

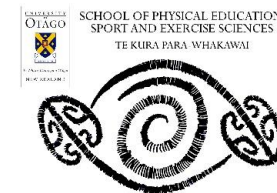


Adolescents' Perceptions of the School Neighbourhood Environment in Small-to-Medium Urban Areas versus Rural Settlements

Brittany White

BPhEd Honours Project 2018

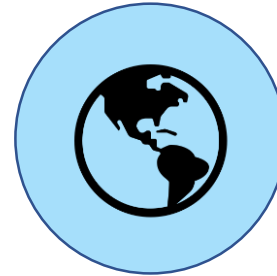
Supervisor: Associate Professor Sandra Mandic



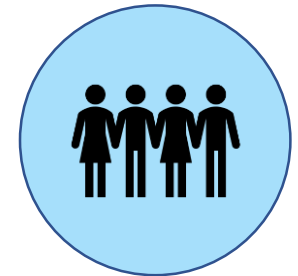
Benefits of Active Transport to School



- ↑ Daily physical activity
- Cycling to school associated with ↑ cardiovascular fitness
- ↑ Cognitive function
- ↓ Depressive symptoms



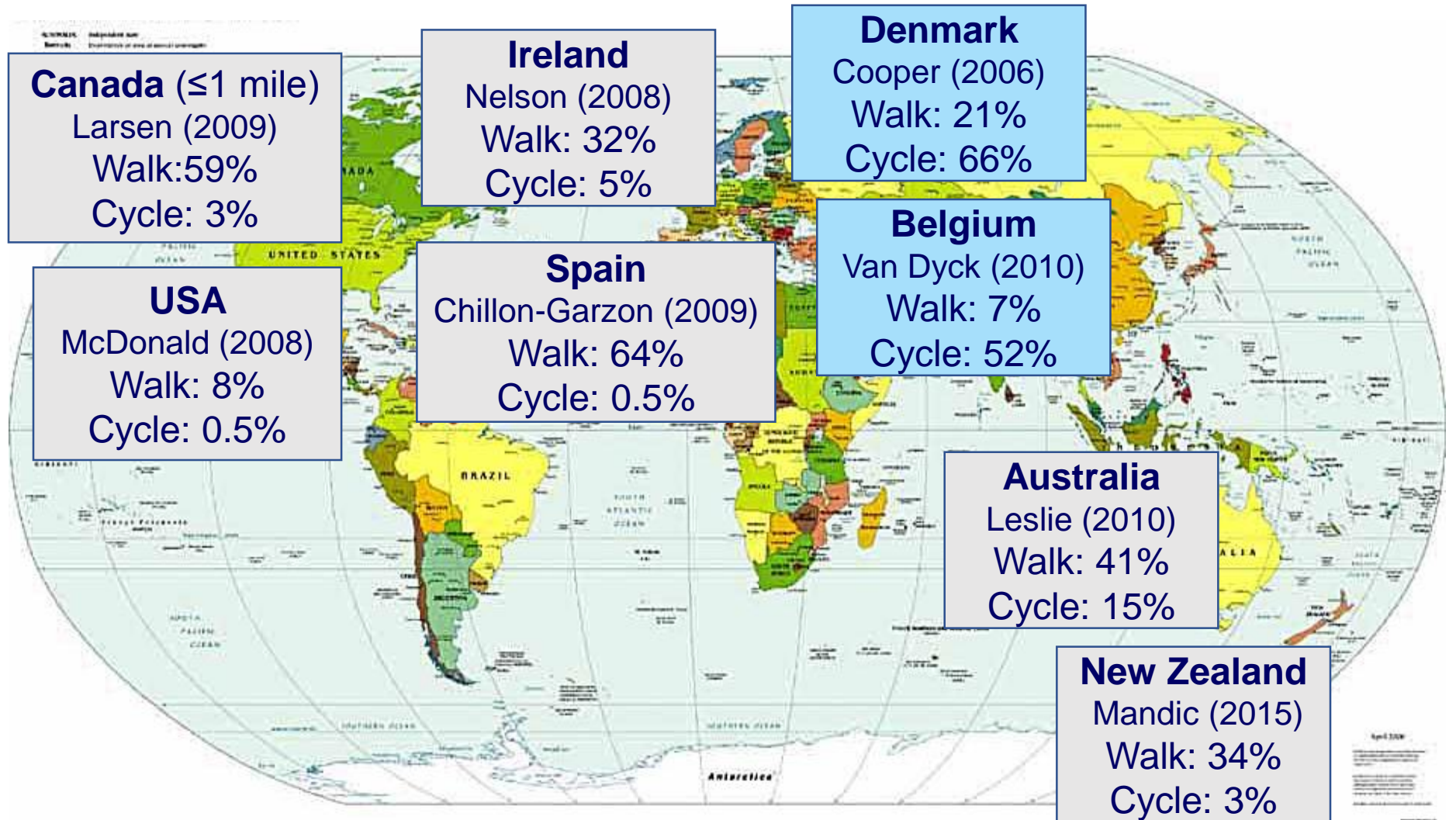
- Sustainable transport habits
- ↓ Traffic congestion
- ↓ Vehicle emissions



