

# Streets for Tomorrow... Today

Michael Blewden<sup>1</sup>, Sienna MacArthur-Beadle<sup>1</sup>, Geoffrey Haines<sup>2</sup>, Ali Raja<sup>1</sup>, Anna Nord<sup>2</sup> and Greer Hawley<sup>2</sup>

<sup>1</sup> Mackie Research, New Zealand

<sup>2</sup> Waka Kotahi NZ Transport Agency, New Zealand

Corresponding Author: Dr Michael Blewden. Mackie Research, Suite 2.6, Level 2, 1 Albert St, Auckland 1010, New Zealand. Email: [michael@mackieresearch.co.nz](mailto:michael@mackieresearch.co.nz); ORCID: 0000-0003-2231-3262; Ph: (+64) 21 308203

*This peer-reviewed paper was first submitted as an Extended Abstract and an Oral Presentation was recommended by two reviewers at the 2022 Australasian Road Safety Conference (ARSC2022) held in Christchurch, New Zealand 28-30 September 2022. The two Reviewers also recommended that the Extended Abstract be expanded into a 'Full Paper' and undergo further peer-review as a journal submission by three independent experts in the field. The Extended Abstract is published in the ARSC2022 Proceedings. This 'Full Paper' version is being reproduced here with the kind permission of the authors and will only be available in this edition of the JRS.*

## Key Findings

- Innovating Streets for People (2018-21) supported accelerated street space reallocation projects throughout Aotearoa.
- Projects were shown to accelerate safety, accessibility, and liveability benefits.
- The 2021-24 Streets for People programme has been guided by learning from Innovating Streets for People.
- Features of the current Streets for People programme include a change management approach, considerable upfront investment in project planning, and an integrated programme of project support.
- Ensuring the satisfaction, safety, and well-being of those involved in Streets for People will be essential to developing a capable, confident, and motivated street space reallocation workforce.

## Abstract

The Innovating Streets for People programme supported street space reallocation to enhance the safety, accessibility, and liveability of streets throughout Aotearoa New Zealand. The programme supported the use of tactical urbanism and co-design practices to more easily and quickly deliver temporary solutions that demonstrate and build support for change, bring forward benefits, and enhance permanent solutions. Innovating Streets for People funding (2020-21) supported the delivery of 62 temporary walking and cycling projects across Aotearoa. Approximately 89km of interim street treatments were delivered, including cycleways, safe crossings, parklets, and traffic calming. A mixed-method evaluation showed that Innovating Streets for People projects can accelerate a range of benefits, including safety and accessibility improvements and more supportive environments for active travel. A focus on continuous improvement, sector capability, and addressing system constraints, is needed to realise further programme potential. How evaluation and practice-based learning from Innovating Streets for People has been integrated within the design of the 2021-24 Streets for People Programme, and how responses are expected to support intended outcomes, are discussed.

## Keywords

street space reallocation, temporary treatments, tactical urbanism, co-design, walking and cycling

## Glossary

AT – Auckland Transport

ERP – Emissions Reduction Plan

NLTP – National Land Transport Programme

NZTA – New Zealand Transport Agency

---

**Received:** 02/08/2022; **Received in revised form:** 20/09/2022; **Accepted:** 20/10/2022; **Available online:** 09/11/2022

**Copyright:** © The Author(s). 2022 This is an open access article distributed under the terms of the [Creative Commons Attribution \(CC BY\) license](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and the source are credited.

**Suggested citation:** Blewden, M., MacArthur-Beadle, S., Haines, G., Raja, A., Nord, A., & Hawley, G. (2022). "Streets for Tomorrow... Today" *Journal of Road Safety*, 33(4), 21-31. <https://doi.org/10.33492/JRS-D-22-00041>

## Introduction

### Background

Rapid transformation of urban environments is needed to create safe, healthy, and liveable towns and cities and to support the reduction of transport-related carbon emissions (Keall et al., 2018). In Aotearoa New Zealand, the Emissions Reduction Plan (ERP) (Ministry for the Environment Manatū Mō Te Taiao, 2022) seeks a 20% reduction in vehicle kilometres travelled by 2035 and a 75% increase in the proportion of journeys under 5km using active transport. Enhancing the safety of walking and cycling will be essential for supporting these shifts (Waka Kotahi NZ Transport Agency, 2019). For example, most short journeys under 5km are currently driven but could be walked or cycled if supported by safe infrastructure and other enablers such as safe routes to school programmes (Auckland Transport, 2022). Despite increased spending on active transport infrastructure in Aotearoa (Infrastructure New Zealand, 2021), significant further development is required to complete the connected cycling networks (Blewden et al., 2022) needed to support emission reduction. The current deficit can in part be attributed to limited previous investment in building the skills and experience needed within the transport sector to quickly and efficiently modify existing urban street environments for safer walking and cycling.

### Innovating Streets Inception

The Innovating Streets for People (Innovating Streets) programme was established by Waka Kotahi in 2018 in response to the sector capability development need, to advance understanding of system barriers, and to make it easier and quicker to undertake street space reallocation. Programme supports included a website (Waka Kotahi NZ Transport Agency [NZTA], n.d.-b), tactical urbanism practice guide (Waka Kotahi NZTA, 2020a), facilitation of a community of practice, and advice from subject matter experts. Innovating Streets funding (2020-21) was provided to support the delivery of Innovating Streets projects throughout Aotearoa. Ninety percent of project costs were funded with the remainder being made up by each local authority partner. Collectively, the Innovating Streets programme and projects sought to contribute to emission reduction and road safety goals by helping communities to reimagine the role and use of existing streets and by demonstrating the safety, accessibility, and liveability benefits that can be delivered through street space reallocation.

