



Transport

New Zealand College of Public Health Medicine Policy Statement

Policy Statement

The New Zealand College of Public Health Medicine (NZCPHM) recognises that the choices societies make about transport strongly influence individual transport patterns, which in turn have profound effects on the social, economic, environmental, and cultural health and wellness of New Zealanders. The NZCPHM calls for the development of a sustainable transport environment that is health-promoting and equitable, and which recognises that transport and land use planning are closely intertwined.

This statement updates the NZCPHM's [Transport](#) policy statement of 2013,¹ attached as the Appendix to this statement.

Background

The context of public health and NZCPHM policy statements

The NZCPHM represents the medical speciality of public health medicine in New Zealand. Public health medicine is defined as the branch of medicine concerned with the epidemiological analysis of the health and health care of populations and population groups. It involves the assessment of population health and health care needs, the development of policy and strategy, health promotion, the control and prevention of disease, and the organisation of services. Public health is focussed on achieving health equity across ethnic, socioeconomic, age, and cultural groups, and promoting environments in which everyone can be healthy.²

Public health medicine specialists have a professional responsibility to act as advocates for health for everyone in society.^{2,3} This means the NZCPHM advocates for and supports evidence-informed⁴ equity-enhancing⁵ policy on transport for health and wellbeing that accords with te Tiriti o Waitangi,⁶ the UN Sustainable Development Goals,⁷ and health promotion^{8,9} and Health in All Policies¹⁰ approaches, each grounded in the societalⁱ, economic and environmental determinants of health.¹² Regarding transport, the College calls for the development of a sustainable transport environment that is health-promoting and equitable, and which recognises that transport and land use planning are closely intertwined.

Health Promotion is defined as 'the process of enabling people to increase control over their health and its determinants, and thereby improve their health',⁹ and Te Pae Mahutonga health promotion framework¹³ provides a uniquely New Zealand approach to health promotion (see Figure 1 below). This policy statement on transport aligns with all aspects of Te Pae Mahutonga¹³: waiora (physical environment); toiora (healthy lifestyles); te oranga (participation in society); mauriora (cultural identity), ngā manukura (community leadership), and te mana whakahaere (autonomy) components.

ⁱ Societal determinants of health include commercial, political, governance, economic, cultural, even religious determinants—being the societal structures that are the conditions for health and disease. Each of the structural determinants eventually impact on health in a positive or negative way.



Figure 1 – Te Pae Mahutonga health promotion framework¹³

Human health and wellbeing is linked inextricably to the health promoting characteristics and inter-dependencies of the family, work, educational, environmental and planetary ‘settings’ the community finds itself in – as depicted conceptually in Barton’s Health Map¹⁴ and Raworth’s Doughnut of social and ecological/planetary boundaries¹⁵ (see Figure 2 below). The College’s policies recognise that individual health and wellbeing is not created in a vacuum; instead, individuals are born with a specific genome that has been shaped by the various environments of their forebears. Individuals grow and make choices in cultures and environments that support or impair their ability to live healthy flourishing lives, within wider planetary ecological limits.

