

SMOKED OUT: THE SPATIAL VARIATION OF VAPE RETAILER PROVISION IN NEW ZEALAND

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INTRODUCTION

- E-cigarettes and vapes have exploded in popularity globally.
- In New Zealand, 27% of adults, or 1.1 million people, had ever tried vaping.
- Rangatahi, aged 18-24 had the highest rate of daily vaping in 2021/22 (22.9%), up from 5.0% in 2019/20.

AIMS

- **Identify if inequality in access exists in NZ**
 - How does ethnicity and area-level deprivation relate to vape store access?
 - How have patterns developed over time?
 - How do vape stores cluster around schools?

OUR DATA

- National register of Specialised Vape Stores (n=981).
- Census data at the statistical area 2 (SA2) level.
- Location and demographics of enrolled students from New Zealand Schools, Schools Directory Builder (n=2,508).
- Area-level deprivation was defined using the New Zealand Deprivation Index 2018 (NZDep2018) quintiles.

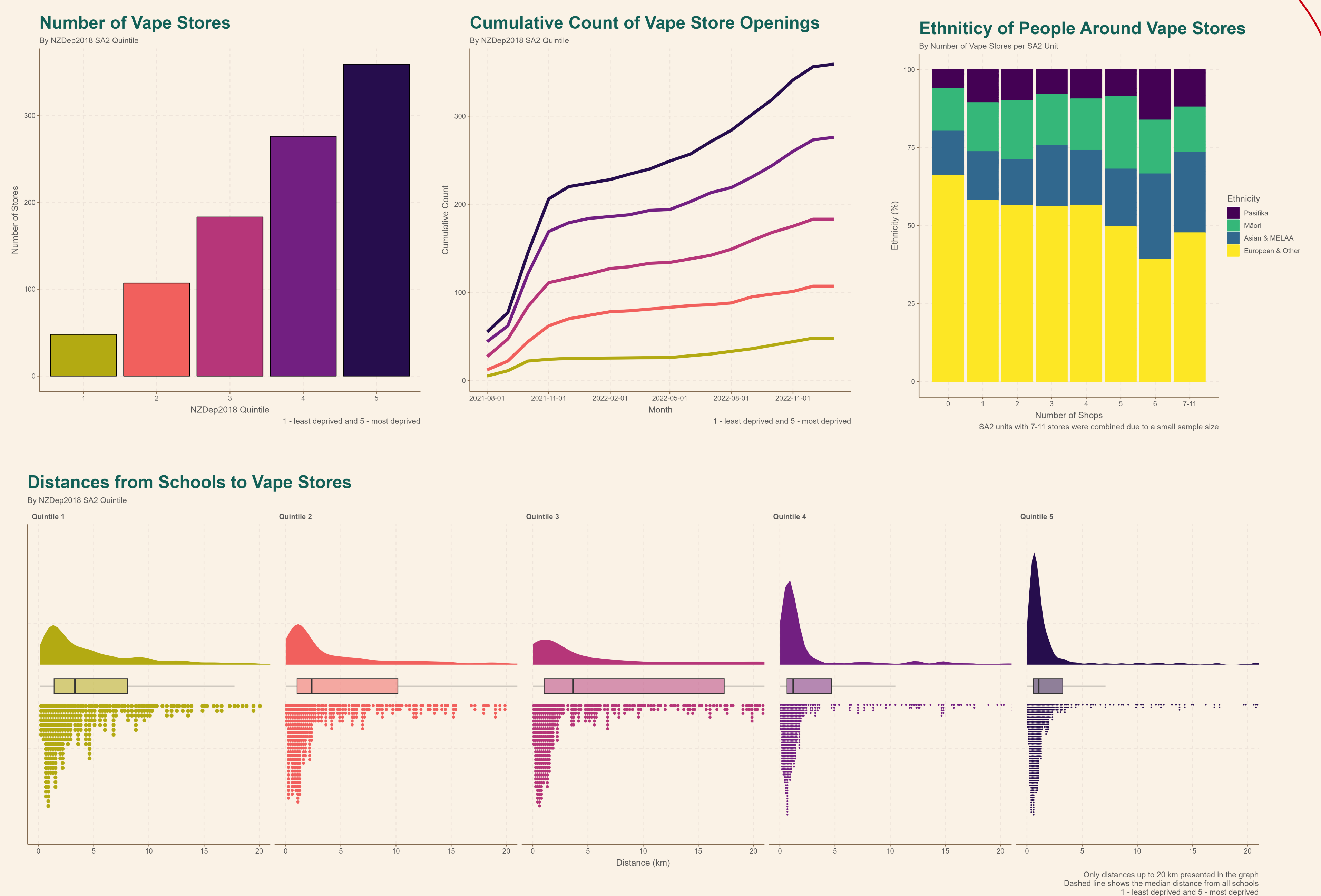
OUR METHODS

- Calculated the proportion of vape retailers by quintile of area-level deprivation and by the proportion of different ethnicities across A/NZ.
- Used a network analysis to find the shortest distance using the road network from school to the nearest vape retailer and buffers from the school to calculate the number of stores around schools.
- Used several different regression models to quantify the potential relationship between the location of vape retailer outlets and the area characteristics of SA2.
- Individual-based approach to investigate how is the distance to the nearest vape retailer outlet from a school related to its students.

