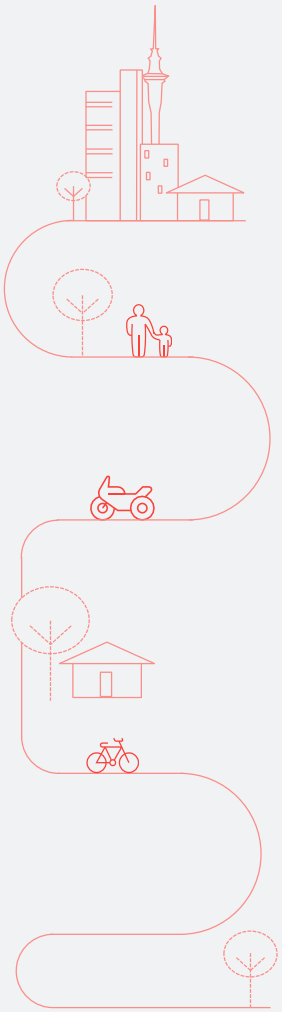
"A strong strategy, aiming for zero road deaths, and a robust programme for investment will be critical to ensure AT and it's partners can make Auckland's roads safe."

– Eric Howard, Road Safety Business Improvements Review

Auckland Road Safety

10 Year Programme
2018 to 2028

About Auckland

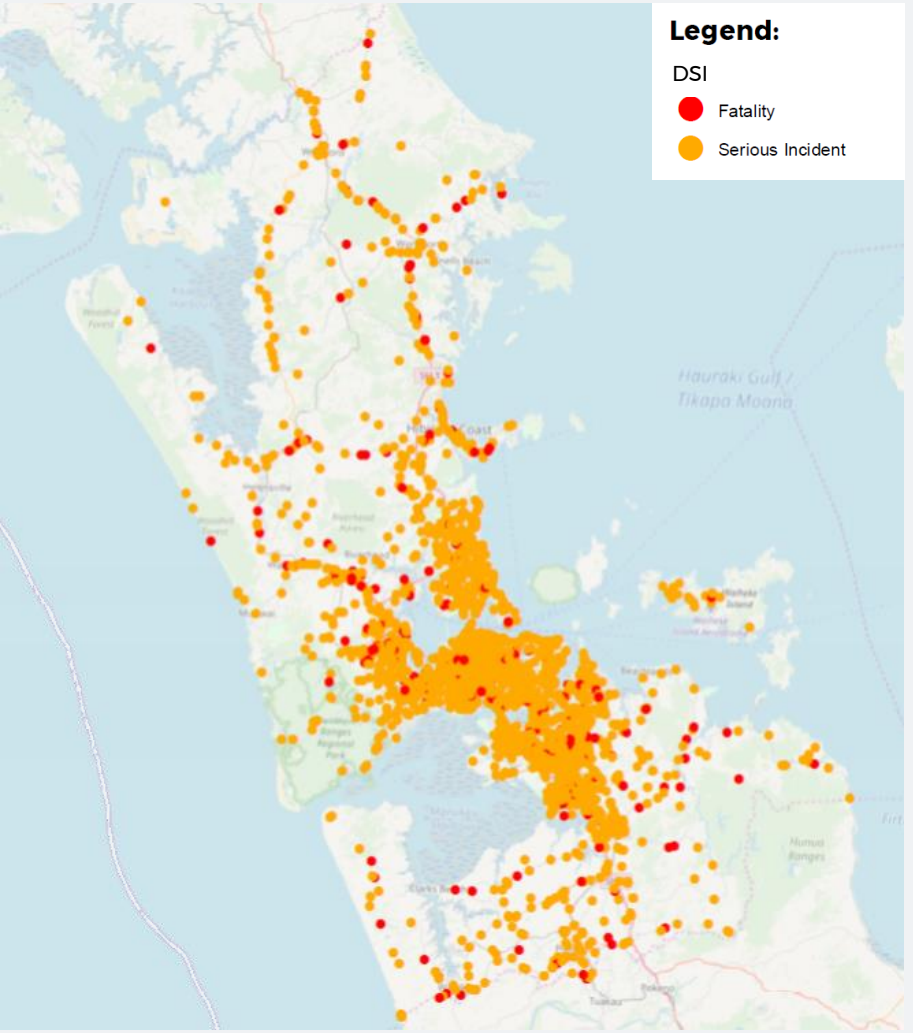


Auckland's population is approaching 1.6 million people and there are predictions of another 700,000 people making Auckland home over the next 30 years. More trips are being made day by day, on all modes.

But we've found that the **"road safety performance in Auckland in recent years, particularly since 2014, has been most concerning"**, as our crash rates continue to increase – faster than the growth rate.