All Innovating Streets funded projects were supported to follow tactical urbanism and co-design principles. Tactical urbanism uses temporary, lower-cost materials to test infrastructure interventions (Dube, 2009; Lydon & Garcia, 2015; Waka Kotahi NZTA, 2020a). The approach provides a relatively low-risk and low-cost way to more quickly deliver change benefits, learn through doing, and

inform decision making. Co-design is a collaborative methodology used to develop a sense of ownership and meaningful participation by stakeholders within the design process, drawing on local knowledge and expertise (Waka Kotahi NZTA, 2020a). Both approaches were used within Innovating Streets to build stakeholder ownership, identify opportunities for social procurement, and increase the likelihood that solutions would be fit-for-purpose and accepted by stakeholders (Waka Kotahi NZTA, 2020a).

### Innovating Streets Projects

The Innovating Streets project funding was open to road controlling and territorial authorities working in collaboration with community and business partners. Seventy-eight projects were initially funded, each assessed as meeting quality and design eligibility criteria (Waka Kotahi NZTA, 2020b). Sixty-two projects reached installation stage, with interim street changes delivered within 32 cities and towns. Projects included smaller installations such as reclaiming car parking spaces for outdoor dining in town centres and kerb buildouts, and community-based interventions such as safe routes to school. Larger interventions included low-traffic neighbourhoods, where treatments are used to remove, reduce, and slow down neighbourhood through traffic, while retaining motor vehicle access to residential homes (Lavery et al., 2021).

### Evaluation method

The evaluation of Innovating Streets was undertaken collaboratively with inputs from an external evaluation team (Mackie Research), Waka Kotahi staff, and each Innovating Streets project team. A collaborative approach to evaluation helps to ensure that the design of evaluation meets stakeholder needs. The approach can also enhance access to information and data and can increase the likelihood that stakeholders will use findings (O'Sullivan, 2012; Rodriguez-Campos & Rincones-Gómez, 2018).

The design of the Innovating Streets evaluation was informed by theory-driven (Funnel & Rogers, 2011), system (Hargreaves, 2010), and utilisation-focused (Patton, 2008) evaluation. A mixed method evaluation approach (Tashakkori & Creswell, 2007), combining qualitative and quantitative methods, was undertaken. The evaluation framework included an Innovating Streets intervention logic and outcome model (see Appendix A), and specified the key evaluation questions, criteria, standards, measures, and methods.

Programme evaluation activities were focused on the achievement of intended short-term outcomes from Innovating Streets, particularly the development of sector capability. Each project team also undertook project level process and outcome evaluation. Where appropriate,

project level outcome data were aggregated by the evaluation team to help describe overall programme impacts.

## Results

### Project outcomes

The Innovating Streets evaluation showed that projects funded by Innovating Streets delivered approximately 89km of interim street treatments (Blewden et al., 2022). Treatments included temporary cycleways, one-way streets, safe crossing points, parklets in town centres, traffic-calming, kerb buildouts, and road art. Twenty-nine project teams reported a reduction in vehicle speeds, 28 reported increases in cycling or walking, and 25 reported a safer and more accessible environment for pedestrians. Consistent with the tactical approach, 23 projects reported some type of adaption to treatments, either during design or following delivery. A similar number of teams reported stakeholder support for making temporary treatments permanent, while 11 reported community satisfaction with the interventions delivered. Figure 1 shows a variety of treatments.

### Programme learning

#### A clear mandate and rationale

The Innovating Streets evaluation showed that local support for street reallocation projects is more likely when

projects have a defensible rationale and mandate and clear warrant for using a tactical approach. The warrant was strengthened when projects aligned with local strategies, objectives, opportunities, and support, and when projects were part of an existing network plan.

Communicating the national context for change was also important for establishing the local warrant. However, this was often difficult, given time and resource constraints, the limited scope of individual projects, and pressure on communications resources at the national level.

#### Resourcing

The tactical and co-design approach was new for many project teams and communities. Resourcing needs were often unclear at the start; in some cases, this led to project teams being under resourced. Team members were often required to undertake multiple responsibilities or additional responsibilities in addition to an existing workload; a situation which negatively impacted the health and well-being of some members.

The national-level support and system capacity needed to manage the large number of projects funded by Innovating Streets was also unclear at the outset. Programme resources and system capacity were under pressure throughout. The demands of responding to the immediate needs of projects made it difficult to provide more strategic support.

