City of Boroondara: social needs, gaps in transit

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This note explores social needs for transport, and transit provision in the City of Boroondara, 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 Boroondara 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 Australian Bureau of Statistics (ABS) data and the Victorian GTFS feed[3] 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:

Figure 1 compares social needs for transport in the Rest of the Inner and Inner East SA4s[6] and for the rest of Greater Melbourne with those for the City of Boroondara.

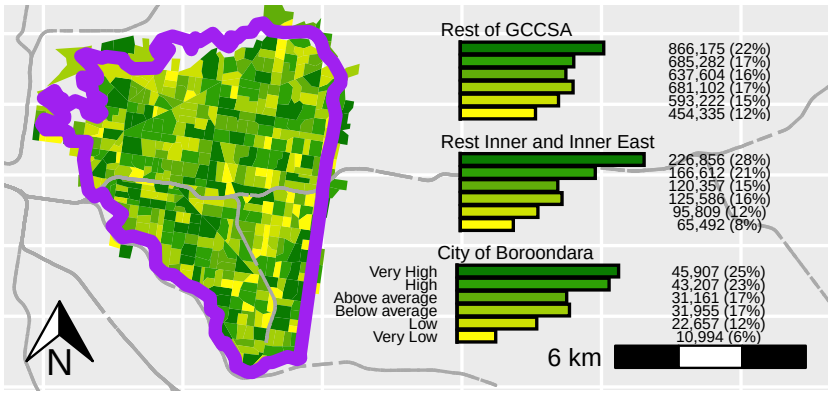

Figure 1: Needs in 2021 by population, suburban railways shown in grey

Needs were higher than the Melbourne average for 64.7% of the Boroondara population, which is a greater proportion than elsewhere in Melbourne, beyond the Inner and Inner East SA4s (55.9%)[7].

Figure 2 shows the distribution of transit service in 2021 and 2023. Transit service levels were below the Melbourne average for 50.1%

[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: City of Melbourne, Port Phillip, Yarra, and parts of Moonee Valley, Merri-Bek, Darebin, Stonnington, Whitehorse and Manningham.

[7] Differences between Boroondara and the rest of the Inner and Inner East SA4s were not statistically significant ($\chi^2(5) = 6.53$, $p = .258$). Differences with the rest of Greater Melbourne were statistically significant ($\chi^2(5) = 31.73$, $p < .001$).

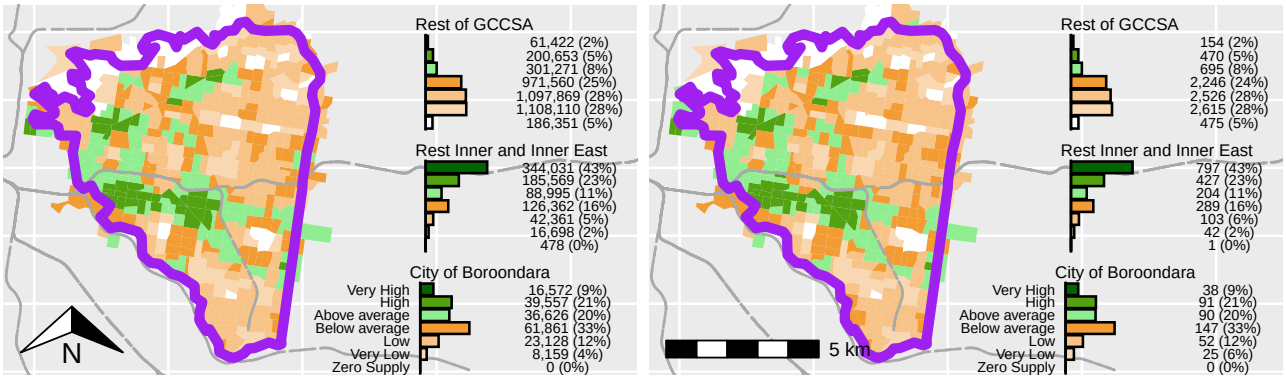

Figure 2: Transport Supply 2021 (left, by population) and 2023 (right, by SA1)

of Boroondara residents in 2021, which is a larger proportion than for the rest of the Inner and Inner East SA4s (23.1%)[8] but a lower proportion than for the rest of Melbourne (85.7%)[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 ($\chi^2(6) = 235.17$, $p < .001$).

[9] Differences were statistically significant ($\chi^2(6) = 531.22$, $p < .001$).

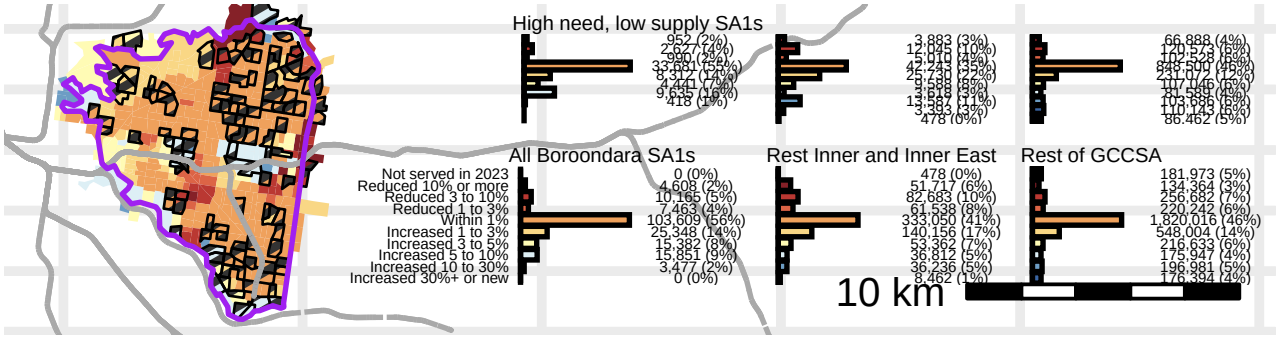

Figure 3: Transit service change 2021 to 2023. SA1s with needs above, but supply below, average highlighted in black.

Transit levels increased by 1% or more between 2021 and 2023 for 32.3% of Boroondara residents, but this was a slightly lower share than than for those living in parts of the rest of Melbourne outside of the Inner or Inner East SA4s (33.5%)[10]. 32.8% of the Boroondara population lived in SA1s with *needs above, but supply below* the Melbourne averages in 2021[11]. However, for 37.4% of this cohort service levels increased 1% or more, again a lower proportion than for the rest of Inner and Inner East SA4s (46.8%)[12], but higher than for the rest of Greater Melbourne (34.1%)[13].

Overall, Boroondara residents appear more likely to have lower transit service than those elsewhere in the Inner and Inner South SA4s but higher than those in the rest of Greater Melbourne

[10] Differences were statistically significant ($\chi^2(5) = 31.73$, $p < .001$) to areas outside of the Inner or Inner East SA4s, but not significant for differences between Boroondara and other parts of the Inner and Inner East SA4s ($\chi^2(5) = 6.53$, $p = .258$).

[11] Shown with black in Figure 3. This compares to 14.9% of Inner and Inner East SA4s residents and 47.3% of those elsewhere in Melbourne.

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

[13] Differences were statistically significant ($\chi^2(5) = 31.73$, $p < .001$).