

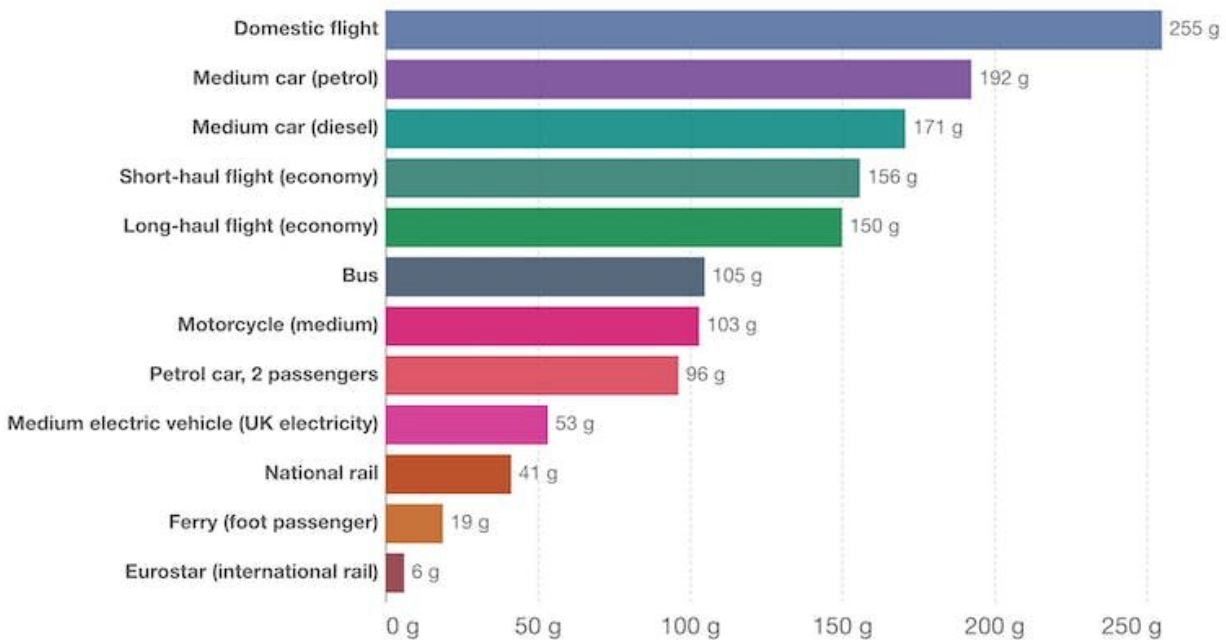
Why restoring long-distance passenger rail makes sense in New Zealand—for people and the climate

February 13 2023, by Robert McLachlan and Paul Callister

Carbon footprint of travel per kilometer, 2018

Our World in Data

The carbon footprint of travel is measured in grams of carbon dioxide-equivalents¹ per passenger kilometer. This includes the impact of increased warming from aviation emissions at altitude.



Source: UK Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2019.

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Note: Data is based on official conversion factors used in UK reporting. These factors may vary slightly depending on the country, and assumed occupancy of public transport such as buses and trains.

Credit: Our World in Data, [CC BY-SA](https://ourworldindata.org/)

A recent [parliamentary inquiry](#) into passenger rail drew 1700

submissions, suggesting growing support for the return of long-distance trains in Aotearoa.

The government has committed the country to decarbonization targets that require significant cuts to transport-related emissions. But decarbonizing long-distance travel is not part of the plan—the national [rail](#) operator KiwiRail remains focused on freight.

We argue the revival of long-distance [passenger](#) rail needs to be part Aotearoa's strategy to bring emissions down.

The arguments for intercity passenger rail center on connecting communities, equity in transport options, reduced emissions and lower energy use.

The end of the decline?

After a long decline—detailed in André Brett's history of the New Zealand network [Can't Get There From Here](#)—there were some gains in 2022.

