



Session 13: Policy for Electrified Roadways

A New Zealand / Aotearoa Perspective

**DRIVING IDEAS.
ENERGIZING
PARTNERSHIPS.**



Doug Wilson



ENGINEERING

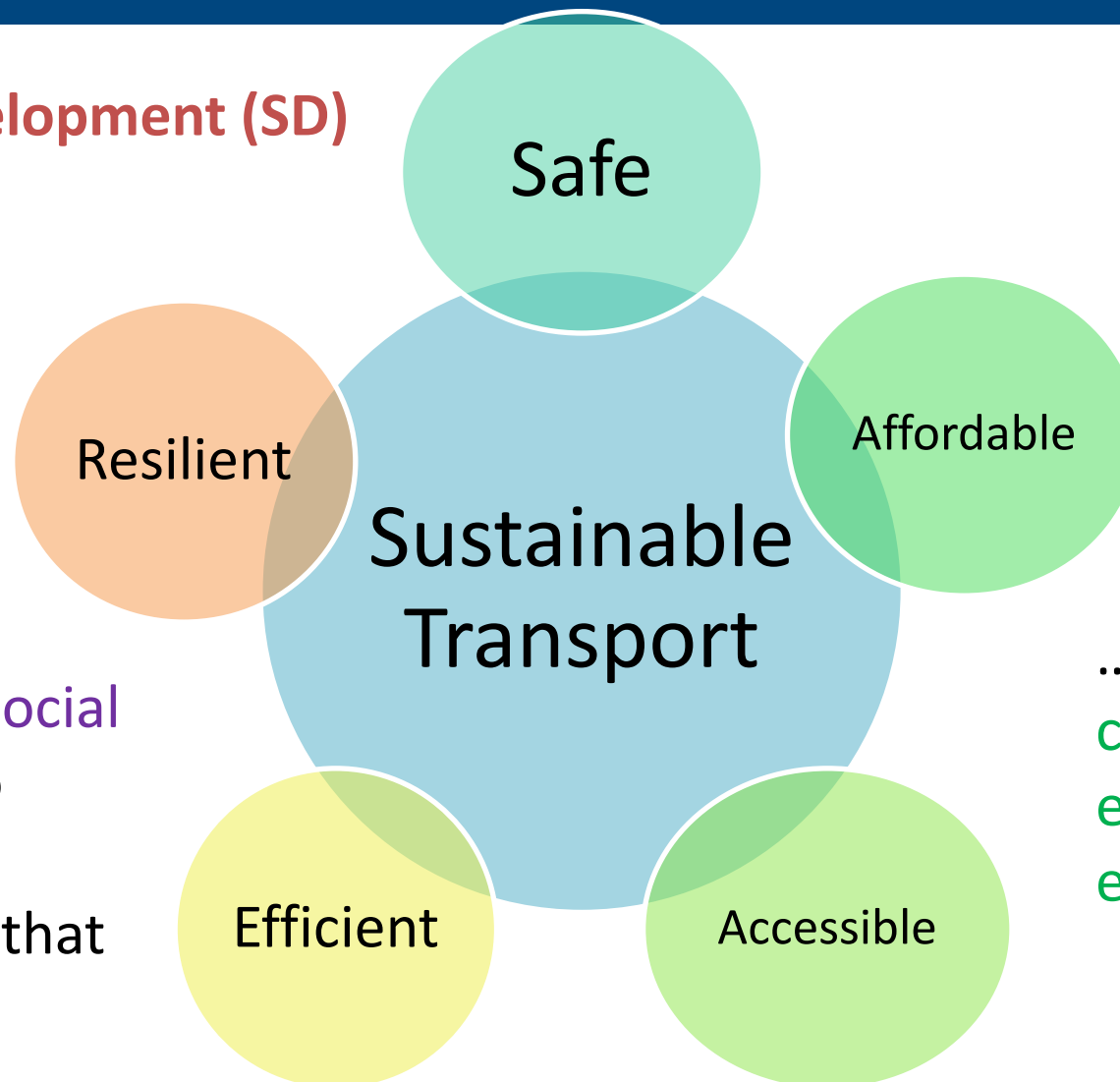
Context: Sustainable Transport (ST) is

... a **driver for Sustainable Development (SD)**

ST is the provision of services & infrastructure for the **mobility of people & goods**



ST... advances economic, social & cultural development to benefit today's and future generations - in a manner that is ...