The roads, cycleways and footpaths need to be shared by commuters, students, parents, holiday-makers, freight, transport businesses and tradespeople who travel to site.

People in Auckland need safe options and infrastructure to get around the city.



2013 – 2017 DSI Map
Source: CAS

Auckland road safety is in crisis

There is a clear need to invest more in road safety.

- The number of people killed or seriously injured on Auckland's roads is unacceptably high;
- All road deaths and serious injuries are unacceptable (Vision Zero);
- In the past, investment and leadership around road safety was not significant enough to turn around the trend of increasing deaths and serious injuries;
- Recently, there has been unclear direction on how and where to invest more in road safety in Auckland.

A strong strategy, aiming for zero road deaths, and a robust programme for investment will be critical to ensure Auckland Transport and its partners can make Auckland's roads safer.

Deaths and Serious Injuries in AT Controlled Network 2013-2017*

* 2018 data is now available but was not incorporated in the programme business case.

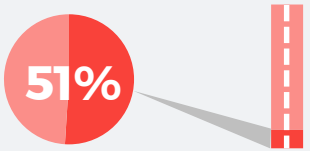
2,355

Fatal or serious crashes

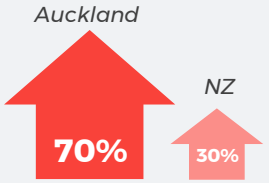
Resulting in

2,607

Deaths and serious injuries (DSIs)

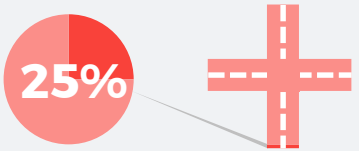


of the serious and fatal crashes occur on 610km (8%), which are mostly arterial roads



increase of DSI in that period

Auckland had a much higher increase than the rest of NZ - much higher than the increase in population or travel.



of the intersection DSI crashes occur at 310 of the 15,600 intersections in Auckland

Motorcyclists, cyclists and pedestrians were significantly over-represented in the DSIs, reflecting the higher vulnerability of these users.

There is proven **link between SPEED and severity of crashes.** There are a significant number of roads in Auckland where vehicle speed is higher than safe or appropriate, suggesting either these roads should be improved or the speeds should be reduced.

Our vision is ZERO road deaths

Vision Zero at the national and regional level strategic context

Vision Zero

- An international movement that refuses to accept that fatalities and serious injuries are inevitable consequences of mobility on the world's roads.
- Aims to create a worldwide road traffic system where no human being is killed or seriously injured.
- In 2018, 54 people died and around 595 were seriously injured using our road transport network.

Vision Zero Principles

Safe Systems

In New Zealand, the Safe Systems concept provides guidance on what aspects of the road traffic system can be designed to be safer.

Vision Zero and road safety
around the world

An international review was undertaken to establish best practice.

Seattle, Washington, USA

Rainier Avenue South

- 3,600 collisions Between 2005 and 2014

Results:

- No deaths or serious injuries occurred since the pilot was implemented.
- **16%** and **10%** reduction in vehicle speeds southbound and northbound respectively.

Key treatments:

- Reduced lanes for shorter crossing distances
- Transit lanes and signal timing adjustments
- Speed limit dropped from 48kph to 40kph

San Francisco, California, USA

CITY STRATEGY (2014)

Visionary target: ZERO DSI by 2024

Results:

- **35% decrease** in total road fatalities and
- **30% decrease** in pedestrian fatalities since 2014.

Key treatments:

- Partnerships with public health works, police officers, advocates and policymakers
- Safety and engineering improvements
- Enforcement & Education

New York, USA

Queens Boulevard

- New York City's Vision Zero Priority Corridor
- In 1993 and 1997, the road had experienced 24 and 22 deaths respectively.

Results:

- **49% decrease** in road fatalities in 1 year
- **42% decrease** in cyclist fatalities in 1 year
- Speed decreased by 21%

Key treatments:

- Clearer road marking
- Reduced speed with narrower roads
- Converted second lane into shared path

Sweden, Europe

COUNTRY STRATEGY (since 1987)

Visionary target: Zero DSI by 2020

Results:

- **50% decrease** in road fatalities since 2000.
- **50% decrease** in pedestrian fatalities in past 5 years.
- **Less than 3 traffic fatalities per 100,000 people**

Key treatments:

- Lower Speed limits and traffic calming
- 12,600 safer crossings
- Strict alcohol policing
- Technology measures (e.g. speed cameras)

London, UK

CITY STRATEGY (2018)

