

Innovating Road Safety

lessons for transport systems

Summary report



Safer Journeys
Signature Programme



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Purpose of this document

This guide draws on local learning and good practice literature to provide a range of principles and practical approaches to support the design and implementation of innovative road safety projects.

Key features of successful innovation are identified and explained, drawing on local learning, and supported by good practice literature. The guide includes practical tools and advice, applicable both to incremental improvements and radical, disruptive innovations. Considerations for scaling and business as usual transitions are included, along with systems for ensuring that learning from innovative projects is embedded and available for the future.

This guide is a summary of key lessons from a more detailed guide available separately. The guide is one of a series of documents from the Signature Programme evaluation, which explored learning and impacts from innovative road safety projects. Companion reports explore findings from the projects in detail.

Using this guide

Throughout the report are infographics highlighting practical tools and processes; from key elements for successful partnerships in innovation projects, to how to foster a dynamic and spontaneous community of practice. Hyperlinks and a comprehensive reference list point to further resources and reading. This guide should be considered more advice than edict, and its use will be as varied as the applications of innovative approaches in road safety.

What is innovation?

Innovation is both a process and an outcome, creating value for society by departing from the status quo to achieve better results.

The term innovation frequently refers to the introduction of radical new ideas for positive change, but this also includes the reflexive, iterative process of examining and assessing the present state, then redesigning it. So innovation can be seen as a continuum that includes, but is not limited to technological innovation – from the incremental process of gradually improving existing processes, products or services, to radical innovations that develop entirely new ways of doing things. Both approaches strive to do things differently and more effectively.

Innovation continuum

Lower risk and uncertainty

Incremental innovation

Steady development, doing things better: such as new generations of products or services “new for us”

Higher risk and uncertainty

Radical or disruptive innovation

Likely to take place via jumps or breaks from the present state: such as an entirely new service or mode of operation “new in the world”

Less innovative



More innovative

For example:

Finding ways of overcoming barriers to implementation of known designs nationally / locally

Testing the applicability of concepts from overseas to the New Zealand context

Testing to understand the applicability of new ideas (theory) to reality

Adapted from Bason (2010) and Hirsch et al. (2017)

Innovation for road safety

Currently, 45 New Zealanders die on our roads every month, a figure that increased year on year from 2013 to 2018. If the status quo is not working, then the risk of not changing how things are done is further trauma; therefore, a built-in system of innovation is needed if improvements to the road safety system can be possible. The challenge is that the implications of doing nothing are often generalised rather than attributed to an individual or organisation; at the same time, stepping outside business as usual can raise the spectre of risk and where blame can then be attributed. Taken together, these can create aversion to innovative practice. Risk may be very real in the road safety domain, but the consequences of not improving our transport system in a changing world will far exceed any short-term risk.

Innovation is an essential contributor to reducing death and harm on our roads. The gap between society's expectations, and the capacity of current systems to deliver is starkly clear within the road safety domain, where a dramatic reduction in trauma is desired, yet rates of harm increase. Innovation is part of the range of responses that we need to break this cycle. Yet, to be truly effective, innovation must also work at multiple scales, from the micro level of the community, through to the macro level of national initiatives.

Learning from innovation: The Signature Programme

The Safe System framework provides a platform for continuous improvement and innovation in improving road safety, encompassing safe roads and roadsides, safe speeds, safe vehicles and safe road use. The Signature Programme was established in 2013 to implement innovative road safety projects that apply the Safe System principles to reduce death and serious injuries. Four independent initiatives were delivered under the auspices of the Signature Programme, which were diverse in location and focus.

Behind the Wheel: The Māngere pathfinder project for the wider High-Risk Young Drivers programme: to help support young people and their whānau to become safe and fully-licensed drivers. Behind the Wheel was led by ACC with a local project team collaborating with young drivers, their whānau and community leaders throughout the project's design and delivery. Behind the Wheel engaged extensively with the Māngere community throughout the programme's design and development. Stakeholders widely agreed that the co-design approach was a key factor in ensuring the successes of the project. These included significant local changes in the system of driver licensing, increased community capacity to support young driver learning and licensing, and wider acceptance of the licensing system.

