# HEALTHY FUTURE MOBILITY



## Synthesis Report August 2019

# PEOPLE AND ORGANISATIONS INVOLVED

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# 1. BACKGROUND & AIM

### **1.1 BACKGROUND**

In Aotearoa (New Zealand) we face profound technological and societal changes in the size, composition, and function of our cities. While future disruptors such as autonomous vehicles need consideration, there are immediate, achievable opportunities that could be seized to maximise personal, social, economic, and environmental well-being, to create more equitable outcomes for New Zealanders. Healthy Future Mobility was a research programme funded by the Ministry of Business, Innovation and Employment (MBIE) set up in response to these issues. The aim was to explore better ways of moving around cities and towns, with particular attention to solutions that are good for health.

The programme included four interconnected strands of research: Shaping Cities for Youth; Active School Travel; Future of the Bike; and Growing Niche Innovations. The research was highly connected with stakeholders who have responsibility for planning and delivering New Zealand's urban transport and land use systems. Finally, a synthesis workstream identified the most promising opportunities for healthy future mobility.

## **1.2 WORKSTREAMS**

A summary of the four workstreams is described below. The key overlaps and opportunities that emerged from the workstreams are described at the end of the document, as is a more detailed methods section.

#### **SHAPING CITIES FOR YOUTH**

How do place and transport affect the lives, outlooks, and prospects of urban rangatahi/youth?

 Qualitative and geospatial research undertaken in four New Zealand communities: Papakura and Rānui/ Massey-West in Tāmaki Makaurau (Auckland), and Aranui and Hornby in Ōtautahi (Christchurch).

#### **ACTIVE SCHOOL TRAVEL**

What is the secret recipe for maximising active travel to school?

• A mixed-method approach drawing on existing data and success stories from around Aotearoa New Zealand and working with Auckland Transport to test school travel initiatives.

#### **FUTURE OF THE BIKE**

How can bicycle use in New Zealand be encouraged, extended, and accelerated?

- Exploring new ways to enable safer cycling.
- Exploring the issues that lie behind 'bikelash'.
- Exploring the potential for e-bikes in New Zealand.

#### **GROWING NICHE INNOVATIONS**

How can we foster a culture of innovation, demonstration, and different ways of working through niche projects to advance health, safety, and wider societal wellbeing?

• A sociotechnical systems approach to examine how safe and healthy street innovation in low-income communities in New Zealand is impeded or facilitated.

# 2. STREAM HIGHLIGHTS

## **2.1 SHAPING CITIES FOR YOUTH**

How urban planning and transport serve to marginalise low income, Māori, and Pacific young people, and create and maintain social and health disparities are critical issues for policy makers. This is particularly important as the 'transformational' decisions currently being made about the future of our cities in response to issues such as the climate crisis, new technologies, and land use, may either serve to perpetuate and worsen these structural inequities or, if the voices of these groups are included in decision-making, assist in addressing them. We listened to the voices of young people who had experienced a time when they couldn't access education, employment, or training (NEET: Not in Education, Employment, or Training), as well as to the voices of adult 'influencers' including parents, educators, employers, and youth agencies. The research with young people forms the basis for a PhD thesis nearing completion,<sup>1</sup> and has developed the skills and capacity of the youth peer interviewers.

We provide recommendations for shaping our cities to meet the needs of rangatahi/youth experiencing structural access barriers, whilst optimising their wellbeing now and in the context of future change.

#### **CULTURAL IDENTITY, MOVEMENT, AND PLACE**

The way rangatahi/youth experienced their surroundings (sense of place), was central to their cultural identity, their transport choices, their goals for the future, and how they spent their time. Negative self-identity was exacerbated by experiences of interpersonal racism while moving about their city, such as the feeling of being 'watched', or being intimidated on public transport. For rangatahi/youth, getting around is inextricable from perceptions of place. Feeling comfortable in their community was valued; however, youth, and some parents, also experienced feelings of stigma about their neighbourhoods including in their attempts to gain employment. Feeling unsafe in certain areas and at night influenced travel choices for both youth and parents. Parents valued having shops, services, employment, and cultural spaces close by.