Visionary target: ZERO DSI by 2041

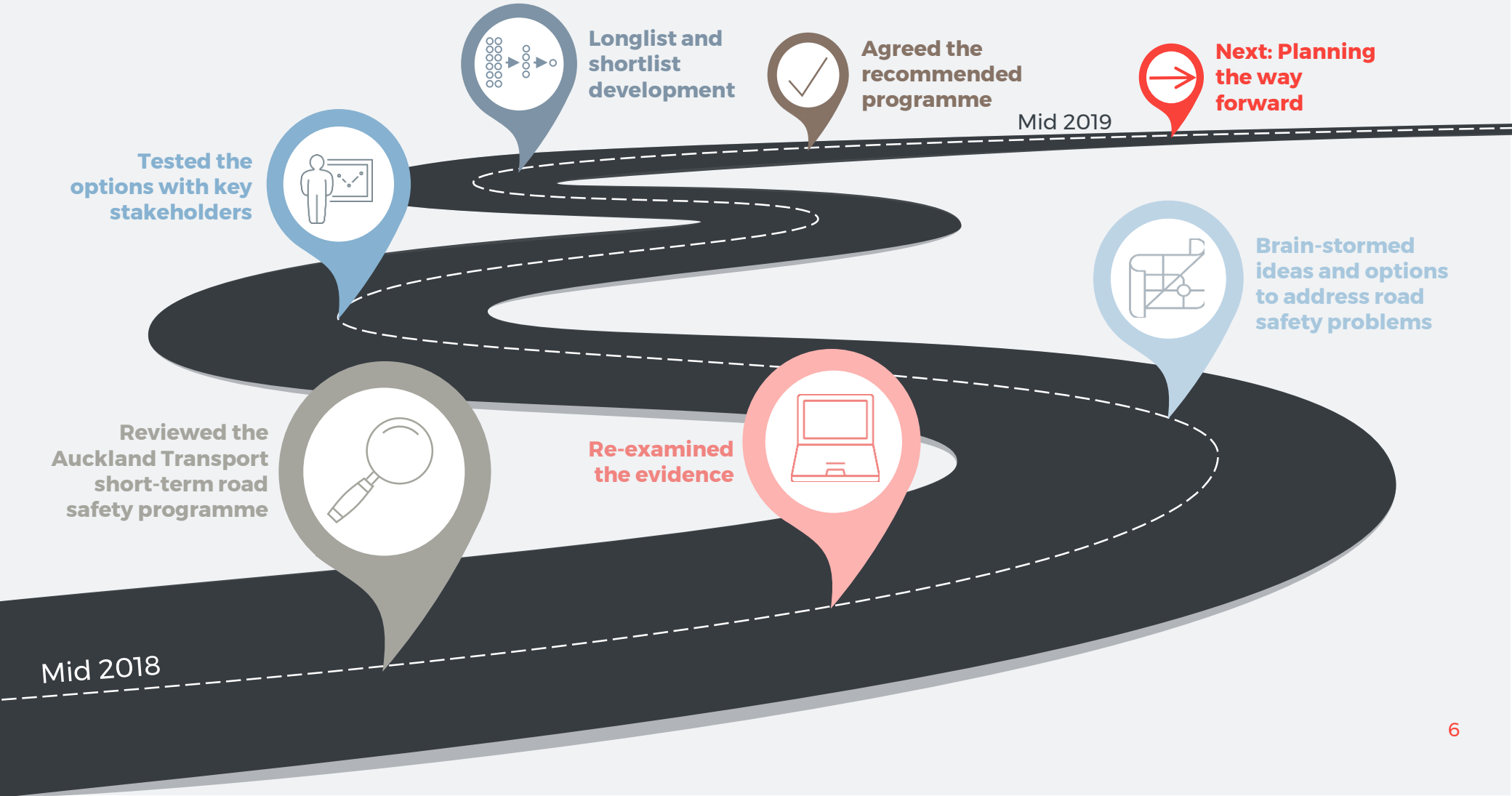
Results:

- **6% decrease** in collision rates on urban main roads.
- By 2016, London's fatalities were lowest on record due to speed reductions and safer infrastructure.

Key treatments:

- Speed limits lowered to around 32kph or 48kph
- Healthy streets initiatives
- School safety education

Our process


Longlist and shortlist development
Agreed the recommended programme
Next: Planning the way forward
Mid 2019
Tested the options with key stakeholders
Brain-stormed ideas and options to address road safety problems
Reviewed the Auckland Transport short-term road safety programme
Re-examined the evidence
Mid 2018

10 Year programme overview

Targeting 60% reduction in deaths and serious injuries, within current budget

60-70% DSI ↓

Programme Description: Invest in road safety across Auckland to achieve at least 60% DSI reduction in 10 years (as per RLTP target), aiming for best DSI reduction for $ spend.

