



Save Our Trains

Submission to the Transport & Infrastructure Committee

Parliamentary inquiry into the future of inter-regional passenger rail in New Zealand

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Executive Summary

New Zealand's passenger rail network is under continued threat. Ancient trains, expensive fares, poor frequency, and decades of under-investment have decimated our national passenger rail network. Passenger trains used to cross the landscape and connect our country. The system is now a shadow of its former self, yet people want real public transport options.

Recent examples system decay include:

- An attempt in late 2021 to replace scheduled Northern Explorer (Auckland-Wellington) & Coastal Pacific (Picton - Christchurch) services with unscheduled tourist excursion trains.
- The fight to keep the Capital Connection between Wellington and Palmerston North due to persistent breakdowns, old equipment, and a lack of government investment in new rolling stock.
- The politicization of Te Huia regional train service between Auckland and Hamilton and rejection of funding for increased frequency.

These incidents come at a time when the Government has said it is committed to climate action and reducing inequality.

We are asking for a comprehensive national strategy for inter-regional passenger rail services with a goal to create new inter-regional services built around concerns for climate action, accessibility, affordability, and economic development. Some specific goals of our campaign include:

- **More routes.** Trains connected Napier and Hastings to Wellington, and Tauranga and Rotorua to Auckland until 2002. In the South Island, The Southerner connected Invercargill and Dunedin to Christchurch. A night train ran up the North Island until 2004. Let's look at reintroducing these routes and supporting new ones.
- **More stops.** Numerous towns have been cut from the rail network over the last two decades. Large towns like Feilding, Taumarunui, Te Kuiti, and Oamaru have stations, but no trains to service them.
- **Better frequency.** People travel for all sorts of reasons. Better frequency means more train services at times that suit more people.
- **Faster trains.** Our inter regional trains are past their prime. An investment in new rolling stock and track infrastructure means faster speeds and a more comfortable journey.
- **Affordable fares.** Existing inter regional services are priced for tourists. A standard Auckland to Wellington fare can set you back \$220. If we are to get people out of cars and on to trains, affordable fares are essential.
- **Integrated transport.** A train isn't that useful if you can't get to and from the station. We need better integration with bus services and active transport like bikes and walking.
- **Electrification.** Electric trains reduce emissions twofold. A single train could take hundreds of cars off the roads, but the positive climate impact is maximised if the train is powered by electricity.
- **Regulatory and legislative reform.** Our passenger rail system is designed to fail. The policy instruments that facilitated that failure remain intact. We need to reform the regulatory environment to encourage central and local government to work together to give New Zealanders public transport options.

Trains connect communities and are an important part of climate change action. Trains have connected friends and families for graduations, weddings, holidays, and business for generations. They have connected towns with the cities and brought our country together.

But decades of underfunding has limited the development and use of our national rail network.

Trains have an important place in our future but require investment and planning from Government. Here are some reasons why:

- Rail provides a more sustainable and climate friendly method of transport across the country.
- Rail can invigorate the social and economic life of small communities by making them accessible to remote workers and tourists.

- Trains can bring our diverse country together by connecting them to people and landscapes across wide distances.
- Trains provide an accessible method of point-to-point transport for the elderly, disabled people, and people without cars.
- With Government support trains can provide affordable transport for people on low-incomes.
- Less cars on the roads can help to make our roads safer.
- Interregional trains provide easy domestic vacation options, lessening the need to travel overseas for holidays.

A 2018 [Massey University survey](#) showed two-thirds of New Zealand drivers experience mild to severe anxiety when they are behind the wheel. For many, driving is a necessity that has been forced on them due to a lack of viable alternatives. It's important that people have transport choices.

Rail is an important part of our past, but it should also be part of our future. Our campaign supports the retention and growth of a national passenger rail network. Since we started in late January 2022, more than 10,000 New Zealanders have signed up to support this cause.



Terms of Reference #1

Investigating possibilities and viability of passenger rail in underserved communities, those with prior rail links that have been disestablished, and those currently advocating for improved rail links.

Key points:

- There is a growing call for modern inter-regional passenger rail to take a more fundamental role in New Zealand transport.
- Key drivers in growing usage are frequency, reliability, and affordability.
- We should take a nationwide network approach to new routes, rather than focusing on individual services.
- Development of an app-based national booking and payment system can help improve accessibility.
- Passenger rail is a big investment, but once the investment is made it lasts a very long time.
- Reducing track user charges for passenger rail would recognise the fact that modern self-propelled passenger trains create less wear and tear damage to tracks than that of heavy freight trains.
- New routes will require new fleet of standardised trains of a modern self-propelled design.
- Better utilisation of the train fleet can lead to new routes.
- Modern night trains are a realistic, convenient, and stylish way to provide alternatives to air travel over longer journeys.
- Mixed passenger and freight trains could provide an opportunity to pool resources on lesser used lines.
- We have suggested potential routes and recommended a tiered approach to the introduction of new services, however, their needs to be a strategic assessment of different routes based on various factors.