**INTERVIEWER:** "how would you like [your neighbourhood] to look like in the future?" **RESPONDENT:** "Māori-fied ... just showing everybody what Māori should be like." (Female, Papakura)

#### IMPLICATIONS

Transport networks and urban environments need to *be* and *feel* more culturally relevant for rangatahi Māori – in the way that service provision enables easier access to cultural knowledge and spaces (e.g., access to Marae, Wānanga, and Kura Kaupapa Māori) and how the 'look and feel' reflects cultural identity. One existing example is the weaving of Māori values and historical narratives into urban regeneration projects in Ōtautahi, through the involvement of mana whenua.<sup>2</sup> Institutional racism is systematic bias in the decision-making processes of institutions that privilege only one cultural worldview, resulting in negative conditions for 'othered' ethnicities. Addressing institutional and interpersonal racism in the provision and operations of public and active transport is crucial. There are substantial opportunities for collaborative, neighbourhood-level projects to counter racism and improve safety, sense of place, and access for young people.

#### TRANSPORT 'CHOICE' AND LOCATIONAL JUSTICE

The group of rangatahi/youth studied accessed opportunities any way they could; however, this 'multimodality' was not enjoyed as a choice, rather it was endured as a daily necessity. Access barriers were cumulative, often making 'getting there' just too hard. Cost, time, and lack of control were barriers to public transport use, along with a mismatch between public transport service provision and the hours and locations of entry-level employment. Walking and cycling were often constrained by safety and distance. Parents, employers, education providers, and youth organisations were investing significant time and money to provide access support to young people in a variety of forms, such as door-to-door transport, driver licensing, and support with public transport costs and identification of routes. While the service provision and spatial barriers to work and education access were consistently recognised, some adult interviewees strongly attributed access problems to a lack of 'youth motivation'.

It was clear that the cycling 'renaissance' currently taking place in inner city Tāmaki Makaurau (Auckland) and Ūtautahi (Christchurch) is not benefiting young people experiencing access barriers in suburban localities. Cycling to 'get around' does not appear to be part of the identity of marginalised youth and, with one or two notable exceptions, has limited visibility in their social environment. Interviewees commented that new cycle networks were being built in places that would make limited difference to young people living on the urban periphery. Technologies, such as e-bikes, were also considered too costly.

Successful access was described as having a licence and a car or access support from parents, employers, or youth organisations. Instances where young people were successfully accessing work or education without using a car were characterised by proximity, excellent service provision, and social or financial support elements in combination.

In some instances, a lack of other options meant young people drove unlicensed and subsequently accumulated fines. Currently, supporting young people in NEET to obtain a driver's licence is the tool to give them a 'fair go'. In addition, although improved public transport networks were desired, many adults felt universal driver licensing in schools was still the shortterm solution to youth access problems, due to the slow pace of change of transport network improvements.



Participant Photovoice

#### IMPLICATIONS

There are complex tensions between the current social and economic benefits of having a car and a licence, and the current and future harms for health (including road traffic injury), fairness and environmental sustainability. The transport system, and the business principles that underpin the system (for example fare box recovery), are not meeting the needs of marginalised youth. There is a need to extend our response from driver licensing (and individual responsibility) to a systematic and structural response that makes other modes safe, affordable, attractive and feasible for this priority group. To do so, the underpinning principles that guide urban and transport planning need to be re-examined. Stakeholders have suggested that Te Tiriti o Waitangi should underpin urban planning and transport decision-making, providing a framework to ensure governance partnership, enable equal participation in society, and consciously include Māori needs and values. There is also potential for policy and design that de-couples gaining a driver's licence (which has employment benefits) from *having* to drive, and places driver training and licensing in the context of a wider suite of transport training (such as using public transport and cycle skills). In the long term, these findings reinforce a need for mixed-land use and inclusive urban planning.

