

City of Monash: social needs, gaps in transit

Dr James Reynolds

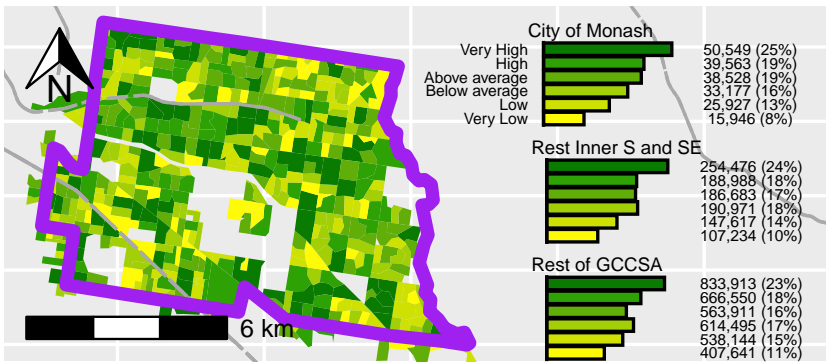
2024-11-08

This note is part of a series examining transit social needs-gaps in Greater Melbourne¹. In Victoria, transit is a state government responsibility, although Local Government Authorities (LGAs) may have some influence through planning processes and advocacy. However, it is unclear how much transit is supplied or how well social needs for transport are met for each LGA. The Currie and Sendbergs (2007)² methodology is used this note explores needs for transport, and transit provision in 2021 and 2023, in the City of Monash.

METHODS:

Scores for transit supply and transport needs were calculated based on Australian Bureau of Statistics (ABS) data and the Victorian GTFS feed³ using the *gtfssupplyindex* R package⁴ as per Reynolds, Currie and Qu (in drafting)⁵. Results are shown for the ABS' Statistical Area 1s (SA1s), categorized based on averages across the Melbourne Greater Capital City Statistical Area (GCCSA).

RESULTS: Social needs for transport in Monash in 2021 and comparison with the Rest of the Inner South and South East SA4s⁶ and the rest of Greater Melbourne by population are shown in Figure 1.



Social needs for transport were higher than the Melbourne average for 63.2% of the Monash population. This is similar to the rest of the Inner South and South East SA4s⁷, but higher than elsewhere (57.0% living in SA1s with needs higher than the average)⁸.

Figure 2 shows the distribution of transit service in 2021 and 2023. Transit service levels were below the Melbourne average for 69.6% of Monash residents in 2021. This is better than for the rest of the Inner

¹ See <https://tinyurl.com/4rctaxfc>



² 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.

³ August 2021 and 2023 data is used, but may not match services run.

⁴ See <https://github.com/James-Reynolds/gtfssupplyindex>

⁵ James Reynolds, Graham Currie, and Yanda Qu, "Social Needs for Transport and Gaps in Transit Service: New GTFS Tools," *In Drafting*, 2024.

⁶ LGAs: Glen Eira, Bayside, Dandenong, Kingston, Casey, (almost all of) Cardinia, part of Stonnington.

Figure 1: Needs in 2021 by population

⁷ Differences were not statistically significant ($\chi^2(5) = 5.15, p = .397$).

⁸ Differences were statistically significant ($\chi^2(5) = 13.22, p = .021$).

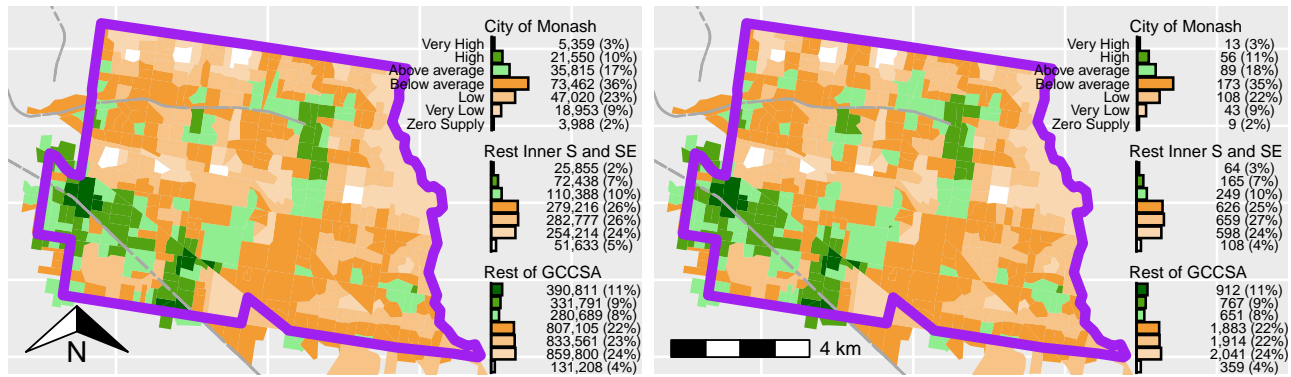


Figure 2: Transport Supply 2021 (left, by population) and 2023 (right, by SA1)