- Social interaction
- Community strengthening



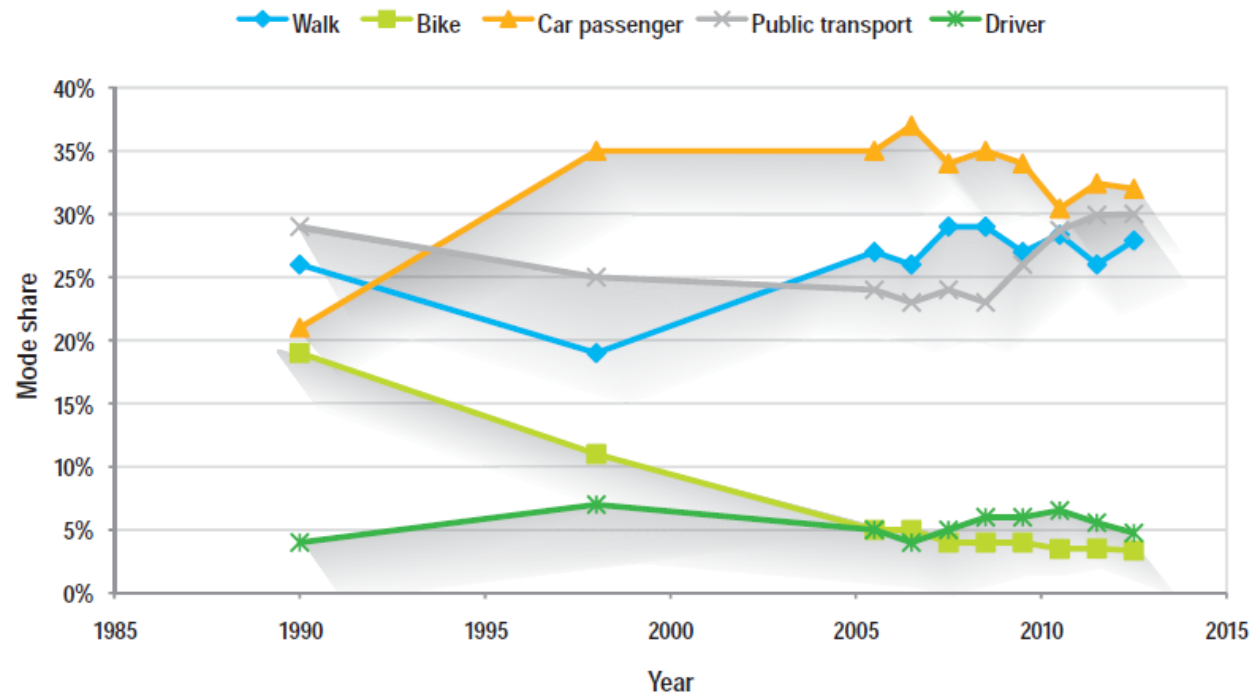
International Rates of Active Transport to School





Transport to School in NZ Adolescents: 1989-2014

Figure 17: Travel to school – mode share – ages 13–17 years



1989/1990

Travel to school:

21% driven
26% walking
19% cycling

2010-2014

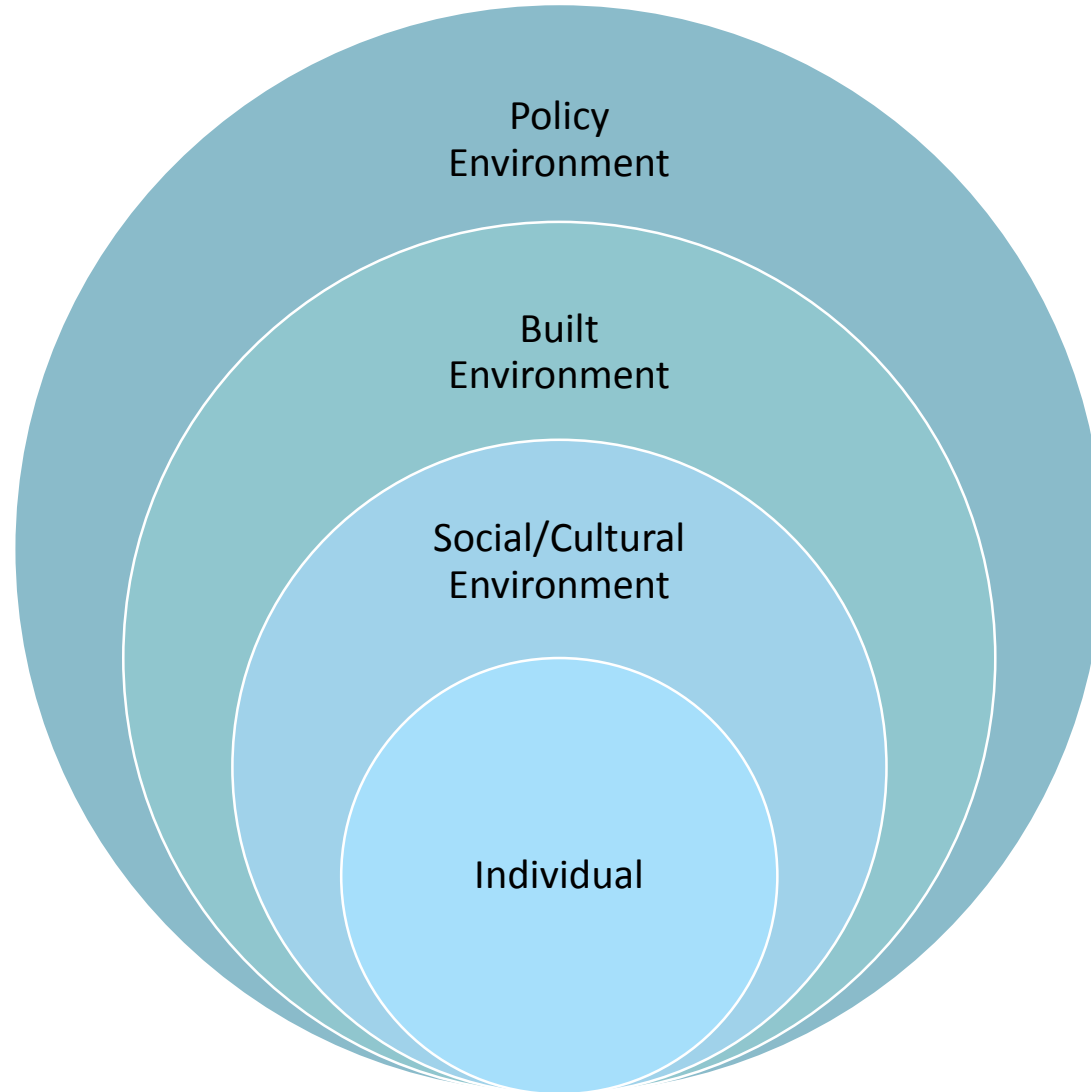
Travel to school:

32% driven
27% walking
3% cycling

Note: After 2004 data points are based on the average of 4 years of data per point.

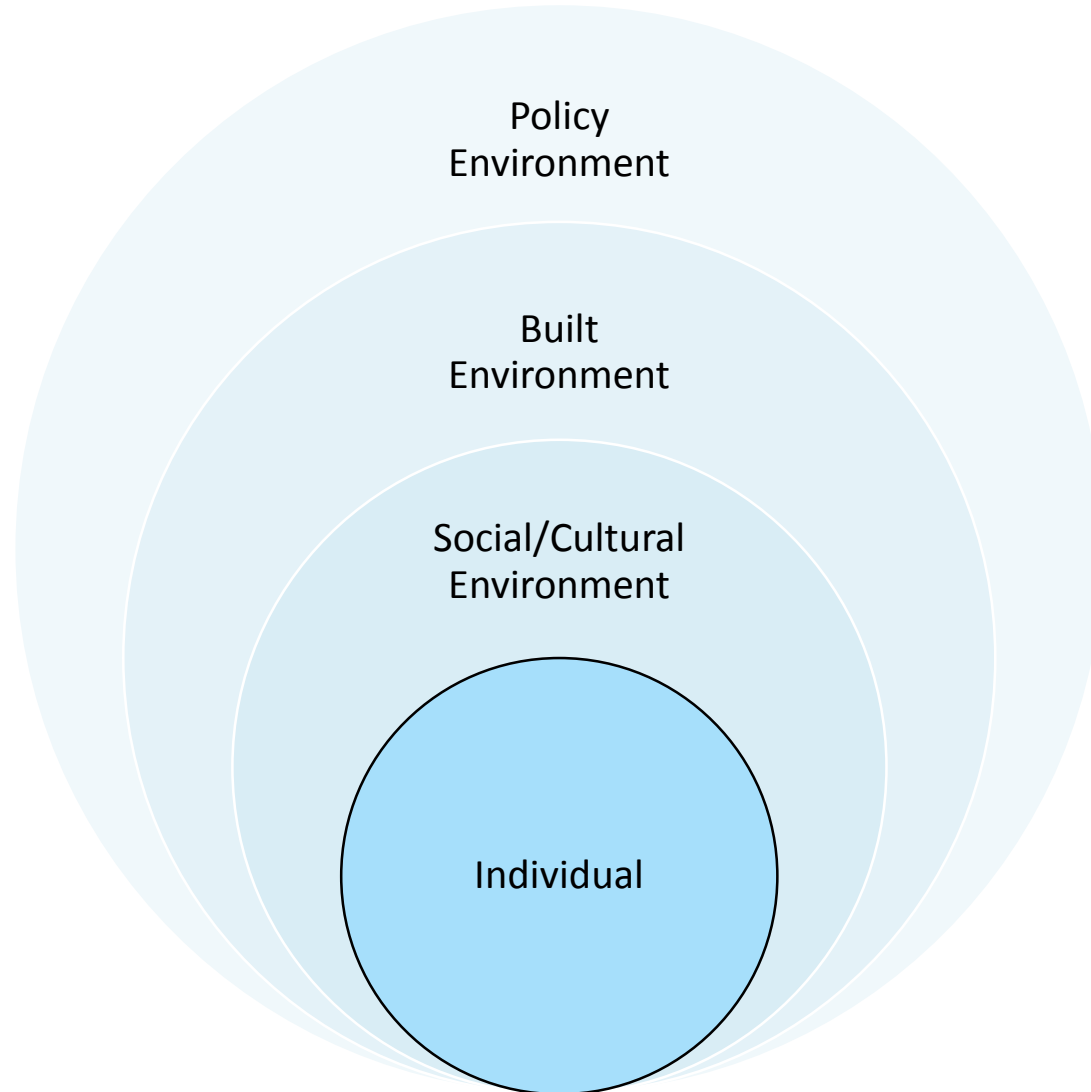
Ministry of Transport. (2015). 25 years of New Zealand travel: New Zealand household travel 1989–2014. Wellington: Ministry of Transport. (page 30)