#### **SOCIAL ENVIRONMENTS**

Despite the range of access support currently offered, there was limited recognition among large organisations and employers about their potentially powerful role in shaping a fairer, more sustainable transport system, or in shaping the norms of young people. A promising exception was education providers reimbursing young people for transport costs, based on bus fares, which removes the financial barrier but also signals that public transport use is a behaviour worth rewarding. There remain strong implicit and explicit norms for driving and licensure from influential adults, reflected in youth participants' desires to drive and own a car.

#### **IMPLICATIONS**

There are opportunities for employers and youth organisations to create social environments that support the use of alternative transport modes (for example through incentives), and to use their significant power to advocate on behalf of marginalised youth for structural change locally and nationally.

#### **SUMMING UP**

Transport policy and urban planning currently undermines rangatahi/youth's access to opportunity – and their holistic health. To curb current and future health and social inequities, immediate and long-term solutions that address both social/financial and physical/spatial access issues are needed. While policy efforts to prevent urban sprawl and improve transport networks are likely to be beneficial for this high-priority group, their specific needs, voices, and culture must be incorporated into planning so tailored solutions can be developed.

The study's methodology centred on empowering young people and creating opportunities for them to have a voice and directly interact with policymakers. The innovative methodology – peer interviewing, interactive mapping, and photovoice – also offers lessons and a framework for meaningful youth involvement in urban decision-making.

For more information about Shaping Cities for Youth, contact Alex Macmillan alex.macmillan@otago.ac.nz

## 2.2 ACTIVE SCHOOL TRAVEL

#### CONNECTED, COMPREHENSIVE, AND MULTI-SECTOR APPROACHES ARE NEEDED

Children's school travel behaviour is complex, multifaceted, and not limited to the school environment.<sup>3,4</sup> Interventions need to be connected and comprehensive and include the built and social environments to generate meaningful change. Needs will differ between schools and neighbourhoods, with school policies, community culture and social relations, and the built environment intrinsically linked. A model of inter-related needs for active travel has been developed from this research:



#### **DISTANCE TO SCHOOL**

If children live too far from school they won't travel actively.<sup>4,5</sup> Our meta-analysis showed almost no children or young people used active travel modes if they lived more than 2.3km from home. In the absence of (or in addition to) reducing distance, increasing cycling rates is a viable solution but requires a significant boost in cycle skills training, improving availability of cycles, improving safety for cycling, and increasing the visibility and social acceptance of cycling.

#### **SAFETY FROM TRAFFIC**

A traffic safety "threshold" for the entire school journey must be met or active school travel is unlikely to occur.<sup>6,7,8</sup> Our interviews with parents revealed concerns about safety from traffic was the greatest barrier to children walking, cycling, and scootering around their neighbourhood.<sup>7</sup> Children reported difficulties in crossing roads and disliking speeding traffic and car fumes on their school journey. Safe places to cross, slow traffic speeds, separated cycleways, and safe places for children to walk are crucial. Improving driver behaviour through environmental design, policy, effective media campaigns, and driver training may also be valuable.

#### **PERSONAL SAFETY**

Ensuring a sense of personal safety will optimise the potential impact of school travel programmes or interventions.<sup>7</sup> Child- and parent-identified barriers to getting around actively included roaming dogs, bullies, and risk from people displaying anti-social behaviour. Crime prevention through environmental design is imperative although not always sufficient to allay fears. Creating a physically active culture within schools and the wider community can increase passive surveillance for improved safety. Partnerships with the community (e.g., Police, community organisations) can be harnessed to develop context-specific strategies for improving safety and perceptions of safety.