⁹ Differences were statistically significant ($\chi^2(6) = 105.63, p < .001$).

¹⁰ Differences were statistically significant ($\chi^2(6) = 163.83, p < .001$).

South and South East SA4s (80.6%)⁹ and for the rest of Melbourne (72.4%)¹⁰. The distribution of transit supply, categorised with respect to the Melbourne average, appears similar in 2023 (Figure 2, right). Figure 3 directly compares 2021 and 2023 transit service levels.

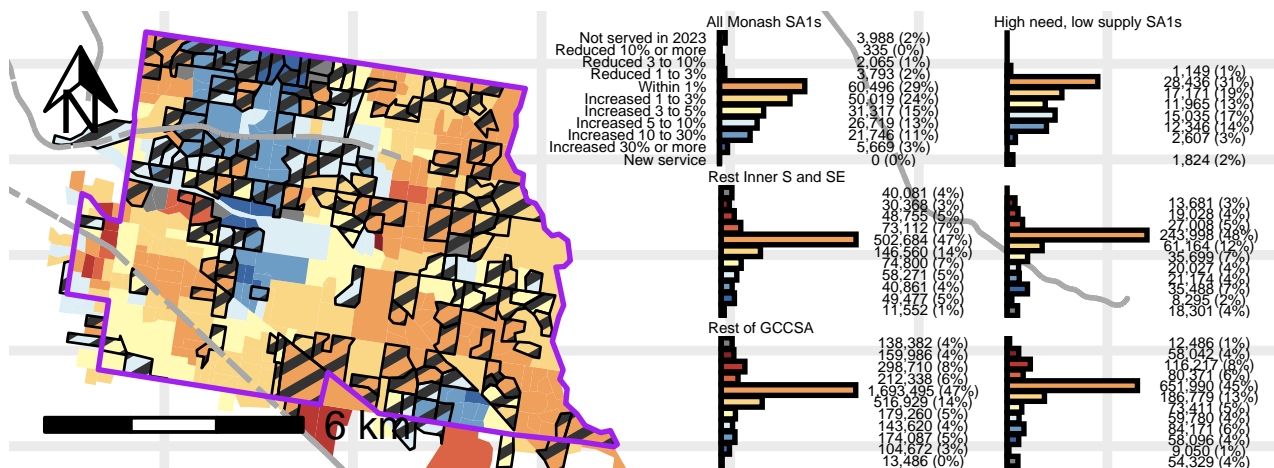


Figure 3: Transit service change 2021 to 2023. SA1s with needs above, but supply below, average highlighted in black.

¹¹ Differences were statistically significant ($\chi^2(10) = 221.10, p < .001$).

¹² Differences were statistically significant ($\chi^2(10) = 342.65, p < .001$).

¹³ Shown with black in Figure 3. This compares to 46.8% of Inner South and South East SA4 residents and 39.7% of those elsewhere in Melbourne.

¹⁴ Differences were statistically significant ($\chi^2(10) = 104.91, p < .001$).

¹⁵ Differences were statistically significant ($\chi^2(11) = 126.60, p < .001$).

Transit levels increased by 1% or more for 95.1% of Monash residents between 2021 and 2023. In comparison, only 14.9% of those in the rest of the Inner South or South East SA4s¹¹ and 12.0% of those elsewhere in Greater Melbourne saw increases of 1% or more¹². 43.9% of the Monash population lived in SA1s with *needs above, but supply below* the Melbourne averages in 2021¹³. However, for 67.3% of this cohort service levels increased 1% or more, a higher proportion than for the similar cohorts in the rest of the Inner South and South East SA4s (39.7%)¹⁴, and elsewhere (32.6%)¹⁵.

Overall, Monash residents appear less likely to have had transit service levels below Melbourne's average, and more likely to have seen increases, including for those with larger needs-gaps.