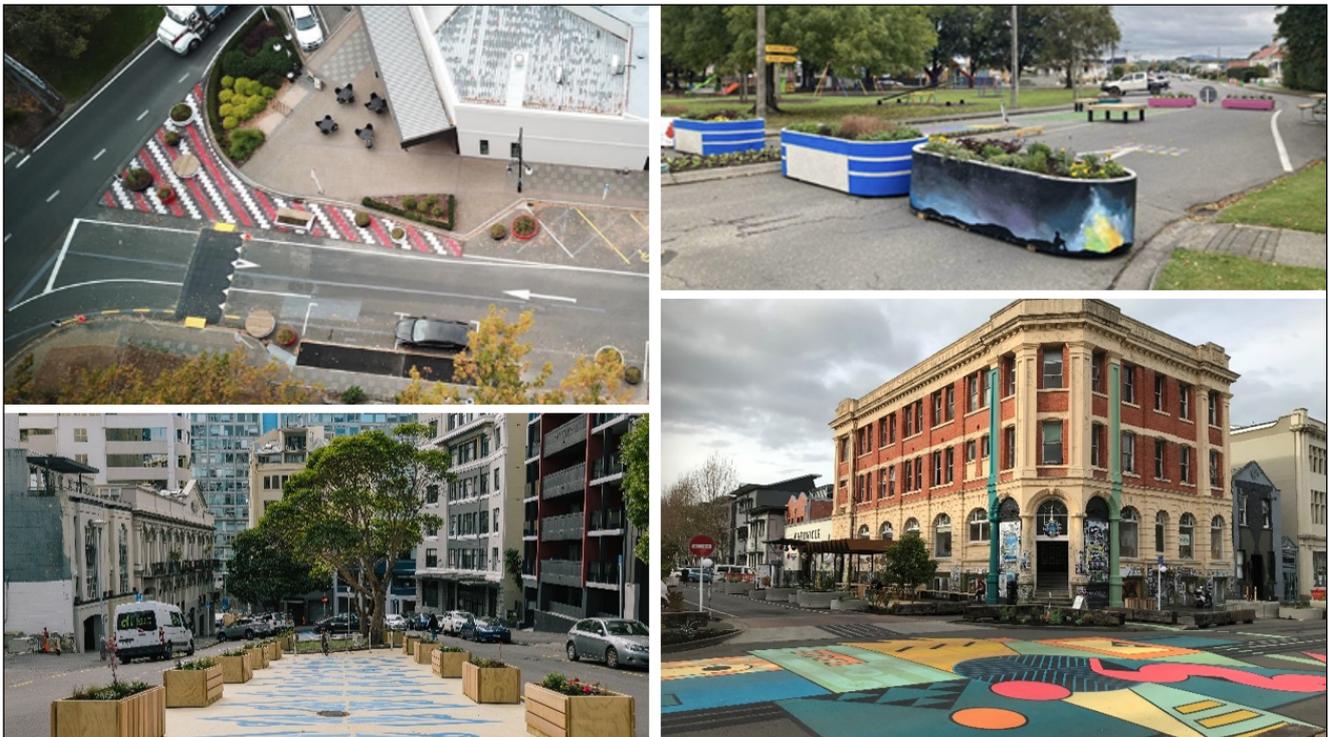


Figure 1. Innovating Streets Project Examples. [Clockwise from top left: Hetana St, Matamata; Gore; Drews Ave, Whanganui; Emily Pl, Auckland] (Blewden et al., 2022).

For example, project teams commonly identified the need for a national strategy to communicate the national context and mandate for local action. However, communications resources at the national level were mostly fully subscribed supporting local communications, including assisting teams to respond to local opposition when this arose.

### Communications support

Consistent with the literature (Crompton, 2017; Sanoff, 2000; Simpson, 2020), the evaluation reinforced the need for comprehensive communications support at a national and local level. For example, communicating the relatively complex concepts underpinning a tactical, co-design approach requires significant resources and skilled execution. Project level communications support was a common area of under-resourcing; allocated resources were often subsumed by day-to-day project demands. If there was significant local opposition, projects were often forced to adopt a reactive and defensive mode.

### Partnerships and engagement

Projects reporting more effective stakeholder engagement were often smaller in scope, built from existing local relationships, and had the skills to facilitate an effective approach. Not surprisingly, co-design approaches appeared more successful when teams drew on proven methods and had appropriate skills and experience. Establishing and communicating the scope of community inputs within the co-design process, was also important (Blewden et al., 2022; Goodyear-Smith et al., 2015).

Projects reporting less effective engagement shared common characteristics. These projects were often larger in scope and of higher complexity, yet engagement was also often constrained by time and resources. At the outset, local environments were not necessarily conducive or supportive of a tactical approach. For example, in some communities there was historical distrust of local government or negative experience of previous engagement processes or outcomes.

### Aesthetics and materials

Temporary materials can allow for faster, more cost-effective installation (Dube, 2009; Lydon & Garcia, 2015), however, the evaluation found that these can also stoke community opposition. This was particularly the case when the aesthetic, quality, or durability of materials came into question. Local acceptance was more likely when there was better ‘fit’ between materials and the physical, social, or cultural context. It was also found that temporary materials can fail to clearly or intuitively communicate design intent and may bear limited resemblance to permanent treatments. In some cases, this lack of clarity contributed to community opposition, even when there was underlying support for project objectives. These findings indicated that ‘user-testing’ procedures, based on the human-factors principles of legibility, understandability,

and usability (Read et al., 2017), could be more fully employed during design phases.

### Shared understanding of success

The evaluation reinforced the need for projects to have clear evaluation criteria and shared understanding of these. Agreement on the relative importance given to different criteria, when judging success, is also important. The need for shared understanding of evaluation criteria has been widely discussed (Davidson, 2005; Scriven, 1997; Shadish et al., 1991). In the absence of this, the evaluation found that local opposition to projects can be interpreted by stakeholders as an indicator of failure and can have disproportionate influence within decision making. In cases this occurred even when opposition did not represent the interests of the intended beneficiaries of projects. Further, it can also be particularly difficult for elected members and managers to withstand local opposition if shared understanding of success does not exist.

### Dealing with complexity

A tactical approach generally increases complexity and uncertainty regarding next steps (Ross, 2019; Simpson, 2020; Waka Kotahi NZTA, 2020a). The evaluation identified situations where uncertainty about the longer-term plan for temporary projects, including permanent installation, led to mixed messages and unfulfilled expectations, with local authorities subsequently exposed to reputational risk. The evaluation results suggested that a tactical approach may be less suited to higher risk and higher complexity contexts and may be harder to justify in certain contexts, for example, smaller councils with a limited rates base and existing budget pressures.

