

City of Monash: social needs, gaps in transit

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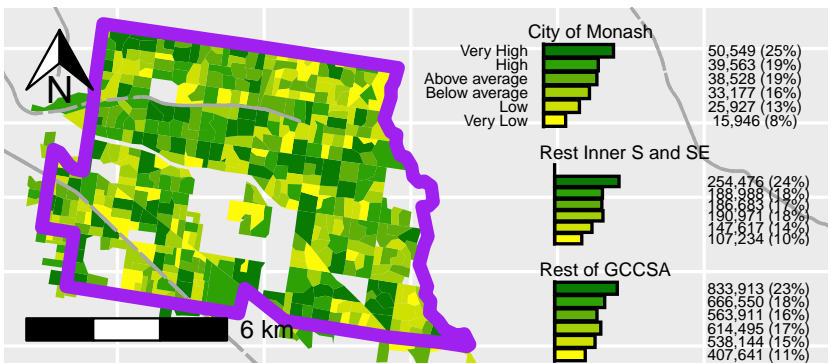
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This note explores social needs for transport and the amount of transit provided in the City of Monash, using the Currie and Sendbergs (2007) methodology¹. In Victoria, public transport is managed by the state government, although Local Government Authorities (LGAs) may have influence through planning processes, advocacy etc. However, it is unclear how much transit is supplied or how well social needs are met each LGA. This note examines the City of Monash in 2021 and 2023, and is part of a series examining LGAs in Greater Melbourne².

METHODS:

Scores for transit supply and transport needs were calculated based on Australian Bureau of Statistics (ABS) data using the *gtfs-supplyindex* R package³ to process the Victorian GTFS feed⁴ as per Reynolds, Currie and Qu (in drafting)⁵. Results are shown for the ABS' Statistical Area 1s (SA1s), categorized into groups 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 in Monash in 2021 were Very High or High for 44% of the population. This is similar to the rest of the Inner South and South East SA4s, but higher than elsewhere⁷.

Figure 2, left, shows how almost three-quarters (73%) of Monash's

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

⁴ Note that results are based on the GTFS feeds for August 2021 and 2023, so may not match services run.

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, Monash, Kingston, Casey, (almost all of) Cardinia, part of Stonnington.

Figure 1: Needs in 2021 by population

⁷ Differences with the rest of the South East SA4 were not statistically significant ($\chi^2(5) = 5.15, p = .397$). Differences with the rest of Greater Melbourne were statistically significant ($\chi^2(5) = 13.22, p = .021$).

residents lived in SA1s with transit service levels below Greater Melbourne's average in 2021.

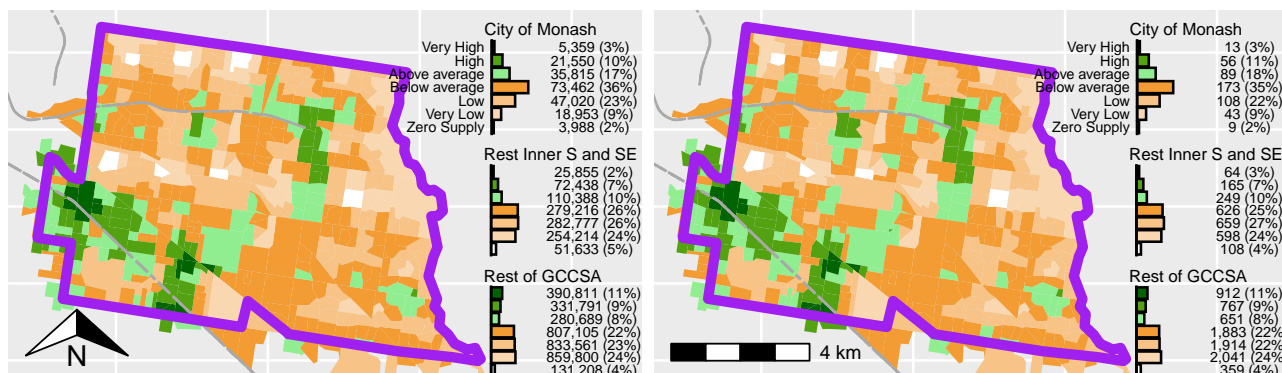


Figure 2: Transport Supply 2021 (left, by population) and 2023 (right, by SA1)

Monash's SA1s generally had higher service levels than elsewhere⁸. Service distribution relative to the Melbourne average appears to be generally similar in 2023 (Figure 2, right) as in 2021, but comparing actual (raw numerical) service level scores between 2021 and 2023 (Figure 3) suggests that most Monash residents saw transit improve.

