

City of Melbourne: social needs, gaps in transit

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In Victoria, public transport is managed by the state government, although Local Government Authorities (LGAs) may have some influence on service levels through planning processes, advocacy etc. However, not much is known about how much transit is supplied or whether social needs for transport are being met within each LGA's boundaries. This note explores social needs-gaps in the City of Melbourne, using the Currie and Sendbergs (2007) methodology¹. It is part of a series examining each LGA in Greater Melbourne².

Methods

This note maps transport supply and a composite needs indicator based on Australian Bureau of Statistics (ABS) data. The methodology is as per Reynolds, Currie and Qu (in drafting)³. The Transit Supply Indication (SI) scores are based on the frequency of service and how much of an area is within walking distance of stops/stations⁴, are reported for the ABS' Statistical Area 1s (SA1s), and are categorized into seven groups based on the average scores for SA1s across the Melbourne Greater Capital City Statistical Area (GCCSA).

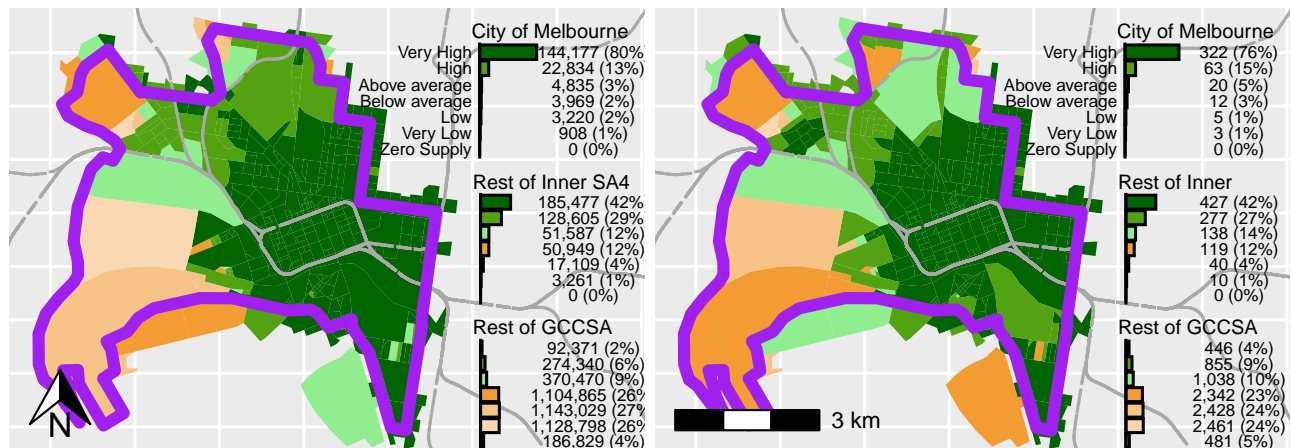
Results

¹ Graham Currie and Zed Senbergs, "Identifying Spatial Gaps in Public Transport Provision for Socially Disadvantaged Australians: The Melbourne 'Needs Gap' Study," 2007; Graham Currie, "Quantifying Spatial Gaps in Public Transport Supply Based on Social Needs," *Journal of Transport Geography* 18, no. 1 (2010): 31–41.

² See https://github.com/James-Reynolds/gtfssupplyindex_melbourne_LGA_2024 but lookout, I misspelled "Melbourne"

³ Forthcoming hopefully, but using the *gtfssupplyindex* R package (see <https://github.com/James-Reynolds/gtfssupplyindex>) to process the Victoria GTFS feed. Note that results represent what is in the GTFS feed for August 2021 and October 2024, which may not match services provided.

⁴ 400m for tram and bus, 800m for train.



In 2021 most of the City of Melbourne's population lived in SA1s with Very High levels of transit (Figure 1, left)⁵. However, as shown

Figure 1: Transport Supply 2021 (left, by population) and 2024 (right, by SA1)

⁵ Differences between the City of Melbourne and the Rest of the Inner SA4, by SA1, are statistically significant in 2021 ($\chi^2(5) = 172.67, p < .001$) and 2024 ($\chi^2(8) = 107.67, p < .001$). Differences with the rest of Melbourne are also statistically significant (2021: $\chi^2(6) = 4984.42, p < .001$, 2024: $\chi^2(10) = 2079.16, p < .001$).

