**Equity and health benefits of decarbonising transport in Aotearoa**

Background: Health benefits are one of the key potential advantages of moving to a low carbon transport system. However, health impacts will occur in the context of existing transport-health inequities and decarbonisation policies will themselves impact inequities.

Methods: We modelled the health, health system and environmental impacts of two transport decarbonisation pathways outlined by the NZ Climate Change Commission in their inaugural report Ināia Tonu Nei: a low emissions future for Aotearoa. Health impacts for the NZ population in 2018 were modelled out to 2050 for the “Further Behaviour change” and “Further Technology change” pathways. The research examined how changes transport mode and vehicle fleet make up impact on physical activity, air pollution (PM2.5 and NO2) and injury. We modelled impacts for Māori and non-Māori and we tested scenarios about how equitably policies to deliver the CCC pathways might be implemented by the transport sector.

Findings: Both pathways show improvements in population health, reductions in health system costs and GHGe. The magnitude of the health gains was larger in the “Behaviour” pathway which had greater levels of physical activity, from walking and cycling, and reductions in VKT. Health gains were 20-30% larger for Māori than non-Māori in both pathways, however the overall amount of healthy life years gained for Māori was larger in the “Behaviour” pathway. The amount of healthy life years gained by Māori and non-Māori altered substantially depending on assumptions about how equitably the pathways were implemented in practice.

Interpretation: Decarbonising transport has significant potential to improve health and reduce health inequities between Māori and non-Māori. Potential equity gains are highly dependent on how transport policies are delivered in practice. This will require all levels of transport policy, planning and delivery to be directly focused on equity.

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