Te Ara Mua - Future Streets: A controlled intervention study trialling the innovative street design process 'self-explaining roads' in Māngere's urban centre and measuring its impacts on safety indicators and the uptake of active transport modes. Future Streets was a multi-disciplinary project involving collaboration between transport practitioners, central and local government, researchers and the local community. Future Streets made extensive use of people-centred approaches, adopting a community participatory design process to better understand local concerns and aspirations and inform street design solutions.

Visiting Drivers: A road safety programme to improve safety for visitors to New Zealand, engaging with visitors at each stage of their journey, and based primarily in Southland, Otago and the West Coast. The project built a successful community of practice between New Zealand Transport Agency (NZTA), police, transport leaders, tourism operators and central and local government, which enabled diverse motivations, skillsets and resources to be leveraged to address a shared challenge. The diversity of perspectives and resources, along with commitment to individual and mutual goals, allowed issues to be tackled from a variety of angles. The project created sustained shifts in many aspects of tourism industry and agency practice to support road safety and the visitor experience.

Eastern Bay of Plenty rural road safety case study: Rural road safety improvements on higher-risk roads, allied with a community dialogue on road safety. This project concluded early in 2015 and did not progress or continue as long as the other Signature projects did. A key reason for this was the lack of a mutually agreed problem that different local partners could bring their collective resources together to address. Although the project did not progress, the process of community and stakeholder engagement, and in-house innovation, ultimately led to a national high-risk road curve mapping innovation project, and a successful business case for safe road improvements in the region.

Each project took innovative approaches to changing systems that impact on road safety, and challenged existing models. The projects show evidence of some local and regional-level system change, and in some projects, there are national-level changes also emerging. These projects have, to varying degrees, demonstrated value by prototyping new approaches that offer transferable learning to other projects and wider scaling; challenged entrenched practices and systems; and in their own right have made positive changes to road safety delivery in New Zealand communities.

Key elements of successful innovation

The practices, successes and challenges of the four Signature Projects inform the learning documented in this report. This learning from practice, supported by local and international literature, shows what drives successful innovative practice and culture change, as well as the conditions that support the transfer of learning from small-scale interventions to other contexts and spaces.

Four key features of successful innovation are identified as making significant contributions to Signature Project successes: collaboration and partnerships, people-centric approaches, communities of practice, and building innovation capacity.

Collaboration and partnerships

Collaboration and partnerships draw on the strengths of people with varied backgrounds and skillsets working together towards a shared goal. Partnerships can take diverse forms, from multidisciplinary partnerships, cross-agency working, and inter-sectoral collaboration to partnerships between public sector and private organisations and public sector-citizen or voluntary partnerships that draw on the involvement of citizens, users and civil society organisations. Each brings unique value to an innovation project, offering new approaches, resources, and perspectives. Working in partnership also reduces risks by sharing ownership of issues and solutions.

