

MEMORANDUM TO THE BOARD

AGENDA ITEM

Waikato District Health Board: Land Transport Position Statement

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Introduction

The following is a position statement on the health implications of land transport prepared by Population Health for the Waikato District Health Board (Waikato DHB).

Waikato District Health Board's Position

The Waikato DHB affirms that land transport policy that ensures all people have equal opportunity to fully participate in life through access to the goods and services they need, can create positive health and wellbeing outcomes and reduce inequalities via access to the determinants of health.

The Waikato DHB supports a multi-sectoral approach that shapes transport policy and decision making to maximise health benefits for the people of its region.

Waikato DHB supports land transport policy and planning that:

- provides equitable access to goods and services, including for those with limited mobility options; either through socio-economic disadvantage, through age and disability, or location,
- ensures a safe road system,
- provides safe active transport options including public transport use, and
- mitigates indirect hazards such as air quality, emissions and noise.

Transport impacts on health

Access to goods and services

Transport is critical to participation in society. Transport policy and planning decisions impact every aspect of our lives. Transport enables people to be mobile and to access the goods and services they need for their day-to-day living. Goods and services include workplaces, shops and markets, educational and health facilities, leisure and sport facilities, and places of worship. Those with limited access to transport are likely to experience multi-dimensional disadvantage including poor health outcomes, social exclusion, isolation and reduced wellbeingⁱ. Land transport policy that targets communities with limited access creates positive health and wellbeing outcomes and promotes a reduction in inequalities.

Safety

Road traffic injury is one of the leading causes of premature death and disability in New Zealandⁱⁱ. Road safety in the Waikato region¹ is a nationally significant issue with road deaths and serious injuries accounting for approximately 20% of the national toll each year at a social cost well in excess of \$500m per yearⁱⁱⁱ. Between 2008 and 2012, 290 people died on Waikato roads and a further 6166 were injured. Of these, 1229 were serious injury crashes^{iv}.

Road safety has become a government priority articulated through the Government Policy Statement 2012/13 - 2021/22 and the Safer Journeys Strategy 2010 - 2020. The Waikato region has aligned its road safety approach with the Safer Journeys Strategy 2010-2020 which envisions “a safe road system increasingly free of death and serious injury”. The operative Waikato Regional Land Transport Strategy 2011-2041 prioritises road safety as one of the three core policy focus areas for the strategy. The Waikato region now uses a safe system approach² to create safe roads, safe speeds, safe vehicles and safe road usersⁱⁱⁱ.

Physical activity

One of the major health impacts of transport policy is its relationship with physical activity. The public health gain is likely to be substantial if people are encouraged to participate in 30 minutes per day of moderate physical activity such as walking and cycling as their daily means of transport.

Frank et al (2004) reports that each additional hour spent in a car is associated with a 6% increase in the likelihood of obesity. Conversely, each additional kilometre walked per day is associated with a 4.8% reduction in the likelihood of obesity^v. Physical inactivity, after smoking, is the second most important risk factor for ill health in industrialised countries and is related to around two million deaths per year worldwide^{vi}.

The cost of physical inactivity in the Waikato region was around \$106 million. The cost for New Zealand as a whole was estimated at \$1.3 billion or 0.7% of total GDP in 2010^{vii}.

Policies that encourage increased safe use of active transport have the greatest impact of all transport related strategies on the health of the population^{viii}.

Public Transport

Public transport plays an important role in developing environmentally and socially sustainable means of travel. Good access to public transport can also influence an increase in active transport as most trips on public transport begin and end with a period of walking. A US study found that 29% of those using public transport achieved the recommended 30 minutes of physical activity daily as a result of walking to and from public transport^{ix}.

¹ Approximately 8% of New Zealand's population lives in the Waikato DHB region; over 360,000 people.

² Safe System Approach: founded on four main principles; people are vulnerable, people make mistakes, responsibility is a shared one, all parts of the system need to be strengthened to protect road users.

Emissions

Degraded air quality has a negative impact on public health. The primary air contaminant of concern nationally, and within the Waikato region, is small airborne particles known as PM₁₀. PM₁₀ signifies particles less than 10 microns in size, which are easily inhaled into the lungs resulting in adverse health effects such as restricted activity days and premature death. Those most at risk include the elderly, children, infants and those with pre-existing respiratory conditions and/or cardiovascular disease^x.

Approximately 85% of the degraded air quality in the Waikato region is attributed to domestic home heating sources. Motor vehicle emissions, outdoor burning and industry contribute the rest^{xi}.

Research by the National Health Committee suggests that the death toll due to air pollution is 80% that of the road toll. This means that if for example, 290 people died on our roads in a year, an additional 232 people will have died as a result of particulate air pollution^{viii}.

