

Sustainable Wellington Net Editorial - 12 Apr 2000

"Driving into a Transmission Gully" or "Te Aro Bypasses the Last 25 Years of Traffic Research"

According to World Watch magazine, the car population is increasing five times more rapidly than the human population. In this editorial Tom Robinson writes about the Te Aro Bypass, Transmission Gully, and his reading on "induced traffic".

Traffic Generation

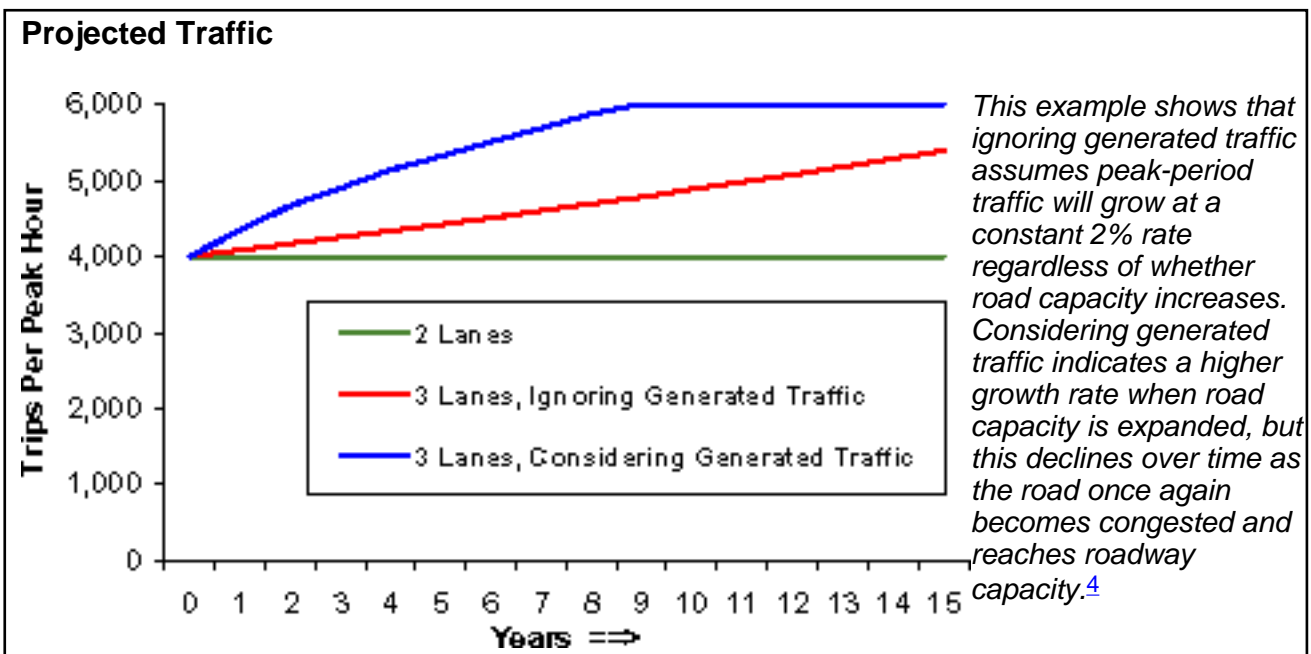
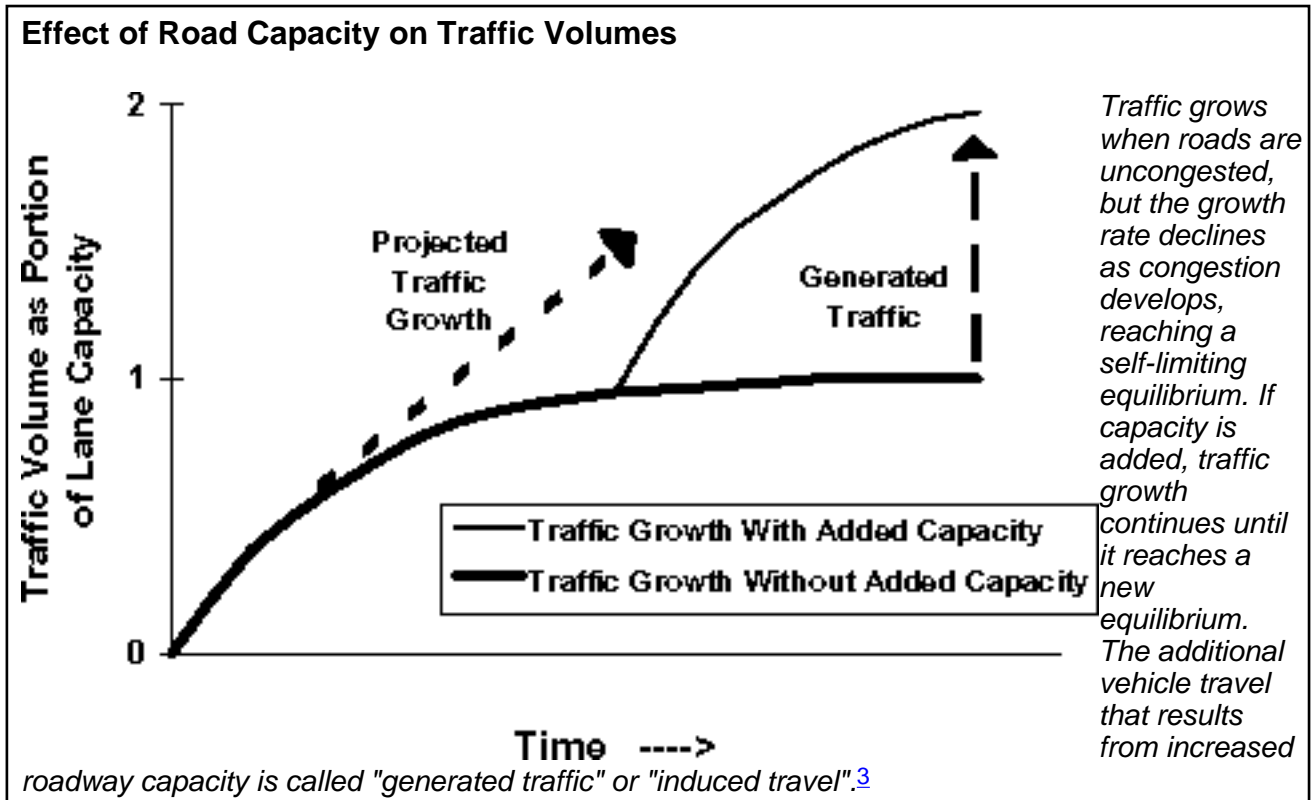
It's been shown in a number of studies that building more roads induces traffic: Suddenly those people who travelled outside of rush hour return to more normal travelling times; those taking the back route shift back to the main road; people who were catching public transport find it more convenient to return to the motor car; lifestyle properties on the Kapiti Coast suddenly look more attractive...