Following initial plans to turn it into a tourist train, the Northern Explorer is back running between Auckland and Wellington. Passenger numbers on Te Huia, a rail service between Auckland and Hamilton, have [doubled](#)—helped by [half-price fares](#)—since its launch in April 2021.

The commuter train Capital Connection attracts good passenger numbers on its week-day only run between Wellington and Palmerston North, despite old and unreliable rolling stock. Work is underway on improving passenger rail near [Wellington](#).

Campaigning for rail

Several new campaigns are pushing for further improvements to passenger rail.

[Save Our Trains](#) is seeking a "comprehensive national strategy for inter-regional passenger rail services built around concerns for [climate action](#), accessibility, affordability and economic development".

[Making Rail Work](#) has developed a proposal to reinstate the Kaimai Express linking Auckland and Tauranga. A [report](#) for local government supported the case for more frequent services linking North Island towns.

Arguing for the restoration of the Auckland–Wellington night train, public transport planner [Nicolas Reid](#) suggested such a service "would have the potential to replace up to 150,000 long-distance car trips or flights per year".

Most controversially, the group [Restore Passenger Rail](#) staged a series of nonviolent direct actions to draw attention to the issue, closing motorways and [attempting](#) (unsuccessfully) to address the cross-party inquiry into passenger rail from the top of a motorway gantry.

Rail cuts transport emissions

Transport comprises 45% of Aotearoa's domestic carbon dioxide emissions, but it is hard to decarbonise. It requires a combination of changes to technology, behavior and infrastructure. But the significant emission and [energy](#) benefits of using intercity and regional rail, rather than driving or flying, are well established globally.

New Zealand's [emissions reduction plan](#) aims for a 20% reduction (per capita) in driving by 2035, through improved urban planning and better travel options. But it does not mention intercity rail.

As [half](#) of all kilometers driven are on the state highway network, this is a major omission. Auckland Council's transport emission reduction plan also aims to reduce domestic aviation emissions by [half](#) by 2030, before promised [electric or hydrogen-powered planes](#) can make any real impact.

[Auckland](#), [Wellington](#) and [Christchurch](#) are important, but they only comprise half the population. Travel within and between the smaller cities must also be decarbonised, or the whole country will fail its targets.

Transport investments misplaced

To reinstate fast and efficient passenger rail across Aotearoa, large capital and carbon investments are required. But that is partly because the rail network has been run down for decades, while considerable investment has gone into roads.

Yet, these new roads create more traffic. Further road building, such as an expressway between [Ōtaki and Levin](#), is being promoted, even though we know this project has an [extremely poor](#) economic return and will induce more driving.

When good services are on offer, people tend to use them. In Auckland, the then rundown suburban train service was used by only one million people each year in 1994. But a range of improvements saw passenger numbers top 20 million in 2017, with further growth expected once the City Rail link is completed.

Demographic changes support the return of passenger rail. Aotearoa has an aging population, especially in its smaller centers. Many lack airports and driving can become problematic for older age groups. Small towns have also lost many services and visits to bigger centers for medical appointments and other services have become more important.

Most towns still have railway lines connecting them to larger centers. The remaining [private coach network](#) suffers from infrequent service, poor quality and a lack of connectivity and integrated ticketing. If, in the UK, the rich take trains and the [poor take buses](#), we suspect in Aotearoa the rich fly or drive and the poor [take the bus](#) or don't travel at all.

Not everyone drives, particularly children and old people; and of those who do drive, some would prefer not to. Internationally, we've seen a long-term decline in the number of young people gaining [drivers' licenses](#).

For those living in larger urban centers with good public transport and biking infrastructure or in 15-minute neighborhoods, there is far less need to own a car. To make the necessary cuts to transport emissions in our larger cities, we need to re-imagine car ownership as an option rather than a necessity.

It might be a lot to lay on the humble train, but civilization is in a tight spot. We need to collectively halve emissions by 2030, while also laying the groundwork for a truly sustainable future. This means wise use of resources—long-lasting, economical infrastructure based on proven technology, combined with renewable electricity. Trains do that.

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