Long-distance passenger rail systems around the world are enjoying increased investment, improvements, and expansion, including new trains, night trains, and new and expanded routes. Aotearoa New Zealand also once had a well-used and comprehensive passenger rail network until it was dismantled in the early 2000s. Since then, our population has grown, our roads have become more clogged, and public consciousness around climate change has become more apparent.

There is a growing call for modern inter-regional passenger rail to take a more fundamental role in New Zealand transport. We need to provide travel options that better connect regions and communities, reduce emissions, improve safety, and reduce use of roads and air travel. Passengers travel for all sorts of reasons, passenger rail can revive regional economies and make regional communities more liveable by providing access to education, employment, healthcare, entertainment, and family, without being forced into owning a car due to a lack of other options.

National Network

Re-establishing routes requires new trains and infrastructure. It makes sense to take a nationwide network approach to new routes, rather than focusing on individual services. This allows us to leverage economies of scale when it comes to the procurement and provision of rolling stock.

Basic track and other infrastructure are mostly in place; however, new routes will require new trains and new or upgraded stations and other infrastructure. Advantages are gained by planning a network approach. These advantages include:

- equipment and staff efficiencies
- an opportunity to reduce capital and operating costs by standardising trains and processes
- a common pool of spare parts
- bulk purchasing
- prefabrication and standardisation of stations and other infrastructure
- shared systems and management
- shared national booking and ticketing system
- collective knowledge and standard staff practice
- standardised training.

Current piecemeal mechanisms of advancing long-distance and inter-regional passenger rail via regional and local authorities do not deliver good results and inhibits network development. Inter-regional passenger rail

crosses multiple regions and connect cities and communities in the same way that state highways do - passenger rail needs to be treated in the same big picture way.

Servicing New Routes

It is well recognised that key drivers in growing usage are *frequency*, *reliability*, and *affordability*. Where possible routes should include daily operation, good on-the-day frequency with morning and afternoon departures, a joined-up network with interconnecting rail services and feeder buses to extend network reach.

“KEY DRIVERS IN GROWING USAGE ARE FREQUENCY, RELIABILITY, AND AFFORDABILITY”

Providing different classes on trains would broaden passenger appeal and open accessibility to different demographics, providing options for all budgets and expectations. Different classes can cater for tourism, leisure travel, business, and general travel / public transport needs.

A simple to use app-based national booking and payment system could include real-time timetable and other information and up-to-departure ticket purchasing from each station including bikes etc. Tickets could be prepaid before boarding trains and automatically include frequent-user discounts etc. Traveller information could automatically be relayed to on-board train staff to provide information on if trains needed to stop, where and how many passengers were boarding etc.

Network Investment

Passenger rail is a big investment, however, once the investment is made railway equipment and infrastructure lasts a very long time. Passenger rail comes with many real advantages to community and the environment. Most railway infrastructure is in place, including:

- track infrastructure and signalling
- some platforms and stations
- two thirds of the main line between Auckland and Wellington currently electrified.

Infrastructure improvements can be planned and staged which spreads cost over many years. Investment in new/upgraded station infrastructure is typically written down over a 30-year period. Rolling stock (trains) is usually written down over a 15-to-20-year period, after which a partial rebuild of equipment is required.

A note on Te Huia and capital investment.

Te Huia is a five-year trial. This trial is not a good gauge of capital costs for passenger rail investment due to capital costs being written down over an unusually short period. Capital investment in stations and a maintenance depot were roughly \$38 million (two new stations, one refurbished station and a new maintenance facility). This investment would normally be written down over 30 years not 5 years. Likewise, carriages and locomotives are also being written down over the 5-year trial period, which is much less time than the 15 to 20 years in normal circumstances.

Passenger Rail Track User Charges

Reducing track user charges for passenger rail would recognise the fact that modern self-propelled passenger trains create less wear and tear damage to tracks than that of heavy freight trains. Reducing track user charges for passenger rail also recognises the public good that modern passenger rail brings to New Zealand, by providing quality public transport options which connect communities, help to save lives by reducing reliance on roads, link regional New Zealand towns, and reduce emissions.

