Enabling New
Zealanders
to flourish

Ministry of **Transport**
TE MANATŪ WAKA

Update on the ITS Action Plan

Presentation to the RCA Forum

Transport is in a state of change

Digital and **physical** worlds converging

GOOGLE is a car company

CARS are computers on wheels

WEARABLE COMPUTERS count steps, calories, and hours slept

CELL PHONES control your lights, air conditioner, and security system

What are ITS technologies?

ITS includes many elements that will be familiar to most RCAs:

- Variable message signs
- Variable speed signs
- Ramp metering signals
- Camera monitoring
- Travel time information signs
- Wellington's new smart motorway

SMART
MOTORWAY
Johnsonville to Terrace Tunnel

Examples of ITS technologies (cont)

Arguably, the two most interesting new ITS developments are connected and automated vehicles

Why are we interested in ITS ?

More than 90% of road accidents are caused by human error

The Government's transport objective

We will ensure our transport system helps New Zealand thrive by focusing on four areas:

EFFECTIVE

Moves people and freight where they need to go in a timely manner

EFFICIENT

Delivers the right infrastructure and services to the right level at the best cost

SAFE AND RESPONSIBLE

Reduces the harms from transport

RESILIENT

Meets future needs and endures shocks

What benefits will ITS bring?

New technologies will drive major changes in our transport system:

- **Improved safety**

- **Improved accessibility to the transport system**

    - better access to education, employment, recreation, healthcare etc

- **Improved network management**

- **Major changes to how people travel**

    - Less need to own a vehicle
    - Possibility of better shared transport options

- **Improved sustainability**

- **Changes to urban design (in the longer term)**
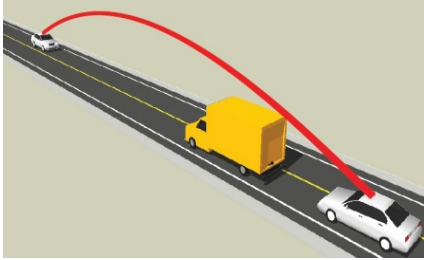
The transport system of the future

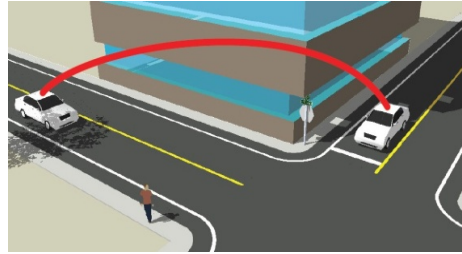Growing view that the future transport system will be:

- **C**onnected

- **A**utomated (intelligent)
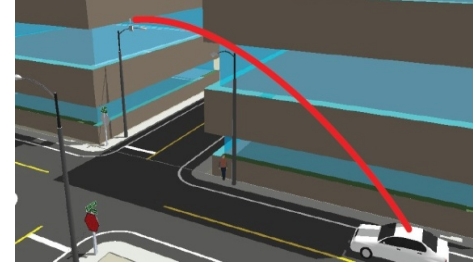
- **S**hared

- **E**lectric

Connected vehicles

Do not pass warning

Hidden vehicle at intersection warning

Traffic signal information

Transport organisations can receive real time data to identify potential accident black spots

Sudden braking point

Treat the roadside plants

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Automated

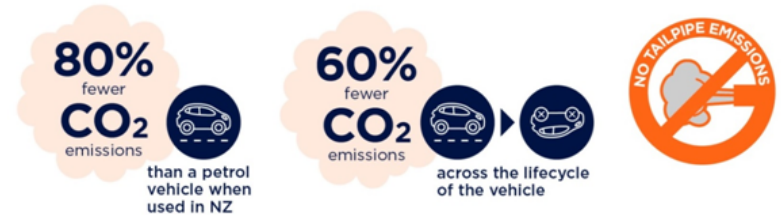# Shared

- New technologies mean more people will be able to use and share vehicles without necessarily owning or driving them

- Many companies – including vehicle and technology developers - are re-orienting their business models to sell mobility as a service (MaaS)

- Shared transport, such as autonomous shuttles could:

  - reduce congestion in urban areas
  - impact on land-use development

Electric

- Automated vehicle developers are increasingly turning to electrification as a method of propulsion
  - *Hard to refuel a vehicle with liquid fuel if autonomous*

- There are many benefits to EVs

- They cost less to operate than petrol or diesel, reducing costs to users; are easier to refuel; will be easier for New Zealand to deploy than for many other countries; and reduce our reliance on imported fuels.