## Discussion

Following the achievements and learning from Innovating Streets, Waka Kotahi launched Streets for People in 2021 (Waka Kotahi, n.d.-d). The programme will continue to fund and support local authorities over a three-year period to work with local partners to deliver street space reallocation projects for walking and cycling more quickly and easily. The programme and all projects will be guided by an adaptive practice approach (Schwindeller et al., 2014). Adaptive practice integrates principles and methods from tactical urbanism while recognising that street space reallocation requires inputs from multiple stakeholders, including community representatives, planners, designers, and local officials. An adaptive practice approach may therefore differ from a more ‘grass roots’ or ‘bottom-up’ approach to tactical urbanism (Davis 2015; Pagano, 2013).

Sector and wider system capability development is again a core objective of Streets for People. Other objectives include the facilitation of action-based practice learning, the strengthening or development of new working relationships to improve delivery, catalysing greater understanding and uptake of street space reallocation, and

system change in support of adaptive practices. Under the ‘Care’ objective, the programme seeks to ensure that all involved report a sense of satisfaction, safety, and well-being.

While Innovating Streets again seeks to expediate street space reallocation, the Innovating Streets evaluation reinforced that system change takes time and requires evidence-based change strategy, and sustained effort (Abercrombie et al., 2015; Foster-Fishman et al., 2007). As a change management programme (Buchanan et al., 2005), the design of Streets for People is based on the understanding that embedding and sustaining adaptive practices as normative (i.e., not requiring additional funding and support) will occur over the long term. Reflecting this, Streets for People has established a 10-year vision (Waka Kotahi NZTA, n.d.-e) for the desired programme impact i.e., that local authorities and Waka Kotahi are confidently using adaptive practices to accelerate the creation of streets that contribute to healthy and safe people, environmental sustainability, and inclusive access.

The design of Streets for People has been closely informed by learning from Innovating Streets. Key responses, and how these are expected to support intended outcomes from the programme, are now discussed.

### Fewer funded projects

Streets for People has a \$30M budget allocation over the 2021–24 National Land Transport Programme (NLTP). The NLTP sets out the land transport investments that will be made over a three-year period, in alignment with the most recent Government Policy Statement on land transport. Streets for the People will provide 90% funding assistance with remaining project costs met through local contributions. Compared to Innovating Streets, the programme will work with a smaller cohort of local authorities, likely between 10 to 15. While some authorities will undertake multiple projects or larger area network projects, the more limited programme scope seeks to ensure that each project receives the resourcing and expert programme support required for success.

### Investment in planning and capability

Challenges identified through the Innovating Streets evaluation described earlier often originated in early-stage project planning. Short delivery timeframes put project planning under pressure, causing issues later in the project cycle. Another recent review of a transport infrastructure funding initiative within Aotearoa reported similar findings (Blewden et al., 2022a).

Responding to the above, Streets for People will be executed in three main phases, each designed to support high quality planning and delivery. A phase one expression of interest (closed 22 February 2022)

invited initial applications to the fund and identified early-stage proposals for phase two funding. Criteria for progression included demonstrated organisational, political, and community support, a commitment to plan for success, and that projects were embedded within a strategic network and longer-term funding plan. The Funding the Foundations stage (April to June 2022) delivered extensive development support, with the aim of strengthening project planning (e.g., structural success, strategic alignment, communications, engagement) and ensuring that project teams would have necessary capacity and capability. Project proposals were developed by each team and presented to Waka Kotahi for further assessment. Criteria for progression included clear plans for the further development of team capability and delivery partnerships, and how personnel would be supported throughout. Project teams continuing in the programme will move to phase three, the Readiness Programme. This phase will involve more detailed project programme planning, including approach to communications and engagement, monitoring and evaluation, health and safety, and procurement. The successful cohort of councils will progress to implementation and will commence with engagement planning and scheme design as early as September 2022.

Development supports over the initial phases have been flexible and responsive, recognising that teams will have different needs and will progress at different speeds, dependent on factors such as level of previous experience.

The level of upfront investment in readiness and future success undertaken by the Streets for People programme is significant and somewhat unique. Previous evaluation has shown that transport infrastructure funding initiatives can encourage recipients to move too quickly to project design and delivery, at the expense of early planning (Blewden et al., 2022, Blewden et al., 2022a). Later impacts from the initial Streets for People investment in success will be evaluated, with the expectation that project outcomes and programme impact will be enhanced. Early feedback from the programme team and councils who participated in the Funding the Foundations stage has been positive with both sides more confident that projects will be successfully delivered from the outset.

### Programme supports

As noted, Innovating Streets projects required significant support and programme resources at the national level were stretched. Similar needs are expected from the new tranche of Streets for People projects, particularly as some local authorities have limited relevant previous experience. Streets for People has established five workstreams, each delivering support under an integrated programme structure (Waka Kotahi NZTA, n.d.-e). Under ‘Delivering the Projects’, a Waka Kotahi Relationship Manager will work closely with each project team, providing guidance and day-to-day supports and facilitating access to expert inputs.

The ‘Capability Building’ workstream will deliver a programme of support to lift system capability, capacity, and culture. Planned supports, identified in the Iterative Capability Framework (Waka Kotahi NZTA, n.d.-a), include mentoring, formal training, communities of practice, and the provision of information, including a series of updated handbooks for adaptive practices. However, the approach will be flexible and adapted to the unique needs of each project and project team. A collaborative, action learning approach (Marquardt et al., 2018) will also be adopted, to support continuous team-based learning and practice development.

