



NZ TRANSPORT AGENCY
WAKA KOTAHI

A resilient transport system

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IPENZ Transportation Conference Nov 2008

Based on two recent NZTA projects

- **Managing Transport Challenges When Oil Prices Rise** – McCormick Rankin Cagney, August 2008
- **Transport Network Optimisation** – ViaStrada, July 2008

The case for change has been proven

- “Serious challenges” face the transport sector – including:
 - CO₂ emissions
 - Traffic congestion
 - The road toll
 - Rising fuel prices
- Other reasons include: health, climate change, people orientated urban design, affordability
- Transport investment needs to implement good land use policies and achieve desired travel behaviours



A better transport system is integrated and resilient (1)

What a better transport system looks like:

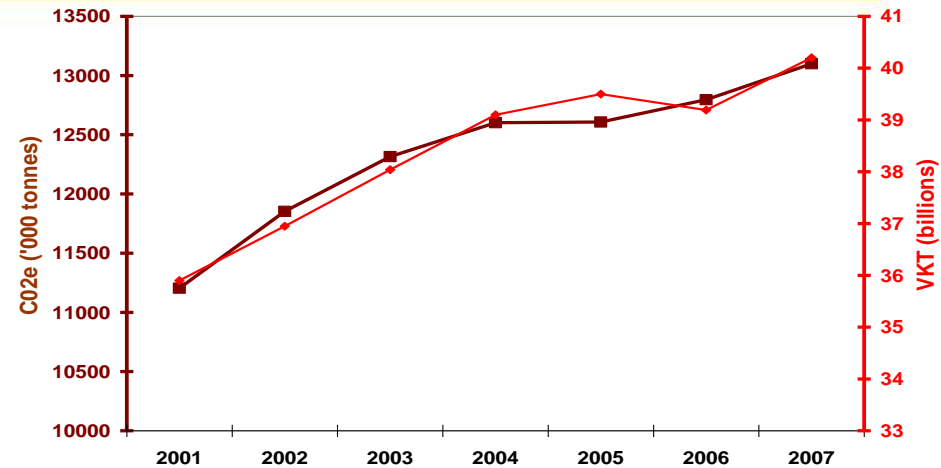
- Delivers (regional) policy targets
- Based on people first hierarchies
- Contributes to liveable communities
- Has low energy impact
- Provides interconnected networks
- Helps integrate land use and transport planning



A better transport system is resilient and integrated (2)

The costs of BaU are unaffordable:

- Land requirements
- Environmental impacts
- Amenity and urban form
- Energy costs and equity impacts
- Maintenance costs
- Severance
- Health