Standardised Equipment and Station Design

New routes will require new trains and a standard design of train used for the national passenger fleet would be the best way to improve operational flexibility and reduce maintenance costs. Standard design trains should be of a modern self-propelled design, able to operate on the entire national network, driver cabs at both ends for improved operational flexibility, low/zero emissions, and electric operation where possible.

Standard design trains could be fitted-out for appropriate needs:

- catering, and better seating on longer routes
- modern sleeper compartments

- lay flat beds and some standard seating for night trains
- more compact seating for long-distance corridor commuting routes.

Trains should be designed to reduce station dwell times through fast boarding and detraining, self-loading luggage, fast acceleration etc. Faster top operating speeds should also be investigated.

Orders for additional standard national trains, of the same design, can subsequently be placed as the network develops and grows.

Tilt train technology is becoming more common and may be worth considering. Tilt trains increase average operating speeds by travelling around corners around 10% faster than conventional trains, reducing travel times without the need to alter track infrastructure.

New and Re-established Routes Due to Better Train Utilisation

By taking a network approach to operations, train utilisation can be improved and investment in new trains enhanced by using equipment more efficiently and over multiple routes.

For example:

- **Night trains operating between Wellington and Auckland could continue to Whangarei**, forming a morning service north. This would utilize two trainsets to operate four individual services, two night-time trains in each direction between Wellington and Auckland and two-daytime services Auckland to Whangarei return. Routine maintenance would occur in Wellington during the daytime layover every second day.
- **Wellington to Auckland day trains could immediately form the night service south from Auckland, and northbound night trains could form the day service south**. This was the case until 2004. This in effect uses three train sets to operate four separate train services, with one train set being available for maintenance in Wellington.
- **Off-Peak Capital Connection services could be extended to Whanganui**, rather than trains standing idle during the daytime.
- **Friday night and weekend Capital Connection services could be extended** from Palmerston North to Napier and to New Plymouth via Whanganui.
- **Friday night and weekend Masterton services could be extended** from Masterton via the Northern Wairarapa to Palmerston North and/or Napier.

Night Trains

Modern night trains are a realistic, convenient, and stylish way to provide alternatives to air travel over longer journeys.

Night trains can be geared to different travel needs and budgets by providing a choice of onboard accommodation, such as sleepers, lay-flat seats, and budget seating.

Night trains focus on convenient departure and arrival times from central locations and comfortable travel to allow a good night's sleep. Night trains don't need to travel fast, can easily slot into freight train operations and most infrastructure is already in place.

Night trains connect cities, regions, smaller communities, and recreational hotspots.

Night trains could also provide late departure options for Capital Connection / Te Huia corridor passengers from Wellington north and Auckland south, as well as provide more options for the South Island as Picton to Invercargill is also well suited for a night service.

Night trains are making a big comeback around the world, with investment in new trains and many new routes being developed. [A recently released study shows that night trains can have a big impact in helping to reduce global warming.](#)

Possible Mixed-Train Routes

Mixed passenger and freight trains could provide an opportunity to pool resources on lesser used lines to improve both passenger and freight operations. Mixed trains might be in the form of carriage trains with freight wagons attached, or perhaps a more bespoke flexible railcar design with roll-on / roll-off flat top container

wagons built into the design, these could be powered and added to passenger sets as required. Lighter parcel traffic might also be included in night train and other passenger rail operations.

Mixed train routes could include:

- Gisborne – Napier – Palmerston North or Masterton – Wellington
- New Plymouth – Stratford – Hawera – Whanganui – Palmerston North – Wellington
- New Plymouth – Stratford – Hamilton – Auckland
- Palmerston North – Masterton – Wellington (via Northern Wairarapa)
- Opuā – Whangarei – Auckland – Hamilton – Rotorua or Tokoroa
- Auckland – Hamilton – Tauranga – Whakatane
- Christchurch – Timaru – Dunedin
- Hokitika – Greymouth – Westport
- Dunedin – Invercargill – Bluff.

Route Comments and Potential

Developing a national strategy for staged investment and expansion allows for the assessment of different routes based on various factors, including demand, however, the following is a basic commentary of some potential routes as well as issues and opportunities.

