Auckland's Road Safety Programme Business Case

The Case for Vision Zero

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Auckland faces a road safety crisis

From 2014 to 2017.....

Auckland **serious** injuries

+68%

Auckland **deaths**

+78%

Rest of NZ **serious** injuries

+28%

Rest of NZ **deaths**

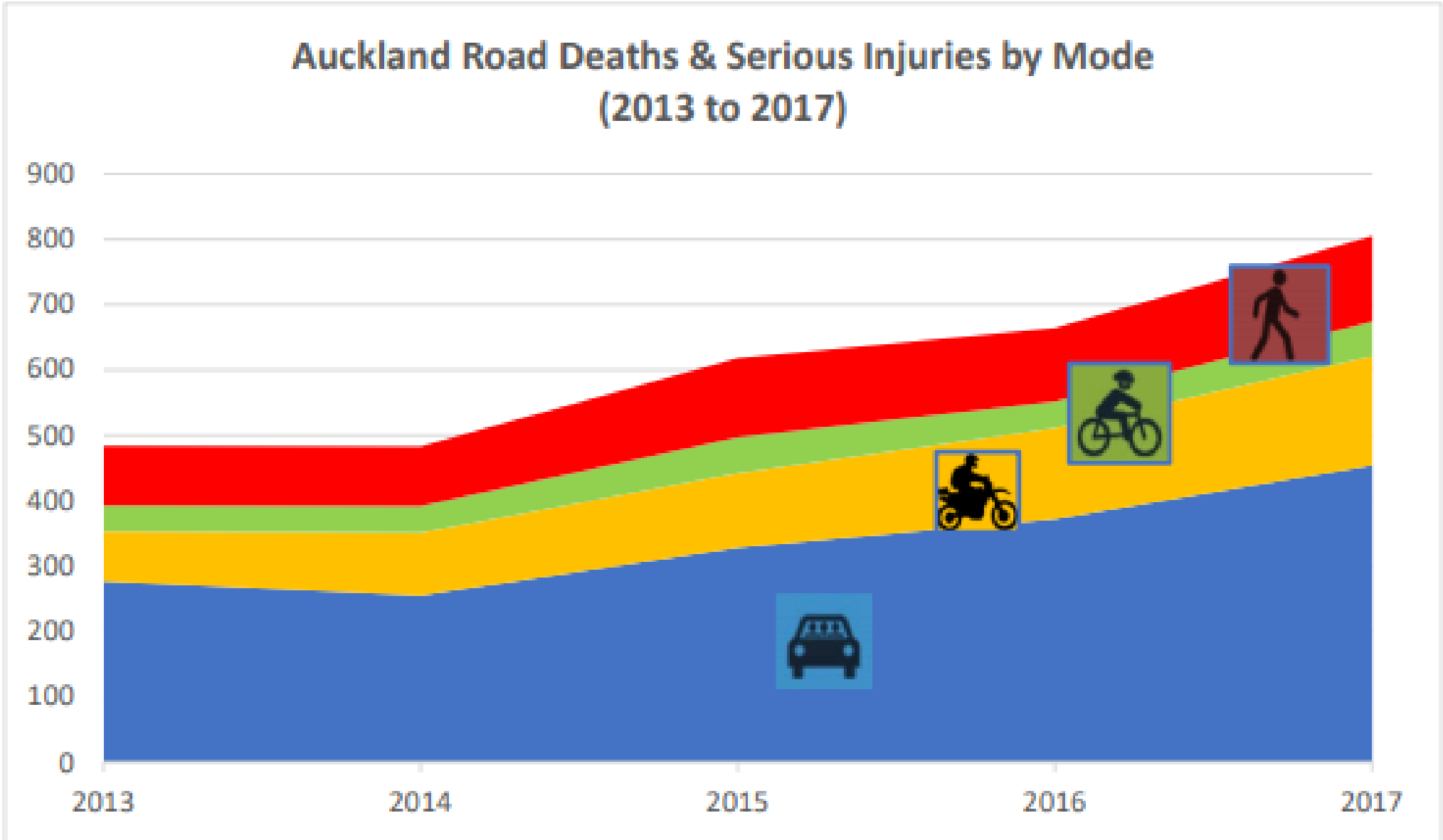
+23%

Spencer Platt/ Getty Images
https://www.washingtonpost.com

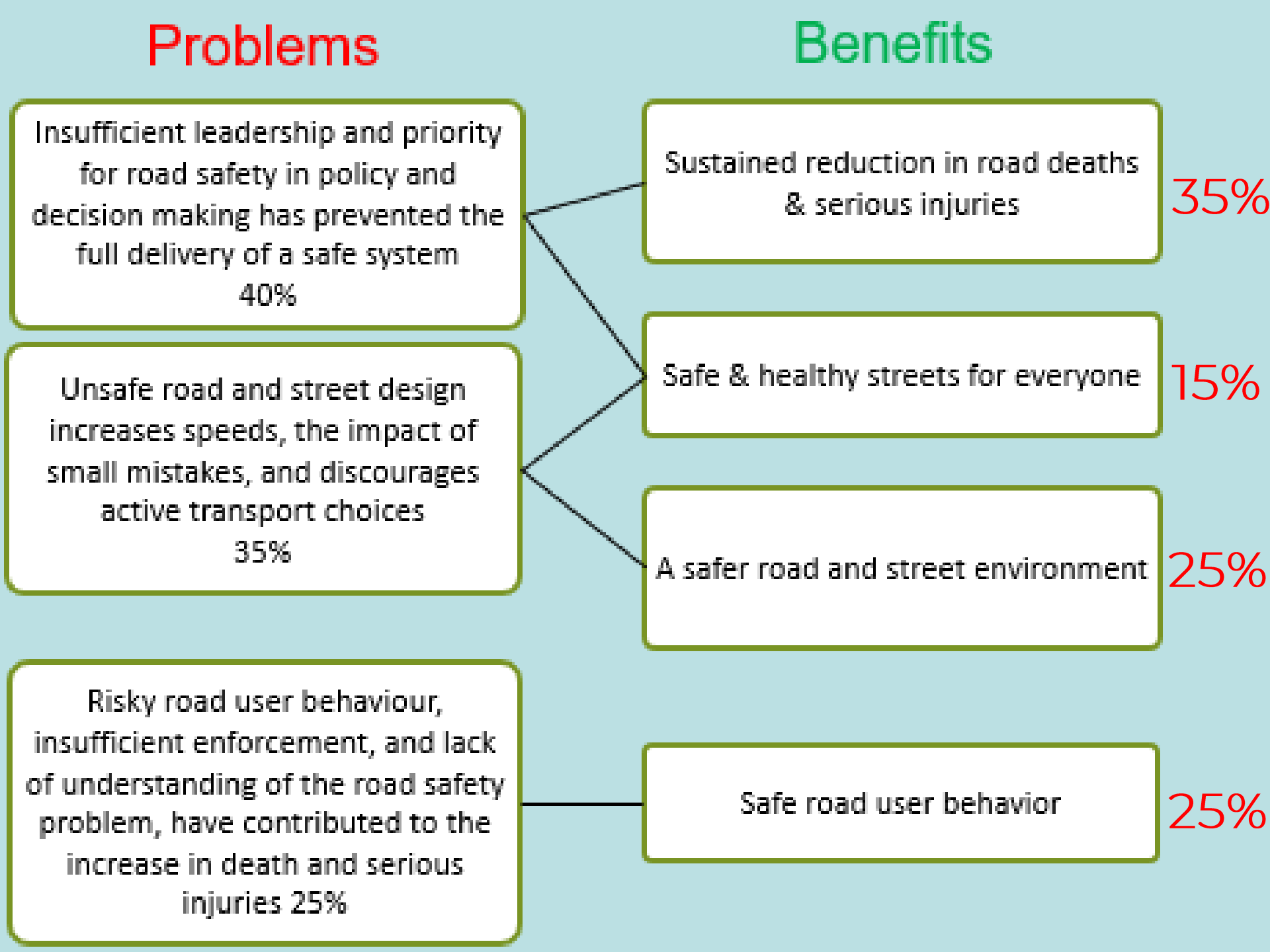
2014-2017 Travel growth in Auckland (estimated) +15%

WSP | OPUS

45% of road deaths and serious injuries 2013-2017 were people walking, cycling or motorcycling



Draft ILM


Problems
Benefits
Insufficient leadership and priority for road safety in policy and decision making has prevented the full delivery of a safe system 40%
Unsafe road and street design increases speeds, the impact of small mistakes, and discourages active transport choices 35%
Risky road user behaviour, insufficient enforcement, and lack of understanding of the road safety problem, have contributed to the increase in death and serious injuries 25%
Sustained reduction in road deaths & serious injuries
35%
Safe & healthy streets for everyone
15%
A safer road and street environment
25%
Safe road user behavior
25%