#### SCHOOL POLICIES, LEADERSHIP, PARTNERSHIPS

Our interviews with school representatives showed the importance of school leadership through policies, valuing active travel as a learning opportunity, dedicated programmes, and partnering with the wider community.<sup>9</sup> In some cases school leadership and culture overcame environmental constraints on active travel.<sup>9</sup> Resourcing for school travel leadership roles and programmes within the school setting may be essential, particularly where active travel culture and social connections are not strong.

#### SOCIAL RELATIONS, LOCAL ACTIVE TRAVEL CULTURE

Social relations are important in supporting school travel initiatives and encouraging independent mobility.<sup>4,6</sup> Interestingly, children frequently mention social aspects of their school journey, reporting enjoying spending time with their friends, and having time to talk to their parents.<sup>10</sup> Creating a physically active culture within schools and the wider community can support active travel and increases passive surveillance as well as contributing to achieving a 'critical mass' for improved safety overall.<sup>9,11</sup> Facilitating opportunities for communities to be active together for recreation may help create a foundation for increasing active school travel.

#### **SUMMING UP**

This research has revealed the importance of the broader community environment in terms of having an active culture and strong social cohesion and connections.

Comprehensive, neighbourhood-wide approaches to improving traffic safety supports an active community culture, likely generating a self-reinforcing scenario of prioritising and encouraging active over motorised travel modes.

A combination of built environment features, rather than one alone is needed to impact meaningful change.

Needs will differ between schools and neighbourhoods, with school culture, community values, and the built environment intrinsically linked to the point that the impact of infrastructure may be greater in some areas than in others. Needs are time and context-dependent, requiring ongoing evaluation to ensure readiness to respond to community needs.

For more information about Active School Travel, contact Melody Smith-nee Oliver melody.smith@auckland.ac.nz

# 2.3 FUTURE OF THE BIKE LIVING LONGER AND HAPPIER Although the urban space is dominated by motor vehicles, cycling on N improved health and wellbeing. In a record linkage study we found the

Although the urban space is dominated by motor vehicles, cycling on New Zealand's roads is associated with improved health and wellbeing. In a record linkage study we found those who commuted by bike had lower mortality risk than those who travelled to work by car.<sup>12</sup> In an interview study of e-cyclists we found that switching from a car to an e-bike for daily travel was associated with perceived improvements in mood, travel satisfaction, physical fitness and quality of life.<sup>13</sup>

#### **ENABLING SAFER CYCLING**

Currently, the overwhelming majority of cycling in Auckland occurs on streets that have no bicycle infrastructure, and direct routes are often preferred, even if unprotected.<sup>14</sup>

Nevertheless, there is evidence that better bike spaces promote numbers and increase the diversity of cyclists. Our interview research with e-cyclists identified high-quality protected cycle highways, such as the Northwestern Cycleway, as key cycling enablers for suburban commuters. Our e-bike cyclist counts also showed that supporting e-biking through the provision of cycle highways increases the percentage of women who cycle.<sup>15</sup>

We collaborated with Carl Pavletich from Christchurch-based start-up Sensibel to assist with development and complete initial testing of a new digital device (the 'Sensibel') designed to gather cyclist assessments of route quality at scale. Initial testing concluded that there is potential to enrich the evaluations that are carried out at present. We noted that in cyclists' reports, the positive features of routes featured as strongly as the negatives. Sensibel is now being used by the Transport Agency to assess levels of service in Christchurch.

#### **OVERCOMING BIKELASH**

We have looked closely at the phenomenon of what has been called 'bikelash' – the intense public opposition to cycling infrastructure projects. We completed a media analysis, and published a critical review of the international experience of bikelash,<sup>16</sup> as well as local case study research in Auckland, Wellington and Dunedin on the causes of and solutions to bikelash.<sup>17</sup> We conclude that useful strategies for resolving bikelash include more targeted engagement with the concerns and values of groups who commonly object, including local retailers, those inclined to a conservative view of urban ideas, and marginalised cyclists. We recommend also improving the quality of bike infrastructure projects, and providing greater regulatory support for safe streets initiatives.