Active Transport to School: Influences



Ecological Model of Health

Active Transport to School: Influences



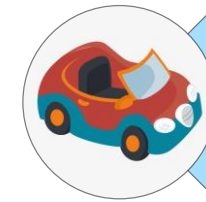
Male gender



Low socioeconomic status

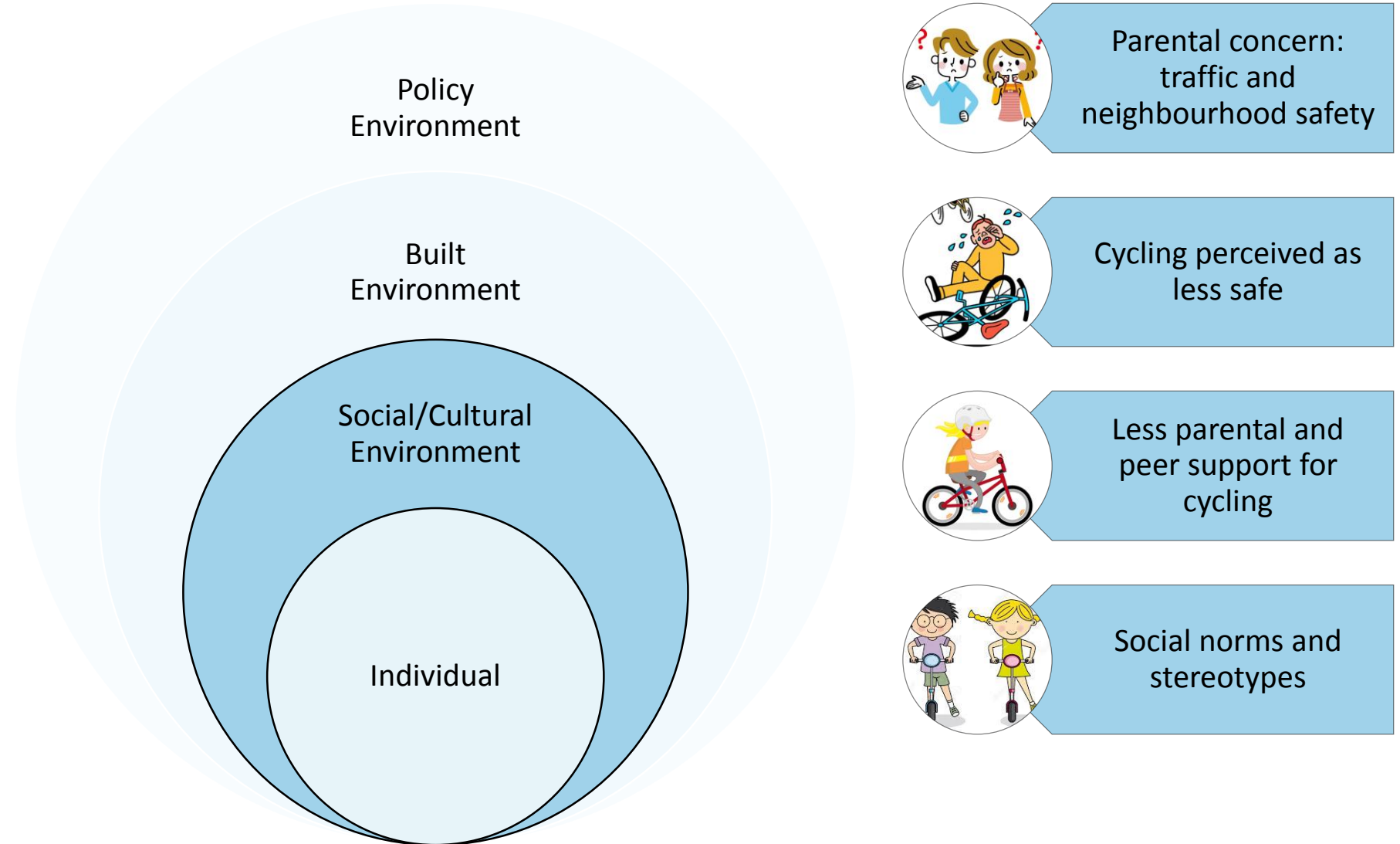


Younger age

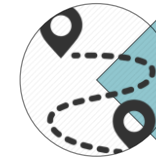
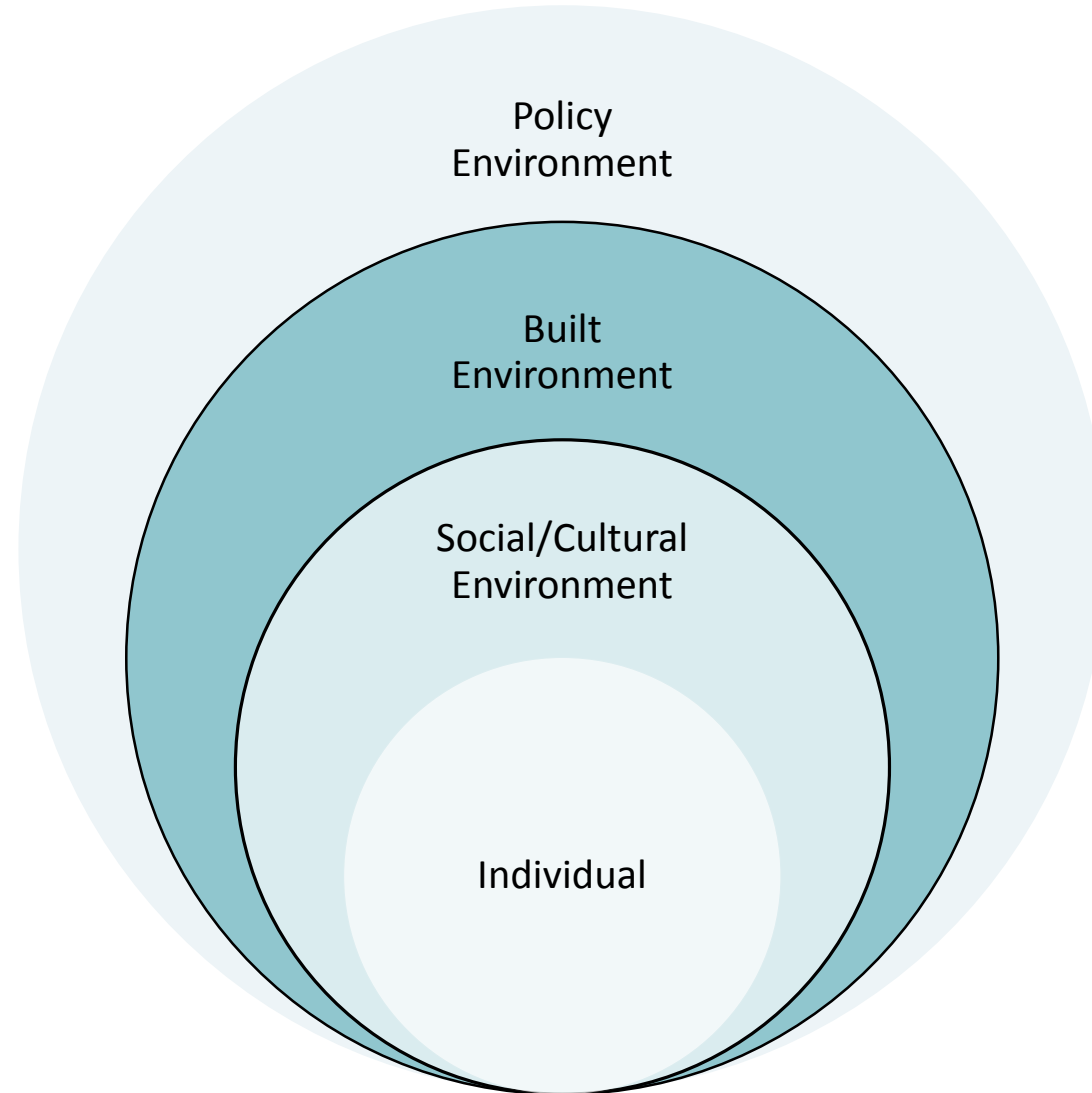