Wellington and Auckland - Night Trains:

Auckland to Wellington has been identified as an almost ideal distance/time travelled for night train operations. The route provides convenient departure and arrival times and most infrastructure is already in place. This route links four major cities, numerous smaller centres, ski fields and other Central North Island attractions. There is also the possibility of providing a direct link to Northland by extending trains through to Whangarei. It is estimated that that 57% of New Zealand's population lives along the rail route between Auckland and Wellington and Transdev New Zealand has shown an interest in operating night trains over this route. Provided is a link to a report by Dr Paul Callister regarding Auckland and Wellington night trains: https://www.wgtn.ac.nz/_data/assets/pdf_file/0006/1942332/WP-21-11-decarbonising-the-public-sector.pdf

Wellington and Auckland:

Day trains traverse the same route as night trains. KiwiRail's own analysis of Northern Explorer passenger numbers show strong demand of this train for travel purposes, not just tourism. This indicates latent demand given the current train is heavily promoted as a tourism service, operates an irregular timetable, includes few regional stops and is very expensive to use. Day trains need to operate daily and more frequently, including more station stops, trains need to connect with other services and modes. Prices need to be realistic from a public transport perspective and offer two classes, providing for both tourism and general travel needs. Our Save Our Trains petition received significant numbers of signatures from towns like Te Kuiti, Taumarunui, and Marton on the North Island Main Trunk Line.

Auckland and Whangarei:

Possibility for Auckland to Whangarei morning and early afternoon service south, by extending Wellington to Auckland night trains to Whangarei. This will utilise night train rolling stock and would not require additional trains to operate services. Advantage of direct links between Wellington - Auckland - Whangarei, and points in between.

Rotorua and Opuā:

Trains operating between Rotorua and Opuā would link two tourism hot-spots, as well as linking Auckland - Rotorua and Auckland with Northland. These could complement the extension of night trains from Auckland as these trains would operate early afternoon from Auckland and travel all the way to Opuā, with a late morning departure from Whangarei in the opposite direction.

The mothballed railway between Putaruru and Rotorua would need to be reactivated, this would also improve freight movement options in the region. Also, some form of arrangement would need to be made with the 'Bay of Islands Vintage Railway' to operate over the rail lines to the wharf for connecting ferries to Russel.

Auckland and Tauranga:

This route was identified by government in the in the 2017 election campaign as a priority. There has since been a government funded study undertaken to investigate fast rail over this route and community has shown consistent interest for passenger rail service to be reintroduced. Tauranga - Hamilton - Auckland "Golden-Triangle" is a high growth area with a steady increasing population. Recent 'new towns' have also been built

on along this route, including Pōkeno, Te Kauwhata, and Ōmokoroa, which have seen approximate population increased by 782%, 187% and 98% respectively between 2006 and 2022.

Wellington and Gisborne:

The mothballed railway between Wairoa and Gisborne could be reactivated to improve freight and passenger movement options in the region. Further south this train could provide an early afternoon arrival into and departure from Napier, with a mid-afternoon departure from Palmerston North to Wellington. Gisborne is currently an isolated area with limited public transport. Trains could improve regional connectivity, travel safety, transport inequality and regional isolation. This is also a scenic railway which has potential to attract tourism opportunities for the region. A Wellington to Gisborne route could be another of New Zealand's 'great rail journeys' with global appeal.

Wellington and Napier / Wellington and New Plymouth / New Plymouth and Napier:

Morning and afternoon departures from Napier and New Plymouth could make connections to/from Auckland at Palmerston North or Marton. Trains could provide a combination of direct and through services, with organised passenger transfers to extend the reach of services. Equipment and operational efficiencies could be made by rotating shared equipment and integrating some services with Capital Connection operations.

Possible equipment rotation might include:

- Direct trains Napier / New Plymouth to Wellington.
- Passenger transfers at Palmerston North or Marton for Auckland or Wellington.
- Some Capital Connection trains continuing to and from Napier / New Plymouth.
- Possible New Plymouth - Palmerston North - Napier trains which make connections for Wellington / Auckland.
- Gisborne services could also complement these services and equipment rotation patterns.

Capital Connection Corridor:

Night trains could provide later evening options for passengers travelling to Palmerston North. New train services operating to Napier, New Plymouth and Auckland could be recognised on Capital Connection timetables. This will improve travel choice and usefulness on the Capital Connection corridor. The Capital Connection corridor could also be extended to Whanganui.

Masterton Corridor:

Extend some trains to Palmerston North, Whanganui, or Napier via the Northern Wairarapa. Increased frequency and speed of trains would be desirable.

Te Huia Corridor:

Night trains could provide later evening options for passengers travelling to Hamilton. New trains operating to Rotorua, Tauranga and Wellington could be recognised on Te Huia timetables when travelling over this corridor. This will improve travel choice and usefulness of the Te Huia corridor.