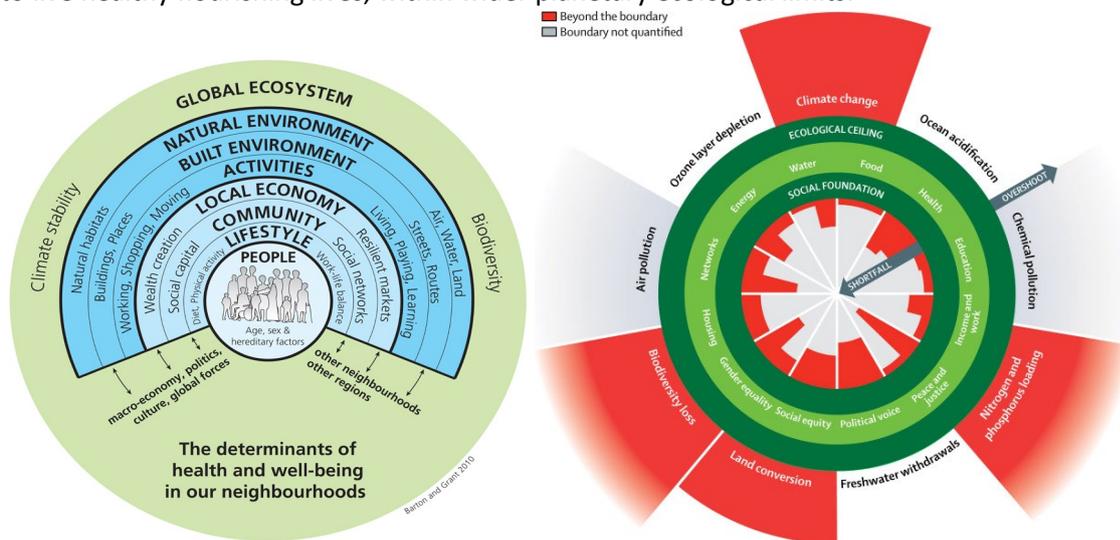


Figure 2 – Barton and Grant’s Health Map¹⁴ and Raworth’s Doughnut (social and ecological/planetary boundaries)¹⁵

A policy environment that enables individuals and communities to ‘make the healthy choice the easy choice’ must therefore achieve the fundamental human right of ‘the enjoyment of the highest attainable standard of health ... without distinction of race, religion, political belief, economic or social condition’,¹⁶ living lives of dignity and opportunity whilst safeguarding the planet.¹⁵

Transport and public health

The adverse health impacts from transport have been comprehensively researched and described by a number of institutions, including the World Health Organization¹⁷ and the British Medical Association.¹⁸ The multiple links between transport and the health and wellness of New Zealanders

are summarised below. These links are not separate from each other; rather there are complex interplays between them (much the way described in the Government's Living Standards Framework)¹⁹:

Physical and mental wellbeing

- Over 12,700 New Zealanders are killed or injured every year in traffic crashes, including 328 deaths in 2016.²⁰ Between 2016-2017, New Zealand's road fatalities increased by 16.2%, the highest amongst all OECD countries.²¹ Heavy vehicles (trucks) are a disproportionate contributor to the road toll, particularly for cyclists.²²
- Physical inactivity is the fourth leading cause of death worldwide, and transport systems that promote private car use are partially responsible.²³ Physical inactivity contributes to poor health by increasing the risk of cardiovascular disease, diabetes and obesity. New Zealand has the third highest rate of obesity in the OECD, partly caused by physical inactivity,²⁴ with the built environment a significant contributor.²⁵
- Air pollution from vehicle exhaust contributes to respiratory and other illnesses. Conservative estimates indicate that about 256 New Zealanders die every year, and thousands more have compromised quality of life due to the health effects of vehicle emissions.²⁶ Despite the overall vehicle fleet being dominated by light passenger vehicles (almost 80%),²⁷ heavy and light commercial diesel vehicles contribute disproportionately to air pollution (causing more than half of PM₁₀, PM_{2.5} and half of all NO_x emissions).²⁸ This proportion is growing as technological improvements to the light passenger vehicle fleet outstrip those of commercial diesel vehicles.²⁷ Diesel is also worse for health.
- Noise and vibration from heavy traffic is a stressor that can reduce quality of life and increases the risk of hypertension and cardiovascular disease.²⁹

Social wellbeing

- The social connectedness of neighbourhoods is reduced by heavy traffic and car reliance, as walking and non-motorised forms of travel come to be perceived as risky or unattractive modes of transport.³⁰
- Poor urban design with limited recreational space and high geographic isolation can result in disrupted psychological, social and community health.

Cultural wellbeing

- Safe, accessible and affordable transport allows people to access cultural activities and spaces that are highly valuable to them, such as marae, as well as culturally appropriate services such as Whānau Ora services and kura kaupapa.
- A well-designed transport system can also contribute to the creation of positive cultural landscapes that protect and maintain the sense of place and connection, which is an important aspect of Māori wellbeing. This can be done, for example, through visual design and place naming, which allows Māori to see themselves reflected and celebrated in their surrounding urban environments.³¹

Economic wellbeing

- Lack of affordable and accessible transport options can reduce people's life chances including their ability to access work and education/training, which in turn can affect their health and quality of life.³²
- In the past few decades, economic growth and growth in demand for motorised transport have to some degree gone hand in hand. However in modern economies this is no longer

true.³³ Recent research shows positive associations between mobility constraints (higher road use prices or traffic congestion) and improved productivity.³⁴ Retailers often fear they will lose business if car parks are removed, but this is rarely the case.³⁵ In fact, there is now solid evidence that cities prioritising active transport do better economically and enjoy better quality of life.^{36,37}