Key themes

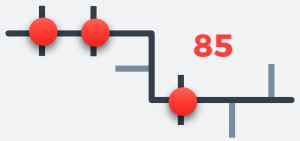
- Investment spread across different areas of road safety risk
- Safer speeds and road environment for vulnerable road users
- Blanket speed management including signs and lines and some Local Area Traffic Management (LATM)
- Top 40% high risk routes, corridors and intersections targeted for DSI reduction
- Educational campaigns for speed and vulnerable road users
- Behaviour change initiatives increase sustainable travel mode choice
- Targeted additional enforcement targeting high risk sites and behaviours

Years 1 to 3 spend	Years 4 to 10 spend	
CAPEX	OPEX	CAPEX
$213M	$147M	$457M

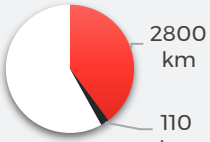
TOTAL spend	
OPEX	CAPEX
$147M	$670M

Key outcomes (2018-2027)

Number of intersections upgraded



Corridor upgrades



Roads with speed management

Corridors transformed or improved

40% of the total network

Estimated kilometres of upgrades for vulnerable road users

25km
Motorcyclist infrastructure improved

20km
Cyclist infrastructure improved

80km
Pedestrian infrastructure improved

1,750 DSI saved

640 DSI saved per $100m (20 years)

5%
Estimated shift to walking and cycling trips annually

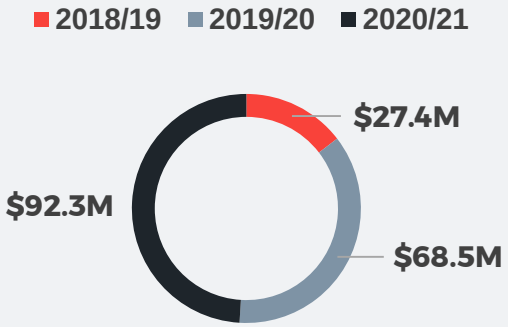
Medium*
Health / emission / wellbeing improvements

Very good*
Increase customer perception of road safety

* *Based on subjective assessment of the relative performance of 7B compared to the others assessed (no baseline or way of measuring).*

What the programme involves

Years 1 to 3 – $185M



The first three years includes a substantial investment in **speed management,** supported by investment in the highest risk rural and urban intersections and corridors, as well as vulnerable road users. There will be continued investment in minor improvements and fixes, as well as the completion of the *Safer Communities* initiative.

Years 4 to 10 – $604M

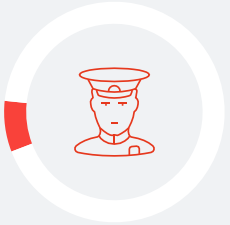
The years 4 to 10 **$604M package** is made up of **75%** of infrastructure improvements supported by **25%** of operational and maintenance activities. Some of these are a continuation of similar initiatives from the first three years.

$193M
Speed management

$120M
High risk intersection improvements

$68M
High risk corridor improvements

$35M
Vulnerable road users / supporting mode shift



$45M
Enforcement
(including speed and red light cameras)

$22M
Education and engagement of road users

$8.5M
Targeted road safety policy and leadership

$113M
Other supporting operational improvements including some capex (land acquisition, design and engineering fees) and some opex
(evaluation and monitoring, maintenance)

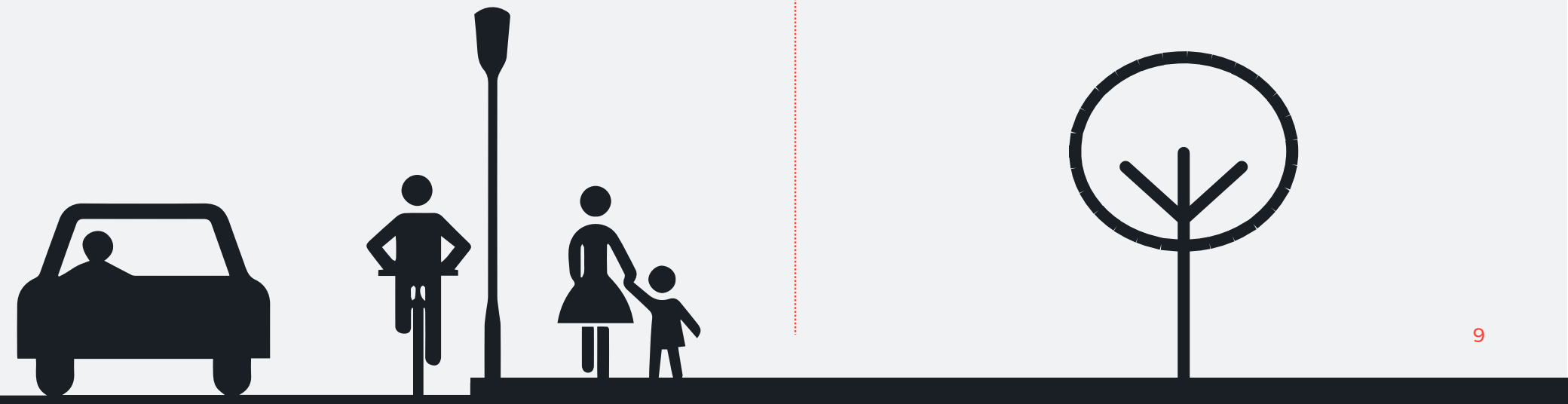
What are the benefits and who are they for?