The Te Huia corridor could be extended Cambridge, with the last four km of track re-laid close to the town centre area. Modern trains could originate from Cambridge passing through the eastern side of Hamilton, Claudelands, and CBD area, before continuing onto Auckland Central. New faster electric hybrid trains could be designed for accessing Britomart station, or electrification could be completed between Pukekohe and Hamilton, allowing for fully electric trains to operate into Britomart. Further extensions could be made to Otorohanga, Te Awamutu, Te Kuiti, also, Morrinsville, Matamata, Tirau, Putaruru, and Tokoroa.

Picton and Invercargill - Night Trains:

There may be potential for night trains between Picton and Invercargill, these would connect Cook Strait ferries to/from Picton. This route would link Wellington - Blenheim - Christchurch - Dunedin - Invercargill. There might also be opportunities for a motorail service over this longer route, where passengers could travel with a car and pick it up upon arrival.

Picton and Christchurch:

Day trains could complement night trains over this route. Trains currently make good connections with Cook Strait ferries to/from Wellington with a new passenger rail platform to be included in Picton ferry terminal upgrades. Tourism is a proven travel market over this pleasant and scenic route, however, in recent years there have been calls within community to diversify this route and allow for public transport needs in addition to just tourism, two classes of accommodation could provide for both travel needs.

Christchurch – Timaru – Oamaru – Dunedin – Invercargill:

TranzRail sold passenger services in 2001 and many routes ceased at this time. The Southerner attended a three-month reprieve from November 2001 whilst community attempts were made to retain this service. This route has long been advocated by South Island communities and there are established social media groups devoted to this route.

New trains could operate:

- Early morning commuter run from Timaru to Christchurch, then return south again to Dunedin and Invercargill.
- Morning service from Invercargill to Dunedin and Christchurch, then return south as an early evening commuter service to Timaru.
- Trains could also operate Christchurch to Dunedin and return in one day

Christchurch and Greymouth:

This route is currently operated as an expensive tourism service aimed at international tourists. Limited public transport options could be provided on this route by offering a public transport fare to New Zealand residents (i.e. as in Peru) or by providing a public transport focused carriage on this train.

Hokitika and Westport:

A West Coast Link between Hokitika and Westport could connect with trains between Greymouth and Christchurch. This could operate for both public transport needs and would also attract an amount of tourism interest. A study was commissioned by the PGF in July 2019, however, this focused purely on a tourism service, without consideration of a possible combined public transport, and community good aspects that combined PT would bring: <https://www.kiwirail.co.nz/assets/Hokitika-to-Westport-Tourist-Rail-Feasibility-Study.pdf>

The development of any new routes would require detailed research and analysis, including consultation with local communities.

Priority for Early Network Expansion

Save Our Trains believes priority should be given to developing a basic national network by advancing the following routes at early stages:

Stage 1:

- Te Huia corridor connecting Hamilton and Auckland, extending to Cambridge. New trains and increased frequency.
- Auckland to Tauranga service.
- Night trains between Auckland and Wellington.
- Daily operation of daytime trains Auckland and Wellington, with good frequency, more stops, and affordable fares using new equipment. This could involve changes to the existing Northern Explorer service, or the Northern Explorer could remain a tourist focused service and a new public transport focused service developed.
- Capital Connection corridor connecting Palmerston North and Wellington and extending to Whanganui. New trains and increased frequency.
- Changes to the Coastal Pacific to allow for improved public transport usage.

Stage 2:

- Auckland - Whangarei (possible extension of night trains from Wellington).
- Wellington - Napier.
- Christchurch - Dunedin (day return train in each direction, i.e., morning and afternoon options).

Stage 3:

- Opuha to Rotorua
- Wellington to New Plymouth
- Extension of Napier service to Gisborne
- Extension of Dunedin service to Invercargill
- South Island Night Train

Terms of Reference #2

Gaining insights into viability of passenger rail sitting alongside KiwiRail's freight network.

Key points:

- Passenger and freight operations can jointly help to justify investment in infrastructure improvements.
- Completing electrification will help to decarbonise rail operations for both passenger and freight.
- Sections of double track will increase network capacity and simplify operations.
- Provision of additional crossing loops will improve flexibility and capacity.
- Targeted curve easement and track realignment will facilitate faster train operations.
- Elimination of level crossings on the rail network improves safety and allows for faster speeds.
- A fourth main line south out of Auckland is necessary to allow for increased passenger and freight volume.
- Wellington Strategic Rail Plan infrastructure improvements should be actioned as soon as possible.
- Investigation into the possibility of tunnel between Paekākāriki and Plimmerton should be undertaken.
- Combined freight and passenger trains could be operated over lines which may otherwise find higher frequency hard to justify.
- Signalling enhancements should ideally include bi-directional operation and additional crossover points.
- We should look at reopening mothballed track to enhance national freight operations.