Fewer vehicles at home

Active Transport to School: Influences



Active Transport to School: Influences



Distance to school



Pedestrian and cycling infrastructure



Attractiveness of neighbourhoods

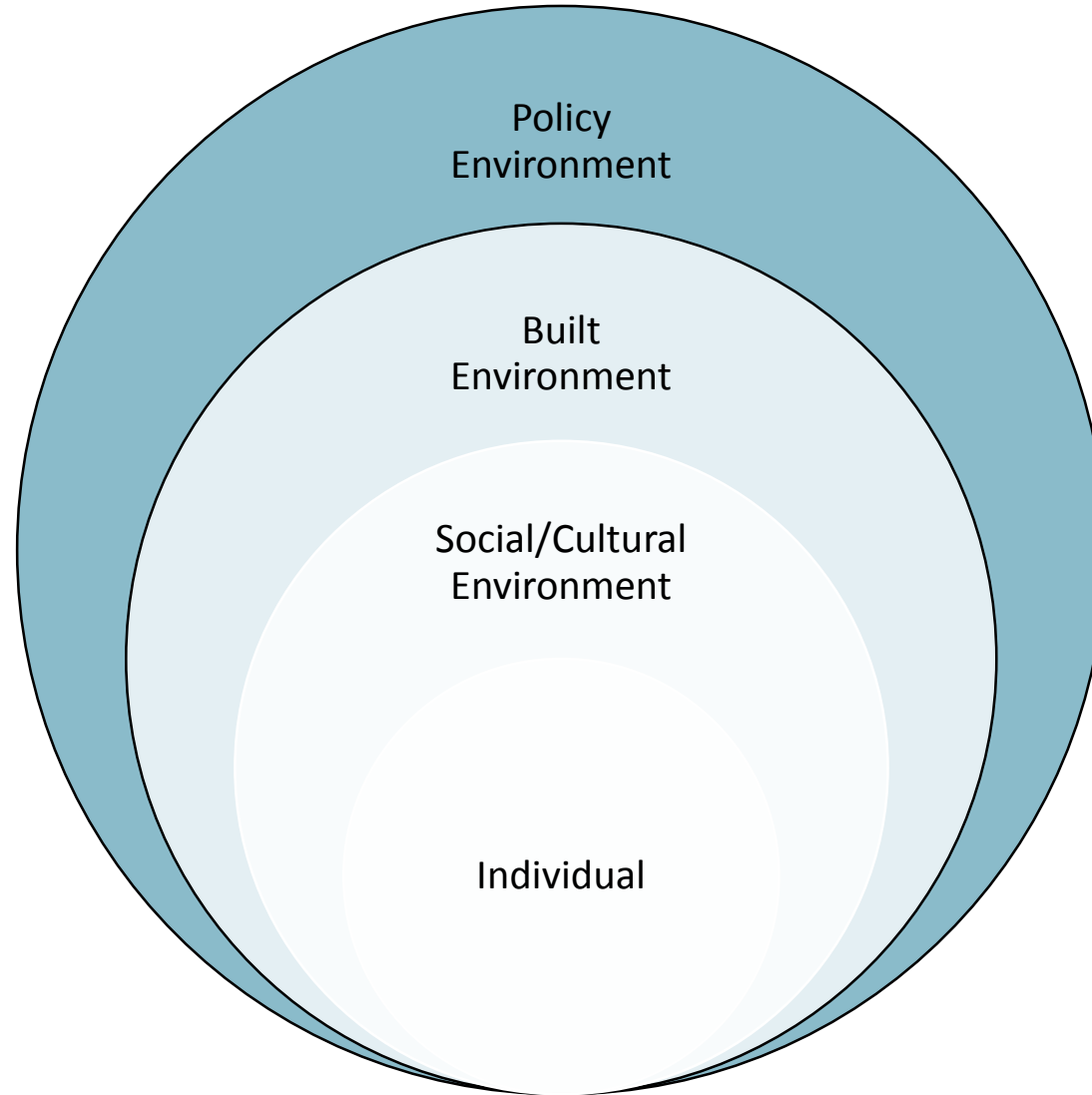


Neighbourhood walkability

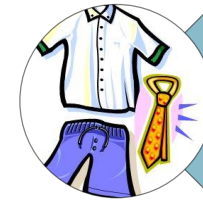


Recreation facilities

Active Transport to School: Influences



School Choice



School uniforms



School road safety procedures



Active transport initiatives

Literature Gaps



Factors influencing ATS in semi-urban and rural areas



Adolescents perceptions of the school neighbourhood environment



Adolescents perceptions of the school policy environment

Purpose: Research Questions



Do adolescents' perceptions of the school policy environment and school neighbourhood environment for walking and cycling differ between small-to-medium urban area and rural settlement schools?



Do adolescents' perceptions of school neighbourhood built environment differ between schools in small-to-medium urban areas versus rural settlements?



BEATS Research Programme: Built Environment and Active Transport to School

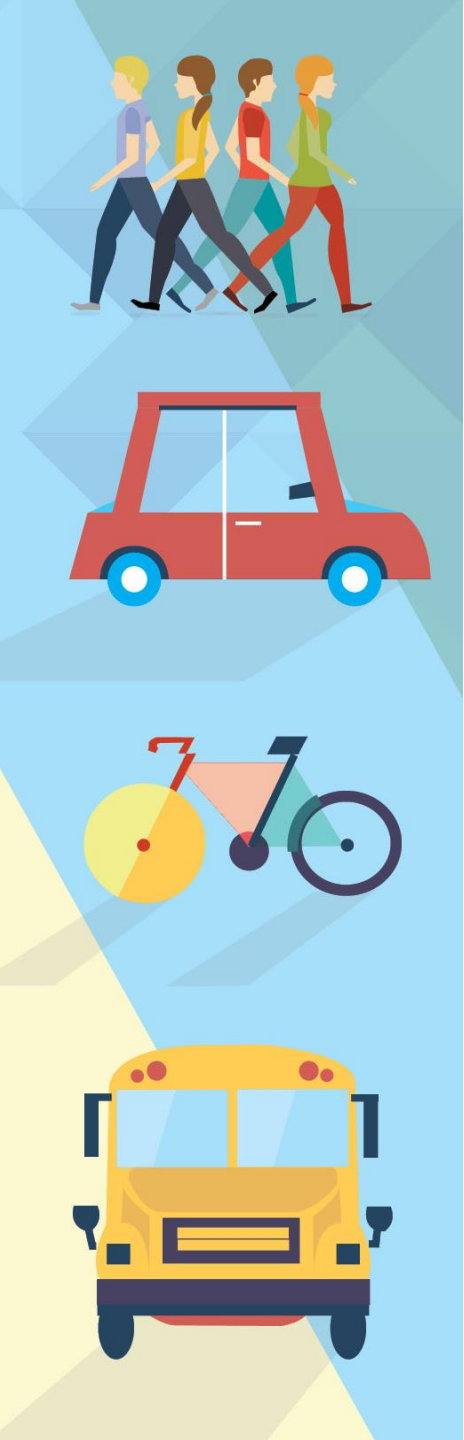
Investigates:

- Transport to school habits
- The neighbourhood environment
- Physical activity levels

Involves:

- Surveys
- Anthropometry measurements
- Focus groups
- Mapping sessions
- Accelerometers
- School principal interviews





Methods:

11 Rural Otago Secondary Schools
(1014 Adolescents participated in study)

6 Schools in Small-to-Medium Urban Areas

5 Schools in Rural Settlement Areas

Survey Analysis

NEWS-Y Analysis

- BEATS-R Student Survey
- School neighbourhood for walking and cycling
 - School environment for walking and cycling

- Mapping Session
- Neighbourhood Environment Walkability Scale for Youth (NEWS-Y)



Methods:

Survey Analysis

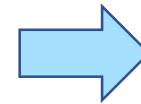


- BEATS-R Student Survey
- School neighbourhood for walking and cycling
 - School environment for walking and cycling

RESEARCH QUESTION 1: Do adolescents' perceptions of the school policy environment and school neighbourhood environment for walking and cycling differ between small-to-medium urban area and rural settlement schools?

471 Adolescents included for survey analysis

- 397 Adolescents from small-to-medium urban area schools
- 76 Adolescents from rural settlement schools

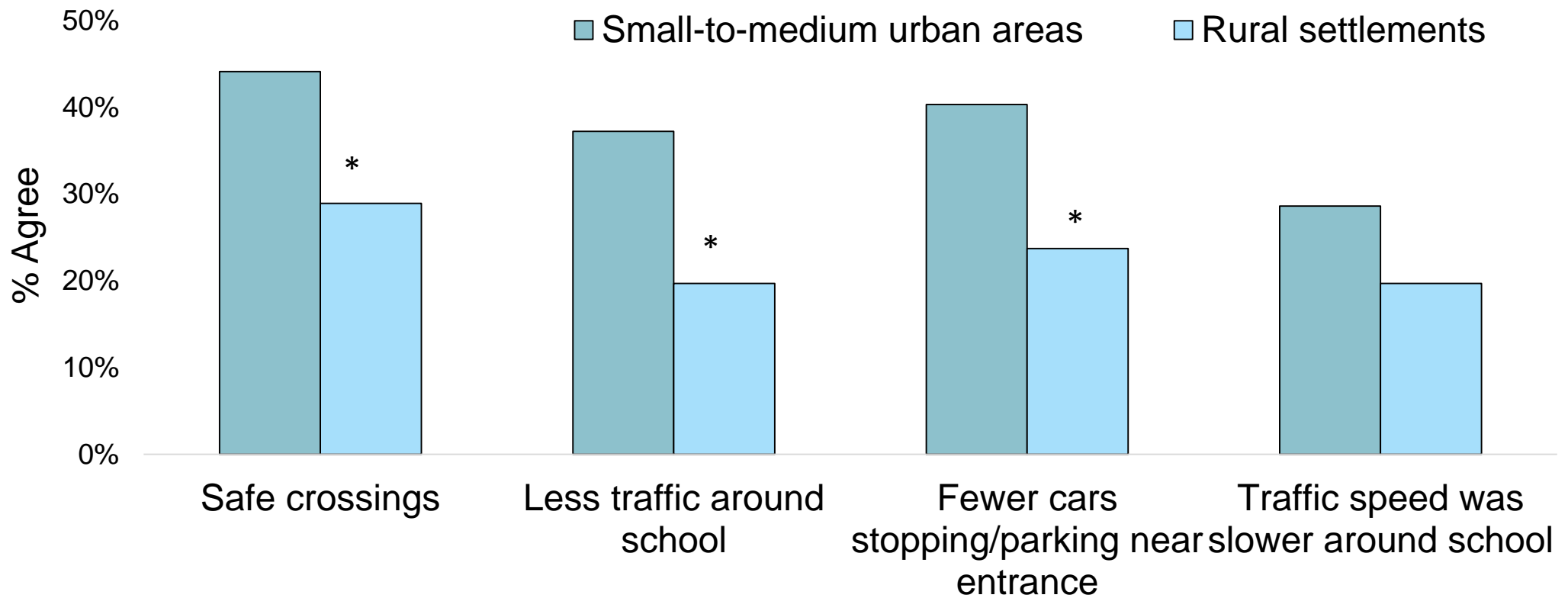


Data analysis: Chi square test

- Valid consent
- Completed main survey
- Valid distance to school data
- Living within 4.8km of school
- Valid survey section on school neighbourhood
- Familiar with school neighbourhood

Results: Survey analysis

“My school neighbourhood would be better if...”