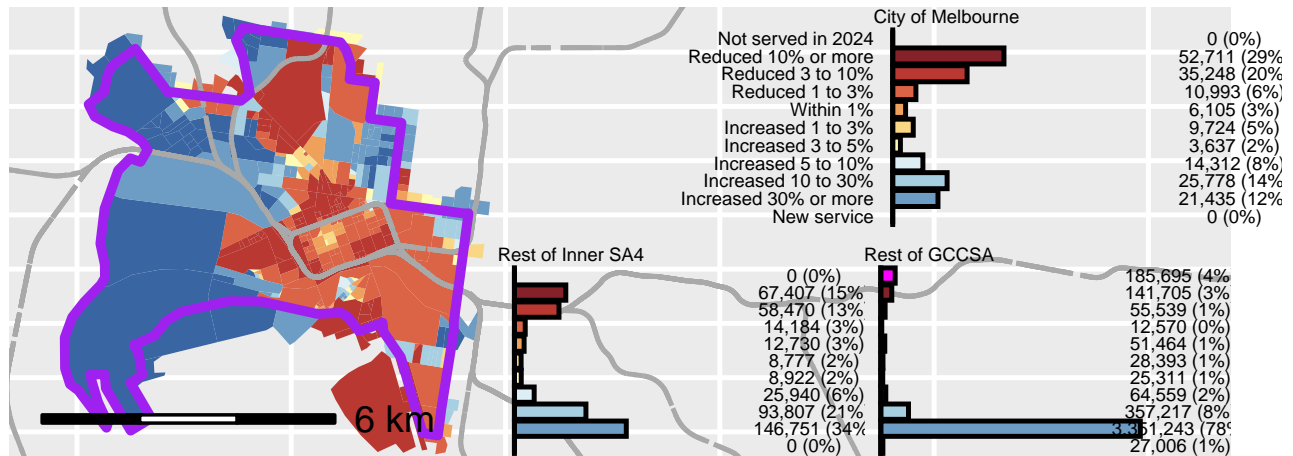


Figure 2: Change in SI score between 2021 and 2024 by SA1 and population

in Figure 2⁶, the coverage and frequency of transit service appears to have reduced by 2024 more for those in the City of Melbourne.

⁶ Differences are statistically significant (rest of the Inner SA4: $\chi^2(8) = 107.67$, $p < .001$, & rest of GCCSA: $\chi^2(10) = 2079.16$, $p < .001$)

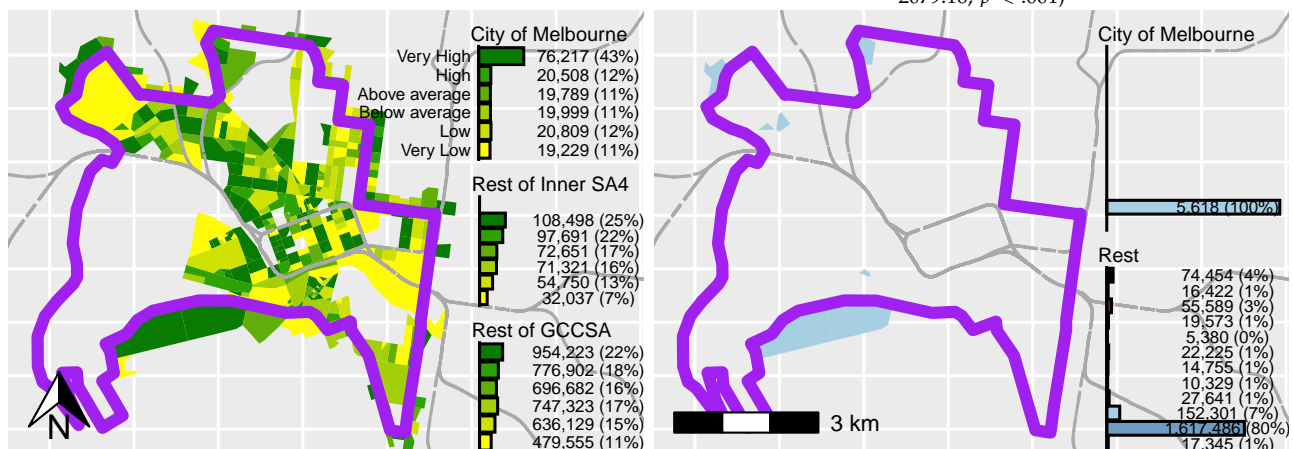


Figure 3: 2021 needs (left) and change in SI to 2024 for those SA1s with needs above average, but below average supply (by 2021 populations, right)

Social needs for transport in the City of Melbourne in 2021 were High or Very High for more than half the population (Figure 3, left), more than for other parts of Melbourne⁷. Figure 3 (right) shows how transit service levels changed between 2021 and 2024 for those who were living in SA1s with needs above, but supply below the GCCSA average⁸. Those SA1s with the largest gaps in the City of Melbourne in 2021 mostly have similar levels of, or more, transit in 2024.

Overall, the City of Melbourne appears well supplied with transit and, compared to other parts of Greater Melbourne, has lower gaps between social needs and transit supply⁹. Those with the largest needs-gaps in 2021 appear to have similar or more transit in 2024.

⁷ Statistically significant for City of Melbourne vs rest of Inner: $\chi^2(5) = 54.15$, $p < .001$, and vs rest of GCCSA $\chi^2(5) = 56.43$, $p < .001$.

⁸ Fisher's tests show no significant differences between the City of Melbourne and the rest of the Inner SA4 ($p = 0.716$) or the Rest of the GCCSA ($p = 1$).

⁹ Only 3.1% of City of Melbourne residents had above average social needs for transport but below average transit supply, compared with 10.5% in the rest of the Inner SA4 and 46.2% across the rest of Melbourne.