Long List Programmes

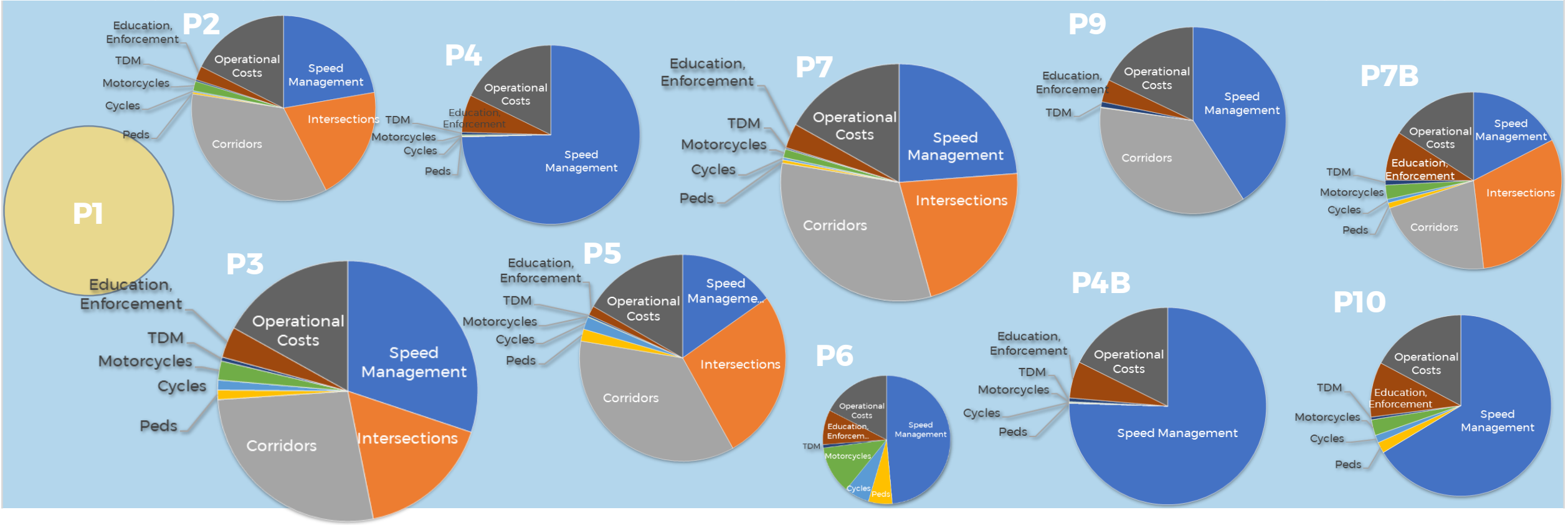
Road Safety PBC Programmes Summary

	PROGRAMME	P0	P1	P2	P3	P4	P5	P6	P7	P4B	P9	P10	P7B
		Do Min (3 year Progamme)	3 year Programme extended to 10 years	Focus on high riskareas and highlyeffectiv emeasures	Contribute as much as possible to achieving Vision Zero	Focus on Speed Management	Focus on Transformati onal Infrastructure	Focus on Vulnerable Road Users	Targeting 60% DSI Reduction	Focus on speed managemen t Version B	Speed managemen t with some infrastructure	Focus on speed managemen t and vulnerable road users	Targeting 60% DSI Reduction, within current budget
	APPROX. COST	-	Low-Med	Med-High	High	Med	Med-High	Low	Med-High	Med-High	Med-High	Med	Med
PROGRAMME STRATEGIES	**Policy & 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												

Programme Costs

Road Safety PBC Costs Breakdown

PROGRAMME	P0	P1	P2	P3	P4	P5	P6	P7	P4B	P9	P10	P7B
	Do Min (3 year Progamme)	3 year Program extend to 10 years	Focus on high risk areas & highly effective	As much as possible to Vision Zero	Focus on Speed mgmt	Focus on Transformation al Infrastructure	Focus on Vulnerable Road Users	Targeting 60% DSI Reduction	Focus on speed mgmt version B	Speed mgmt / some infrastructure	Focus on speed mgmt and vulnerable	60% DSI Reduction, within current budget
Cost Ranges	Do Min	~$500M to $700M	$960M to $1.4Bn	$1.7Bn to $2.4Bn	$690M to $900M	$920M to $1.5Bn	$340M to $480M	$1.3Bn to $2Bn	$940M to $1.2Bn	$1Bn to $1.3Bn	$620M to $810M	$580M to $900M