Motor vehicles produce carbon dioxide, a major greenhouse gas which contributes to global climate change. Agriculture was New Zealand's largest greenhouse gas emitting sector in 2011, contributing 47.2% of total emissions or 34.4 million tonnes of carbon dioxide equivalent (MtCO₂-e). However, energy emissions (transport and electricity production) have increased twice as much as those from agriculture since 1990 and now occupy a similar proportion of 42.6% of total emissions (31.0 MtCO₂-e)^{xii}. The potential health impacts of climate change in New Zealand include the effects of floods, storms and droughts, as well as an increased risk of gastrointestinal disease and vector borne disease. New Zealand's transport related greenhouse gas emissions are small in comparison to many other countries, however global cooperation of all countries is required to prevent climate change.

The government has progressively introduced measures to reduce the health and environmental impacts of vehicle emissions. Significant measures include amending the Vehicle Exhaust Emissions Rule in 2012 and investigating the impacts of vehicle age on safety and level of harmful emissions^{xiii}.

Noise

Noise is known to have an adverse impact on health, particularly for communities close to major traffic routes, airports or noisy industries^{xiv}. Health impacts can include impaired communication, disturbed sleep, impaired school and work performance, annoyance, aggression and depression^{xv}. To help ensure transport noise is managed in an effective and efficient manner Standards New Zealand developed a Road Traffic Noise Standard (*Acoustics-Road Traffic Noise-New and Altered Roads NZS 6806:2010*) with support from NZ Transport Agency and the Ministry of Transport. The Ministry of Health was part of a wider committee involved in drafting the standard^{xiii}.

Summary

Transport is a key social determinant of health whose influence on public health is much broader than the traditional considerations of noise and air pollution. Transport policy can play a key role in combating sedentary lifestyles by reducing reliance on cars, increasing walking and cycling, and expanding public transport.

References

- ⁱ Field A, Jayasekera N, MacMillan A, Lindsay G, Arcus K, Tunks M. (2009). *RLTS 2010 Health Impact Assessment*. Auckland, Auckland Regional Council.
- ⁱⁱ Conner, J., Langley, J. & Cryer, C. (2006). *International comparison of road injury deaths: Road traffic*. Retrieved 08/01/09 from <http://www.nzips.govt.nz/documents/international-road-traffic-sept-06.pdf>
- ⁱⁱⁱ Waikato Regional Council. *Waikato Regional Road Safety Strategy 2013-16*.
- ^{iv} Personal Communication. NZTA Hamilton. August 20, 2013.
- ^v Frank L D, Andersen M A, Schmid T L. (2004). *Obesity relationships with community design, physical activity and time spent in cars*. *Am J Prev Med* Aug;27(2):87-96.
- ^{vi} World Health Organisation, 2002. *A physically active life through everyday transport*.
- ^{vii} Physical inactivity costs almost one percent of GDP. Retrieved February 27, 2013 from <http://www.waikatoregion.govt.nz/Community/Whats-happening/News/Media-releases/Physical-inactivity-costs-almost-one-per-cent-of-GDP/>
- ^{viii} National Health Committee. (2003). *Impacts of Transport on Health – an overview*. A summary prepared by the Public Health Advisory Committee. Wellington, National Health Committee.
- ^{ix} Besser L M, & Dannenberg A. (2005). *Walking to public transit. Steps to help meet physical activity recommendations*. *Am J Prev Med* 29(4), 273-280.
- ^x Ministry for the Environment (2012). *Air Particles*. Retrieved August 30, 2013 from <http://www.mfe.govt.nz/issues/air/bteathe/particles.html>
- ^{xi} Waikato Regional Council. *Waikato Regional Council Air Quality Strategy*. Waikato Regional Council Policy Series 2012/01.
- ^{xii} Ministry for the Environment. *New Zealand's Greenhouse Gas Inventory 1990-2011 and Net Position. Snapshot April 2013*. Retrieved from <http://www.mfe.govt.nz/publications/climate/greenhouse-gas-inventory-2013-snapshot/index.html>
- ^{xiii} Ministry of Transport. *Vehicle Emissions*. Retrieved from <http://www.transport.govt.nz/ourwork/vehicleemissions/>
- ^{xiv} Kjellstrom T., Hill S. (2002). *New Zealand Evidence for Health Impacts of Transport. A background paper prepared for the Public Health Advisory Committee*. National Health Committee.
- ^{xv} Quigley R., Cunningham R., Ward R., deBoer M., Conland C. (2006). *Greater Wellington Regional Land Transport Strategy Health Impact Assessment*. Prepared for Greater Wellington Regional Council. Wellington: Quigley and Watts.