- There are significant costs associated with the current transport system. For example, death and disability associated with road traffic injuries cost over \$4 billion in 2017;³⁸ physical inactivity is conservatively estimated to cost New Zealand about \$107 million a year;³⁹ and air pollution from vehicles has social costs of approximately \$934 million annually.²⁶

Environmental wellbeing

- Greenhouse gas emissions from vehicles are a major contributor to climate change, making up about 20% of New Zealand's total emissions (40% of the energy sector's carbon emissions),⁴⁰ and contributing significantly to recent increases in carbon emissions.⁴¹ Climate change already has, and will have, substantive overall negative health impacts that will be directly and indirectly experienced by New Zealanders.^{42, 43}
- Car-dominant transport systems have negative impacts on fresh and coastal water quality through polluted storm water and road building affects other urban ecosystem services such as greenspace, blue space and tree cover.

Health and social inequities

- Transport is a key driver of health inequities⁵, as many of these negative impacts fall more heavily on disadvantaged groups (e.g. Māori, people on low incomes, people with chronic health conditions). For example, Māori are over-represented in crash fatalities²⁰ and premature death and hospitalisation due to air pollution from vehicles.²⁶
- The transport needs of children, the elderly and people in rural areas require particular consideration within transport policies and plans.
- An affordable, accessible transport system supports access to healthcare and employment, which are both important for reducing inequities.⁴⁴
- Policy decisions to increase housing affordability through development at the urban fringe increase transport unaffordability and car dependence, increasing social inequities as well as increasing the vulnerability of low income households to increasing oil prices.⁴⁵

Developing a health-promoting transport system

NZCPHM supports policies and innovations that reduce the harm and inequity associated with transport and enhance the benefits.

Active transport

Active transport such as cycling and walking can improve health by increasing the amount of daily physical activity people undertake in the form of 'incidental exercise'. Even modest daily physical activity improves physical health and mental wellbeing.⁴⁶ New Zealand research shows that people who walk or cycle to their main activity have 76% higher odds of meeting NZ physical activity guidelines.⁴⁷ A shift from short car trips to active transport can also promote health by reducing air pollution and greenhouse gas emissions, reducing death and injuries associated with vehicle traffic, and increasing social contact and wellbeing.⁴⁸ Such a shift also has the potential to reduce many of the social and health inequities that result from the current transport system.¹⁷ Current cost-benefit assessments for transport projects do not account for the full value of these and other health benefits.⁴⁹ Even a modest shift in the proportion of trips taken by active transport rather than car in New Zealand would have a significant positive impacts on population health.^{50,51} However, current

transport infrastructure primarily focuses on private vehicle transport, and this has been associated with a decrease in active transport.

Public transport

Although active transport brings greatest overall benefits to health, the use of public transport rather than private transport still brings additional health benefits. Using public transport often incorporates active transport as a part of the journey and therefore encourages physical activity.⁵² In addition, at average occupancy, public transport produces less harmful emissions compared with car use and so is the preferred mode of long distance travel.⁵³ Modelling suggests that increasing public transport use in NZ cities will result in a substantive reduction in greenhouse gas emissions and air pollution from light vehicles.⁵¹ Reduced congestion, increased social contact, and improved safety for travellers are other key benefits of a well-developed public transport system.⁴⁸

Affordable and accessible public transport is vital because it provides a good alternative to private car use, and ensures that non-drivers (e.g. young people, the elderly, those with a physical disability, those who cannot afford a car) are able to get around.⁵⁴ Improved access by public transport can also help to reduce health inequities.¹⁷

Developing a healthy, sustainable transport environment

Good urban design facilitates active and public transport by making these options safe, practical and accessible; conversely poor design makes these options less viable. For example, dispersed residential development separated from employment and services results in long trip distances, which makes cycling or walking to work more difficult.⁵⁵ The low population density from such 'urban sprawl' also makes the provision of effective public transport options more costly. Areas with more compact and mixed development (medium/high density housing interspersed with shops and places of employment, with good street design and high intersection density) are more conducive to walking, cycling and public transport than low-density urban sprawl.⁵⁶

There is emerging evidence that the best approach to reducing the road toll is mode shift away from motor vehicles, coupled with infrastructure design features that reduce vehicle speed and provide additional protections for non-motorised transport users. An example of this is The Netherlands' 'Sustainable Safety' programme, which approaches road safety from the view that a transport system should be designed to minimise the impact of human error and poor decision making.⁵⁷

Evidence-based policy initiatives can also be used to make private car use less attractive (e.g. through tolls and congestion charges) and make other transport modes – public transport, cycling and walking – safer and more attractive.⁵⁸

Urban planning must establish viable transport options that are accessible and suitable for everyone, and ensure that streets are accessible by all people irrespective of age or ability. The NZCPHM supports the 10 indicators of a healthy street as the basis for informing urban design which encourages health-promoting modes of transport, particularly active transport (see Figure 1).