#### **TAPPING INTO THE POTENTIAL OF E-BIKES**

The electric bike has potential to be a powerful enabler, a means of extending the reach of the bicycle, and increasing opportunities for many who currently do not ride bikes to use this nimble, health-enhancing mode of transport. Our e-bike interview research, as well as our small e-bike trial at Auckland Hospital showed that e-bikes have the potential to be an important 'mode-shift' tool that can enable commuters to make more 'car-like' trips on a bike. Our research showed that e-bikes are tripling the traditional active transport radius (from 5 to 15 km), as well as enabling bike commuters to undertake a wider range of activities, carry more stuff, and cover greater distances, making active transport more viable for a wider range of commuters.<sup>18</sup>

#### **IMPROVING EQUITY**

We also examined the question of how to make urban cycling more equitable; we supported a postgraduate project on the experience of active transport projects in a low-income, ethnically diverse community in South Auckland,<sup>19</sup> and initiated research on Māori and cycling in New Zealand.<sup>20</sup> These projects identified some key ways to support cycling amongst these groups, including the provision of high-quality infrastructure that supports social riding in families and groups and the need for cycling promotion to engage with wider community needs, including economic development and cultural obligations.

To find out more about this stream or to download our reports, visit our website <u>https://futureofthebike.auckland.ac.nz</u>

For more information about Future of the Bike, contact Alistair Woodward a.woodward@auckland.ac.nz



## 2.4 GROWING NICHE INNOVATIONS

#### **DISRUPTING THE SYSTEM TO ADD PUBLIC VALUE**

Across New Zealand, there is increasing momentum in the promotion of healthy transport options such as walking, cycling, and scooting. However, the car-oriented designs of many existing streets put people off using these other modes.

For low-income communities in particular, healthy street designs may contribute to injury reduction and health, social, economic, and environmental benefits.<sup>21,22</sup> Yet, the adoption of new approaches to redesigning existing streets is slow, and 'business as usual' street investment prevails.

Sociotechnical systems theory offers insights into how demonstrations of new ideas can succeed or fail in influencing the delivery system. Experiments, demonstrations, or 'niche' projects to test new ideas must ultimately influence the wider 'regime' – the deep structure of rules, processes and ideas that reinforce and sustain existing ways of working. These niche projects may challenge what is considered 'normal' in regimes and help drive system changes.<sup>23</sup> Within this, many different system components and actors impede or allow this to happen.<sup>24</sup>

Through the lens of three niche projects, this research used a sociotechnical systems approach to examine how safe and healthy street innovation in low-income communities in New Zealand is impeded or facilitated. Opportunities for expanding new approaches to street design across the system were also explored.



#### **THREE 'NICHE' PROJECTS**

#### TE ARA MUA – FUTURE STREETS

A neighbourhood-scale suburban retrofit project in Māngere Central, South Auckland. It encountered several obstacles and delays to implementation, but was ultimately delivered, based on a community participatory design approach, from 2015 to 2017.<sup>25</sup> For more information about the Te Ara Mua - Future Streets project, visit <u>http://www.futurestreets.org.nz/</u>

#### **ARANUI AND HAEATA CAMPUS**

A scoping exercise to understand the need for and feasibility of investment in safe and healthy street upgrades in the suburb of Aranui, Christchurch, following the establishment of the new Haeata Community Campus.<sup>26</sup>

#### SAFE AND HEALTHY STREETS SOUTH AUCKLAND

A wider South Auckland initiative, building on the momentum of Future Streets and other projects, to implement safe and healthy streets principles in a way that prioritises community needs and voices.

Following the difficulties of delivering Future Streets and other related projects around Auckland, a workshop – Making Trials Easy – was held with approximately 30 transport delivery stakeholders to understand the system barriers and enablers to planning and delivering new street designs in Auckland. It was hoped that the newer Aranui and Safe and Healthy Streets projects would have subsequently overcome many of these barriers, but as outlined below, progress is still difficult.



