Rebuilding our city: the role of transport

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Who am I?

- University Professor
  - Teacher and Researcher
- Local Transport involvement
  - Regional Transport Committee
- Christchurch resident for 15 years
- Commuter & utility cyclist
- Husband and father

Talk today

1. Christchurch pre-earthquakes
2. Earthquakes!
3. Transport, cities and community
4. Plans for the future
5. A cycling city
6. A rail city
7. Summary

Christchurch pre-earthquake

- Struggling central city & thriving malls
- Car-centric
- Reasonable cycling rates
  - but very limited separated infrastructure
  - but limited to confident cyclists
- Growing bus use
  - High rates for NZ, but low internationally
  - Low level about rail

Earthquakes

- Major earthquakes in and around Christchurch, New Zealand, since September 2010
- 70% of city centre to be demolished
- 895 kms (45%) Christchurch’s roads need rebuilding
Transport mode (census data)

Peak car

Passenger-kilometres by private car and light trucks, 1990 – 2009, index (1990 = 100)

Peak car and age

Annual vehicle miles per driver by age, USA, 1995, 2001, 2009

Germany
Australia
France
Japan
United Kingdom

Oil price shock and start of crisis

The New Zealand Herald

Brian Rudman’s Opinion

Brian Rudman: End of the road for the sacred car?

As New Zealand’s largest roading project roars ahead, people are using their vehicles less and their legs more...
Cyling typology

Roger Geller’s 4 types of cyclist
http://www.portlandoregon.gov/transportation/44597?a=237507

- Strong & fearless
- Interested but concerned ~ 50 - 60%
- Not able or not interested ~33%
- Enthused & confident

Traffic pollution

Traffic pollution:
- Kills 45 adult Cantabrians per year
- Causes 47,000 restricted activity days among Canterbury
- From PM_{10} costs $126m per year in Christchurch ($164m Canterbury)

Fuel efficiency

Characteristics of New Light Vehicles over Time

Road space and congestion

- National $12.3bn funding package (2012-15)
  - Roads especially new state highways (Roads of National Significance)
  - 0.43% for walking & cycling
  "this means the funding available for public transport, cycling and walking networks ... will be heavily constrained for much of the early recovery period"
  - Christchurch Transport Strategic Plan
  - National’s extra $100m adds extra 0.7%!
Who pays for transport

- cars directly pay 64% of their costs
- trucks directly pay 56% of their costs
- buses directly pay 68% of their costs
- rail users directly pay 77% of their costs

Does not include exercise-related health!

Economic sense

- NZ research: “transforming urban roads over the next 40 years, using best practice physical separation on main roads and bicycle-friendly speed reduction on local streets, would yield benefits 10–25 times greater than costs” (Macmillan et al, 2014)

Average Customer Expenditures by Mode of Travel and Type of Establishment


Safety

Social capital

Communities that promote sustainable and active can:
- Reduce disparities between the rich and poor
- Promote good neighbourhood
- Enable poor to gain better access to healthy food
- Lead to decreased crime


Happier people

Morris EA and Guerra E, 2014, Mood and mode: does how we travel affect how we feel? Transportation DOI 10.1007/s11116-014-9521-x

Obesity

"New Zealand is in the grip of a global obesity epidemic, the future costs of which will be enormous, potentially unaffordable for the health system."
- Professor Norman Sharpe, New Zealand Heart Foundation medical director, Sept 2011 [www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10752121]

What level of impact

What level of impact

If Christchurch’s obesity rates dropped from 33% to:

• 11.4% (Netherlands); we’d save over $50m p.a.
• 20% - we’d save over $30m p.a.
• 25% - we’d save over $20m p.a.

Assessment of the type of cycle infrastructure required to attract new cyclists

• Type of infrastructure needed to attract ‘new’ cyclists
• Investigate the barriers and motivations for cycling
  – Perceived danger is main barrier!
  – Physical separation was key


How?

If you build it, they will come: New study shows that bike lanes increase ridership


Is congestion bad?

• Congestion suppresses latent travel demand
• Congestion encourages less travel or use of alternative modes
  – Bike use with good infrastructure
  – Public transport with priority
• Congestion-free roads don’t result in pollution as low as the models tell us
**Build it and they will come**

- Works with cycling too!