Auckland road users are diverse. They travel by a variety of modes in a variety of places, almost all spending some time walking in our road environment.

Our customers say that safety is one of the reasons why they are unsatisfied with the state of the transport network.

Many feel they would not cycle or walk because of safety concerns.

1. **Benefit one**
   Sustained reduction in road deaths and serious injuries
2. **Benefit two**
   Safe and healthy streets for everyone
3. **Benefit three**
   A safe roadside and street environment
4. **Benefit four**
   Safe road user behaviour

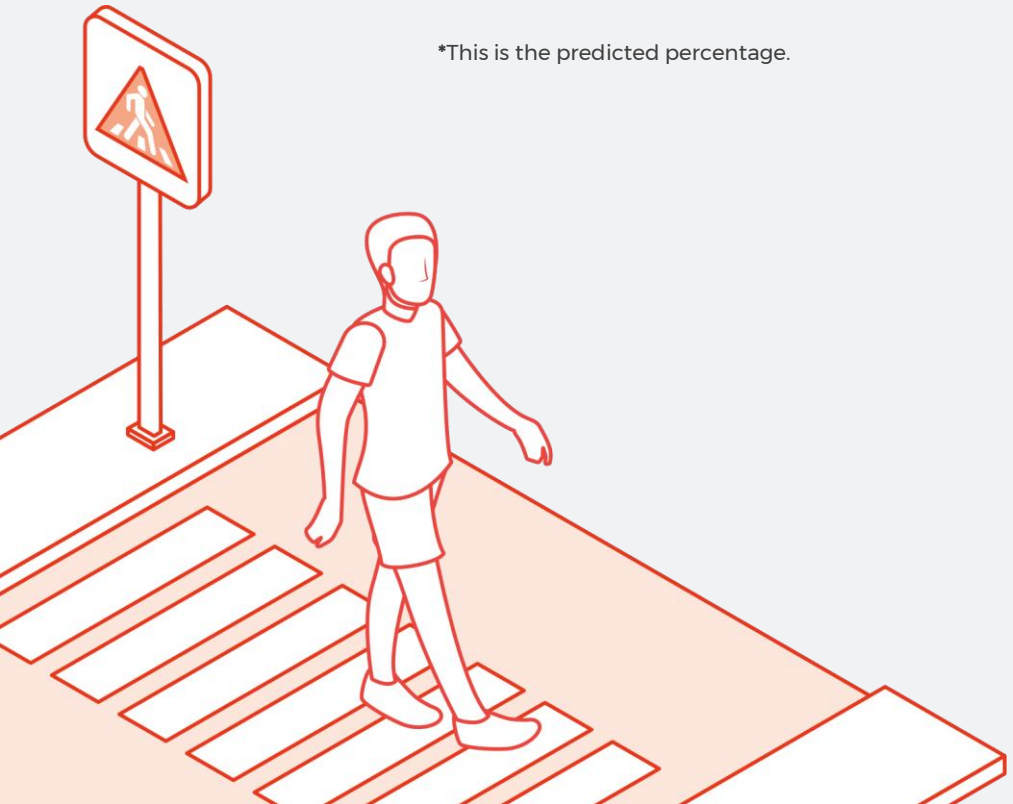


What the expected outcomes?

63%*

reduction in annual number of DSIs on Auckland's roads compared to the 2017 total, dropping to 257 by 2028, ***preventing over 1,750 deaths and serious injuries over the next 10 years.***

*This is the predicted percentage.



In 2018, increased police enforcement resulted in a marked reduction in road incidents and improved compliance in some areas.