Figure 1 The 10 Healthy Streets Indicators. source: Lucy Saunders via Transport for London⁵⁹

Reducing the amount of road traffic also requires changes in freight transport. Road transport carries 91% of New Zealand’s freight by weight, compared to 7% by rail and 2% by coastal shipping.⁶⁰ High volumes of truck traffic have public health implications for safety, air quality, noise, climate change, community disruption, and deterrence of walking and cycling. Freight demand is expected to grow substantially in the future.⁶¹ Therefore, significant shifts to safer modes of freight transport must be made (e.g. coastal shipping and electric rail).

New transport priorities and models for funding

Evidence supporting the development of health-promoting transport systems is well-established and understood. Despite this, NZ transport policy, strategy and investments have been slow to change. The NZCPHM considers that one important underlying reason for this has been the narrow focus of transport legislation and policy-making on economic growth through shorter, more reliable motor vehicle journeys. The Land Transport Management Act 2003 previously required that transport decision-making considered the need to “protect and promote public health”; the Amendment Act of 2013 saw this subsumed under the much narrower criteria of ensuring a “safe” transport system.⁶² A re-orientation of purpose is required to create a transport system that values and prioritises community health, connectedness and wellbeing. This re-orientation of purpose needs to be accompanied by significant re-balancing of the National Land Transport Fund, with a much greater proportion of the fund invested in public and active transport infrastructure and safer speeds.

Although more health benefits are now counted in the business case development for walking and cycling projects, these are not applied consistently across all transport projects – in particular, the corresponding health disbenefits for roading investments are not included.⁶³ Even using current methods, the large motorway infrastructure funding that has occurred has frequently been for projects with comparatively very poor cost-effectiveness, even using current economic evaluation

methods (and hence large opportunity costs to investment, not only in other health-promoting transport options, but also in other sectors, eg. health and other social sectors, foregoing benefits). Some major strategic roading decisions have been made with benefit:cost ratios (BCRs) as low as 0.4, and with BCRs of 1.5-1.9 overall^{64,65,66} or worseⁱⁱ.

The current user-pays funding model is also problematic for developing a healthy, equitable transport system. The user-pay model creates a perceived obligation to spend the money raised from fuel taxes, road user charges and vehicle licensing charges on roading infrastructure, rather than prioritising investment in the development of a health-promoting, equitable, sustainable transport system. In addition, if policy is successful in reducing the use of cars as the main form of private transport there is a reduction in income, creating a conflict of interest for the funder. The NZCPHM therefore advocates for changing this funding model, so that health-promoting transport infrastructure and urban design can be consistently and adequately funded via Treasury allocation.

Priorities for action

The NZCPHM calls for local government and central government to:

- Recognise the broader health, social, environmental and equity implications of transport decisions, and include the protection and promotion of public health as a key objective of transport legislation, policy and planning activities;
- Promote a shift from private car use to walking, cycling and public transport as a key objective of transport legislation, policy and planning activities;
- Ensure public transport is affordable, accessible, equitable, convenient and attractive, particularly for low income groups;
- Promote compact, mixed-use, transit-oriented urban development that reduces the need for car use and improves accessibility by walking, cycling and public transport;
- Continue to make the roads safer for all road users, especially cyclists and pedestrians, by prioritising a shift towards safer modes of transport for the community – including shifting from car use to walking, cycling and public transport;
- Prioritise Māori, Pacific and high-deprivation communities in transport investment, given the greater potential for health gain in these groups, and the potential to improve health equity;
- Review the use of financial incentives and disincentives to promote public and active transport, and discourage private car use to avoid inequitable financial impacts on low-income groups (for example, measures that increase the cost of car travel should be offset by reducing public transport costs);
- Introduce national targets to progress the reduction of harm from the transport system for reducing greenhouse gas emissions; reducing exposure to air pollution; increasing the shift to public transport, walking and cycling; improving road safety; improving access and mobility; and enhancing equity;

ⁱⁱ To be valid, the benefit:cost ratios (BCRs) for major strategic roading projects should have had even poorer cost-effectiveness estimates (ie. even lower BCRs), as their BCRs had included Wider Economic Benefits (WEBs); such WEBs are not included, and have not been included, in other sector economic analyses⁶⁸ and there was no counting of countervailing Wider Economic Costs⁶⁶ from externalities including health losses from airpollution, physical inactivity, climate change due to greenhouse gas emissions, etc.