Managing transport challenges as oil prices rise

McCormick Rankin Cagney

Geoff Leyland - Incremental

Dr. Tim Hazledine - University of Auckland

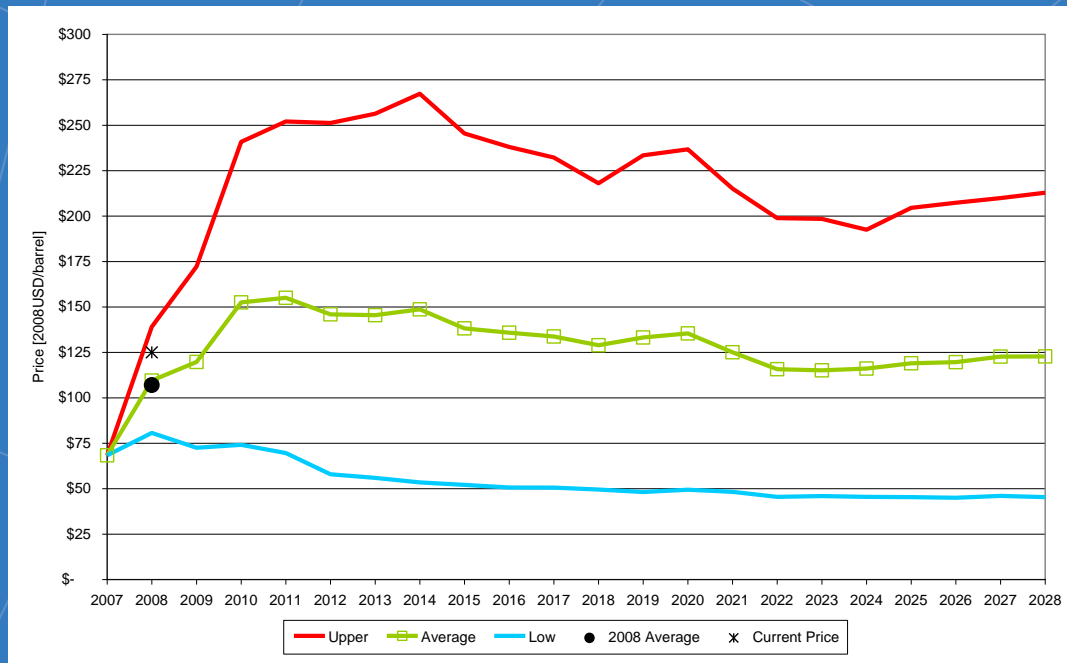
Brookfields Lawyers

Todd Litman – Victoria Transport Policy Institute

1. Modelling future oil prices
2. Modelling impacts on travel demands (Econometric analysis)
3. Policy tool-kit for local, regional and central government (how to increase resilience)



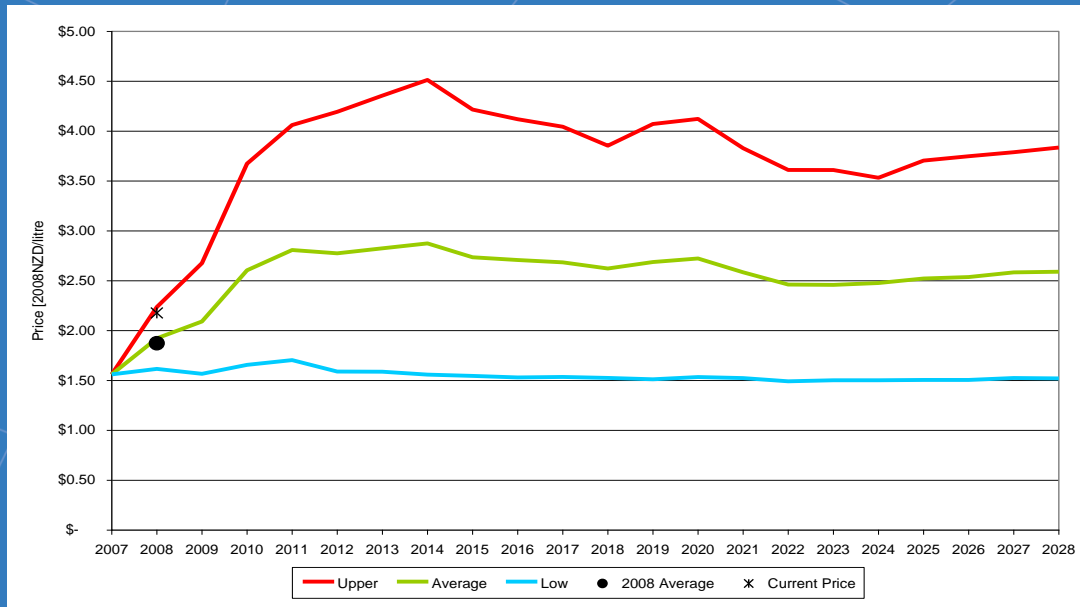
Modelling future oil prices



- Monte Carlo simulation
- Meta Model of a number of oil forecasts, including NYMEX and Goldman Sachs



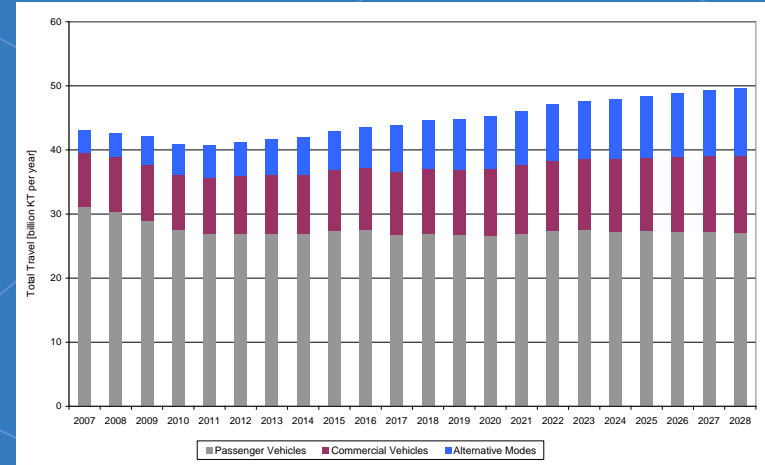
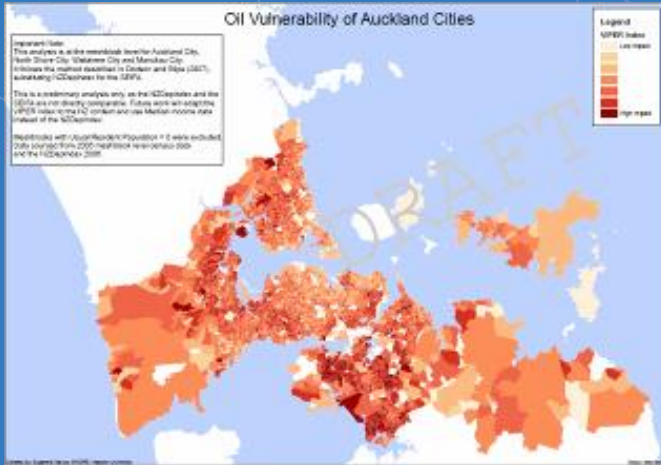
Modelling NZ fuel prices