Other transport benefits which are likely to arise from the preferred programme include:

- Reductions in minor and non-injury crashes
- Some mode shift to active modes and public transport
- Reduced congestion and reduced emissions
- Wider health benefits from increased activity and a healthier environment

Objectives and performance measures

Objectives

1. Achieve a sustained reduction in deaths and serious injuries across Auckland
2. Provide a step-change in the safety of road users through the quality of road infrastructure
3. Reduce the speeds on the network to appropriate levels, through speed limits and urban design
4. Engage the community to ensure they can understand and support the road safety vision
5. Adopt Vision Zero from organisational leadership through to operation of the network

Performance measures were developed and are where applicable in alignment with the draft National Road To Zero Strategy and draft Auckland Vision Zero Strategy.

Performance Measures	
1	Reducing road deaths and serious injuries by 60% from 690 in 2017 to no more than 276 by 2028
2	Safe and Healthy streets for everyone evidenced by increasing PT and active mode use from 16% (Journey to work mode share 2013) to at least 21% by 2028.
3	Safe and Healthy Streets for everyone by improving health, emissions and social outcomes (measure and baseline to be developed).
4	A safe roadside and street environment by increasing the proportion of vehicles surveyed travelling within posted speed limits from XX% to XX% by 2028. Baseline to be established.
5	A safe roadside and street environment by increasing the proportion of the road network where speed limits are adjusted to align with Safe & Appropriate Speeds from 29% to 60%. (baseline and targets to be confirmed).
6	20% of rural VKT are on roads that provide safe system primary and supporting treatments (e.g three barrier system) by 2028.
7	Improved safety of infrastructure for vulnerable road users in urban areas such that there is an increase in the proportion of VRU trips that use safe routes (e.g. protected cycle facilities)
8	Community perceptions of streets, footpaths, pedestrian crossings, cycle facilities and end-to-end public transport as a safe environment for active modes is increased (measured by customer perception survey – baseline to be developed).
9	Sustained increase in proportion of drivers detected as: • Being within the legal Blood Alcohol Content (BAC) level; • Not using a cellphone while driving; and • Being appropriately licenced. (baselines and targets to be confirmed with NZ Police)
10	Community and Tamaki Makaurau Governance Group staff are aware, understand and support the Vision Zero approach including speed management. (measured by perception surveys – baseline to be developed).

* **KPI's/targets still under development.**

Delivering the programme and next steps

This programme of investment is a partnership between the **NZ Transport Agency** and **Auckland Transport**. Both have roles to play in planning, funding and delivering components of the recommended programme. Successful governance and delivery of the programme also requires collaboration between other partners, in particular the NZ Police.

Partnerships for success

The **Tāmaki Makaurau Road Safety Governance Group (TMRSGG)** has been formed and provides governance over the delivery of improved road safety across Auckland. The **TMRSGG** are jointly responsible for building Vision Zero/Safe System understanding and capability across their respective organisations, including the development of new tools, safety management systems, research, monitoring and public reporting of progress. Once approved, the PBC will be a standing item at the Tāmaki Makaurau Leadership Group meeting whose mandate is to provide direction, problem solve and remove barriers to achieving outcomes.