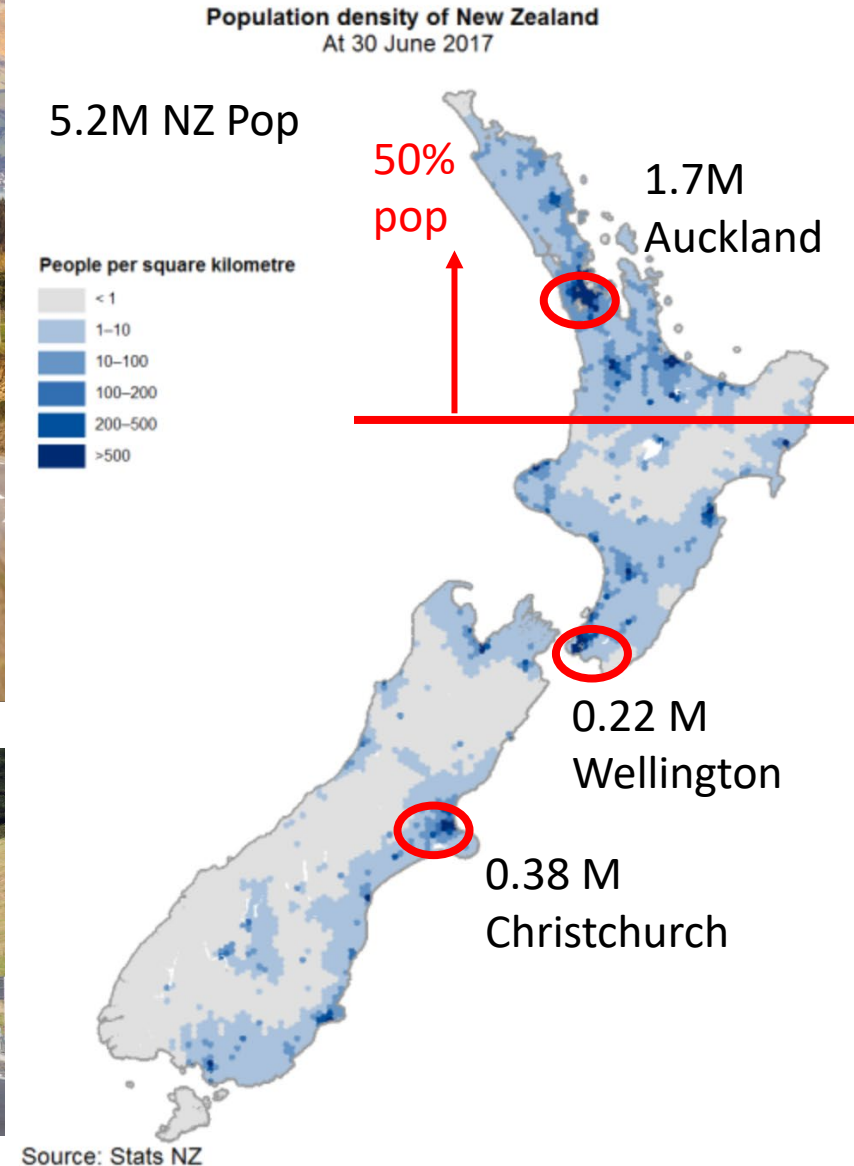
ST is a means by which **people can safely & affordably access what they need** to live full & fulfilled lives

...while minimizing carbon and other emissions & environmental effects

... there are many policy implications.

Transport Infrastructure in NZ

- NZ - Highly urbanized – 87%
- Needs vary (economic, social, cultural, environmental), geospatial population
- Indigenous Māori perspectives
- Rural roads are largely ‘uneconomic’ BUT important arteries of the country
- Inherited and ageing infrastructure requires attention
- Today’s (yesterdays?) design standards are not suitable
- Complex systems of various utilities require integration (transport, energy, comms)
- > 80% renewable energy



New York, Fifth Avenue, Manhattan,

Easter Morning 1900, bustling with horse-drawn carriages and pedestrians...
...spot the automobile



Source, US National Archives

Easter morning 1913: 5th Ave, New York City.
Spot the horse.



Source: George Grantham Bain Collection.

Energy transition can happen very quickly...

Mineral Resource extraction – social and environmental responsibility



Lithium Mining Bolivia vs Australia

In the race for the ‘new oil’ of rare earth minerals we must undertake this collective transition in a just, equitable, social, culturally and environmentally responsible way. We do not want to create unintended problems for future generations.

Cobalt mining in
Democratic Republic
of Congo



Policy thoughts on Wireless charging of EVs

To achieve a sustainable EV based transport system requires:

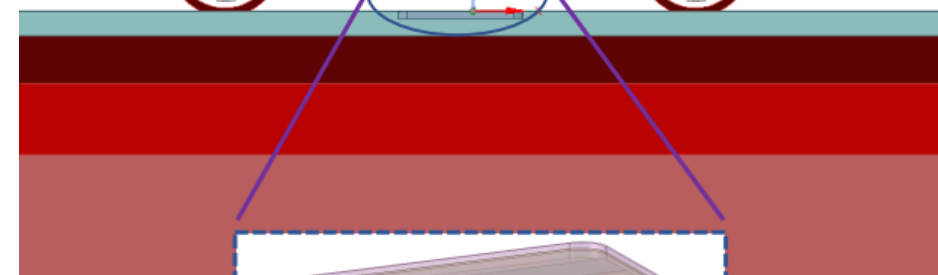
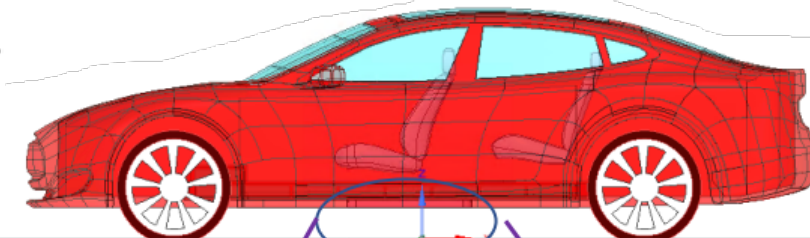
- New products - one size will not fit all - regulation / standardisation
- Innovation and integration across sectors / utilities - sharing risk
- Willingness to trial, learn & deploy
- Provide evidence for policy makers / decision makers
- Communicating the technical to non technical audiences
- Working with communities and consumers - they in the end pay & need to understand benefits vs costs.



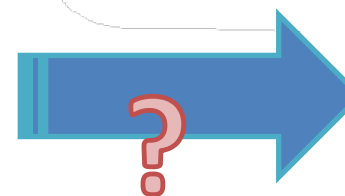
MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI



Asphalt pavement surface course
Asphalt pavement base course
Aggregate base course
Existing Soils



Today in Time



Secondary pad

Primary pad

Desired safe, economic, inclusive accessible, low carbon, resilient & sustainable mobility future.

Enabling a sustainable, just and equitable transition from fossil fuels to electrified roadways