The ‘Catalyst’ workstream seeks to ensure that the Streets for People programme and projects stimulate change across the delivery system. A core objective is to embed tactical policy, principles, and practice as business as usual at a national level and for local authorities, consultants, and other partners. This workstream will also be focused on building mandate, social licence, and funding security for further Streets for People projects, beyond the end of the programme.

Guided by a comprehensive strategy (Waka Kotahi NZTA, n.d.-c), the ‘Communications and Engagement’ workstream will provide national and local level communications and engagement support. This work will seek to build stakeholder awareness, trust, and confidence in the principles of urban active modes and in a tactical approach. At a national level, the strategy also seeks to better position the programme, tell the story and balance negative sentiment towards the programme. Local communications and engagement plans will be developed. Purposeful, collaborative, and supportive relationships with all stakeholders will be sought. Local stories and events will be used to communicate the intent and purpose of Streets for People and intended outcomes, linking these to the emission reduction imperative, road safety, and other wider objectives.

The ‘Monitoring and Evaluation’ workstream will support data collection and evidence at a programme and project level. The programme evaluation will assess quality, progress, and performance in respect to the Streets for People objectives. Project teams will again be supported to undertake monitoring and evaluation at the project level with a focus on evidencing local outcomes and impact. All evaluation will be used to inform programme, project, and practice development, including local evaluation capability. As noted, shared understanding of what programme and project level success will look like will be essential for focusing all evaluation and when communicating results.

## Health and well-being support

The process of local authorities working in partnership with local communities to implement tactical projects is complex and challenging (Raja, 2020). New skillsets are required for transport sector professionals with limited

previous experience working within a partnership and community development paradigm (Wildridge et al., 2008). Street space reallocation can be confronting for local communities and can be met with opposition (Simpson, 2020). The Innovating Streets evaluation showed that success builds upon effective local partnerships, characterised by mutual respect, trust, shared understanding, and a commitment to collaborate.

In some cases, the challenge of working on street space reallocation within local communities contributed to Innovating Streets projects having a negative impact on the health and well-being of team members and other stakeholders (Blewden et al., 2022). As noted, other contributing factors to this were the under-resourcing of project capacity and capability and tight delivery timeframes.

The focus of Streets for People on ensuring the satisfaction, safety, and well-being of those involved, directly responds to this learning. These outcomes will be central to developing and retaining a capable, confident, and motivated Streets for People workforce. This will in turn be critical to realising the 10-year vision of the programme.

While project teams will be required to implement appropriate support strategies, protective responses are also evident in the overall design of the Streets for People programme. These include the upfront investment in building the foundations for success, the limited number of exemplar projects to be funded, the three-year timeframe and flexible timelines, the delivery of comprehensive support through the workstream structure, and focus on building capability at all levels of the delivery system

## Study Limitations

This article refers primarily to learning from the Innovating Streets programme evaluation. The design of the Streets for People has been informed by multiple knowledge sources not acknowledged nor discussed in this article.

## Conclusions

Learning from the Innovating Streets programme has guided the design of the Streets for People programme. Building from the earlier programme, Streets for People has adopted a long-term change management approach to the design and delivery of further street space reallocation projects throughout Aotearoa. The programme will work with fewer local authorities and projects, to ensure that each receives appropriate resourcing and support. Significant upfront investment has been made in project planning and in building the capacity and capability of project teams from the outset. Five programme workstreams have been established to deliver targeted supports under an integrated programme structure. Core objectives are to develop capability across the delivery

system, build improved connections with stakeholders, embed, sustain adaptive practice as business-as-usual, and ensure that all involved report a sense of satisfaction, safety, and well-being. Monitoring and evaluation at the programme and project level will track and assess progress, quality, outcomes, and impacts. A learning orientated approach will be adopted to ensure continuous improvement and development.

## Acknowledgements

The authors would like to thank all the Innovating Streets project teams and project stakeholders who took part in the Innovating Streets evaluation. The evaluation, all subsequent learning, and the development of the Streets for People programme would not have been possible without your willingness to share your experience and knowledge.

## Author Contributions

Dr Michael Blewden, Mackie Research, was lead author of this article, supported by Sienna MacArthur-Beadle and Ali Raja, also of Mackie Research. Geoffrey Haines, Anna Nord, and Greer Hawley, all of Waka Kotahi, assisted with planning the article and peer reviewed the final draft. All authors have read and agreed to the published version of the manuscript.

## Funding

The Innovating Streets evaluation was funded by Waka Kotahi, the New Zealand Transport Agency. The design, conduct, analysis, and reporting of the evaluation findings was undertaken collaboratively by Waka Kotahi and Mackie Research. Financial support for the preparation of this article was provided by Mackie Research. Waka Kotahi was involved in the planning of this article and reviewed and approved the final article.

## Human Research Ethics Review

The Innovating Streets evaluation was conducted in accordance with the ethical standards and informed consent procedures established by the Australian Evaluation Society (Australian Evaluation Society, 2013). These standards are aligned to the rules of the World Medical Association Declaration of Helsinki regarding ethical principles for research involving human subjects (World Medical Association, 2018). Waka Kotahi NZTA did not require the evaluation to gain ethics approval from an independent ethics committee.

## Data Availability Statement

The Innovating Streets programme evaluation report (Waka Kotahi NZTA, 2022) is publicly available.

## Conflicts of interest

The authors declare there are no conflicts of interest.