Six elements for successful partnerships in innovation projects

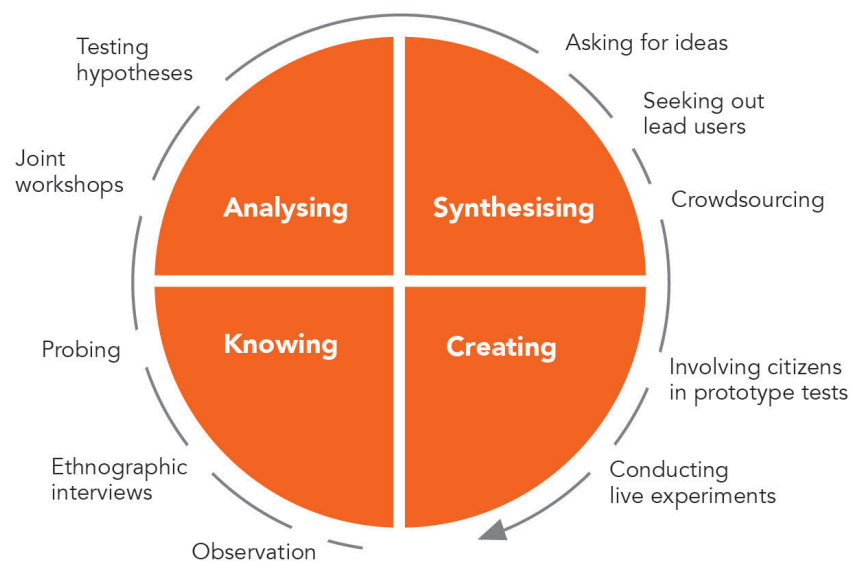


People-centric approaches

People-centric approaches understand the user's values, aspirations and experience. Co-creation develops new services with people, and co-production uses people's own resources, networks and engagement to enhance service delivery. Such approaches value and embed citizens' participation and user experience, and input throughout the lifespan of an initiative. They challenge hierarchical expert or top-down attitudes to complex social problems, and create value and drive innovation by gaining insight, fostering new ideas and ultimately producing responsive solutions that better meet the needs of users.

Forms of citizen involvement in the co-design process

The diagram below, from Bason (2010) highlights the range of ways in which the public can be engaged in a design process throughout its cycle of generation, development and reflection.



Making people-centric approaches happen

Carry out citizen-centred research

Seeing the world as other people experience it is the first step in a user or people-centric approach. Methods include the following:

Observation/shadowing

The observation of a person or place over time.

Retrospective reviews

A first-person chronological narrative about an event or series of events exploring triggered experiences or feelings.

Ethnographic interviews

Thematic, open-ended interviews with an emphasis on flexible, in-depth questioning and capturing illustrative descriptions.

Cultural probes

Informants document specific aspects of their daily lives, capturing emotional and contextual forms of knowledge.

Utilise digital tools for information sharing and crowdsourcing

Digital technologies offer opportunities for sharing information and generating ideas on a much larger scale than user workshops or qualitative research techniques.

Prototype, test, prototype!

Prototypes are developed in order to make an idea or proposed solution tangible. Users may then be invited to interact with and provide feedback on the prototype, allowing an idea to be refined and tested quickly and at a low cost.

Run co-creation workshops

Workshops with citizens and other relevant stakeholders are an opportunity to refine problem definition and explore possible solutions.

Findings from citizen-centred research are synthesised and key problems defined. Ideas for potential solutions are generated and the most promising developed into prototypes to be tested with users.

Create user personas

A persona is a fictional character that represents the needs, thoughts and goals of a typical or ideal user of a product or service.

Map the user journey

A user journey map is a visual representation of the user or customer experience as they navigate the use of a product or service, used to enhance understanding of the present state or to detail the functioning of a proposed solution.



Communities of practice

Communities of practice are learning partnerships in which people come together on an ongoing basis to deepen their shared knowledge and expertise on a particular area, topic or set of challenges.

Communities of practice cross over the boundaries of discipline, organisation and hierarchy, as members use each other's expertise as a learning resource. This social model of learning advances innovation through enhancing collaborative efforts, mobilising knowledge, and facilitating change across various structures and organisations. Effective communities of practice are supported by systems for shared reflection and sense-making, ensuring that learning is planned and deliberate.

Building innovation capacity

Building innovation capacity fosters and supports behaviours that will lead to innovative thinking and activity. The most innovative organisations generate new ideas and then leverage resources behind those most promising, pushing them forward to ownership, execution and scaling.

Building innovation capacity includes fostering key skills and practices that, when implemented at a local or organisational level, can generate clarity, new ideas and innovative ways of working. Providing an organisational environment for innovative practice involves ensuring the availability, not only of necessary skills and methods at all levels of project design and delivery, but also broader structural factors including the wider system that can accommodate an organisation or proposed solution. Implementation therefore demands a multi-level approach that supports and mobilises people and resources from the micro (local) through to macro (national) scales.

Seven catalysts for communities of practice

Wenger et al. (2002) propose seven 'design elements' that can be catalysts for a community's natural evolution. These nurture dynamic and spontaneous communities that are best placed to foster learning and innovation.

