

City of Bayside: social needs, gaps in transit

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In Victoria, public transport is managed by the state government, although Local Government Authorities (LGAs) may have some influence on service levels through planning processes, advocacy etc. However, not much is known about how much transit is supplied or whether social needs for transport are being met within each LGA’s boundaries. This note explores social needs-gaps in the City of Bayside, using the Currie and Sendbergs (2007) methodology¹. It is part of a series examining each LGA in Greater Melbourne².

Methods

This note maps transport supply and a composite needs indicator based on Australian Bureau of Statistics (ABS) data. The methodology is as per Reynolds, Currie and Qu (in drafting)³, and involves Transit Supply Indication (SI) scores, which are based on service frequency and how much of an area is within walking distance of stops/stations⁴. Results are shown for ABS’ Statistical Area 1s (SA1s), categorized into seven groups based on the average scores for SA1s across the Melbourne Greater Capital City Statistical Area (GCCSA).

Results

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 Forthcoming hopefully, but using the *gtfssupplyindex* R package (see <https://github.com/James-Reynolds/gtfssupplyindex>) to process the Victoria GTFS feed. Note that results represent what is in the GTFS feed for August 2021 and 2023, which may not match services provided.

⁴ 400m for tram and bus, 800m for train.

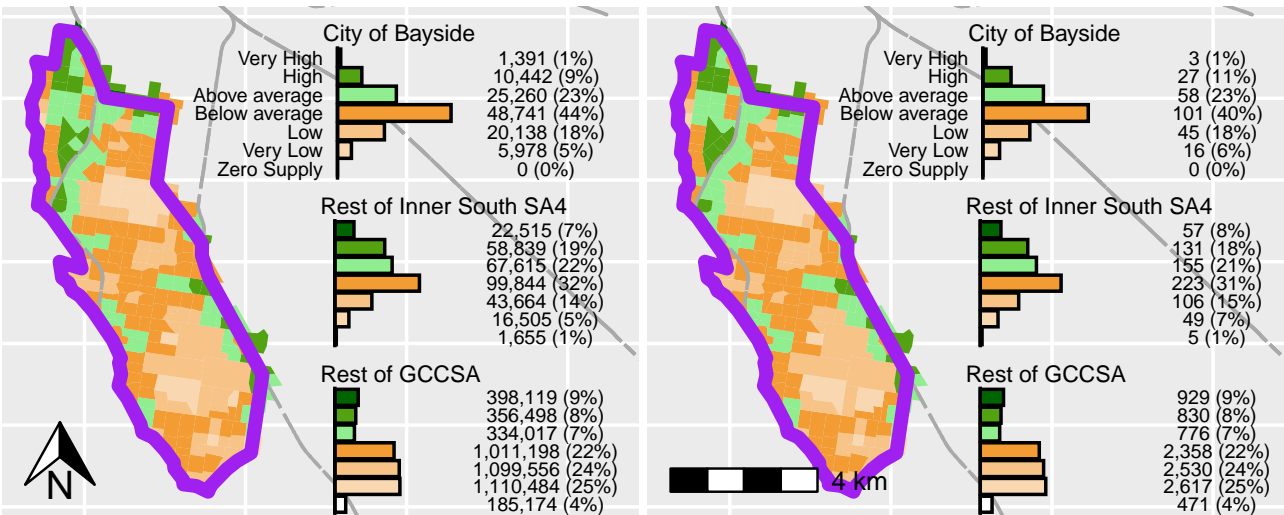


Figure 1: Transport Supply 2021 (left, by population) and 2023 (right, by SA1)