## References

- Abercrombie, R., Harries, E., & Wharton, R. (2015). *Systems change. A guide to what it is and how to do it*. Lankelly Chase Foundation. London, England.
- Auckland Transport. (2022). *Walking School Bus*. Retrieved from <https://at.govt.nz/cycling-walking/travelwise-school-programme/walking-school-bus/>
- Australian Evaluation Society. (2013). *Guidelines for the Ethical Conduct of Evaluations*. Melbourne, Australia. [https://www.aes.asn.au/images/AES\\_Guidelines\\_web\\_v2.pdf?type=file](https://www.aes.asn.au/images/AES_Guidelines_web_v2.pdf?type=file)
- Blewden, M., Raja, A., Nord, A., Hawley, G., & Gilbert, K. (2022). *Innovating Streets Fund Evaluation: Final Report*. Prepared for Waka Kotahi. <https://www.nzta.govt.nz/assets/Roads-and-Rail/streets-for-people/innovating-streets-for-people-2020-2021-programme-full-report.pdf>
- Blewden, M., Mackie, H., & MacArthur-Beadle, S. (2022a). *Urban Cycleway Programme 2014-21: Lessons learnt and future direction*. Prepared for Waka Kotahi.
- Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J., Lamont, S., Neath, A., & Whitby, E. (2005). No going back: A review of the literature on sustaining organizational change. *International Journal of Management Reviews*, 7(3), 189–205. <https://doi.org/10.1111/j.1468-2370.2005.00111.x>
- Crompton, A. (2017). *Towards Inclusive Community Engagement: Engaging Marginalized Residents in the Urban Planning Process*. University of Toronto. Retrieved from <https://search.proquest.com/docview/1992161933?accountid=14784>
- Davidson, E. (2005). *Evaluation Methodology Basics: The Nuts and Bolts of Sound Evaluation*. Sage Publications Inc. Thousand Oaks, CA.
- Davis, K. (2015). *Can Pop-Up Shops Improve My Community? Exploring the Linkages between Tactical Urbanism and Community Development* (Applied research paper). Georgia State University, Atlanta, GA.
- Dube, P. (2009). Actions: What You Can Do with the City. *C Magazine*, 102, 47–48. Retrieved from <https://cmagazine.com/articles/actions-what-you-can-do-with-the-city>
- Foster-Fishman, P. G., Nowell, B., & Yang, H. (2007). Putting the system back into systems change: A framework for understanding and changing organizational and community systems. *American journal of community psychology*, 39(3), 197–215. <https://doi.org/10.1007/s10464-007-9109-0>
- Funnell, S., & Rogers, P.J. (2011). *Purposeful Program Theory: Effective Use of Theories of Change and Logic Models*. Jossey-Bass. San Francisco, CA.
- Goodyear-Smith, F., Jackson, C., & Greenhalgh, T. (2015). Co-design and implementation research: challenges and solutions for ethics committees. *BMC medical ethics*, 16(1), 1–5. <https://doi.org/10.1186/s12910-015-0072-2>