1

Design for evolution

Communities are dynamic and are influenced by new members and their interests. Avoid rigid notions of how a community should look or function, particularly in its early stages. Focusing simply on drawing members to the community is a valid first step, with other elements of community structure introduced once members are engaged in their shared topic.

2

Open a dialogue between inside and outside perspectives

Successful communities use both these perspectives effectively and emphasise learning within and outside the group. While community insiders have a deep understanding of issues and common challenges, an outside view can offer insight on how the group might best leverage their capabilities. Communities of practice may be structured to involve the input of outside experts in multiple ways.

3

Invite different levels of participation

Varying degrees of interest exist within a community of practice and so it is unrealistic to expect all members to participate equally or at all times. Many communities are driven by a small, active core, with a large group of peripheral members who might observe but rarely participate. Beyond these peripheral members are those who may have an interest in the community and may observe or participate from time to time. Such fringe participation should not be judged as passive because it can enhance learning for all involved. Community boundaries are best perceived as fluid and member involvement continually shifting.

4

Focus on value

The nature and source of value changes during a community's lifespan, from solving current problems to developing a systematic body of knowledge for members to draw on. It is therefore important to create opportunities for this value to be realised and harvested. It is often the everyday, informal interactions that deliver the most value yet this may not be evident immediately. Discussions of value should be added to the agenda of more formal community activities so that members and stakeholders can appreciate the impact of the community.



5

Develop both public and private community spaces

Different types of exchanges bring different values to the community. Public events that are open to all community members such as meetings or websites or forums are spaces for formal and informal information sharing, while also letting members experience community membership. But at the core of a community of practice is the web of relationships between community members and so much of the business of a community takes place through one-on-one, private exchanges. Public events should therefore allow time for members to talk informally, and those coordinating a community should stay abreast of individual as well as public exchanges, identifying potential value for the broader group and their activities.

6

Combine familiarity and excitement

It is important to foster a space providing both comfort for community members to be open, take risks and share ideas, as well as excitement and adventure to keep participants fully engaged. This balance can be achieved by providing routine community events that strengthen relationships, alongside exciting events that offer a shared sense of adventure.

7

Create a rhythm for the community

Communities of practice should possess a rhythm that builds familiarity and aids productivity. Events may include regular web-based activities or meetings alongside more informal gatherings. The pace should be strong enough to provide a sense of movement, but not so rapid that members are left feeling overwhelmed and unable to keep up. A combination of community-wide events and gatherings of small groups can add interest and foster a balance between the required mix of excitement and comfort noted above.





Making innovation stick

Beyond the micro-level niches where innovation often develops, are the necessary conditions and drivers for innovations to grow, take root and have a broader impact. To learn from innovative projects, systems need to be in place to ensure that knowledge is documented, embedded and available for the benefit of the future.