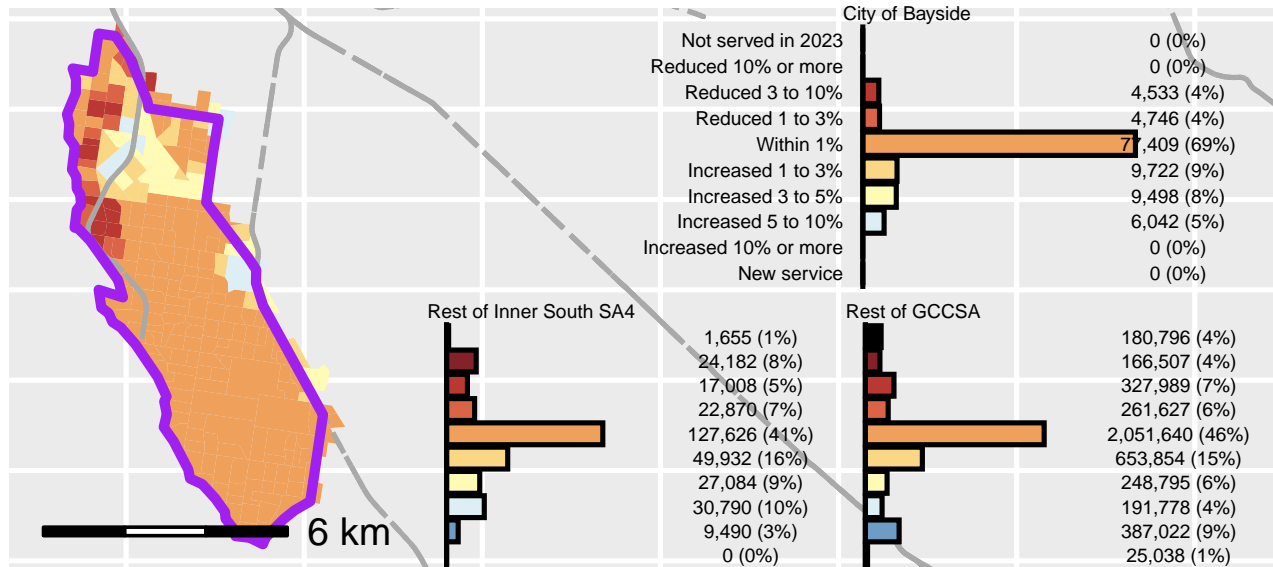


Figure 2: Change in SI score between 2021 and 2023 by SA1 and population

In 2021 most of the City of Bayside's population lived in SA1s with transit service levels that were below average (Figure 1, left)⁵. However, as shown in Figure 2, coverage and frequency of transit appears to have increased by 2023 for more of those in the City of Bayside than in other parts of the Inner South SA4 ($\chi^2(8) = 62.58$, $p < .001$ or the rest of Melbourne ($\chi^2(9) = 79.33$, $p < .001$).

⁵ Differences with the Rest of the Inner South SA4 (covering Glen Eira and parts of Stonnington, Kingston and Monash), by SA1, are statistically significant in 2021 ($\chi^2(6) = 30.51$, $p < .001$) and 2023 ($\chi^2(8) = 62.58$, $p < .001$). Differences with the rest of Melbourne are also statistically

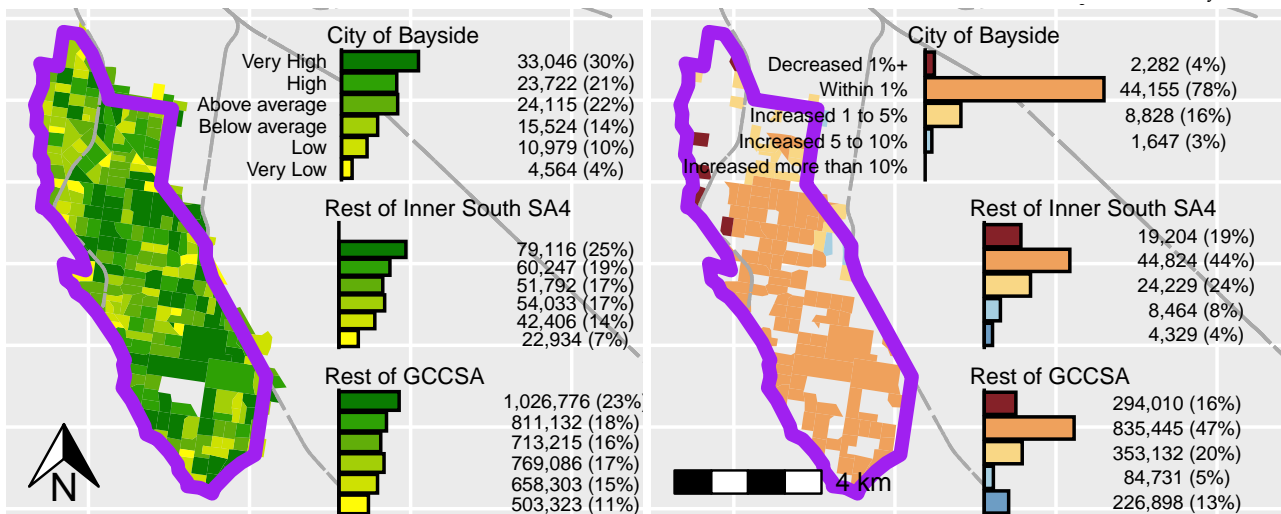


Figure 3: 2021 needs (left) and change in SI to 2023 for those SA1s with needs above average, but below average supply (by 2021 populations, right)

Social needs for transport in the City of Bayside in 2021 were High or Very High for more than half the population (Figure 3, left), which is more than for other parts of the Inner South SA\$ or the rest of Mel-

bourne⁶. Figure 3 (right) shows how transit service levels changed between 2021 and 2023 for those who were living in SA1s with needs above, but supply below, the GCCSA average⁷. Those SA1s with the largest gaps in the City of Bayside in 2021 mostly have similar levels of, or more, transit in 2023, with a lower proportion having had service reductions than elsewhere in the Inner South SA4 or the rest of Melbourne..

Overall, a greater share of residents have transit supply that is below average in the City of Bayside than in the rest of the Inner South SA4, but less than for other parts of Greater Melbourne. 50.8% of City of Bayside residents had above average social needs for transport but below average transit supply, compared with 32.5% in the rest of the Inner South SA4 and 39.9% across the rest of Melbourne. However, a greater proportion of those with the largest needs-gaps in 2021 in the City of Bayside had similar or more transit in 2023 than for the rest of the Inner South SA4 and Melbourne..

⁶ Differences were statistically significant for the Inner South SA4 $\chi^2(5) = 13.98, p = .016$ and the rest of GCCSA were $\chi^2(5) = 40.35, p < .001$.

⁷ There are significant differences between the City of Bayside and the rest of the Inner South SA4 ($p = \chi^2(4) = 33.46, p < .001$) and the Rest of the GCCSA ($p = \chi^2(4) = 45.72, p < .001$).