Tāmaki Makaurau Road Safety Governance Group

How the programme will be delivered

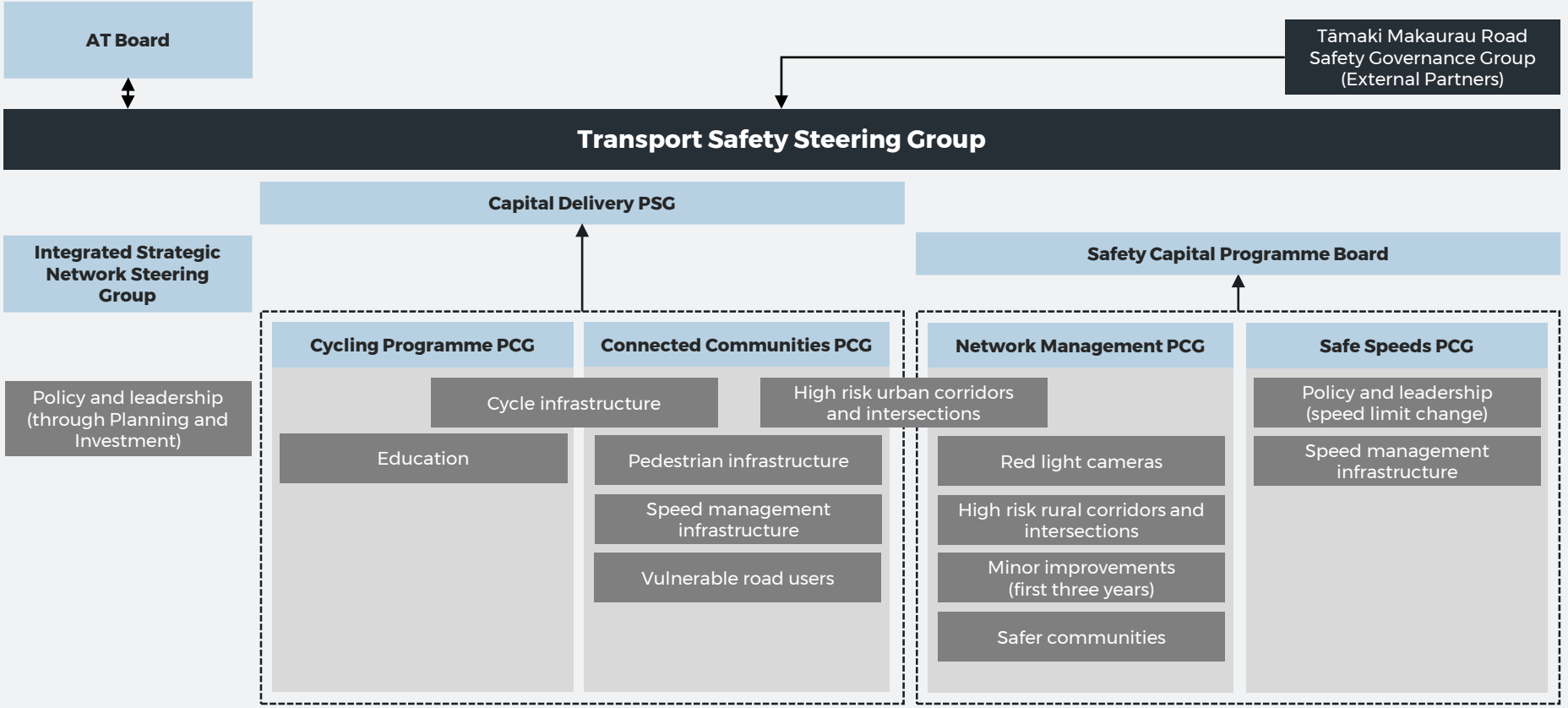
Delivery of components of the programme will be undertaken by the appropriate delivery arms at Auckland Transport. Delivery at AT is undertaken in the Portfolio Delivery team who is handed the pipeline of projects from the Service Delivery team. The Service Delivery team manage investigation, preliminary design and consultation. The Portfolio Delivery team use professional services panels to bring in external consultant expertise to undertake detailed design and use physical works panels to outsource construction. The safety outcomes are specified by Service Delivery. **Road safety audits** are undertaken at the end of design and post construction and are completed by independent auditors. **New Safe System Assessment tools** are also being trialled within this process to ensure that **Vision Zero/Safe System thinking** is applied at the optioneering stage of project design. Safety, Service Delivery and Portfolio Delivery representatives sit on the **Safety Capital Programme Board** and manage **programme level safety outputs together**.

Elements currently being considered and next steps in planning

Programme requirements	Other key considerations
End-to-end project management philosophy with no hand overs and consistency of team representation across project lifecycle	Integration with the NZ Transport Agency's Safe Networks Programme and MoT's Road to Zero National Strategy
Develop a rapid change (in process/systems) culture through active, integrated feedback and learning loops	Safety in policy, legislation and decision-making and resolute leadership focused on results
Ensure AT wide support for the programme	Measure and evaluate performance and research opportunities

Governing the PBC*

The overall programme is broken into **10 components** (capital and non capital), each having its own programmes, timeframes and governance arrangements. Once formally established the **Transport Safety Steering Group** will govern the overall delivery and ensure outcomes of the PBC are achieved. Individual programme components are currently being governed across other divisions and through other governance frameworks.