This is exactly what's happened with Auckland's Harbour Bridge and the North Shore: Build a bridge to reduce travel time and more people move to the North Shore which in turn produces congestion; engineers increase the bridge capacity to reduce travel time because of the congestion and more people move to the North Shore... repeat ad nauseam. I think the same will happen on the Kapiti Coast if Transmission Gully goes ahead. Literature on the subject calls this "induced traffic".

Transit New Zealand generally denies the existence of induced traffic. Their Project Evaluation Manual (February 1996 Revision) states under section 3.5.3:

"In general it shall be assumed that projects do not generate any new trips or cause redistribution to new destinations. If there are cases where the effect of excluding generated traffic or redistributed trips seriously affects the evaluation, then this shall be documented, and the benefits identified in the analysis."¹

Building more roads hasn't helped Auckland or other overseas cities², but implementing cycle ways, light rail, etc has.



Associated Costs

- New Zealand's energy sector emitted 26.26 million tonnes of carbon dioxide in 1996, 13.7% more than in 1990 - The transport sector produced 45% of these emissions⁵. Human activities - primarily fossil fuel combustion - have increased the concentration of carbon dioxide (CO₂) in the atmosphere by over a quarter since the industrial revolution. This concentration of CO₂ is greater than any in the last 160,000 years and is the major cause of global climate change⁶.
- Health: The Te Aro bypass would push CO₂ levels in Te Aro above international guidelines⁷.

