The importance of the local school environment in encouraging healthy school travel and healthy local communities

Emma McCone, Prof Simon Kingham & Dr Angela Curl
Department of Geography – Tari Mātaï Matawhenua
University of Canterbury - Te Whare Wananga O Waitaha
Ministry of Transport – Te Manatū Waka
New Zealand study
New Zealand study

- 5 million people
- Low density cities
- High car use
- High obesity rates
Te Ara Mua – Future Streets

Māngere, South Auckland, NZ
Deprived suburb on edge of NZ’s largest city
Project that changed streets in order to:
• Increase physical activity (walking, cycling)
• Improve road user behaviour and safety
Quantify the economic, health and social benefits of safe roads and streets
Christchurch study

- Aranui, east Christchurch:
  - Deprived suburb of Christchurch
- Haeata Community Campus
  - Result of Education Renewal scheme post-EQs
  - Merger of 4 schools
  - New school opened Feb 2017
  - Years 1-13 (ages 5-18 yrs)
Access to Major Cycleways
Access to cycling infrastructure
Access to PT infrastructure
Aranui and Haeata Community Campus
Objectives

• How does the local built environment affect active school travel?

Essentially, if the local neighbourhood around Haeata Community Campus could be designed to be more youth-friendly, would more students bike and walk to school?
Two key components

• GIS mapping and analysis of student home addresses from school roll data
• Online Maptionnaire survey at school
<table>
<thead>
<tr>
<th>Range</th>
<th>2017 (n)</th>
<th>2017 (%)</th>
<th>2018 (n)</th>
<th>2018 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1km</td>
<td>335</td>
<td>37.35%</td>
<td>305</td>
<td>40.72%</td>
</tr>
<tr>
<td>1km-2km</td>
<td>317</td>
<td>35.34%</td>
<td>264</td>
<td>35.25%</td>
</tr>
<tr>
<td>2km-3km</td>
<td>54</td>
<td>6.02%</td>
<td>44</td>
<td>5.87%</td>
</tr>
<tr>
<td>3-4km</td>
<td>100</td>
<td>11.15%</td>
<td>62</td>
<td>8.28%</td>
</tr>
<tr>
<td>Over 4km</td>
<td>91</td>
<td>10.14%</td>
<td>74</td>
<td>9.88%</td>
</tr>
</tbody>
</table>

Distance between Haeata Community Campus and students included in MoE roll map. n = 897 (2017), 749 (2018)
Distance between school and home by age group - Haeata Community Campus (2018)

- Less than 1km
- 1-2km
- 2-3km
- 3-4km
- Greater than 4km

Age 5-13
Age 14-19
Travel mode to school (n=74)

- **Car**: 33 responses
- **Bus**: 9 responses
- **Skateboard/scooter**: 4 responses
- **Biking**: 4 responses
- **Walking**: 28 responses

Number of responses
Active travel by distance

- **Less than 1km**
  - Active Travel
  - Car Travel

- **1-2km**
  - Active Travel
  - Car Travel

- **Greater than 2km**
  - Active Travel
  - Car Travel

<table>
<thead>
<tr>
<th>Distance</th>
<th>Active Travel</th>
<th>Car Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater than 2km</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key trends

1) A large majority of students live within 2km of their school (~75%).
2) High school aged students tend to be more likely to live further away from school than primary aged students.
3) The proportion of students who live within 2km of school, and proportion of students who utilise active transport modes are disproportionate.
How safe do you feel walking or hanging out in these streets?

- **Shortland ST**: 18% (1-2), 6% (3-4), 13% (5-6), 18% (7-8), 46% (9-10)
- **Hampshire ST**: 23% (1-2), 10% (3-4), 8% (5-6), 21% (7-8), 39% (9-10)
- **Breezes RD**: 12% (1-2), 10% (3-4), 16% (5-6), 22% (7-8), 39% (9-10)
- **Pages RD**: 16% (1-2), 10% (3-4), 12% (5-6), 25% (7-8), 38% (9-10)
Perceptions of built environment

*Places liked by theme*

- **Other**
- **Friend/relative house**
- **Home**
- **Retail**
- **School**
- **Parks and recreation**

---

"cause it has a library and food" – Like, Eastgate Shopping Centre

"There's a park and a dairy. Not bad. 5/7" – Like, Hampshire Street shops

"Because I like to hangout and play basketball with my friends" – Like, Linwood Park
Perceptions of built environment

“its dirty and horrid” – Dislike, Hampshire Street

“I don't feel safe enough” – Dislike, Lenton Street

“cause I don't hang out anywhere because everywhere in aranui is dangerous. This is just the place I got to the most outside of my house” – Like, Haeata Community Campus
Conclusions

Majority of students live within a reasonable distance of school, so what factors are dominating modal choice and behaviour?

- The public transport connections do not appropriately meet the needs of students. There are distinctive areas further away from school with limited access to PT.
- There are limited cycle lanes in the area. The safety and standard of these is unknown from this analysis.
- Aranui is perceived to be a highly unsafe area. This acts as a limiting factor for active travel.
Implications

- There is potential for alternate modes of transport (public transport, cycling or walking).
- Targeted action based on evidence is crucial.

*Majority of students live within a reasonable distance of school, so what factors are dominating modal choice and behaviour?*
Final comment

• Streetscape matters
  • Poor environment discourages active travel
  • Streetscape matters more in low income areas?

• Need to reduce reliance on private vehicles
  • Physical activity, climate change, community, social justice

• Next steps
  • Trial shared mobility and impacts on physical activity, climate change, community