Te Ara Mua – Future Streets. Changes to a playground and reserve



Te Ara Mua - Future Streets. Pedestrian access improvements across a collector road

#### WHAT WE FOUND

Key themes were derived from project and workshop documentation.

**Innovation needs a home.** Planning systems and locked-in timelines prevent innovation from happening, and new, different, or opportunistic projects struggle for buy-in, even if they fit strongly with government goals.

Not now, not that, not there... The rigid nature of the National Land Transport Programme (NLTP) and other funding systems prevents niche projects from starting, as they invariably do not fit with the funding cycles and do not necessarily meet strategic priorities (because by definition they are suggesting something new). This is particularly the case for active travel-focussed projects, as funding is still limited in this area. Disadvantaged suburban communities often miss out, as their unique needs can seem too hard for siloed transport agencies to respond to.

Not being able to start a project because funding is not in place is common. But the funding requires a scope of work and the scope of work requires quality stakeholder engagement to define it – especially if it is to respond to community needs and aspirations. But then engagement is not possible because funding is not in place, and conversations might raise community expectations, with the risk of non-delivery.





**Follow the leader, and the limited power of internal champions.** Advocacy and leadership at community, delivery, and policy levels are all necessary for niche project success. However, funding and delivery leadership by senior management is often lacking. Internal champions doing things quietly are great, but in some ways they act to paper the cracks, and meanwhile system-level leadership is lacking. Champions tend to be passionate individuals who go above and beyond their job descriptions to make things happen – often at personal risk. They need better support.

**Two worlds collide.** Community engagement and empowerment leads to user-friendly investment, but this effort is hard to justify in linear planning systems that prioritise speed of delivery. Up-front engagement and data collection to understand community needs and aspirations is valuable, but it needs to be matched with community involvement through the delivery process. An example of this is using social procurement. The norms, cultures, and ways of doing things in diverse low-income communities in particular are very different from the procedural-focussed methods of transport delivery agencies. Sometimes 'just getting on with it' is what communities want, especially for obvious things, but even that can be hard. Experimenting with temporary measures offers a way forward in these situations.

**The regime changing the regime.** While niche projects are important disruptors of the status quo, the 'regime' is also constantly working from within to continually improve and this needs to be acknowledged. The change pathways are different, but both are valuable for overall system improvement.

However, the ability for agencies to respond and evolve is often hampered by disruptive organisational changes, high staff turnover, and loss of institutional memory. Often external consultants, researchers, and advisors are the holders of knowledge as they remain when agency staff are continually leaving and arriving.

#### **OPPORTUNITIES**

Niche projects slowly disrupt the system and affect change. They need sustained support, an openness to experimentation, and resources to ensure viable trialling and delivery. When exploring the value and impact of niche projects, understanding how wider systems constrain or enable their effectiveness is as important as understanding the impact of the projects themselves.

Niche projects cumulatively cause disruption in the socio-technical system, but they require immense effort. We cannot rest on our laurels, but have to keep going; then gradually, along with continuous internal improvement, the regime will change. To develop a culture of niche projects at a magnitude of effort that will eventually change existing regimes, they must be built into planning and delivery systems. While they both had issues, the earlier Model Communities and Urban Cycleways Programmes had impact because they were delivered from within – we need more of them. Niche projects driven from outside of Government (e.g., Te Ara Mua – Future Streets), where ways of working can be challenged, should also be encouraged, to promote innovation.