- Create a legislative framework resulting in a clear alignment of all the main pieces of legislation affecting urban planning (the RMA, LGA and LTMA) in order to produce healthy vibrant cities with transport systems that support this;
- Include the full range of health and social wellbeing outcomes in the economic evaluation of transport investments, and improve the comparative long-term impacts of a range of different policy proposals;
- Greatly expand the use of speed reduction measures, given the potential safety and mode shift benefits;
- Increase cross-agency working between the Ministries of Health and Transport, and NZTA;
- Change the ‘user-pays’ National Land Transport Fund to a model that takes a rights-based approach to access and supports equitable investment in public and active transport, and health-promoting urban design;
- Build cross-party commitment to genuine representation on Regional Transport Committees that reflects the varying needs of their respective populations, to ensure transport policy reflects public health, health and social equity and the needs of all New Zealanders;
- Invest in a shift from road-based heavy vehicle freight to more freight being moved by electric rail and coastal shipping, while also increasing the safety requirements for heavy vehicles and managing heavy vehicle speeds;
- Ensure there are strong Māori voices in transport decision-making , so that Māori wellbeing is prioritised in transport planning;⁶⁹
- Have local authorities nationwide take up the Auckland Council Independent Māori Statutory Board’s recommendation to adopt iwi transport strategies.⁷⁰

NZCPHM actions to support this policy

The NZCPHM will:

- Advocate strongly for the changes outlined above, and seek to influence local and central government transport policy-making through submissions and participation in policy development forums. In particular, advocate for a funding model which prioritises health, equity, and community values.
- Strengthen relationships with aligned advocacy groups, and transport policy officials and decision makers at regional and national levels;
- Keep its members informed of relevant research, key policy/legislative developments and consultations on transport issues.

Links with other NZCPHM policies

Physical activity and health

Health equity

Climate change

Sustainability

Public health as an Investment

Acknowledgement

This policy statement was developed by the NZCPHM Policy Committee, NZCPHM members, and staff. Authorship or review is recorded in the list of policy statement main authors on the College's Policy Statements webpage at <https://www.nzcphm.org.nz/policy-publications>.

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Transport

New Zealand College of Public Health Medicine Policy Statement

Policy Statement

The New Zealand College of Public Health Medicine (NZCPHM) recognises the links between transport and health:

- Active and sustainable modes of transport (such as walking and cycling) positively affect health;
- The current reliance on private vehicle transport has negative impacts on health through road traffic crashes, air and noise pollution, greenhouse gas emissions and increased sedentary time.

The NZCPHM calls for the development of a sustainable transport environment where active travel and public transport are prioritised and represent realistic and safe alternatives to travelling by car.

The NZCPHM supports transport users' hierarchy approaches for strategic planning, prioritisation of funding and implementation of all transport and urban design projects. The NZCPHM also supports the Public Health Association of New Zealand's 2004 position statement on transport and health¹.

Background

Active transport

Active transport is physical activity undertaken as a means of transport. It includes travel by foot, bicycle and other non-motorised vehicles. There are strong links between such 'incidental exercise' and improved health. Even modest daily physical activity improves physical health and mental wellbeing². Active transport can also help improve mental health, community life, social wellbeing and community safety³.

Most journeys of less than 2km can be completed by most people using their legs. However, the current transport infrastructure primarily focuses on private vehicle transport and this has been associated with a decrease in active transport.

Public transport

Although active transport brings greatest overall benefits to health, the use of public transport rather than private transport still brings additional health benefits. Using public transport often incorporates active transport as a part of the journey and therefore encourages physical activity⁴. In addition, at average occupancy, public transport produces less harmful emissions compared with car use and so is the preferred mode of long distance travel⁵.

Public transport can often meet the needs of people where active transport may be less feasible – for example people who are aged, have physical disability, those with young dependents, and those needing to travel long distances. Improved mobility for women, children, the elderly, and low income groups enhances health equity⁶.