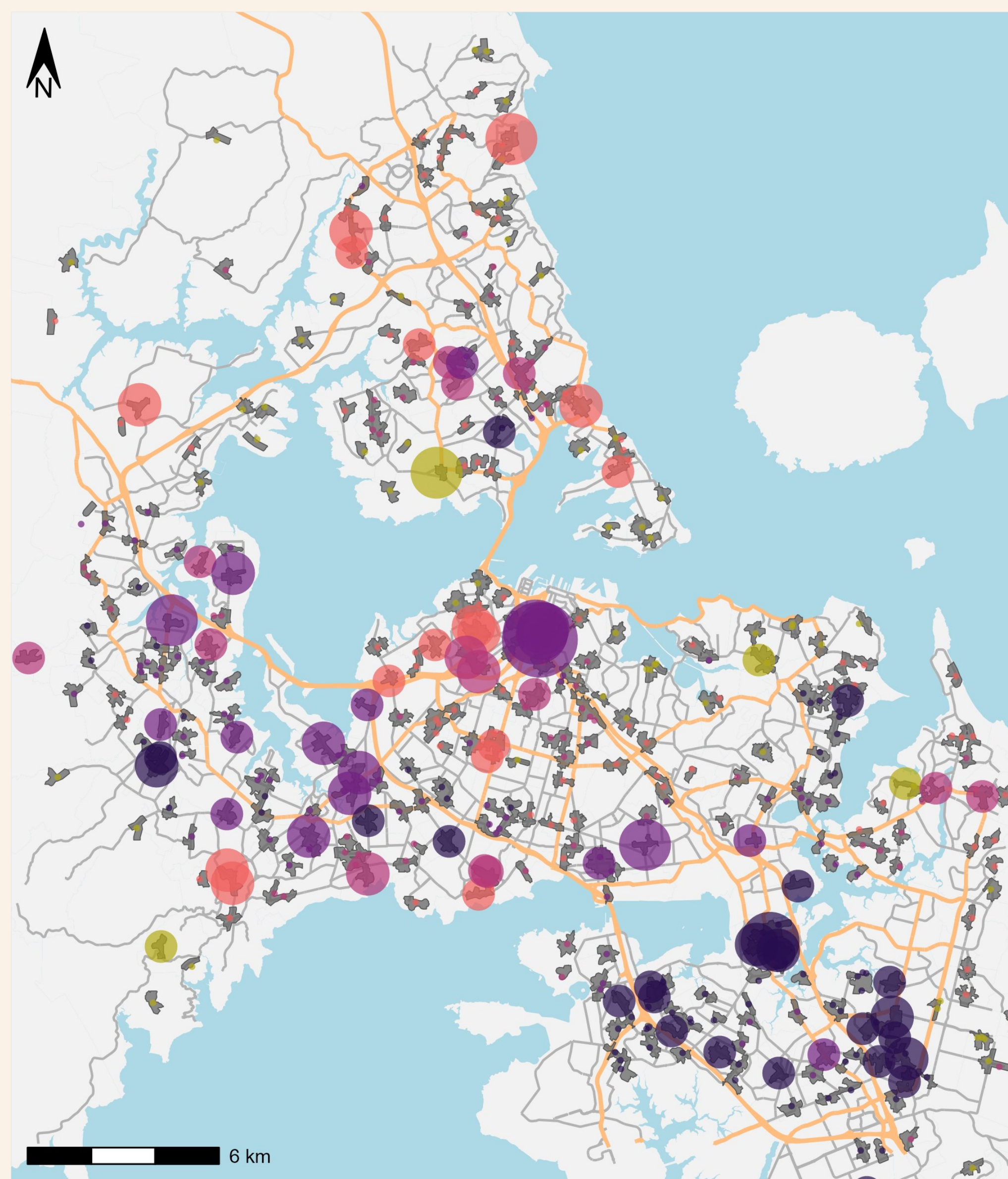
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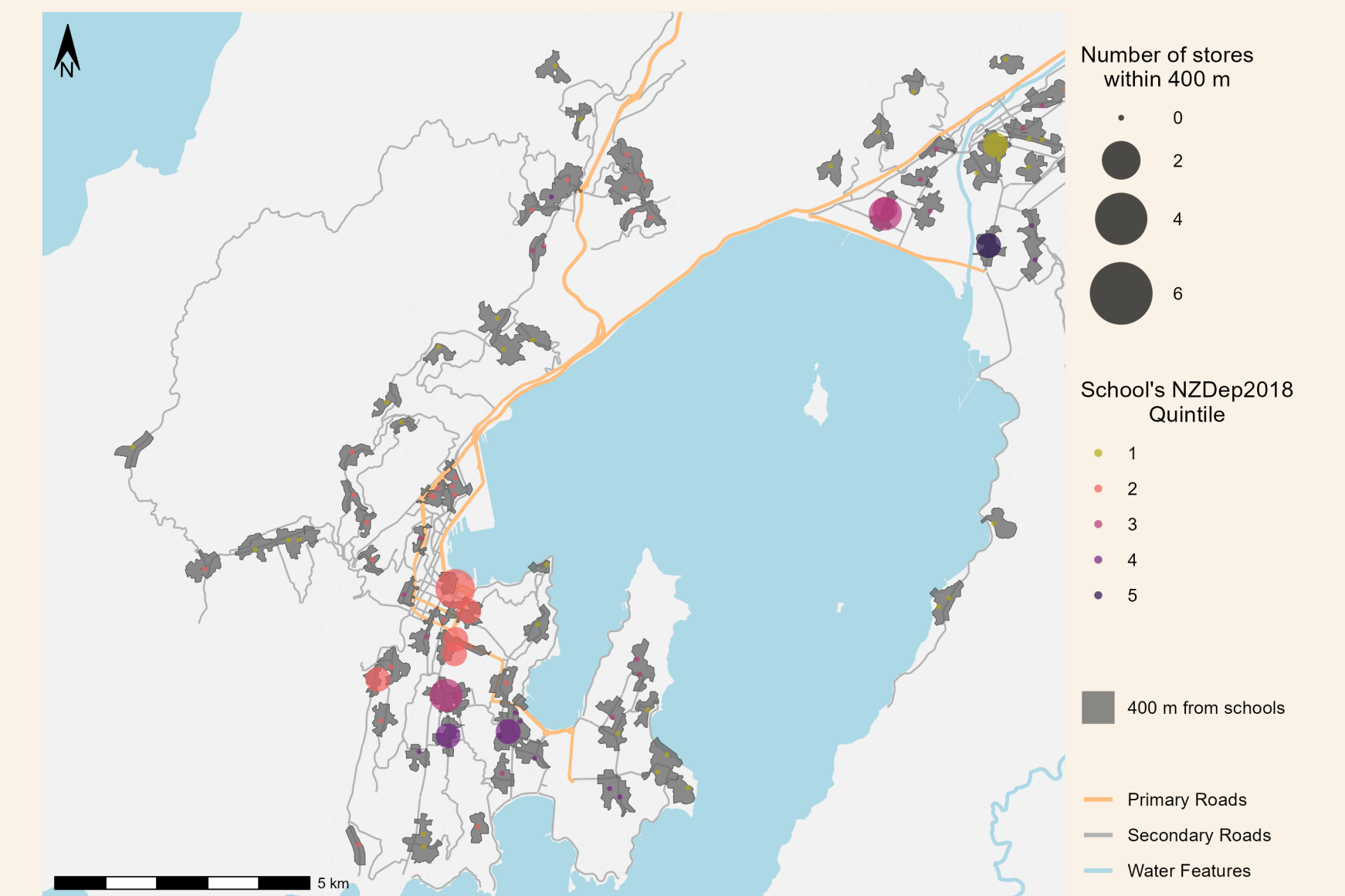
We have developed an interactive map showing the number of vape stores around all schools and kura in Aotearoa New Zealand. **Scan the QR code to check it out!**



