Clarinda (South-Eastern Metropolitan) State Electoral Division: social needs, gaps in transit

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This note is part of a series examining transit social needs-gaps in Greater Melbourne[1]. In Victoria, public transport is the responsibility of the state government, which is formed from among Members of Parliament elected to represent individual State Electoral Divisions (seats). However, it is unclear how much transit is supplied or how well social needs for transport are met within each seat. Using the Currie and Sendbergs (2007) methodology[2], this note explores social needs for transport, and transit provision in 2021 and 2023, in the Clarinda (South-Eastern Metropolitan) State Electoral Division,

[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.

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).

[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.

Results: Figure 1 compares social needs for similarly located seats[6], and for the rest of Greater Melbourne with those for the Clarinda (South-Eastern Metropolitan) State Electoral Division.

[6] Mount Waverley, Oakleigh, Mulgrave, Keysborough, Bentleigh, Sandringham and Mordialloc

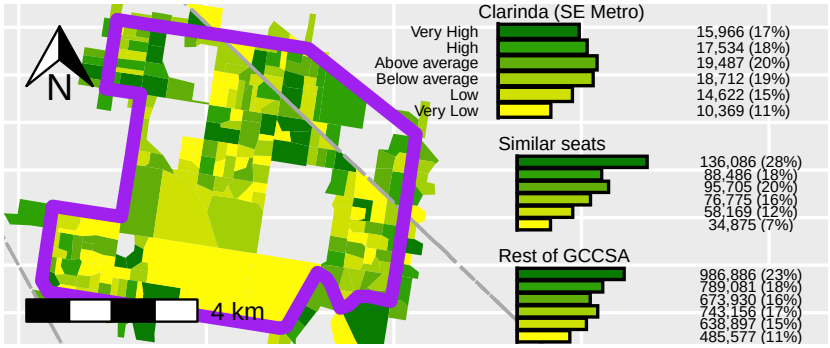

Figure 1: Needs in 2021 by population, with suburban railways shown in grey

Needs were higher than the Melbourne average for 54.8% of the seat of Clarinda's population[7].

Figure 2 shows the distribution of transit service in 2021 and 2023. Service levels were below the Melbourne average for 67.2% of Clarinda (SE Metro) residents in 2021. There was no statistically

[7] Differences between the seat of Clarinda and similarly located seats, or with the rest of Greater Melbourne were not statistically significant ($\chi^2(5) = 13.93$, $p = .016$)($\chi^2(5) = 4.54$, $p = .474$)

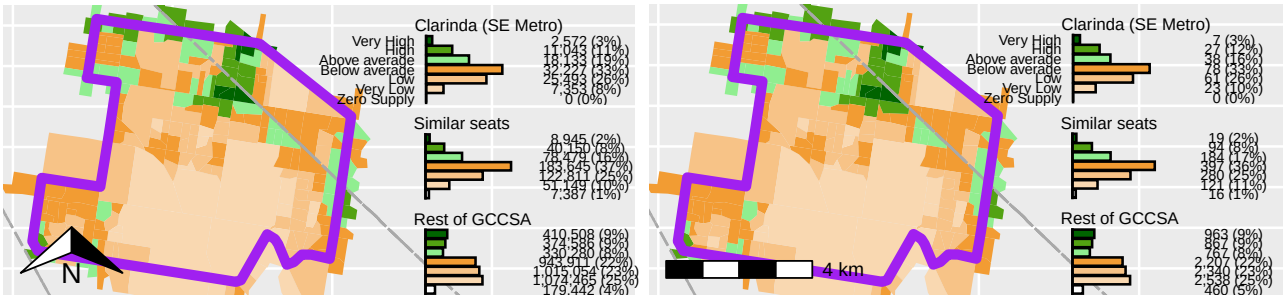

Figure 2: Transport Supply 2021 (left, by population) and 2023 (right, by SA1)

significant difference between the shares of supply in Clarinda and surrounding seats[8] but the share was less than that for the rest of Melbourne (74.2%)[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 service levels.

[8] $\chi^2(6) = 7.63$, $p = .266$

[9] Differences were statistically significant ($\chi^2(6) = 84.23$, $p < .001$).

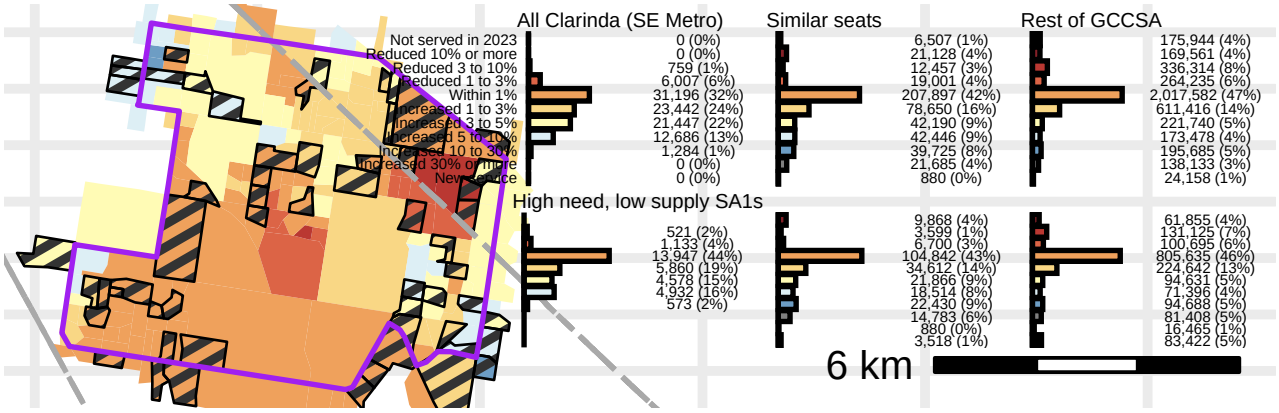

Figure 3: Transit service change 2021 to 2023. SA1s with needs above, but supply below, average highlighted in black.

Transit levels increased by 1% or more by 2023 in SA1s that were home to 60.8% of Clarinda (SE Metro) residents in 2021, which is a larger share than for similarly located seats (45.8%)[10] or the rest of Greater Melbourne (31.5%)[11]. 32.6% of the Clarinda (SE Metro) population lived in SA1s with *needs above, but supply below* the Melbourne averages in 2021[12]. However, for 50.5% of this cohort service levels increased 1% or more, a higher proportion than for the similar cohort living in similarly located seats (46.8%)[13].

Overall, Clarinda (SE Metro) residents appear to have had similar transit service levels to those in similarly located seats, but were less likely to have less than Melbourne's average than the rest of Melbourne. They were also more likely to have seen service increases between 2021 and 2023 than those in nearby seats or the rest of Melbourne.

[10] Differences were statistically significant ($\chi^2(10) = 73.96$, $p < .001$).

[11] Differences were statistically significant ($\chi^2(10) = 211.56$, $p < .001$).

[12] Shown with black in Figure 3. This compares to 49.1% of residents of similarly located seats and 40.8% of those elsewhere in Melbourne.

[13] Differences were statistically significant (Fisher test p = 0.0161). Differences with the rest of Greater Melbourne were not statistically significant (Fisher test p = 0.474).