Electric Vehicles
Drive the Future

80% fewer CO_2 emissions than a petrol vehicle when used in NZ

60% fewer CO_2 emissions across the lifecycle of the vehicle

NO TAILPIPE EMISSIONS

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What is Central Government doing about ITS?

- The ITS Technology Action Plan 2014-2018 was first released in 2014

- Developed over a period of 18 months in consultation with the private sector

- Sets out Government's approach to enabling testing and deployment of beneficial ITS solutions for NZ

- 42 actions – big policy to specific operational developments

- Covers all transport modes e.g. connected and automated vehicles, UAVs

- Delivered by a range of Government departments and agencies

Intelligent Transport Systems Technology Action Plan 2014–18
Transport in the digital age
May 2014

newzealand.govt.nz

ISBN: 978-0-478-07262-4

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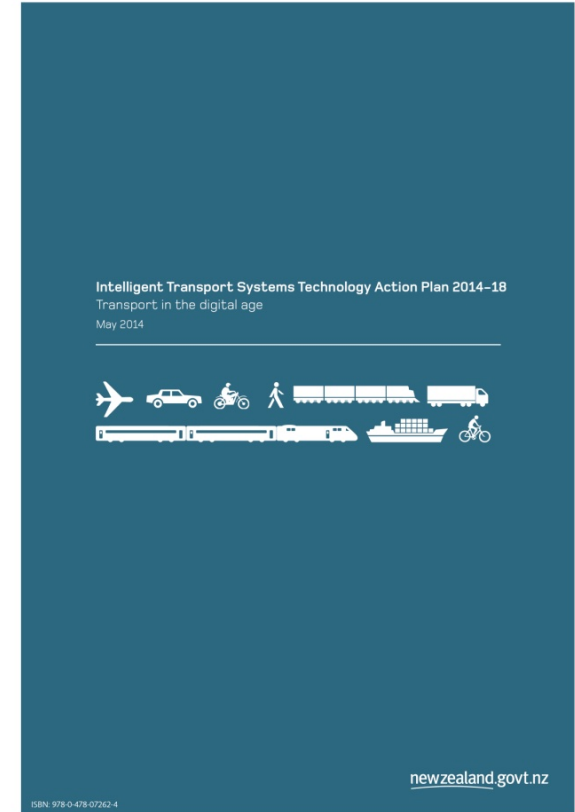
The ITS Action Plan building blocks

	Leadership		Charging
	Investment		Enforcement
	Regulation		Facilitation
	Data		Skills and exports
	Standards		Research and evaluation
	Network management		Testing
	GNSS		User interfaces
	Mapping		

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Looking ahead – a new ITS action plan

RESILIENT

FOCUS AREAS: ITS APPLICATIONS

The ITS Action Plan identifies **ten focus areas** that will support us in creating a connected digital transport system, grouped under three key themes:

VEHICLES
- Connected and automated vehicles
- Connected and unmanned aircraft

INFRASTRUCTURE AND SERVICES
- Active network management
- Charging and payment systems
- Passenger and cargo facilitation
- Positioning and mapping

USERS
- Human machine interface
- Supporting compliance
- Mobility as a service

BUILDING BLOCKS

The ITS Action Plan identifies **seven building blocks** essential to creating an environment that enables the effective deployment of ITS technologies:

- LEADERSHIP
- SKILLS
- RESEARCH
- DATA
- REGULATION AND STANDARDS
- TRIALS AND TESTING
- INVESTMENT

EFFECTIVE

EFFICIENT

SAFE AND RESPONSIBLE

Looking ahead – a new ITS Action Plan

New ITS Action Plan will continue to focus on the building blocks – things we need to deploy ITS technologies:

- Removing unnecessary barriers

- Encouraging innovation, trialling, and testing

- Ensuring interoperability of its standards– both inside New Zealand and internationally

- Ensuring legislation is fit for purpose

Future

- ITS is going to bring some fundamental changes for network operators, asset owners, planners, as well as motorists and pedestrians

- Many of the changes will be made by public choice, not regulation or direct Government intervention

- Many of the changes don't have clear time lines

- No one has all the answers

- We will need to consider future infrastructure requirements:
  - digital and physical

Future (Cont)

- **All parties need to think how we:**

  - maintain and develop transport infrastructure in a time of uncertainty
  - deploy digital infrastructure with short life spans (5 years?) when we are used to concrete and steel?
  - develop skills across the ITS sector?
  - ITS could be deployed to create local solutions on the network?

- **deploy digital infrastructure in advance so it is there when we need it**

  - for example, fibre-optic cable when doing other maintenance or development

Next steps

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