

City of Melbourne: social needs, gaps in transit

Dr James Reynolds

2024-09-30

Introduction

Transit provision is often motivated by social needs, to provide at least some independent motorised mobility to those who cannot drive themselves.¹ In Victoria the State Government manages transit, although Local Government Authorities (LGAs) may have some influence². However, not much is known about gaps between social needs and transit supply across each LGA. This note reports needs-gaps in the City of Melbourne, as per³ and is part of a series examining each LGA in Greater Melbourne⁴.

Methods and results

This note adopts a similar methodology to Reynolds, Currie and Qu (in drafting)⁵, mapping transit Supply Index (SI) scores (using the *gtfssupplyindex* R package)⁶ and a composite needs indicator across seven categories⁷. SI are based on the frequency of service and how much of an area is within walking distance of stops/stations⁸. Results are reported for the Australian Bureau of Statistics' (ABS') Statistical Area 1s (SA1s) that are part of the City of Melbourne in 2021 and 2024, with comparisons made to the rest of the Inner SA4 (covering Yarra, Port Phillip and parts of Moonee Valley, Merri-Bek, Darebin and Stonnington) and the rest of Greater Melbourne.

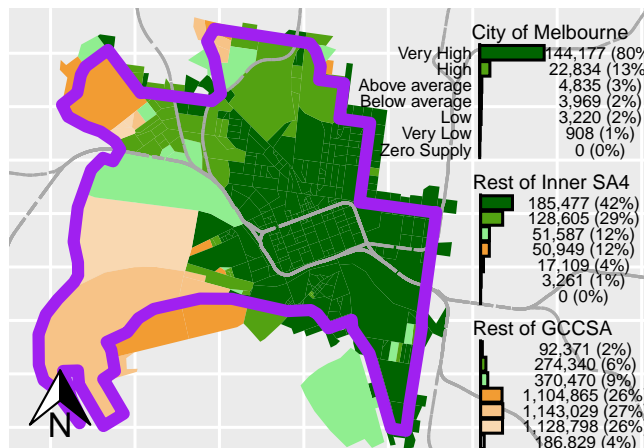


Figure 1 shows that most of the City of Melbourne population lives in SA1s⁹ with Very High transit supply, more so than for the

¹ Graham Currie, "Managing on-Road Public Transport," in *Handbook on Transport and Urban Planning in the Developed World*, ed. Michiel C. J. Bliemer, Corinne Mulley, and Claudine J. Moutou (Cheltenham, UK : Edward Elgar Publishing, 2016), 471–97, doi:10.4337/9781783471393.

² including through planning processes for infrastructure improvements (e.g. tram stop upgrades, bus lanes etc.)

³ Graham Currie, "Quantifying Spatial Gaps in Public Transport Supply Based on Social Needs," *Journal of Transport Geography* 18, no. 1 (2010): 31–41, doi:https://doi.org/10.1016/j.jtrangeo.2008.12.002.

⁴ See https://github.com/James-Reynolds/gtfssupplyindex_melbourne_LGA_2024

⁵ *Gtfssupplyindex_main_paper?*

⁶ James Reynolds, "Gtfssupplyindex," 2024, <https://github.com/James-Reynolds/gtfssupplyindex>.

⁷ Zero, Very Low, Low, Below average, Above average, High and Very High.

⁸ 400m for tram and bus, 800m for train.

Figure 1: Transit Supply by SA1 and population in 2021 (left) and 2024 (right)

⁹ There is a statistically significant difference in the share of SA1s in each Transit Supply category in 2021 between those SA1s within or intersecting the City of Melbourne and the rest of the Inner SA4 ($\chi^2(5) = 172.67$, $p < .001$) and between the Inner SA4 and the rest of the Greater Melbourne Greater Capital City Statistical Areas (GCCSA) ($\chi^2(6) = 5176.60$, $p < .001$).

rest of the Inner SA4 or the rest of Greater Melbourne. Figure 2 shows how service levels have changed between 2021 and 2024.

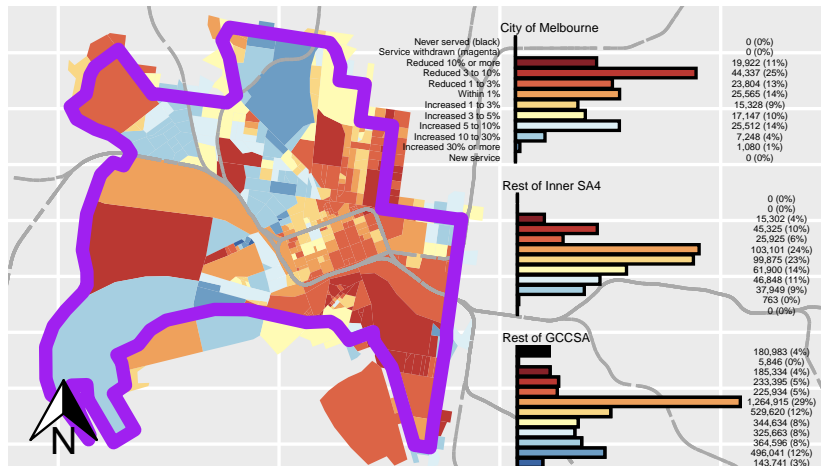
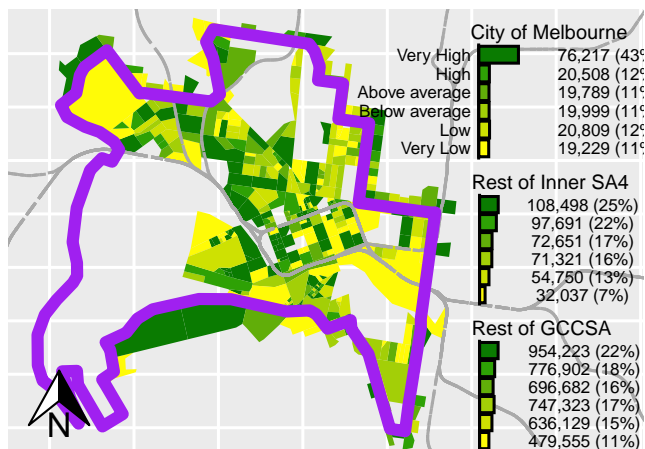


Figure 2: Change in SI score between 2021 and 2024 by SA1 and population



Results suggest show that SA1s¹⁰ accommodating

Figure 3: Transport by SA1 and population in 2021 (left) and change in SI by 2024 for those SA1s with Very High Needs but Very Low or Zero Supply in 2021 (2021 populations) (right). There is a statistically significant difference in the share of SA1s in each Transport Supply category in 2021 between those SA1s within or intersecting the City of Melbourne and the rest of the Inner SA4 ($\chi^2(8) = 161.14$, $p < .001$) and between the Inner SA4 and the rest of the Greater Melbourne Greater Capital City Statistical Areas (GCCSA) ($\chi^2(11) = 602.03$, $p < .001$).