- Visual pollution.
- More land dedicated to roading: Transmission Gully would cause siltation of the highly significant ecology of the Pauatahanui Inlet and cut through established and well used regional parks⁸. The Te Aro bypass would destroy an historic part of Wellington.
- Increased demand for parking.

Alternatives

- Increase bus and train frequency: By increasing the frequency of its trains, Tranz Rail has seen Auckland's passenger load climb from 0.3 million to 2.2 million in 4 years⁹.
- Convert more roads to pedestrian malls and enhance existing pedestrian areas as Courtney Place has done. In 1998, British researchers analysed 60 road closures worldwide and found that on average, traffic decreased by 25% when a road was closed. In some cases, they found that an astonishing 60% of the driving trips disappeared².
- Introduce more bus-only lanes and bus-only streets.
- Build a light-rail system for the city. In 1995 the city and regional councils commissioned a report which confirmed the feasibility and value of running light rail vehicles on the existing rail network and through the streets to Courtenay Place¹⁰.
- Install electronic timetable information at bus-stops and trains stations to display the time of the next arrival.
- Implement 1-ticket travel between buses and trains.
- Build more secure bike parks.
- Bring in a free bicycle scheme like Palmerston North's Green Bikes scheme, where 1,000 free, bright green bikes are being used by a wide range of individuals and community groups.

The funding bias between private and public transport should be eliminated - the above measures should be subsidised at least as much as Transmission Gully: The proposed toll is \$2 at peak times and \$1 at other times, but at 100% user-pays (still ignoring environmental concerns) it would be \$12⁷ - that's an 84% subsidy.

Wellington is built on transport corridors - a few roads through which most of the traffic flows - making it naturally suited to public transport⁷.

Highway vs Transit Investments (Canadian \$)		
Conventional analysis		
Light rail	\$300 million	<i>This example has traffic volumes on a highway between a city and a suburb increasing. Planners extrapolate the growth rate to predict extreme levels of future congestion. They evaluate 2 solutions: widen the highway or build a transit line, each of which could carry 3,000 peak-period commuters.</i>
Highway expansion	\$250 million	
Highway option net benefits	\$50 million	
Costs not Considered		
Parking (assuming 3,000 urban parking spaces with average cost of \$10,000 each)	~ \$30 million	<i>The highway project is predicted to cost \$250 million, while a train option costs \$300 million. The planners therefore conclude that the highway investment is more cost effective. However, such an analysis is incomplete and fails to identify the socially optimal option.</i>
Surface street traffic congestion (assuming 3,000 additional vehicles travelling 10 miles per day, 300 days per year on surface streets during peak periods, with an average cost of \$0.20 per mile over 25 years with a 7% discount rate)	~ \$35 million	
Vehicle ownership costs (assuming 20% of users save \$2,500 annually)	~ \$29 million	<i>First, such predictions of traffic growth are fundamentally flawed. Most traffic models predict future traffic assuming minimal congestion and free roads and parking. This is equivalent to asking how much food a nice restaurant could give away.</i>
Environmental & social benefits	Probably substantial	<i>The results are self-fulfilling outcomes, as increased capacity encourages increased driving which creates "demand" for increased capacity.¹¹</i>
Transit option net benefits	\$44 million+	

Concerns

- Building Transmission Gully and the Te Aro Bypass will waste funds which could be better spent improving public transport - \$245 million dollars for Transmission Gully and \$25 million for Te Aro bypass⁷. In contrast a light rail line through Wellington's Central Business District would cost \$45-70 million¹⁰.
- People who support these roads are doing so for the wrong reasons - according to the literature I've read congestion will only be eased for the short term - between 5 and 10 years depending on latent demand. (I think safety concerns are a whole further topic, but people wanting Transmission Gully because of safety reasons should rephrase the statement "Transmission Gully will solve our safety concerns" to "How can we address our safety concerns?").
- Increased traffic means increased pollution and more reliance on an unsustainable method of transport.

What You Can Do

- Join a group like CBC or Transport 2000 (listed below). Sign up to Transport 2000's e-mail newsletter which will be starting soon.
- Take public transport! There's nothing like creating demand by voting with your feet. If the total journey time using a train is longer, think instead of the time that can be gained by working on a laptop, making cell-phone calls, or even reading a book, while in transit.
- If your workplace supplies cars or staff carparks, ask them for a bus or train pass instead. Even if they say no, you're letting them know there's a demand.