- Hargreaves, M. (2010). *Methods Brief: Evaluating System Change: A Planning Guide*. Mathematica Policy Research, Inc. Princeton, NJ.
- Infrastructure New Zealand. (2021). *2021-2023 National Land Transport Programme*. Retrieved from <https://infrastructure.org.nz/2021-23-national-land-transport-programme/>
- Keall, M. D., Shaw, C., Chapman, R., & Howden-Chapman, P. (2018). Reductions in carbon dioxide emissions from an intervention to promote cycling and walking: A case study from New Zealand. *Transportation Research Part D: Transport and Environment*, 65, 687-696. <https://doi.org/10.1016/j.trd.2018.10.004>
- Laverty, A. A., Goodman, A. & Aldred, R. (2021). Low traffic neighbourhoods and population health. *BMJ*, 372, n443. <https://doi.org/10.1136/bmj.n443>
- Lydon, M., & Garcia, A. (2015). *Tactical Urbanism: Short-term Action for Long-term Change*. Island Press. Washington D.C.
- Marquardt, M. J., Banks, S., Cauwelie, P., & Choon Seng, N. C. (2018). *Optimizing the Power of Action Learning: Real-Time Strategies for Developing Leaders, Building Teams, and Transforming Organizations*. John Murray Press. London, England.
- Ministry for the Environment Manatū Mō Te Taiao. (2022). *Te hau mārohi ki anamata: Towards a productive, sustainable, and inclusive economy* [Report]. <https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf>
- NZ Transport Agency (2019). *Innovating Streets for People project. High level findings from baseline survey* [PowerPoint slides]. Innovating Streets for People Working Group. Wellington.
- O’Sullivan, R.G. (2012). Collaborative evaluation within a framework of stakeholder-oriented evaluation approaches. *Evaluation and Program Planning*, 35, 518-522. <https://doi.org/10.1016/j.evalprogplan.2011.12.005>
- Patton, M.Q. (2008). *Utilization-Focused Evaluation*. SAGE Publications, Inc. Thousand Oaks, CA.
- Pagano, C (2013). DIY Urbanism: Property and Process in Grassroots City Building. *Marquette Law Review*, (97), 335-469. <https://scholarship.law.marquette.edu/mulr/vol97/iss2/5>
- Raja, A. (2020). *The Radical Potential of Informality Diminished: A Critical Perspective on Tactical Urbanism in a Neoliberal Planning Paradigm. An Auckland City Centre Case Study* (Master’s thesis). University of Auckland, Auckland, New Zealand.
- Read, G. J., Beanland, V., Lenné, M. G., Stanton, N. A., & Salmon, P. M. (2017). *Integrating human factors methods and systems thinking for transport analysis and design*. CRC Press. Boca Raton, FL.
- Rodríguez-Campos, L., and Rincones-Gómez, R. (2018). Collaborative evaluation. In B. Frey (Ed.), *The SAGE encyclopedia of educational research, measurement, and evaluation* (pp. 324-326). Sage Publications Inc. Thousand Oaks, CA.
- Ross, L. (2019, September 26). *Equity in the Commons*. Medium. Retrieved from <https://medium.com/reimagining-the-civic-commons/equity-in-the-commons-929226f75bdf>
- Sanoff, H. (2000). *Community participation methods in design and planning*. Wiley. New York, NY.
- Scriven, M. (1997). *Truth and Objectivity in Evaluation*. In E. Chelimsky & W. Shadish (Eds.), *Evaluation for the 21st Century: A Handbook*. Sage Publications Inc. Thousand Oaks, CA.
- Schwindeller, M., Lewis, J., & Rottle, N (2014). *Adaptive Streets Strategies for Transforming the Urban Right of Way*. UW Green Futures Research and Design Lab, Gehl Architects, Urban Quality Consultants, Schulze + Grasso, Urban Design Studio. Retrieved from <https://www.asla.org/2014studentawards/134.html#:~:text=PROJECT%20STATEMENT,Adaptive%20Streets%3A%20Strategies%20for%20Transforming%20the%20Urban%20Right%20of%20D,enhance%20human%20and%20environmental%20health>.
- Shadish, W. R., Cook, T. D., & Leviton, L. C. (1991). *Foundations of program evaluation: Theories of practice*. Sage Publications Inc. Thousand Oaks, CA.
- Simpson, C. (2020). *Tactical Urbanism Demonstration Projects as Community Participation* (Master’s thesis). University of Washington, Seattle, WA.
- Tashakkori, A., & Creswell, J. W. (2007). The new era of mixed methods. *Journal of mixed methods research*, 1(1), 3-7. <https://doi.org/10.1177/2345678906293042>
- Waka Kotahi NZ Transport Agency. (n.d.-a). *Iterative Capability Framework*. Unpublished report. Wellington, New Zealand.
- Waka Kotahi NZ Transport Agency. (n.d.-b). *Resources*. Retrieved from <https://www.nzta.govt.nz/roads-and-rail/streets-for-people/resources-2/>
- Waka Kotahi NZ Transport Agency. (n.d.-c). *Streets for People 2021-2024 Communications and Engagement Strategy*. Unpublished report. Wellington, New Zealand.
- Waka Kotahi NZ Transport Agency. (n.d.-d). *Streets for People programme 2021-2024*. Retrieved from <https://www.nzta.govt.nz/roads-and-rail/streets-for-people/streets-for-people-programme-2021-2024/#:~:text=The%20funding%20for%20the%20Streets%20for%20People%20programme,strong%20partnerships%20with%20local%20authorities%20and%20their%20communities>.
- Waka Kotahi NZ Transport Agency. (n.d.-e). *Streets for People Programme Management Plan Outline 2021-2024 DRAFT*. Unpublished report. Wellington, New Zealand.
- Waka Kotahi NZ Transport Agency (2019). *Keeping Cities Moving. Increasing the wellbeing of New Zealand’s cities by growing the share of travel by public transport, walking and cycling*. Wellington, New Zealand. <https://www.nzta.govt.nz/assets/resources/keeping-cities-moving/Keeping-cities-moving.pdf>
- Waka Kotahi NZ Transport Agency (2020a). *Handbook for Tactical Urbanism in Aotearoa: A Guide for Project Teams (DRAFT)*. Prepared for Waka Kotahi. Wellington, New Zealand.

Waka Kotahi NZ Transport Agency (2020b). *Innovating Streets pilot projects fund leaflet*. Wellington, New Zealand. <https://www.nzta.govt.nz/assets/Roads-and-Rail/innovating-streets/Innovating-Streets-pilot-projects-fund-leaflet.pdf>

Waka Kotahi NZ Transport Agency. (2022). *Innovating Streets for People 2020-2021 Programme evaluation*. Wellington, New Zealand. <https://www.nzta.govt.nz/assets/Roads-and-Rail/streets-for-people/innovating-streets-for-people-2020-2021-programme-evaluation-executive-summary.pdf>

Wildridge, V., Childs, S., Cawthra, L., & Madge, B. (2008). How to create successful partnerships: a review of the literature. *Health Information and Librarians Journal*, 21(1), 3-19. <https://doi.org/10.1111/j.1740-3324.2004.00497.x>

World Medical Association (2018). *WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects*. Retrieved from <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects>