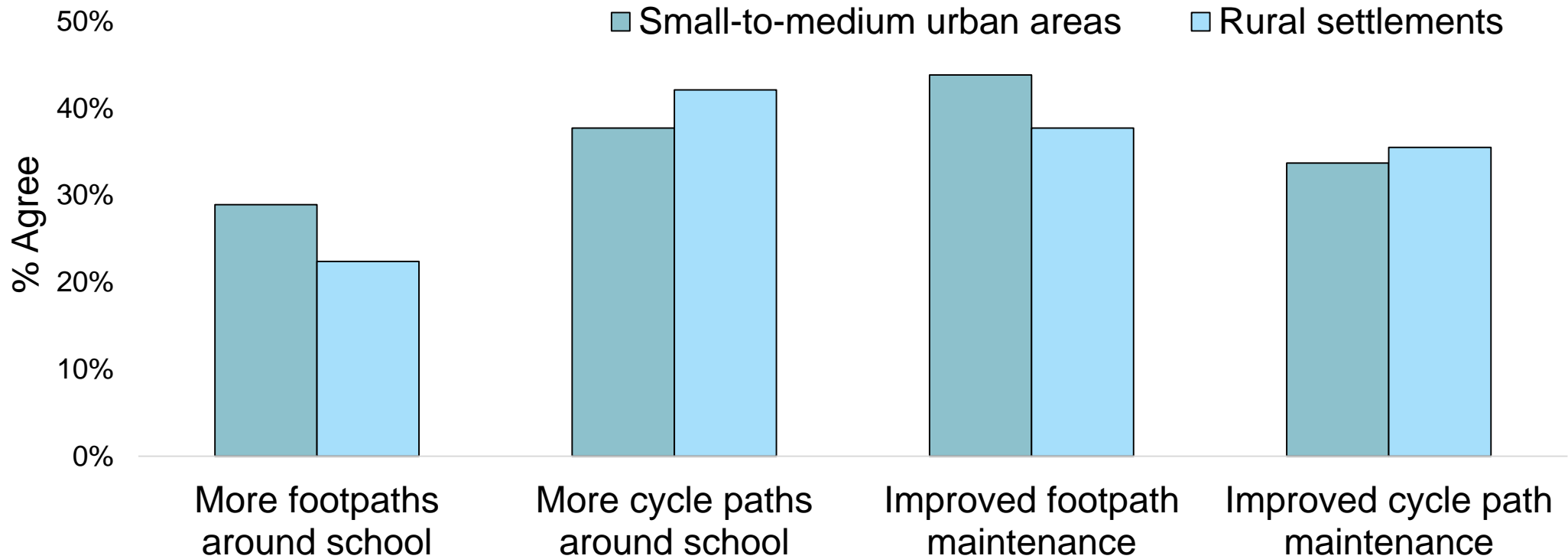


n=471

*p<0.05

Results: Survey analysis

“My school neighbourhood would be better if...”



n=471

Results: Survey analysis

n=471

“I would walk or cycle to school if...”



30.6% “Car free zone” for safe walking areas



26.1% School encouraged helmet use



23.3% Allowed bicycles on school grounds



21.9% Organised “walk to school” days



20.7% Organised “cycle to school” days



20.2% Provided map of safe routes to school



19.7% Allowed rollerblades, skateboards and scooters on school grounds

There were no significant differences between the perceptions of small-medium urban adolescents and rural settlement adolescents





Methods:

NEWS-Y Analysis



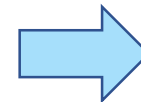
Mapping Session

- Neighbourhood Environment Walkability Scale for Youth (NEWS-Y)

RESEARCH QUESTION 2: Do adolescents' perceptions of school neighbourhood built environment differ between schools in small-to-medium urban areas versus rural settlements?

177 Adolescents included for NEWS-Y analysis

- 101 Adolescents from small-to-medium urban area schools
- 76 Adolescents from rural settlement schools



Data analysis: Independent t-test

- Valid consent
- Completed main survey
- Valid and complete NEWS-Y questionnaire
- Familiar with school neighbourhood

Results: NEWS-Y Analysis

n=177

*p<0.05

NEWS-Y: Neighbourhood Environment Walkability Scale for Youth



Small-to-medium urban areas:

Rural settlements:

Land-mix use:
Diversity



2.9 ± 0.6

Neighbourhood recreation facilities



3.3 ± 0.8

Residential density



64.8 ± 21.8

Land-use mix:
Access



3.2 ± 0.3

Street connectivity



2.8 ± 0.6

Walking & cycling facilities



3.0 ± 0.5

Neighbourhood aesthetics



2.6 ± 0.6

Pedestrian & automobile traffic safety



2.3 ± 0.4

Crime safety



1.4 ± 0.7

Walkability index



-0.2 ± 2.4

Small-to-medium urban areas:

Rural settlements:

3.1 ± 0.6

2.7 ± 0.6

2.2 ± 0.4

1.5 ± 0.7

0.4 ± 2.2



Summary of Key Findings



Schools in urbanised areas had more road crossing and traffic volume concerns



Areas around urbanised schools had higher residential density and land use mix access



Rural school neighbourhoods had more land use diversity and access to recreational areas

Significance and Implications

- The school neighbourhood environment should be considered when designing future initiatives for promoting active transport to school among adolescents in both semi-urban and rural areas.
- Findings may contribute to the design or modification of school neighbourhood environments to enhance rates of ATS





Questions?

Thank you for listening!

Email: whibr739@student.otago.ac.nz



2018 BEATS Research Team