitioners from New Zealand and from around the world, the results of which were then validated at four workshops which were attended by 28 practitioners in total. Finally, it is significant in that it

Research data for this article

Due to the fact that the questions asked in this study were intended primarily for a Government study, survey interviewees were assured raw data would remain confidential and would not be shared.

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