Programme Evaluation

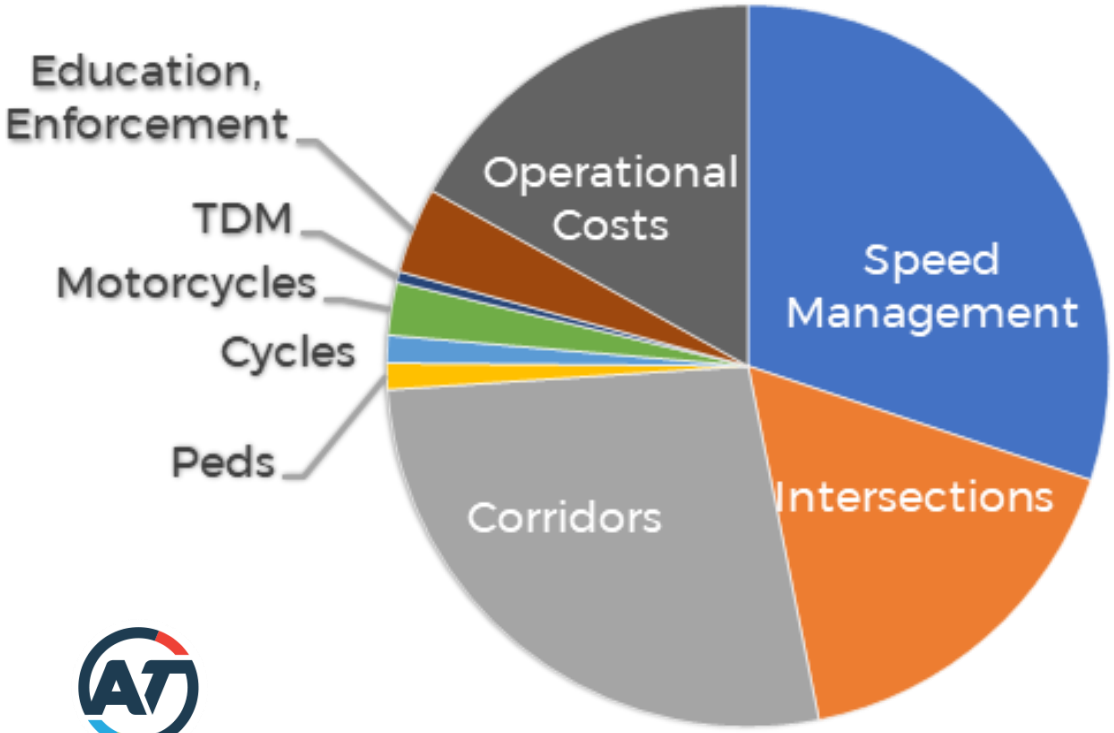
Results

		1	2	3	4	5	6	7	4B	9	10	7B
	Criteria	Three Year Programe extralpolated to 10 years	Focus on High Risk areas aqnd 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	Focus on speed management Version B	Speed Management with some infrastructure	Focuse on speed management and vulnerable road users	Trageting 60% DSI reduction, but lower cost (budget conscious)
Total Score	Sustained reduction in road deaths & serious injuries (35%)	1.5	1.5	3	2	1.5	1.5	2.5	2	2	2	2.5
	Safe and Healthy Streets for Everyone (15%)	0.5	1.5	3	1.5	2	2	1.5	1.5	1.5	2	2
	A safer road and street environment (25%)	1	1.5	3	1.5	2	1.5	2	1.5	1.5	2	2
	Safe Road User Behaviour (25%)	0.5	1.5	3	1.5	1	1.5	2.5	2.5	2	3	2.5
	Delivery Complexity	-1	-2	-3	-1	-3	-2	-2	-1	-1	-2	-2
	Maintainability/operability	-1	-1	-3	-1	-2	-1	-2	-1	-1	-2	-2
	Affordability	0	-1	-3	0	-3	-1	-2	-2	-2	-1	0
	Stakeholders alignment	-1	-2	-2	-1	-3	-1	-2	-1	-2	-1	0
	Social Impacts (community)	1	1	3	1	2	2	2	1	1	2	2
	Economic Impacts	0	0	-2	-1	-2	-1	-1	-1	-1	-1	-1
	Environmental	-1	-1	-2	0	-2	-1	-2	-1	-1	-1	-1
	Strategic Alignment	1	1	2	3	1	1	2	1	1	3	3
	Resilience of the network	1	1	2	2	1	1	2	1	1	2	2
	Public alignment	0	0	-2	-1	0	0	-1	-2	-2	-1	0

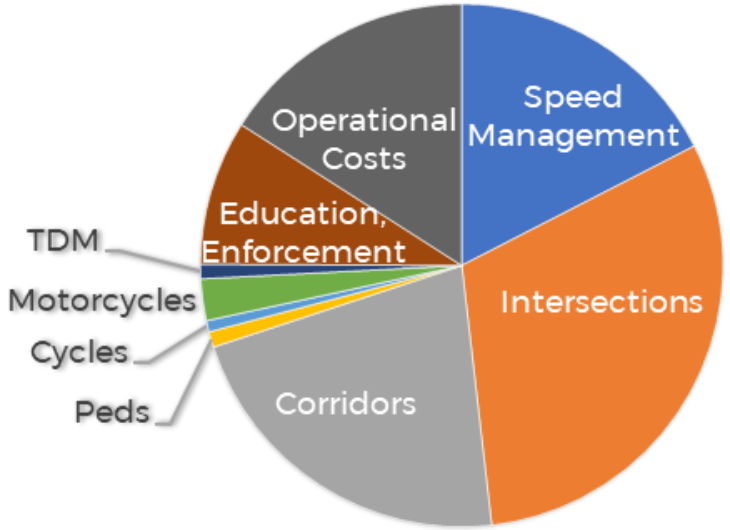
	Total	0.18	0.11	0.14	0.53	-0.39	0.22	0.18	0.17	0.04	0.47	0.70
	Rank	6	9	8	2	11	4	5	7	10	3	1