Transport infrastructure and health

Health is adversely impacted when urban spaces and transport infrastructure give priority to private motor vehicles over other modes of transport. This occurs through several mechanisms⁶⁻¹²:

- physical inactivity contributing to cardiovascular disease, diabetes and obesity
- air pollution causing respiratory and other illnesses
- road traffic incidents causing death and injury

- vehicular carbon emissions contributing to global climate change (with health impacts), where road transportation causes one sixth of New Zealand’s total gross greenhouse gas emissionsⁱⁱⁱ
- poor urban design with limited recreational space and high geographic isolation resulting in disrupted psychological, social and community health.

The adverse health impacts from transport have been comprehensively researched and alerted to by a number of institutions, including the World Health Organization⁶ and the British Medical Association⁷.

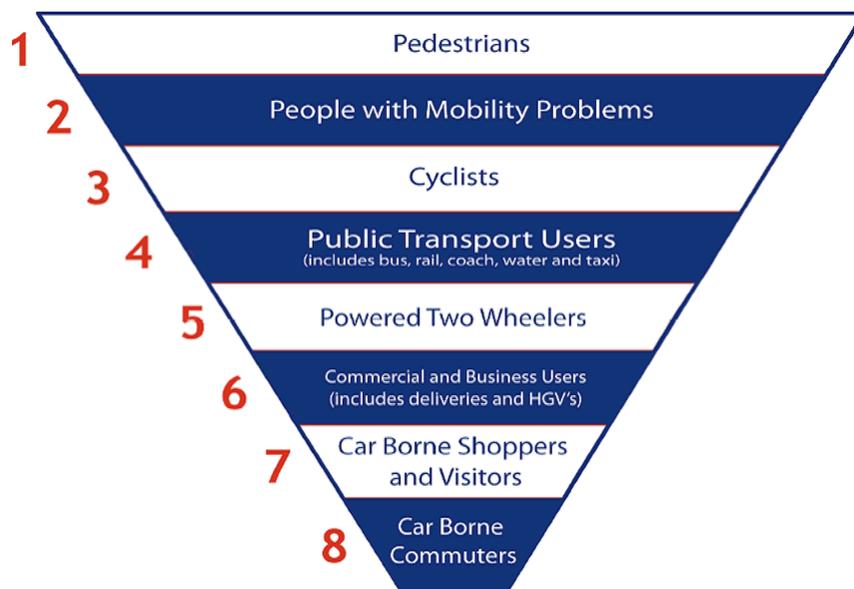
Developing a sustainable transport environment

Good urban design facilitates active and public transport by making these options safe, practical and accessible; conversely poor design makes these options unviable. For example, dispersed residential development results in long distances to the workplace, which makes cycling or walking to work impractical¹³. The low population density from such ‘urban sprawl’ also makes effective public transport options economically non-viable.

Urban planning must establish viable transport options that are accessible and suitable for everyone, and ensure that streets are accessible by all people irrespective of age or ability. Investment in public and active transport is an investment in population health, and reduces road congestion for when people do need to use a private vehicle. This becomes a virtuous cycle so that investment in these low emissions modes benefits all transport modes.

The NZCPHM supports transport user hierarchy approaches for the development and funding of better transport and urban systems. Transport users’ hierarchies prioritise active transport first, then public transport, followed by business and freight, and finally the use of private vehicles for personal transport. A typical transport hierarchy is shown in Figure 1¹⁴.

Figure 2: Transport User's Hierarchy (City of York)



* Note: Pedestrians with mobility problems are given the highest priority

Private transport needs to be shaped by the three Rs of travel demand management – **R**emoving unnecessary trips, **R**educing trip lengths and **R**eplacing car trips. For people to reduce their car use, alternative modes of transport are needed that are convenient, reliable and attractive. Reducing traffic volumes and vehicle speed in local shopping and residential streets is needed to attract more walking and cycling¹⁵. That most families are

ⁱⁱⁱ This NZCPHM policy on transport concentrates on modes that most directly improve public health – active and public transport modes and road safety. The College acknowledges the roles of other modes of transport, such as rail and coastal shipping (as lower emissions alternatives to road transport), air travel (a large cause of greenhouse gas emissions), vehicular emissions standards and fuel efficiency, and financing.

comfortable with having their children cycle or walk to school could be an indicator of safe and attractive active transport provision.

Links with other NZCPHM policies

Climate change

Sustainability (forthcoming)

Health equity

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