⁸ Differences were statistically significant between Monash and the Rest of the Inner South and South East SA4s in 2021 ($\chi^2(6) = 95.10, p < .001$) and 2023 ($\chi^2(6) = 105.63, p < .001$), and with the rest of Melbourne (2021: $\chi^2(6) = 163.83, p < .001$; 2023: $\chi^2(6) = 182.52, p < .001$).

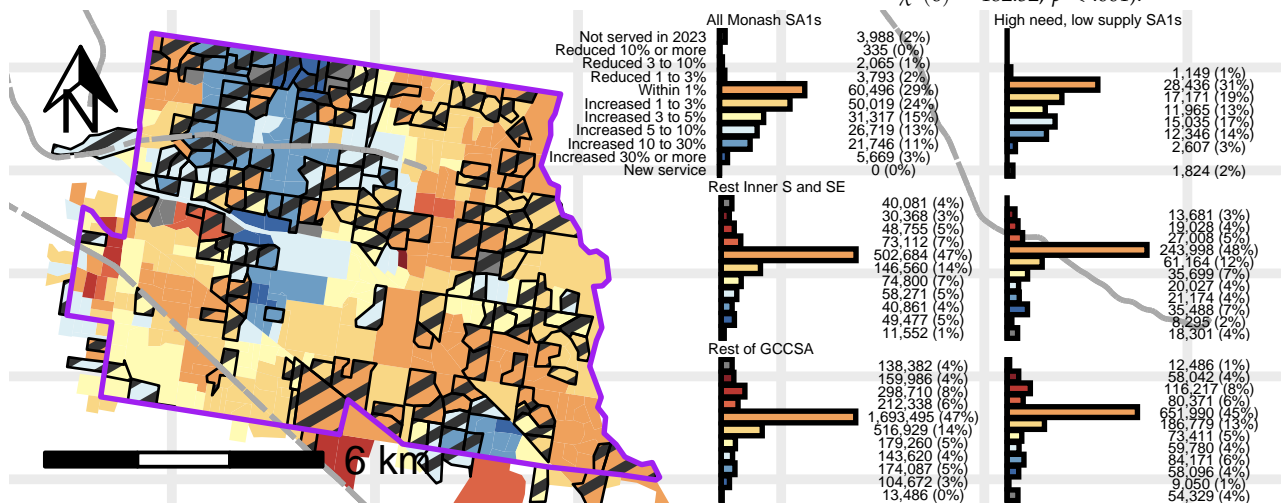


Figure 3: Transit service change 2021 to 2023. SA1s with needs above, but supply below, average highlighted in black.

Monash residents appear more likely than those elsewhere in Greater Melbourne to have had services increase 1% or more between 2021 and 2023⁹. This also applies to those (43.9% of the Monash population) with *needs above, but supply below* average in 2021¹⁰.

Overall, Monash residents appear less likely to have transit service levels below Melbourne's average, and¹¹ more likely to have seen increases between 2021 and 2023.

⁹ Differences with the South East SA4 are statistically significant ($\chi^2(10) = 221.10, p < .001$) as are difference with the rest of Melbourne ($\chi^2(10) = 342.65, p < .001$).

¹⁰ Differences with the rest of the Inner South and South East SA4s were significant (46.8% of residents, $\chi^2(10) = 104.91, p < .001$) and also with the rest of Greater Melbourne (39.7%, $\chi^2(11) = 126.60, p < .001$).

¹¹ Including those with larger needs-gaps.