One effective way to get buy-in for projects across all system levels is to identify and highlight the direct benefits to local people - how a project will make daily lives better. This was demonstrated by the Te Ara Mua – Future Streets project, which only succeeded once the potential human-scale benefits became apparent and the local community, delivery agency, and political leaders were all on board.<sup>27</sup>

There is already increasing recognition at an institutional level that process change is necessary. A better understanding of trials and niche projects being difficult to deliver has contributed to the implementation of new work to address and streamline the delivery system. For example, NZTA's Innovating Streets for People project responds to this challenge by working with innovative temporary projects to make changes more quickly and cost-effectively, with associated rapid learning for ongoing practice. However, as the slow progress of the Aranui and Safe and Healthy Streets projects show, there is more work to be done, especially for more ambitious projects that seek a greater share of transport resources.

The magnitude of change that is needed to deliver on today's societal and environmental challenges is enormous. A substantial innovation fund is suggested to progress a programme of niche projects, challenge the current system, and ultimately add greater public value to transport delivery in New Zealand.<sup>28</sup>

For more information about Growing Niche Innovations, contact Hamish Mackie hamish@mackieresearch.co.nz



## **3. OVERLAPS AND OPPORTUNITIES**

### **3.1 OVERLAPS**

We have identified the following common threads, or overlaps across the four workstreams:

- 1. **Community-based engagement strategies:** The approach taken across the four streams offers lessons for wider implementation that show value for comprehensive engagement processes with communities.
- The human experience of transport systems: Transport systems and land use affect people's use
  of amenities and services, social structures and connection, and a sense of enjoyment and safety. In
  particular, this has been understood through the lenses of young people in schools and NEET, community
  members, and other everyday transport users.
- 3. Patterns of mobility injustice and inequity: Our transport system does not always equitably cater to its existing users or address latent demand. The four streams highlighted areas where the transport system could better integrate affordable and accessible transport solutions for a diverse range of users, and aid access to social connections, employment opportunities, health, and education.
- 4. **Speed:** A common underlying issue in this research was the risk for public health and safety caused by vehicle speeds.
- Urban form and transport: These are fundamentally interlinked, yet are often treated as separate disciplines. For example, it is common for new housing or schools to be placed within existing, poorly performing transport networks.
- Uncovering system barriers: The streams identified in-built constraints within the sociotechnical system that stifle innovation and progress. These included decision-making processes, practices, and rules; lockedin ways of working and thinking; and the failure to show, acknowledge, and sufficiently measure the social costs of projects.
- 7. **The role of leadership:** Leadership across multiple levels is critical for fostering innovative approaches to transport planning and systems, moderating and reframing perceptions of organisational risk and sustaining direction in the face of entrenched opposition or systemic barriers to change.
- 8. **Catalysing change:** By exploring patterns and issues within current transport systems, challenging existing thinking, testing new approaches, and informing design, practice and policy research has the potential to catalyse system change.

## **3.2 OPPORTUNITIES**

Through this research, we have identified a range of opportunities for policy, planning, and research to provide and support healthier and safer mobility futures for people and communities in Aotearoa New Zealand.

Active and safe transport priorities are often disparate – scattered among funding priorities, plans and strategies. We see a need to **build a national vision for healthy, safe, and equitable travel** that has both legislative and strategic backing and direction, and which is designed to meet the needs of all transport users. This should build on the lessons and successes from health and safety, and smokefree legislation, which have driven healthier environments in work and recreational settings, but which could be improved upon to ensure equitable outcomes.

Complementing the national direction, there is a clear value for future transport systems that **foster community-led engagement** and which ensure that youth, indigenous, disadvantaged, and disabled people have a meaningful voice in design and research, and benefit from well-designed change.

The climate crisis is one of the most pressing environmental and health issues that life on earth faces; **a shift to cleaner, healthier, and more active transport modes** is one critical response to the climate crisis challenge, but this shift needs to benefit everyone, not just those who are already privileged.

**Leadership in policy and organisations** at national, regional, and local levels are key to building and sustaining momentum towards active and healthy transport modes.