- How much do you need to build?
  - Not much
  - Small amount encourages cyclists
    - Portland (Roger Geller, 2012)
    - Brisbane (Michael Langdon, 2013)
    - Many others

**Remove it and they will go?**

e.g. Cheonggyecheon, Seoul, Korea

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Remove it and they will go?

e.g. Cheonggyecheon, Seoul, Korea

1970: Road built over river

2005: Road removed and river exposed again

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Where did the traffic go?

*It just disappeared*

- Prof Jeff Kenworthy

PLANS FOR THE FUTURE
Plans

- Share an Idea (CCC), April–June 2011
- Draft Central City Plan (CCC), Aug–Dec 2011 – Central City Recovery Plan (CCDU), Aug 2012
- Christchurch Transport Strategic Plan 2012-42 (CCC), June 2012
- Christchurch Central Recovery Plan: An Accessible City (CCDU), Oct 2013 (July 2012)

"Share An Idea“ – 106,000 ideas

Rail

People on public transport
Control!

- Christchurch City Council (CCC)
  - Develop a plan for the central city
  - Share an Idea
- Draft Central City Plan
  - Consultation
- Canterbury Earthquake Recovery Authority (CERA)
  - More consultation
- Minister for Earthquake Recovery
- Christchurch Central Development Unit (CCDU)
  - Christchurch Central Recovery Plan

But...

- Transport out of the Christchurch Central Recovery Plan
- Transport Chapter (Accessible City) written and consulted on
  - Includes 30km centre
  - signed off by Minister Dec 2013

What about the suburbs?

- Intentionally not in Christchurch Central Recovery Plan
- Crucial in linking centre to where people live
- Plus ongoing CCC local suburban plans

Who is going to pay for it?

“...The projects in the Recovery Plan are based on those in CCC’s own draft Central City Plan, so the Government expects CCC to make a substantial financial commitment to these projects, especially in the case of civic assets like the Convention Centre and the Metro Sports Facility”

“is akin to your parents choosing the house you buy, but expecting you to fund the mortgage”

Government Policy Statement for Land Transport Funding (GPS 2012/13-2021/22) little except roads - Christchurch Transport Plan states “this means the funding available for public transport, cycling and walking networks as outlined in this Plan will be heavily constrained for much of the early recovery period”.

Land Use Recovery Plan (LURP)

- Ministerial direction under the CER Act
- Has statutory effect
- Identifies & prioritises greater Christchurch urban development for 10-15 years
- Excludes CBD & residential red zones
- Partnership led by ECan (CCC, TRONT, SDC, WDC, NZTA)
- Active involvement of CERA
- Contains priorities for
  - Principal land use responses
  - Housing
  - Business
Other transport in the Plans?

- Transport policy could be more sustainable
  - No reference to rail
  - Still a lot of parking
  - Some one way streets remain
  - Still largely car-based
  - No details for the suburbs
We’re Not Starting from Zero...

Major Cycleways

- $70m signed off as 5 yr plan June 2013
- Names given March 2014
- Started planning
- Budget blowout to $150m!

Open Streets

- September 2013

Ilam Rd

- Finished mid 2013

Big vs small

- Big projects
  - Slow central city speeds
  - Cycle route network
- Transition Initiatives
  - Recycle a Dunger
  - ICE cycles
  - Christchurch Otautahi Cargo Bike Annual Rally (CHOCBAR)
Christchurch
- Copenhagen of the South?

For
- Plenty of road space
- Flat terrain
- Mild and dry climate
- Many short journeys
- People like cycling
- Massive infrastructure build

Against
- Perceived as dangerous
- Limited investment
- No central govt interest?
- Low population density?
- Our love of cars?
- Little congestion & high speeds

A RAIL CITY

Rail

- It is too expensive!
  - Or is it?

Rail

- Costings are always high as no precedent
- In Perth, the Rail costs the same as one lane of motorway
- Potential for Value Capture/Uplift

Final Conclusions

- Investing in cycling is very cost effective especially health benefits
  - Cater for the needs of 'potential' cyclists
- Investing in rail is better value than we are led to believe + value Capture!
- Huge opportunity NOW
  - Some promising signs & Plans
  - National Cycleways are happening
  - But a bit too much car-centric BAU
  - Rail should be reconsidered