City of Glen Eira: social needs, gaps in transit

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This note explores social needs for transport, and transit provision in the City of Glen Eira, using the Currie and Sendbergs (2007) methodology[1]. 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 for each LGA. This note examines the City of Glen Eira in 2021 and 2023, and is part of a series on LGAs in Greater Melbourne[2].

Methods:

Scores for transit supply and transport needs were calculated based on the Victorian GTFS feed[3] and Australian Bureau of Statistics (ABS) data using the *gtfssupplyindex* R package[4] 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 Figure 1 compares social needs for the Rest of the Inner South SA4[6] and the rest of Greater Melbourne with those for the City of Glen Eira.

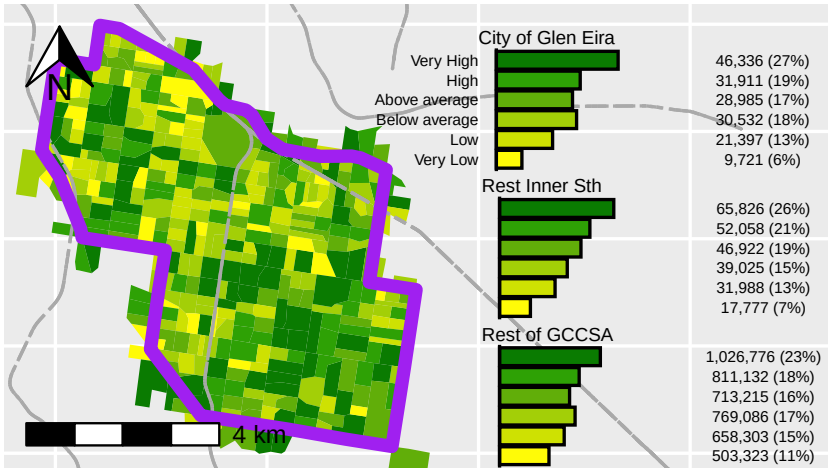

Figure 1: Needs in 2021 by population

Needs were higher than the Melbourne average for 63% of the City of Glen Eira's population, a larger share than for parts of Greater Melbourne beyond the Inner South SA4 (57%)[7].

[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_melbounre_LGA_2024` but lookout, I misspelled "Melbourne"

[3] Results are based on GTFS feeds for August 2021 and 2023, so 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: Bayside, and parts of Stonnington, Monash and Kingston

[7] Difference between the City of Glen Eira and the rest of the Inner South Sa4 were not statistically significant ($\chi^2(5) = 2.35$, $p = .799$. Differences between the City of Glen Eira and the rest of Greater Melbourne were statistically significant ($\chi^2(5) = 24.10$, $p < .001$).

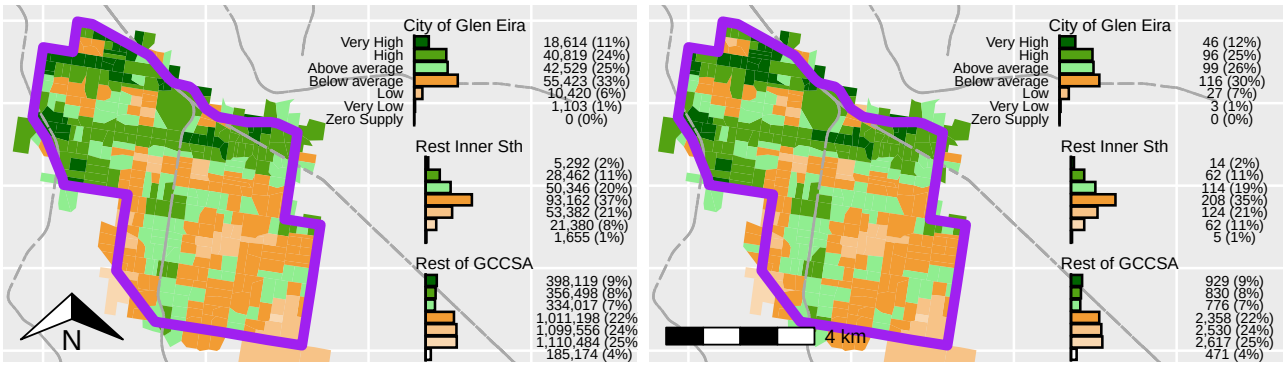

Figure 2: Transport Supply 2021 (left, by population) and 2023 (right, by SA1)

Figure 2 shows the distribution of transit service in 2021 and 2023. Transit service levels were below the Melbourne average for 40% of City of Glen Eira residents in 2021, which is less than for the rest of the Inner South SA4 (67%)[8] or the rest of Melbourne (76%)[9]. 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.

[8] Differences were statistically significant ($\chi^2(6) = 136.47$, $p < .001$).

[9] Differences were statistically significant ($\chi^2(6) = 444.83$, $p < .001$).

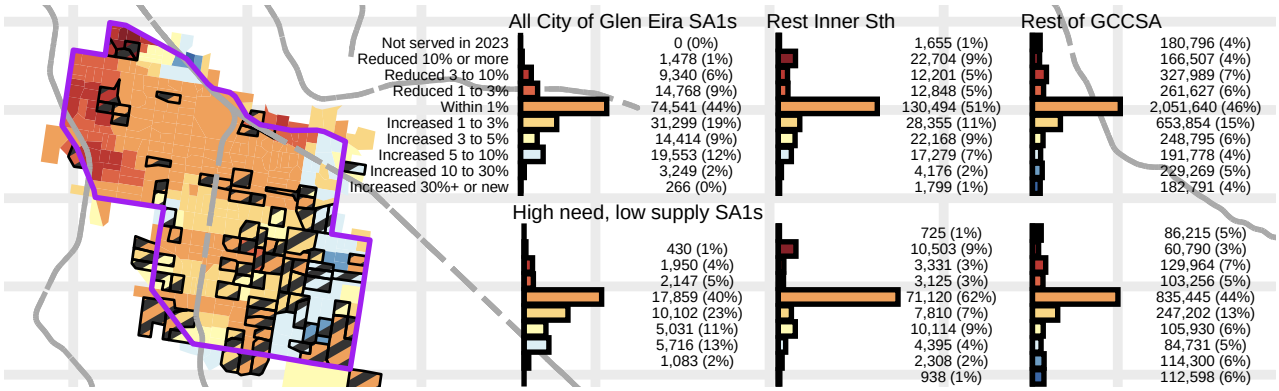

Figure 3: Transit service change 2021 to 2023. SA1s with needs above, but supply below, average highlighted in black.

Transit levels increased by 1% or more by 2023 in SA1s that were home to 41% of City of Glen Eira residents in 2021, which is a greater proportion than for the rest of Inner SA4 (29%)[10] or the rest of Greater Melbourne (34%)[11]. Only 26% of the City of Glen Eira population lived in SA1s with *needs above, but supply below* the Melbourne averages in 2021[12]. For 49% of this cohort service levels increased 1% or more, which is a higher proportion than for the similar cohorts in the rest of the Inner South SA4 (22%)[13] or elsewhere (35%)[14].

Overall, City of Glen Eira residents appear less likely to have had transit service levels below Melbourne's average and more likely to have seen increases between 2021 and 2023.

[10] Differences were statistically significant ($\chi^2(9) = 42.53$, $p < .001$).

[11] Differences were statistically significant ($\chi^2(9) = 96.35$, $p < .001$).

[12] Shown with black in Figure 3. This compares to 45% of Inner South SA4 residents and 42% of those elsewhere in Melbourne.

[13] Differences were statistically significant (Fisher test p = 5e-04).

[14] Differences were statistically significant (Fisher test p = 0.000207).