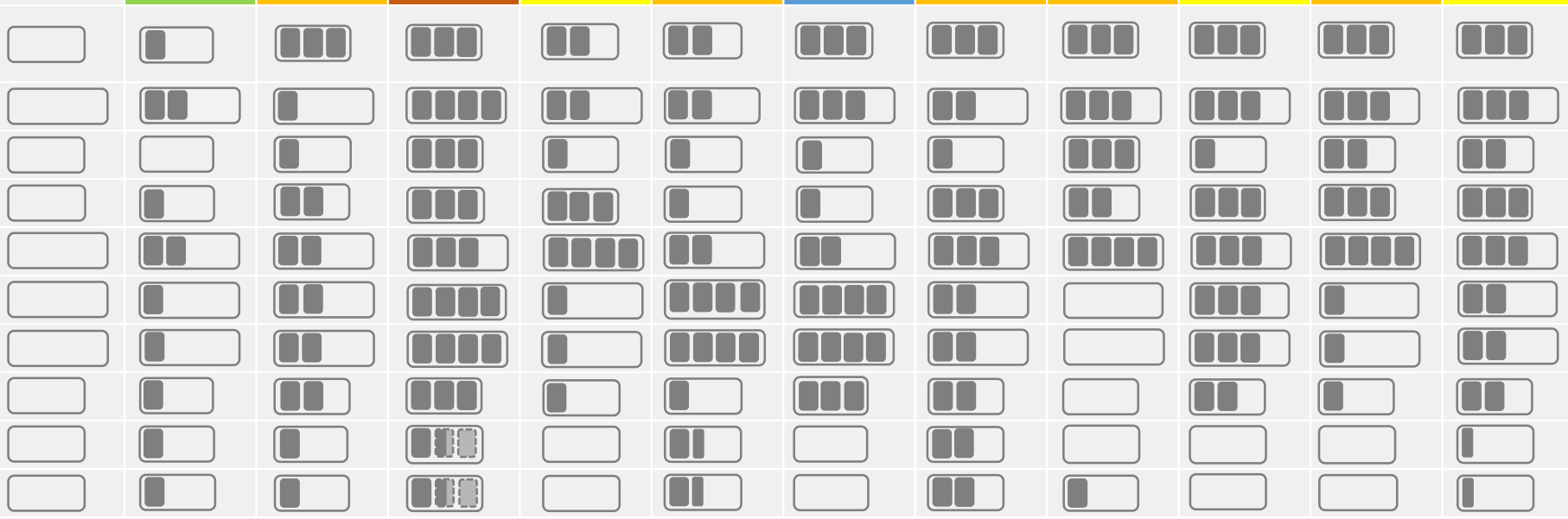


* Governance arrangements yet to be finalised.

Summary of longlist programmes

Supplementary information: Longlist of programmes explored during the project (7B recommended programme)

PROGRAMME		P0	P1	P2	P3	P4	P5	P6	P7	P9	P10	P4B	P7B
		Do min 3 year programmme	3 year programme extended to 10 years	Focus on high risk areas and highly effective measures	Contribute as much as possible to achieving Vision Zero	Focus on speed management	Focus on transformational infrastructure	Focus on vulnerable road users	Targeting 60% DSI Reduction	Speed management with some infrastructure	Focus on speed management and vulnerable road users	Focus on speed management version B	Targeting 60% DSI reduction, within current budget
APPROX. COST		-	Low – Med	Med – High	High	Med	Med – High	Low	Med – High	Med – High	Med	Med – High	Med
PROGRAMME STRATEGIES	**Policy and leadership** (including speed limit changes)												
	Engagement and education												
	Travel demand management												
	Enforcement												
INFRASTRUCTURE INTERVENTIONS	**Speed management**												
	Pedestrian infrastructure												
	Cycle infrastructure												
	Motorcycle infrastructure												
	Intersection improvements												
	Corridor improvements												



***Bars represent Level of Effort not investment levels**

Details of the recommended programme (7B)

Programme components	Effort
Policy and leadership (including speed limit changes)	
Engagement and education	
Travel demand management	
Enforcement	
Speed management (infrastructure)	
Pedestrian infrastructure	
Cycle infrastructure	
Motorcycle infrastructure	
Intersection improvements	
Corridor improvements	
3 year programme '18-'21	

Programme strategies

Policy

- Upgraded safety standards for MAAS infrastructure and regulation
- Vehicle safety / tech (AT)
- Stricter maintenance standards
- Increased fines / punishment for high risk behaviour
- Consenting rules to include road safety requirements

Targeted education

- Speed management – high risk behaviours (ongoing)
- Schools safety awareness
- Cycle safety + maintenance
- Social media safety campaign
- Distraction – awareness campaign

Travel demand management

Moderate travel planning (schools, AT, etc.) and provision of safe mobility options

Safe communities

- Additional enforcement
- Targeted education for low decile communities

Enforcement

Targeted additional enforcement

Additional resources directed towards road safety:

- Increased enforcement on high risk sites (visible)
- Additional programmes targeting high risk behaviours
- Technology – e.g. 20 more speed, red light cameras, staffing (each)

Programme interventions

Pedestrians

- Signs and lines
- Focused raised platforms, kerb extensions, active signs

Cyclists

- Signs and lines
- Minor safety improvements
- ITS & active signage

Motorcyclists

- Focused surfacing improvement
- Hazard mitigation
- ITS & active signage

Intersection improvements

- Top 50 high risk sites transformation

Corridor improvements

- Top 34km high risk corridors transformation

Speed management

- Lower speed limits, signs and lines
- Tactical urbanisation
- ITS & active signage
- Speed reductions across network