Draft Shortlist Programmes

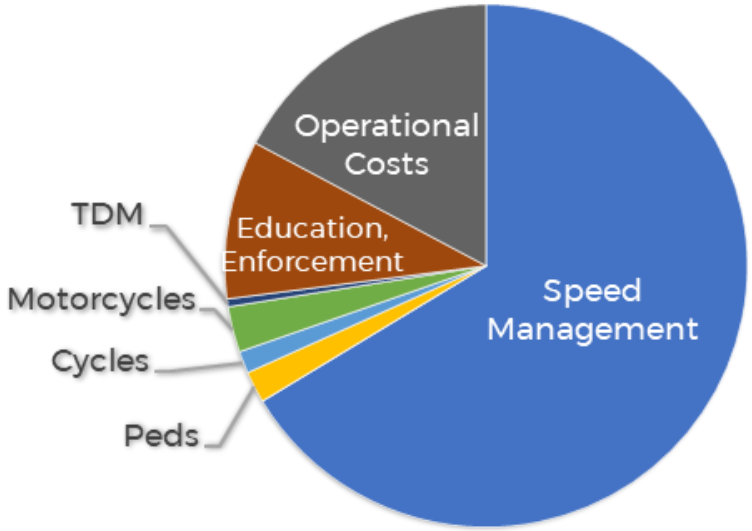
P3 Working towards Vision Zero:
$1.7B – $2.4B, 70-90% fewer DSI



P7B Target 60% Reduction within Budget:
$6-$900M, 60-70% fewer DSI



P10 Speed Management and Vulnerable Road Users: $6-800M, 50-60% fewer DSI



Three Key Learnings

1. Need a collective approach

Our Vision:

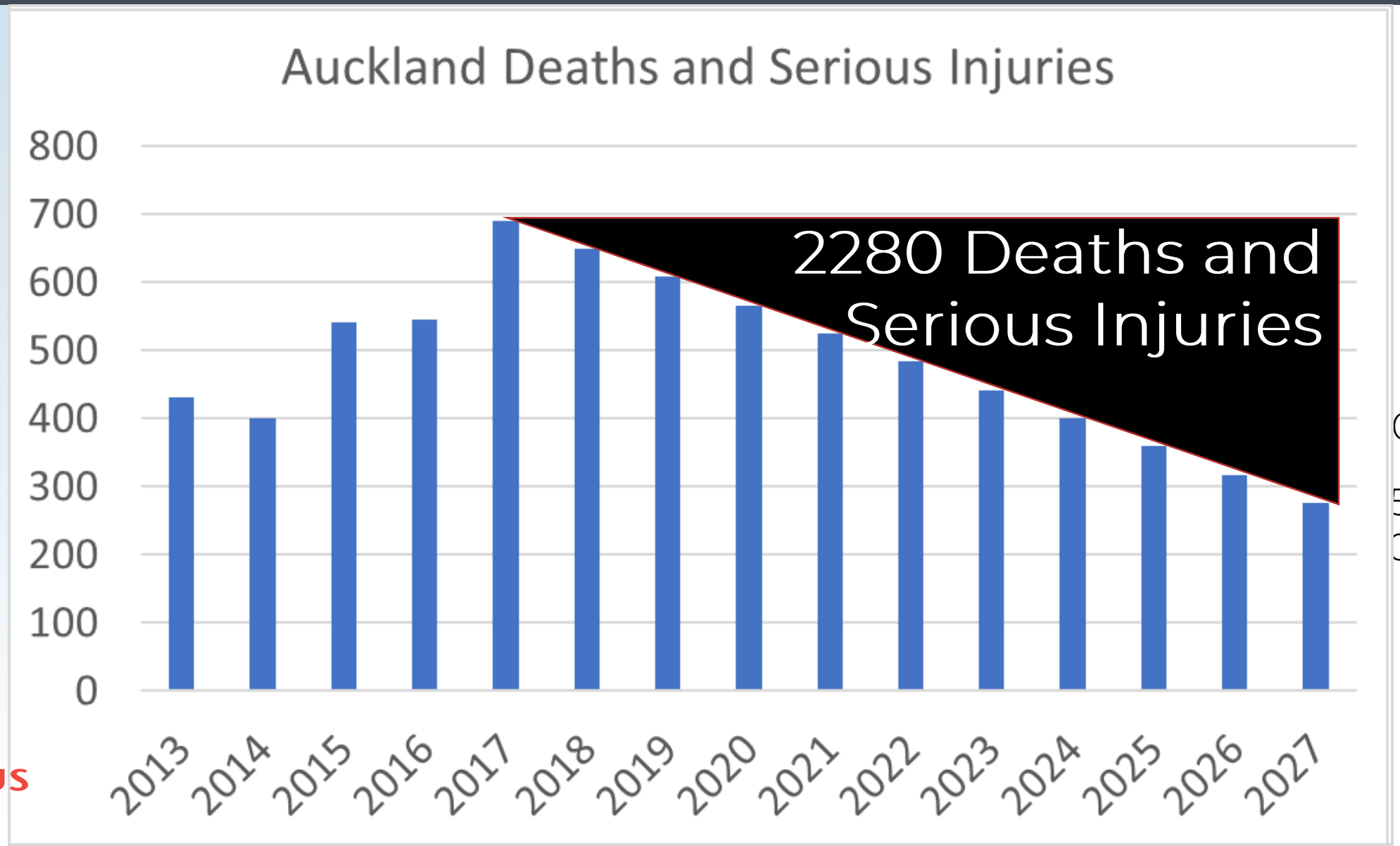
VISION ZERO

A safe road system free of death and serious injuries.

