

33rd Annual Conference of the Australasian Association for Engineering Education (AAEE 2022)

4 - 7 December 2022 - Sydney, NSW



Title

James Davies
The University of Auckland
Jbab014@aucklanduni.ac.nz:

ABSTRACT

CONTEXT

The onset of the COVID-19 pandemic resulted in 91.2% of global schools and tertiary institutions being forced to transition into an online learning environment (UNESCO, 2020). Due to the sudden change in environments, the term emergency response learning has been coined. With tertiary students learning from home, a significant decrease in public transport (PT) usage has been seen. PT ridership decreased by 90% in the Netherlands (de Haas, Faber, Hamersma, 2020), 95% in the UK underground (Alfaro, 2020) and 90% in India (Pillai, 2020). With the ease of restrictions and tertiary institutions reopening, PT ridership is expected to increase, but with a mode choice shift imminent, it is not expected to reach pre-COVID levels.

PURPOSE OR GOAL

The aim of this report is to investigate the impact of COVID-19 and perceptions of online study on tertiary students' mode choice in relation to their educational institutes. Research objectives include; determining the favourable mode choice by university students before, during and after COVID-19, identifying how students' perceptions of online learning have influenced their mode choice preference and examining the behavioural elements that have influenced mode choice preference.

APPROACH OR METHODOLOGY/METHODS

A survey was conducted, netting 1261 respondents. The survey's primary focus was to identify tertiary students' preferred mode choice before, during and after lockdowns in New Zealand while also identifying factors that kept students away from university or caused change in mode choice. From here, statistical analysis such as logistic regression modelling and factor analysis will be used to identify changes in mode choice as well as behavioural factors causing these changes. It is also hoped a focus study will be conducted to gain a descriptive statistical analysis of students' perceptions of using public transport and online study.

ACTUAL OR ANTICIPATED OUTCOMES

It is anticipated that results will reinforce the findings of Munawar et al. (2021) and Manderson (2021), indicating public transport ridership decreased during lockdowns and returned to roughly 80% of pre-COVID levels once restrictions had eased. It is anticipated that factors such as convenience, comfort, and reduced risk of virus contraction will be statically significant factors contributing to mode choice change. It is also hypothesised that the shift to online study and work from home environments will be heavily weighted factors for the reduction in ridership.

CONCLUSIONS/RECOMMENDATIONS/SUMMARY

Full conclusions are not yet available due to research and findings still being conducted. However, based on previous works, it is expected to see a fall, followed by an increase in PT ridership, with the baseline levels not being reached. This, being due to changes in mode choice. Public transport usage must be made safe, accessible and encouraged by governments and councils for ridership to return pre-COVID levels.

REFERENCES

Munawar, H.S., Khan, S.I., Qadir, Z., Kouzani, A.Z., & Mahmud, M.A.P. (2021). Insight into the Impact of COVID-19 on Australian Transportation Sector: An Economic and Community-Based Perspective. *Sustainability*, *13*(3), 1276. https://doi.org/10.3390/su13031276

de Haas, M., Faber, R., & Hamersma, M. (2020). How COVID-19 and the Dutch 'Intelligent Lockdown' change activities, work and travel behaviour: Evidence from longitudinal data in the Netherlands. *Transportation Research Interdisciplinary Perspectives, 6*, 100150. https://doi.org/10.1016/j.trip.2020.100150

Pillai, S. (2020, May 29). Public Transit Use Likely to Fall Sharply after Lockdown: Study. *Hindustan Times*. https://www.hindustantimes.com/cities/public-transit-use-likely-to-fall-sharply-after-lockdown-study/story-GED7MKVY5pBM63VmBMH2dM.html

Alfaro, T.R. (2020, April 24). Transport for London to Place a Quarter of Its Staff on Furlough. *Bloomberg*. https://www.bloomberg.com/news/articles/2020-04-24/transport-for-london-to-place-a-quarter-of-its-staff-on-furlough

Team, V., & Manderson, L. (2020). How COVID-19 Reveals Structures of Vulnerability. *Medical Anthropology*, *39*(8), 671–674. https://doi.org/10.1080/01459740.2020.1830281

KEYWORDS

Public transport, mode choice, COVID-19.