Railways in New Zealand were classed as a general-purpose carrier from day one. This means that passenger and freight operated alongside each other over the national network. Passenger rail was mostly disbanded between 2001 and 2004 due to the age of our trains, infrastructure, and a political unwillingness to invest in new equipment.

Many network improvements should be taking place now. Both passenger and freight operations can jointly help to justify investment in infrastructure improvements, which will lead to overall improved network operations, flexibility, and safety.

Following are some improvements which would increase network capacity and benefit both freight and passenger operations, modernise and improve overall efficiency, and increase speed of operations.

Electrification of Railway Lines

Completing electrification will help to decarbonise rail operations for both passenger and freight and move to a zero emissions operation. Trains over these busy lines will operate faster and more efficiently when electrification is completed, including better acceleration and regenerative braking technology.

Pukekohe to Hamilton - Extending electrification of railways to Hamilton will benefit both passenger and freight operations. It would mean that freight and passenger trains could operate fully electric between Auckland and Palmerston North; this will improve transit times and optimise existing electrified rail lines. Passenger rail could access Britomart station.

Auckland to Tauranga – We should target zero emissions passenger and freight trains between Auckland and Tauranga. Electrification of this line would increase capacity by increasing the speed of operations. Electrification will also eliminate a known safety issue with the Kaimai Tunnel - the combination of poor ventilation and the current operation of diesel hauled trains leads to poor air quality and limited access.

Waikanae to Palmerston North – This completes electrification of the North Island Main Trunk railway and improves operations. A fleet of dual-voltage (AC/DC) locomotives and passenger equipment would need to be purchased for operation through to Auckland. Completion of electrification will allow for faster and more efficient rail operations in the Lower North Island for both passenger and freight trains.

Upper Hutt to Masterton - There is increasing freight train movements and planned increases for passenger rail operations over this line. DC electrification has been identified as a much cheaper option for electrifying north of Upper Hutt. Some (DC electric) freight locomotives could be purchased from South Africa for operation on freight and log trains to Wellington. For similar reasons to the Kaimai tunnel, electrification will increase capacity through the Remutaka Tunnel asset.

Increasing Areas of Double Track

Where practicable, linking as many crossing loops as possible to form sections of double track will increase network capacity and simplify rail operations, making train movements quicker and more reliable.

Additional Crossing Loops with Higher Speed Turnouts

Where double track is not warranted, provision of additional crossing loops on the network will improve flexibility and capacity. All points entering and exiting crossing loops should be a high-speed type (i.e. 50-70km/h) and crossing loops need to be much longer than currently provided. This means trains can exit crossing loops faster and build up speed quicker to facilitate faster train operations.

Curve Easements

A programme of targeted curve easement and track realignment will facilitate faster train operations, this will help to improve the average speed of trains and reduce travel times for services, both passenger and freight.

Programme of Level Crossing Elimination

As is the case in the United Kingdom, New Zealand should have a programme to eliminate level crossings on the rail network. A yearly plan to eliminate level crossings will improve rail and road safety, and allow for faster, safer, train operations i.e., Canterbury Plains line speeds could be much increased.

Fourth Main Line Auckland

This is a critical project which needs to be advanced as soon as possible. Rail traffic, both freight and urban passenger is growing steadily. To accommodate freight train growth and for provision of successful inter-regional and long-distance passenger rail, including improved travel times, a fourth main line south out of Auckland is necessary.

Wellington Strategic Rail Plan

Greater Wellington Regional Council has developed a business plan for Lower North Island rail infrastructure improvements, between Palmerston North and Wellington. Plans include (1) increasing double track sections north of Waikanae and a triple track section south of Porirua, (2) grade separation of passenger and freight trains into Wellington, (3) bi-directional operation of most double-track areas, (4) finding a solution to the Pukerua Bay to Paekākāriki single line network bottleneck, (5) upgraded stations, etc. These infrastructure improvements should be implemented as soon as practicable.

Tunnel Option Between Paekākāriki and Plimmerton

The single line section between Pukerua Bay and Paekākāriki is built on an unstable and steep section track. This section is increasingly constraining capacity, inhibiting network growth and is often the cause of unreliable operations. Investigation into the possibility of tunnelling should be undertaken. A double track tunnel between Plimmerton and Paekākāriki would improve capacity and speed up operations in the Lower North Island.