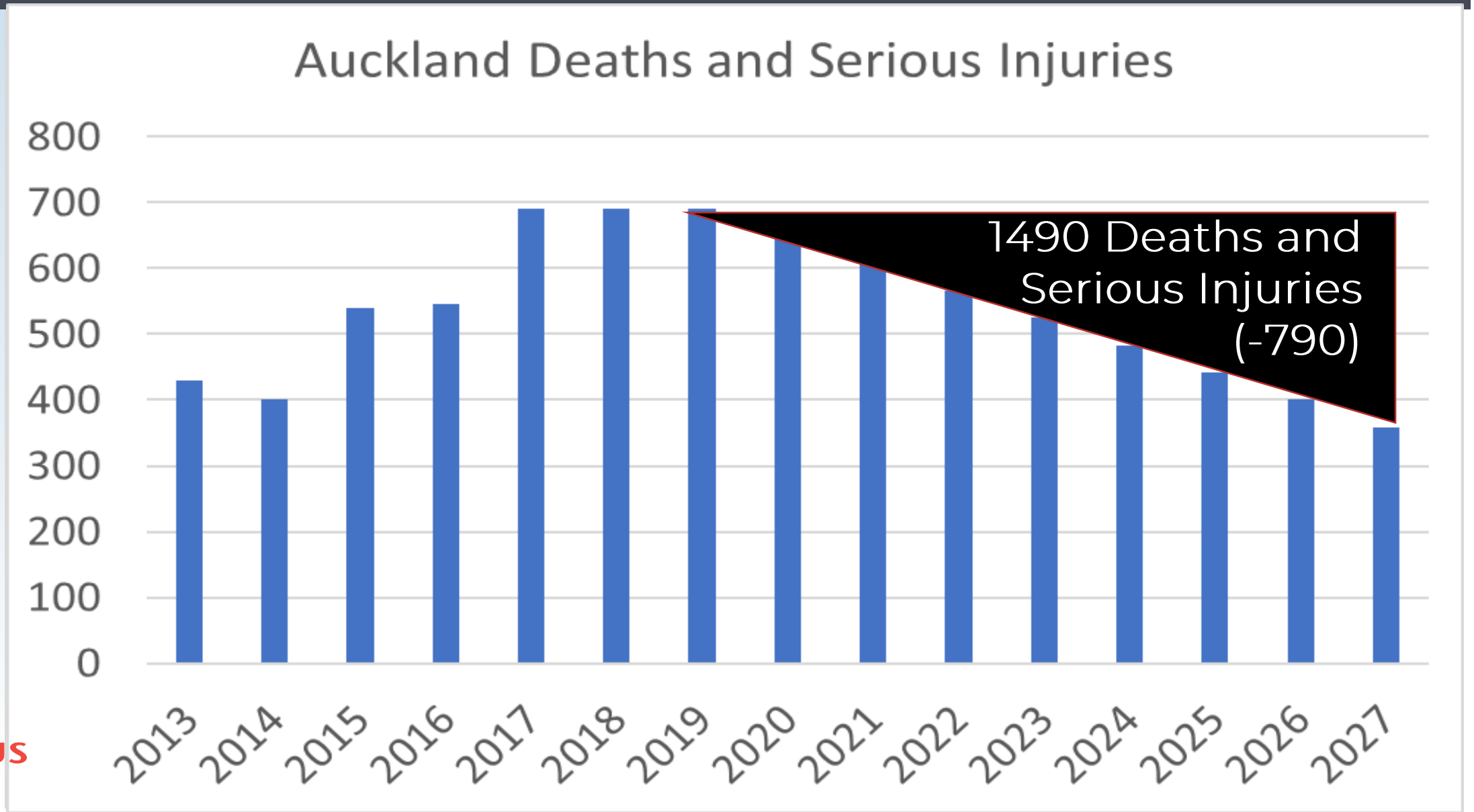
New investment approach.

2. Choose your targets wisely* *AKA “wrangling the statistics”

Target “60% reduction in DSI from 690 in 2017 to no more than 275 by 2028”



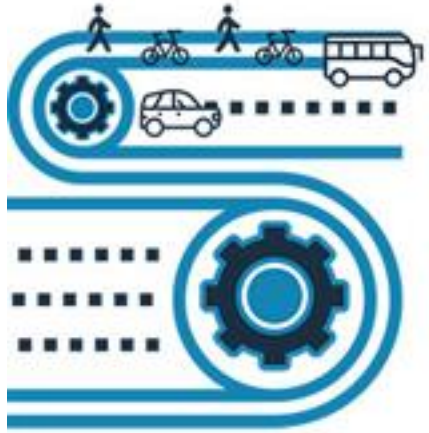
3. Get on with it!