Futher Information

[Transport Category](#)

See the above entry on our Resources page.

[Campaign For A Better City Inc. \(CBC\)](#)

CBC actively promotes the idea of Wellington as a living city. They work to ensure that Wellington is a diverse, vibrant and safe place to live, work, play and learn. Their major campaign is stopping the Te Aro motorway. Home of Car Conscious and Wellington United.

[Transport 2000 NZ](#)

A lobby group dedicated to pushing for environmentally sustainable transport policies in New Zealand. They oppose the encouragement given to car-dependency by local and central government. They want to end the "uneven playing field" which encourages the growth of car and truck traffic while more environmentally-friendly modes are discriminated against and starved of resources. They advocate city development which encourages public transport, cycling and walking.

[Energy Efficiency Conservation Authority](#)

One of the few Government bodies supporting alternative transport. Follow the Transport signpost from the front page. Includes a list of energy facts such as "Transport (excluding international transport) accounted for 40.2% of all consumer energy use in 1998".

[Victoria Transport Policy Institute](#)

An independent research organisation dedicated to developing innovative and practical tools for solving transportation problems. They provide a wide range of studies, guides and software, most available free at this website.

[Sierra Club Sprawl Campaign](#)

Extensive site including this section on combatting urban sprawl.

D Gajdusek, et al, [An Analysis of the Relationship Between Highway Expansion and Congestion in Metropolitan Areas. Lessons from the 15-Year Texas Transportation Institute Study](#)

This report includes findings such as "...Clearly indicates that there is no significant difference in congestion cost per capita between [US of A] metro areas that invested heavily in highway construction and those that did not", and "International transportation research has yielded other promising insights: the reduction of roadway capacity actually reduces traffic in most cases because people shift to transit, walking, bicycling and other modes of travel".

Patrick DeCorla-Souza, AICP, Federal Highway Administration, and Harry Cohen, [Accounting for Induced Travel in Evaluation of Urban Highway Expansion](#)

Technical paper which defines the differences between induced "person" travel and "vehicle" travel, and that vehicles moving from non-rush hour to rush-hour isn't a *direct* concern for environmentalists.

References

1

The Origins of Traffic Growth <<http://better.wellington.net.nz/Resources/whycars.htm>> (Accessed 03 Apr 2000)

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D Gajdusek, et al, *An Analysis of the Relationship Between Highway Expansion and Congestion in Metropolitan Areas. Lessons from the 15-Year Texas Transportation Institute Study* <<http://www.transact.org/Reports/congestion/index.htm>>, Nov 1998 (Accessed 05 Oct 1999)

3

Todd Litman, director of the Victoria Transport Policy Institute in British Columbia, Canada, *Generated Traffic - Implications for Transport Planning* <<http://www.vtpi.org/gentraf.pdf>>, 09 Sep 1999 (Accessed 02 Oct 1999)

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Based on Hansen, et al. and comments by Professor Robert Johnston. From above paper.

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Molly Melhuish, Sustainable Energy Forum, *New Zealand Report for GEO Project* <<http://www.globenet.org/helio/FORUM/rappnat/nNZE.html>>, Sep 1998 (Accessed 20 Feb 1999)

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WWF, *Living Planet Report 1999* <<http://panda.org/livingplanet/lpr99/living99.pdf>> (Accessed 30 Sep 1999)

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Grant Fleming, *Torture at the Wheel*, City Voice, 02 Mar 2000

8

Grant Fleming, *Transmission Gully Reality Check* <<http://www.techmedia.co.nz/t2k/TGREAL.html>> (Accessed 02 Apr 2000)

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Jennifer Little, *Driving Themselves Crazy*, Dominion, 01 Sep 1999

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Brent Efford, coordinator of Transport 2000, *More Access with Less Traffic*, City Voice, 16 Mar 2000

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Todd Litman, director of the Victoria Transport Policy Institute in British Columbia, Canada, *Coming from a Different Place*, Energy-Wise News, Sep 1999

Our thanks to Todd Litman for permission to use extracts of his work.

Widening roads to ease congestion is like trying to cure obesity by loosening your belt -- Roy Kienitz, executive director of the Surface Transportation Policy Project