## Appendix A

**Table 1. Innovating Streets Fund Intervention Logic Model**

Issues/Context	Inputs	Activities that...	Outputs
<ul style="list-style-type: none"> <li>• Inadequate responses to the Government Policy Statement on land transport.</li> <li>• Waka Kotahi funding pathway.</li> <li>• Process barriers.</li> <li>• Reluctance by Road Controlling Authorities to co-invest in transport related tactical urbanism projects.</li> <li>• Regulatory barriers and constraints.</li> <li>• Lack of sector capability and capacity and limited scope to develop this.</li> <li>• Limited industry capability in innovative approaches.</li> <li>• Limited community engagement; community disenfranchisement.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovating Street Fund providing 90% funding assistance rate.</li> <li>• Road Controlling Authorities providing 10% local share funding.</li> <li>• Other Innovating Streets funding.</li> <li>• Waka Kotahi capability and capacity.</li> <li>• Road Controlling Authority capability and capacity.</li> <li>• Industry capability and capacity - e.g., design, construction.</li> <li>• Consultant capability and capacity.</li> <li>• Community capability and capacity.</li> </ul>	<ul style="list-style-type: none"> <li>• Set up and administer the Innovating Streets Fund - e.g., establish fund and application process, promote and elicit applications, assess and select funded projects, support and coordinate funded projects.</li> <li>• Develop more supportive and less complex processes for transport related tactical urbanism.</li> <li>• Build and support a Community of Practice.</li> <li>• Facilitate stakeholder engagement and participation in projects.</li> <li>• Design and deliver projects.</li> <li>• Collect evidence from projects.</li> <li>• Generate learning from projects.</li> <li>• Disseminate evidence and learning from projects.</li> <li>• Embed evidence and learning into practice.</li> <li>• Build sector and industry capability.</li> <li>• Scale up transport related tactical urbanism.</li> </ul>	<ul style="list-style-type: none"> <li>• Enabling processes and regulation.</li> <li>• Transport related tactical urbanism projects are delivered, are safe and effective, and are evaluated.</li> <li>• An active Community of Practice.</li> <li>• Project and evaluation data is generated and is fed back into projects and the Innovating Streets programme.</li> </ul>

Table 2. Innovating Streets Fund Outcome Model

Short-term Outcomes	Mid-term Outcomes	Long-term outcomes	Impacts
<p><i>Inception of Innovating Streets Fund to project delivery (Jan 2020 to June 2021)</i></p> <p>Awareness, content, and use of Innovating Streets transport related tactical urbanism resources are enhanced through Innovating Streets projects.</p> <p>There is meaningful stakeholder engagement and participation in the design and delivery of transport related tactical urbanism projects.</p> <p>The design of Innovating Streets projects is enhanced through tactical approaches (e.g., trials, tests); risks are reduced.</p> <p>Innovating Streets projects achieve intended outcomes.</p> <p>Sector gains knowledge, skills, experience, and confidence delivering transport related tactical urbanism projects.</p> <p>Process and regulatory barriers to transport related tactical urbanism projects are further identified and continue to be addressed.</p> <p>Innovating Streets projects demonstrate how transport related tactical urbanism projects can lower costs.</p> <p>There is a growing Community of Practice valued by the sector.</p>	<p><i>Up to 3+ years following delivery of Innovating Streets projects (July 2021– July 2024)</i></p> <p>Innovating Streets resources are a core resource in transport related tactical urbanism practice in New Zealand.</p> <p>Transport related tactical urbanism projects are supported and valued by communities and stakeholders.</p> <p>Permanent designs are enhanced - e.g., through testing, project derived learning.</p> <p>Increased confidence by Road Controlling Authorities to fund transport related tactical urbanism projects.</p> <p>Increased willingness by Road Controlling Authorities to use transport related tactical urbanism projects to build a pipeline of permanent projects.</p> <p>Advanced understanding of how to address or mitigate identified barriers.</p> <p>Transport related tactical urbanism projects achieve cost savings or are delivered at lower cost compared to conventional approaches.</p> <p>An effective Community of Practice less reliant on inputs from Waka Kotahi.</p>	<p><i>From July 2024</i></p> <p><b>Innovating Streets Programme</b></p> <ul style="list-style-type: none"> <li>Increased stakeholder demand, political support, and social licence for transport related tactical urbanism projects.</li> <li>Process and regulatory barriers are addressed or mitigated.</li> <li>Easier, faster, more affordable, and less risky to make streets safer/more liveable.</li> <li>An increased number of transport related tactical urbanism projects are delivered.</li> <li>Transport related tactical urbanism projects are not reliant on inputs from Waka Kotahi.</li> <li>An effective Community of Practice not reliant on Waka Kotahi.</li> <li>Transport related tactical urbanism is Business as Usual for most Road Controlling Authorities.</li> <li>More New Zealand case studies and evidence from transport related tactical urbanism projects.</li> <li>Easier to extrapolate practice lessons to other settings.</li> </ul> <p><b>Transport/Mobility/Placemaking</b></p> <ul style="list-style-type: none"> <li>More people-friendly spaces.</li> <li>Safer and /easier mobility and access.</li> <li>Mode shift influence from Innovating Streets is evident.</li> </ul>	<p><i>Safer transport system</i></p> <p><i>Greater economic prosperity</i></p> <p><i>Enhanced liveability</i></p> <p><i>Enhanced access to opportunities</i></p> <p><i>Enhanced wellbeing; reduced harm</i></p> <p><i>Increased physical activity</i></p> <p><i>Improved public health</i></p> <p><i>Environmental benefits - e.g., reduced emissions, noise pollution</i></p>

Continued Waka Kotahi investment in Innovating Streets based on demonstrated value and return and increased social licence

Note.

The Innovating Streets Fund is a key component of the Innovating Streets programme.

The Innovating Streets Fund short-term, mid-term, and long-term outcome model:

- shows intended outcomes from the Innovating Streets Fund (not the overall Innovating Streets programme);
- shows intended outcomes only - e.g., does not describe underlying programmes of work;
- assumes that short term outcomes will proceed long term outcomes;

- assumes that long term outcomes will contribute to impacts but will not solely lead to impacts - e.g., a range of inputs and factors will determine impact.

The delivery of transport related tactical urbanism projects funded through the Innovating Streets Fund will not in itself be sufficient to achieve intended longer-term outcomes.

Long term outcomes will require on-going inputs and activities to leverage impacts and learnings from projects delivered - e.g., wide dissemination of project derived learnings will be essential to increasing sector capability.

---