The Institute of Transportation Engineers / Vision Zero Networ

"No loss of life on the transportation system is acceptable.

As transportation professionals we have no greater responsibility than protecting the lives of the public we serve."



VISION ZERO
CORE ELEMENTS

1. **Leadership & Commitment**
2. **Safe Roadways and Safe Speeds**
3. **Data driven approach, Transparency & Accountability**

VISION ZERO NETWORK

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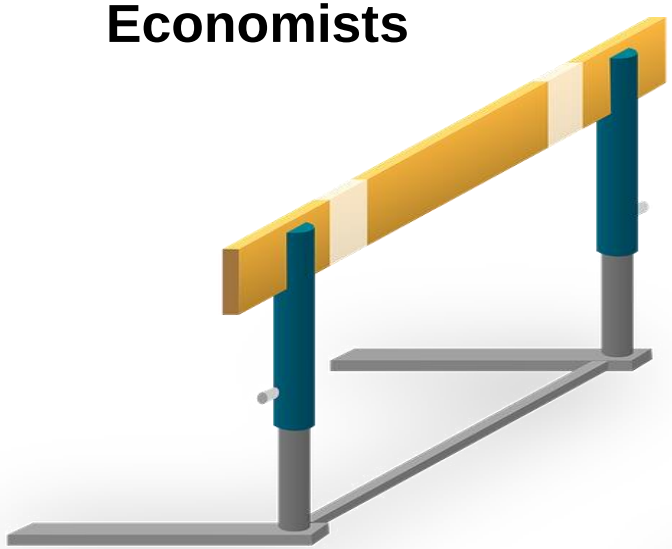
A Community of Transportation Professionals

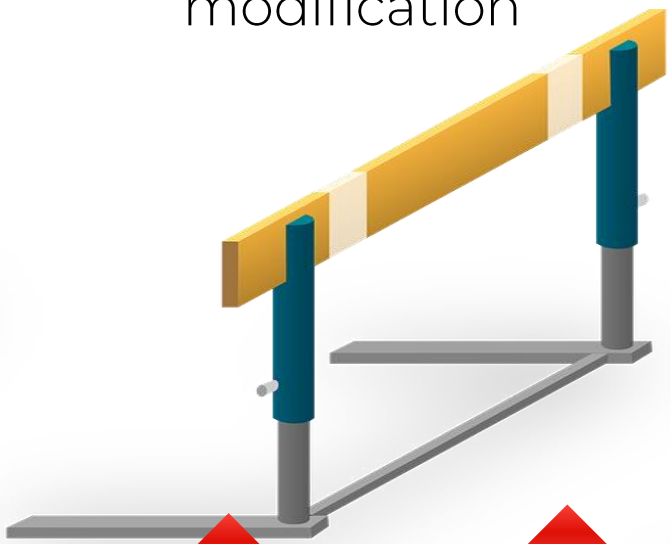
Obstacles on the journey to Vision Zero

Policy adoption phase → Policy implementation phase

Cost Benefit analysis
Economists

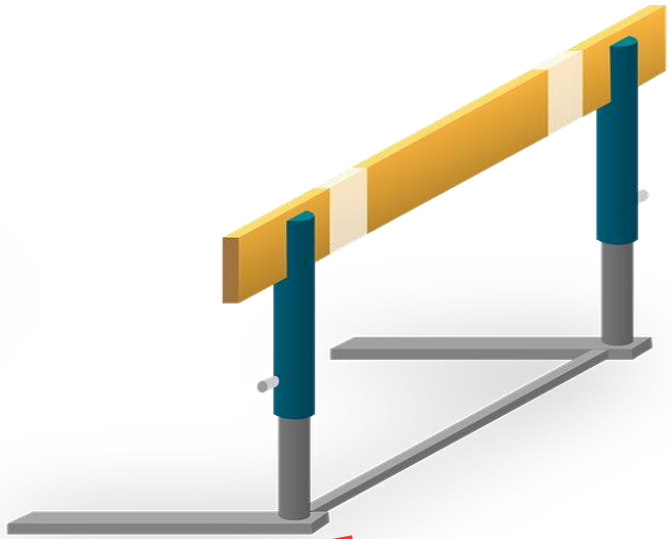


Traffic Safety Experts
Focused on behaviour modification



Road Engineers

Transport Companies



Vision Zero Advocacy

Engineering NZ Code of Ethics

1. You must, in the course of your engineering activities, take **reasonable steps** to safeguard the health and safety of people.


Rules and Regulations
Rules of Conduct
Values
Ethics
Ethical Practices
Research
Moral Principles

Exploring Ethics for Transport Safety

Criminalisation

Traditionally we have criminalised and punished individuals. We can explore creative alternatives for eliminating harmful behaviour – alcohol interlocks

Paternalism

Society can protect others against harm by legislation or technology – motorcycle helmets, speed limits

Privacy

The great degree of risk exposure associated with driving may imply that the expectation of complete privacy on the road is not reasonable – safety cameras

Justice

Humane infrastructure protects vulnerable road users including children and the elderly. A minimal requirement should be that potential damaging effects on vulnerable groups should always be taken into account when planning infrastructural projects.