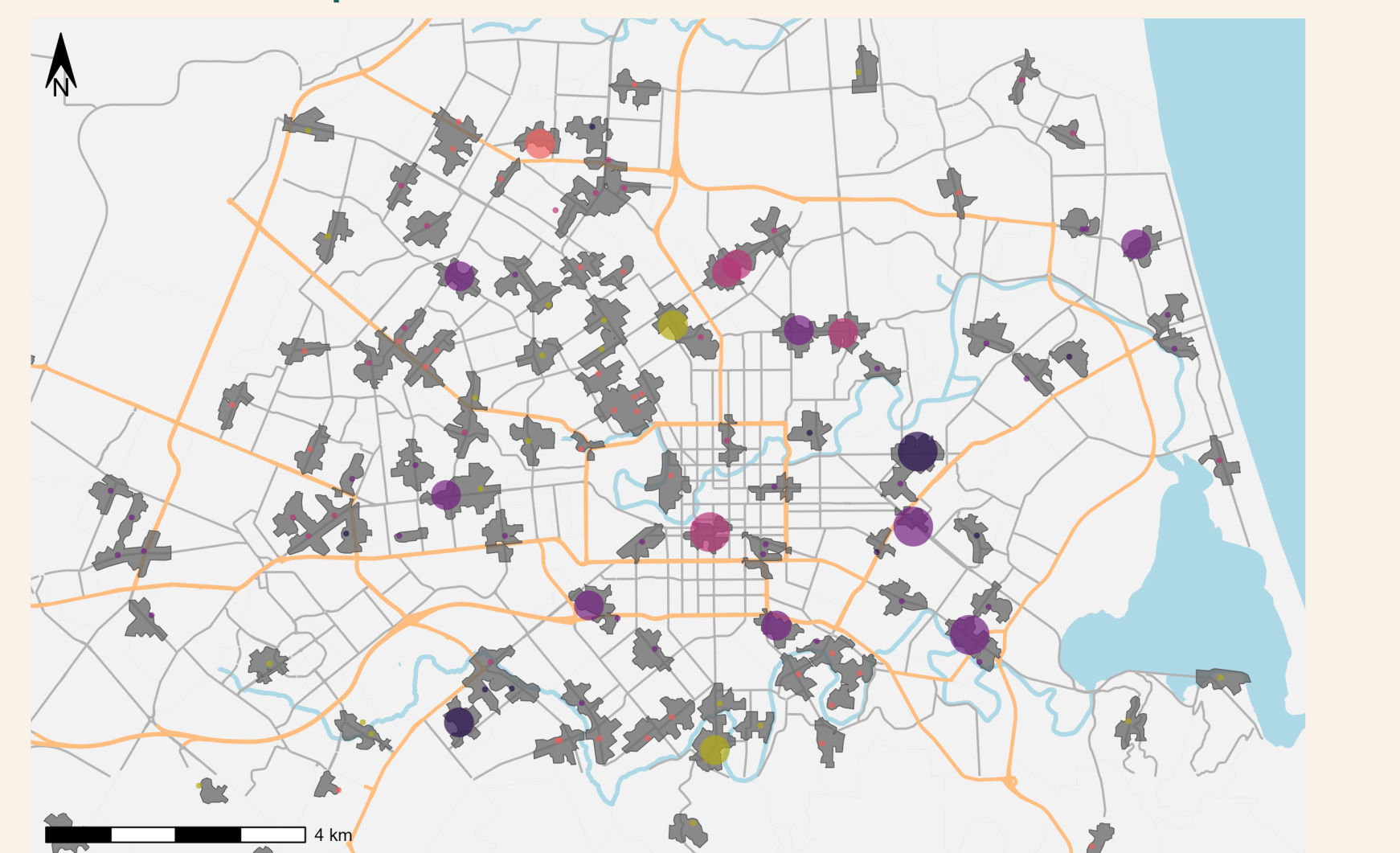
Auckland City - Vape Stores Around Schools



Wellington City - Vape Stores Around Schools



Christchurch - Vape Stores Around Schools



CONCLUSION

- We found **strong disparities by both area-level deprivation and ethnicity** with a greater number of vape retailers in the more deprived areas and in places that have the highest proportion of Māori, Pacific and Asian individuals.
- **Almost 30% of New Zealand's vape stores are within 400m of a school** and 97% of all vape retailers are within 1600m of schools. **Some schools had up to 37 vape retailers within 1600m of schools** and some of our most underserved communities had up to 7 vape retailers within 400m of the school.
- **Schools in the least deprived areas had the greatest road network distance to the nearest vape retailer** and they also had the lowest count of vape retailers within close proximity to the school.
- It is a concern that we see such inequities in access across New Zealand. **Vaping appears to be a contemporary form of inequity that needs tackling.**