- The days of cheap petrol appear to be over
- Oil costs flow through the transport system
- Transport needs to be less reliant on oil



Modelling future travel demand by mode



- Rising fuel prices impact on consumers
- Consumer demand for travel choices increases
- Different impacts for private and commercial travel
- Market distortions have created over demand for single occupant vehicle trips



Managing travel demand is a “no regrets” approach – policy interventions

Tools available include:

- Land use responses
- Direct and efficient pricing
- Infrastructure investment (people focused)
- Behaviour change and education
- Freight management



Managing travel demand is a “no regrets” approach – benefits of managing demand

- Economic development
- Increased resilience
- Reduced transport costs (private and public)
- Environmental benefits
- Public health
- Better travel outcomes!



Optimising Transport Networks – “Think-piece” Structure

- National context
- International directions (hundreds of papers)
- International case studies (5)
 - London
 - Portland, Oregon
 - Odense, Denmark
 - South East Queensland
 - Freiburg, Germany
- NZ initiatives (29)
- Local and regional opportunities for action (33)
- Local & international experts assisted project

Seven Categories

- Land use and Transport Planning Integration
- Attitudinal and Behaviour Measures
- Optimising Traffic Operations
- Public Transport
- Walking and Cycling
- Freight
- Pricing and Charging Mechanisms

Land Use & Transport Planning Integration



- Foster intense land use around PT hubs and corridors
- Manage urban growth
- Impose sustainable transport contributions or levies
- Set maximum parking requirements in district plans
- Develop and implement regional parking strategies (off- and on-street)
- Adopt appropriate NZTS targets locally

Attitudinal and Behavioural Measures



- Implement school and workplace travel plans
- Marketing campaigns to reduce urban speeds
- Lead by example (council actions)

Optimising Traffic Operations

- Traffic signal optimisation
- Use “road user hierarchy”
- Introduce bus priority
- Traffic calming; 30 km/h for residential and CBD areas
- Increase accessibility for bikes relative to cars
- Wide kerb lanes or cycle lanes on all arterials
- Improve traffic counting for all modes



Public Transport

- Integrated ticketing
- Driver and operator incentives to keep to timetable
- Real-time info for PT users
- Bike racks on buses
- Free travel for bikes on PT
- Taxi ordering service for completion of night-time journeys



Walking and Cycling

- Implement walking and cycling strategies
- Increase funding for footpath maintenance
- NZTA “model communities” project
- Provide more cycle parking
- Regular sweeping of arterial roads, cycle lanes and cycle paths



Freight



- Improve data collection on freight operations
- Encourage use of the voluntary operator rating system for freight carriers

Pricing and Charging Mechanisms



- Implement regional fuel taxes
- Co-ordinate off-street and on-street parking charges regionally
- Introduce road pricing on congested corridors and bridges
- Improve data collection and analysis from PT, traffic counts, traffic signals and parking systems

Further reading

Managing Transport Challenges When Oil Prices Rise

McCormick Rankin Cagney, Aug 2008

<http://www.landtransport.govt.nz/research/reports/357.pdf>

Managing Transport Challenges when Oil Prices Rise

S. Donovan, J. Genter, B. Petrenas, and N. Mumby
McCormick Rankin Cagney

T. Hazledine
University of Auckland

T. Litman
Victoria Transport Policy Institute

G. Hewison, T. Guidera, L. O'Reilly, and A. Green
Brookfields Lawyers

Transport Network Optimisation ViaStrada, Jul 2008

<http://www.landtransport.govt.nz/sustainable-transport/docs/transport-network-optimisation.pdf>



TRANSPORT NETWORK OPTIMISATION

Think-piece document prepared for
Land Transport New Zealand

ViaStrada Ltd
July 2008