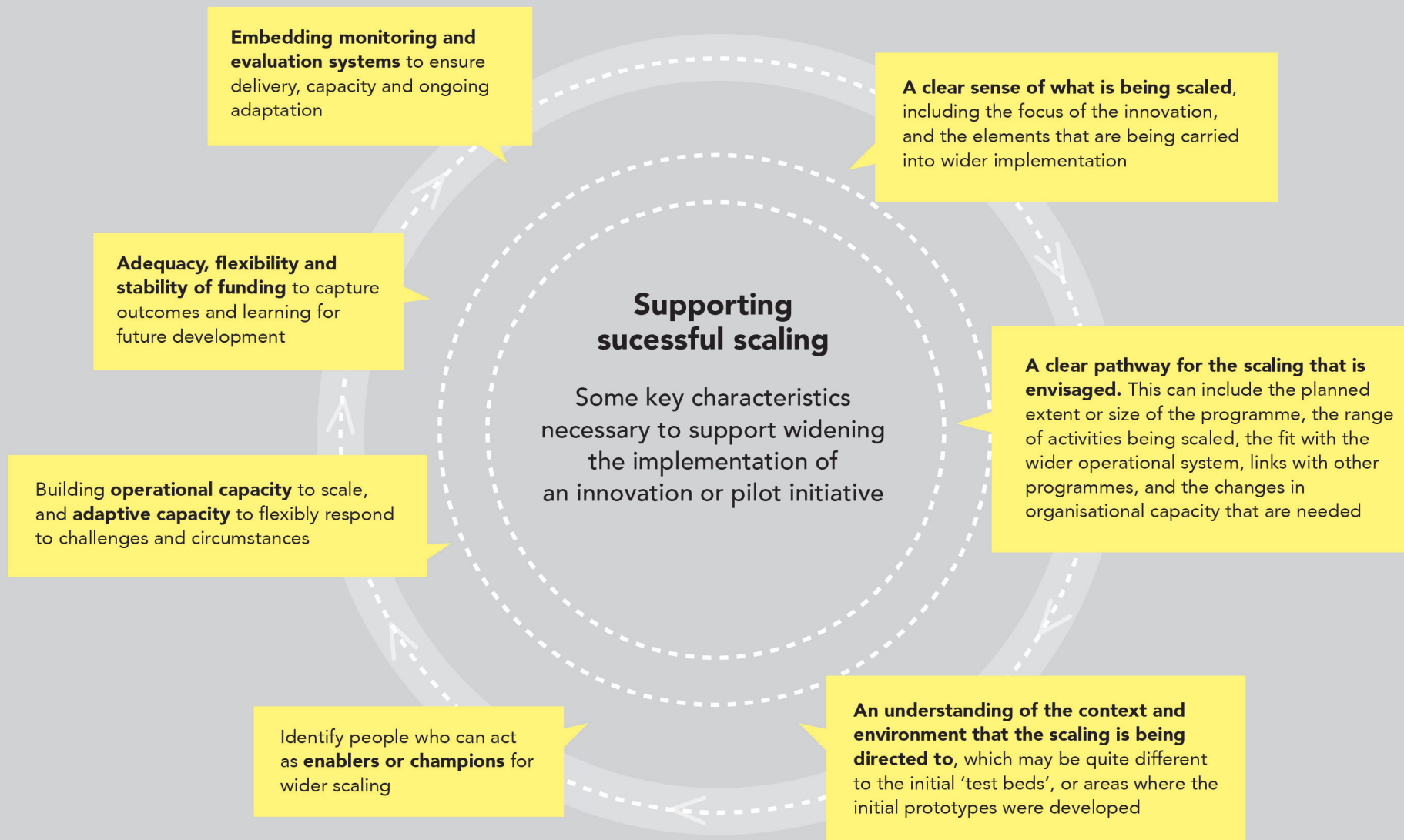
Effective documentation and evaluation systems ensure the 'sticky-ness' of learning, so that new knowledge can be shared, absorbed, built upon, and used again and again for the benefit of future innovation, regardless of whether or not an intervention extends beyond its initial test period.

Such learning should, in turn, inform decision-making regarding how an innovation can be scaled beyond its original site. While scaling frequently refers to the spread of a programme more widely than its pilot, it can also include influencing and changing systems, rules, and policies; and strengthening or challenging norms and beliefs in behaviours and practice.

Delivering innovation and transformational change requires people in leadership roles with a mandate, accountability, ambition to deliver, and capacity to commit. These are needed at the level of local implementation, as well as in wider system leadership.

Embedding innovation requires funding, resources, and leadership commitment to supporting innovation, and ideally an innovation function or innovation teams established within organisation.

The Signature Projects were all niche-level innovations that functioned as test beds for wider implementation. However, any decision to take a project to a greater level of operation or to integrate new initiatives within existing structures and practice (business as usual transitions) must be informed by robust understanding of the wider system in which an innovation must function.



The successes and challenges of the four Signature Projects, under the umbrella of the Signature Programme, offer many opportunities for reflection and learning. They show factors that drive successful innovative practice, as well as the conditions that support the transfer of learning from small-scale interventions to other contexts and spaces.

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