Responsibility

Traditionally focused on individuals driving safely. A major role can and should be played by institutions (governments & vehicle manufacturers) and the System Designers.

It’s an increasingly Complex System

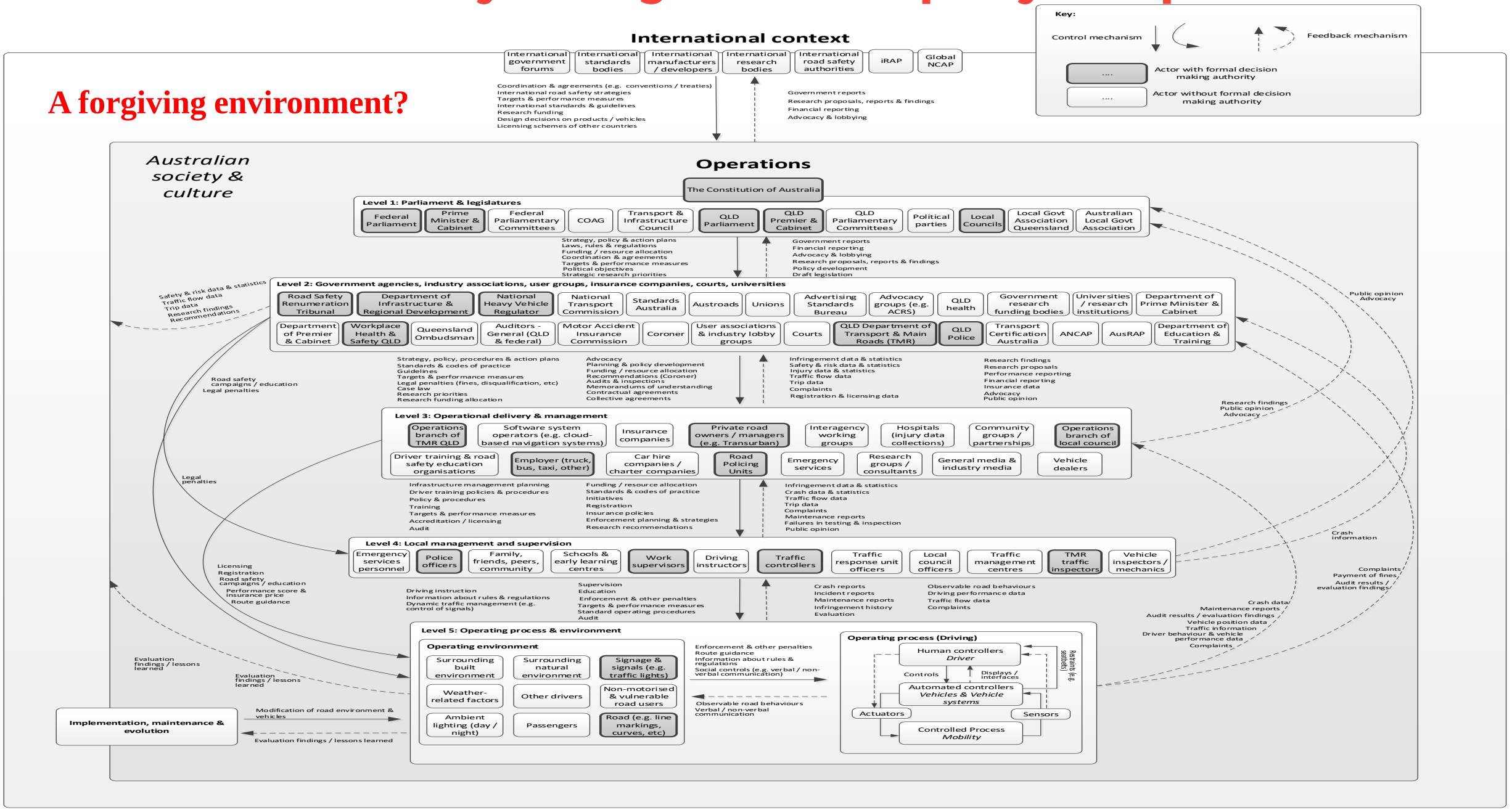
Ambiguity

Uncertainty

Volume, speeds, mode choice, technology, layout, gap acceptance

Road Safety Management is Equally Complex

A forgiving environment?



Creating a Paradigm Shift to Vision Zero

PITFALL	RULE OF THUMB
NEGLECT CONTEXT	UNDERSTAND CONTEXT
CHANGE OTHERS ONLY	KNOW YOURSELF
THINK IN LINEAR TERMS	THINK SYSTEMICALLY
SEEK SAFETY IN CERTAINTY	LEARN AND ADAPT
CHANGE IS TECHNICAL	RECOGNISE CHANGE IS PERSONAL

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The Paradox

"You cant get to courage without walking through vulnerability"

(Brene Brown)