We need a more comprehensive range of **meaningful indicators and measures that capture public value**, and which challenge the existing orthodoxy around established success indicators such as vehicle kilometres travelled (VKT). We propose that indicators are required that capture the transport mode, experiences, and outcomes for all users, as well as measuring outcomes for equity by income, ethnicity, age group, and for people with disabilities. Potential monitoring indicators include increases in child and youth active transport modes, active travel to school, decreases in VKT, increases in cycling and public transport use, and accessibility for people with disabilities.

Safe speeds are critical enablers of road safety outcomes. Outside of main arterials, we argue that an **effective speed of 30 km/h should be a default speed limit in urban settings**, with higher speeds being justified based on their function and safety features within an accepted framework. Transport planners and policy-makers have a key role to play in achieving this, supported by research and advocacy from the transport research sector.

Transport researchers have an important contribution to make as **change-makers in transport systems and policy**, including through innovation trials, exploring and adding to evidence on effective approaches, building capacity in the sector, supporting changes in practice in large organisations, and advocating and informing guidance policy and legislation.

**Stronger innovation functions** are needed with transport organisations to generate and test new approaches, and iteratively build these into systems. These need to be backed by leadership, staffing, resources, and policy.

Accompanying an innovation function, we see a need for **building innovative thinking into transport and health sector professional development** and academic study, including critical and systems thinking within the sector, tools for system change, and innovation.

A dedicated and well resourced **innovation programme** is needed to test new ideas and rapidly scale up successful change projects at the magnitude that is needed. This should be built into existing funding systems such as the National Land Transport Programme (NLTP).

As is often the case with research that charts current and future challenges, we have uncovered a range of potentially fruitful areas of future research, including:

- features of urban development that effectively integrate transport, housing and land use, and lessons for future implementation
- opportunities and challenges for cycling and other forms of active transport among Māori and Pasifika
- transport and health futures scenario development
- cycle networks of the future, particularly in Auckland
- child and youth active transport
- implementing universal design approaches to support mode shift opportunities accessible to all
- rights-based research into healthy active transport
- large-scale interventions that can rapidly respond to safe and healthy transport signals.



# 4. SUMMARY OF METHODS

#### **SHAPING CITIES FOR YOUTH**

A qualitative study to explore place and transport issues in four New Zealand communities – Papakura and Rānui/Massey-West in Tāmaki Makaurau (Auckland), and Aranui and Hornby in Ōtautahi (Christchurch).

Participants included rangatahi/youth, aged 15-24 years from a range of ethnic groups, particularly Māori and Pasifika, who have experienced being Not in Education, Employment, or Training (NEET). In parallel, interviews were conducted with adults who interact with youth as parents/whānau, employers, education providers, and youth organisations. Research was conducted through peer interviewing, interactive mapping, photovoice via social media, and researcher-led interviewing.



Participant Photovoice

#### **ACTIVE SCHOOL TRAVEL**

The Active School Travel strand evaluated the impact of an enhanced school travel plan (including minor infrastructural works) on children's active travel to school and related outcomes. Preliminary work included collating literature and stakeholder information to support the research process, contextualise the research, and aid interpretation of findings. Research methods included:

- meta-analysis of existing New Zealand sources and datasets on school travel
- semi-structured key informant interviews to identify success factors from schools that are positive outliers nationally
- pre-post evaluation of minor infrastructural work interventions around schools. Children's active travel, neighbourhood use, and physical activity was assessed using a participatory geographical information systems survey and accelerometry.

#### FUTURE OF THE BIKE

A mixed-methods research approach including:

- record linkage exploring mortality risk of cycling
- · exploration of e-bike industry and perspectives of e-cyclists
- testing new digital cycling device to track safe cycling spaces
- literature analysis and qualitative study of bikelash.

#### **GROWING NICHE INNOVATIONS**

Via three niche projects, this research used a sociotechnical systems approach to examine how safe and healthy street innovation in low-income communities in New Zealand is impeded or facilitated. Opportunities for expanding new approaches to street design across the system were also explored. Document review from projects was carried out to draw out the barriers, enablers, and opportunities.



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