Mixed Trains

By pooling resources, combined freight and passenger trains could be operated more frequently over lines which may otherwise find higher frequency hard to justify. Operating more frequent trains will make lesser used lines more appealing to use and help grow regional passenger and freight usage. Bespoke railcars might include powered roll-on-roll-off flat top container wagons which could be attached to self-propelled passenger carriages. Parcel traffic is also a good possible source of traffic on some trains, i.e., night trains.

Improved Signalling, Bi-directional Operation of all Double Track Sections

All consideration needs to be given to improving national network flexibility, reliability and reducing travel times. As with the infrastructure improvements plan for the Wellington region, signalling enhancements should, wherever possible, include bi-directional operation and additional crossover points etc.

Reopening the Wairoa to Gisborne Section of Railway

Both passenger and freight (possibly mixed) trains could operate over a reopened Wairoa to Gisborne railway, this would greatly assist the Gisborne region by improving connectivity and attract business and tourism opportunities.

Reopening the Putaruru to Rotorua Section of Railway

This line has big potential to attract tourism and connect into a regional passenger rail network operating through to Auckland and Northland. Passenger and freight trains could both operate over this line if it was reopened.



Terms of Reference #3

Evaluating existing inter-regional passenger rail, such as the Capital Connection, and how these services work between local and regional councils and central government.

Key points:

- Our few Inter-Regional passenger trains are successful but sorely underfunded.
- Inter-regional passenger rail in general is inconsistently funded.
- The Land Transport Management Act explicitly excludes inter-regional public transport, leaving all forms of inter-regional public transport in a “no man’s land” when it comes to funding and long-term viability.
- Coordinated public provision of inter-regional public transport is needed.
- Relying on regional councils to provide inter-regional passenger rail requires a “double coincidence of wants.”
- Regional Councils have limited revenue and well as limited influence across regional borders which diminishes their ability to fund and coordinate a national, integrated system.
- While state highway projects are largely centrally funded, regions are expected to instigate and contribute more to funding inter-regional public transport.
- We recommend the development of a central agency to lead inter-regional passenger rail.

Successful, yet underfunded regional trains

Our few Inter-Regional passenger trains are successful but sorely underfunded.

Aotearoa New Zealand has just two true inter-regional passenger trains with ticket prices competitive with driving: Te Huia (Hamilton-Auckland) and Capital Connection (Palmerston North-Wellington.) A further service, Wairarapa Connection (Wellington-Masterton) is often regarded as inter-regional, but its origin and destination are under control of the same council – Greater Wellington.

All three achieve good and growing passenger numbers and are often full. This shows where passenger rail is available, convenient, and affordable, people will use it, even if it is not faster than driving or an equivalent bus service. This is consistent with overseas research showing [rail has a pull factor over buses, particularly an ability to attract people who would otherwise drive](#).

The strong passenger number performance of trains like Wairarapa and Capital Connection and more recently, Te Huia, are especially strong evidence of the pull factor, considering Capital and Wairarapa Connection trains frequently being replaced by bus service thanks to underinvestment in rolling stock and track maintenance.

Inconsistent Funding

Inter-regional passenger rail is inconsistently funded... for no clear reason. Waka Kotahi does not contribute to funding to Capital Connection. Instead, it is supported by Horizons and Greater Wellington regional councils. Meanwhile, non-fare based financial support for Te Huia is [funded 25 percent by Waikato Regional Council and 75 percent by Waka Kotahi](#), with Auckland Transport not contributing.

These differences may partly result from the Land Transport Management Act explicitly excluding inter-regional public transport, leaving trains like these – and all forms of inter-regional public transport – in a “no man’s land”.

Waka Kotahi’s rationale for funding or not funding such services has also been [shown to be inconsistent even with its own previous statements](#) on what it will fund and why.

Passenger rail is public transport

Coordinated public provision of inter-regional public transport is increasingly needed. Over the past 20 years, New Zealand’s inter-regional passenger rail has been thought of as a tourism service rather than a public transport service. Factors pointing to the importance of developing more affordable and higher quality inter-regional public transport include:

- Longer distance public transport is usually more affordable to run and attracts better passenger numbers than shorter routes.
- The [distances people commute for work and school have been increasing](#).
- Over the past twenty years, services provided by private coach companies running inter-regional coaches has declined. Many parts of New Zealand have seen a reduction in coach services to three or four a week, with some towns being excluded from public transport entirely.
- Private coach services (for example, InterCity) look to maximise revenue. This means fewer services meeting the varying needs of the travelling public. For example, buses may not arrive in main centres in time for work, educational classes, or health appointments. For example, Taranaki and Hawke's Bay residents have no coaches that arrive in Palmerston North at times suitable for typical work or university start-times. Nor are there any coach services timed for arrival the night before. For many, taking such a service requires taking time off work or school.
- Private sector inter-regional coach provision has many dyed-in-the-wool inefficiencies embedded to maximise profit. For example:
 - Services often show as fully booked online, but passengers find many spare seats on board. This happens because private companies offer no refunds for cancelling their cheapest tickets, meaning most passengers don't cancel if they can't travel, leading to empty seats at no loss to the company. A public sector provider would focus on maximising passengers not simply sales.
 - Long distance coach services in New Zealand are poor with no on-board toilets, poor off board infrastructure and difficult to use by many people with disabilities. This prevents many people using them.

These factors suggest a clear need for public intervention in providing inter-regional public transport if it is to be available, successful, and well-patronised.

Issues with Regional Council Coordination of Passenger Rail

Relying on regional councils to provide inter-regional passenger rail requires a “double coincidence of wants.” Although cross-regional public transport is explicitly excluded from the Land Transport Management Act, some regional councils such as Waikato, Wellington, and Horizons Manawatu-Whanganui have identified it as a priority in recent 10-year public transport plans. Other regional councils that border them, have not. Any action on instigating cross-regional public transport therefore requires the input of two or more regional councils – which the current picture shows is a relatively unlikely occurrence.

Regions may pursue what is in their own best interests, even if this is counter to the national interest. For example, imagine an Auckland-Wellington rail service which all regional councils along its route (Auckland, Waikato, Horizons and Greater Wellington) have agreed to fund. This service makes multiple stops to service rural communities. Yet, research may find there is a large potential passenger pool for an express service between Auckland and Wellington not stopping at towns in the Waikato and Horizons areas. This may result in Waikato and Horizons pulling funding for these express services, despite possible demand from people across the network. For this theoretical service to continue, Auckland and Wellington would then have to find all of the money required to support it. And so, the most likely outcomes would be (1) a service that doesn't meet passenger needs, or (2) a service that is ultimately cancelled. However, if such a service was funded and coordinated nationally, rather than regionally, it could be much more strategic in providing the public with meaningful transport options.

Examples like this show how funding inter-regional public transport through regional councils could make it difficult to coordinate and deliver services that benefit the travelling public. In addition, rail is a long-term commitment and investment. Elections and changes in Regional Council strategies could make it difficult to provide long-term support for inter-regional services. The longer the rail services, and the more councils involved, the more complex the issues become.

Inter-regional services should be developed and funded by an organisation that has a national outlook.

Regional Council Funding for Inter-Regional Rail

Local government in Aotearoa has around 2 percent of the revenue-gathering power of central government. These organisations already feel under-resourced to support local public transport, let alone inter-regional public transport. While state highway projects are largely centrally funded, regions are expected to instigate and contribute more to funding inter-regional public transport.

This presents a particular problem for funding rail. Although passenger rail has many benefits over road-based public transport (e.g., passenger preference and providing an alternative in the event of roadworks or accidents), it requires more up-front infrastructure investment. We must equalise how state highways and inter-regional public transport is funded and organised by creating a national public body responsible for organising and funding these services.

The role of KiwiRail

KiwiRail in its current format is a state-owned enterprise. Their goal is to make as much money as possible from rail. While affordable passenger rail can make a profit, freight and tourist-focused services make more profit, even though the prices charged for tourist service tickets can leave train seats empty.

High ticket prices and luxury offerings makes sense if your goal is simply to make the most money. It costs KiwiRail less to sell one seat for \$210 and have two seats empty, than to sell three seats for \$70. So, while KiwiRail can afford to provide affordable passenger rail, it doesn't make sense under its current business model, as it places value on profit, rather than on benefits like reduced numbers of cars on the road and reduced emissions.

We cannot expect our current model involving KiwiRail, regional councils, Waka Kotahi, and the Ministry of Transport to deliver results. When it comes to inter-regional passenger rail, nothing will change unless the system for the strategic and operational provision of rail is also changed.

A Central Agency for Passenger Rail

Save Our Trains believes that an agency responsible for passenger rail needs to be established and tasked with developing a masterplan to incrementally advance and expand passenger rail. This should be responsive to government policy and community engagement, and be empowered with a mandate to connect New Zealanders and reduce emissions through the development of a modern passenger rail network with national coverage. Government also needs to establish capital investment and operational funding mechanisms for passenger rail services which cross regional boundaries.

This agency needs to:

- Develop and procure a fleet of new low-emissions standardised trains, which can be used as national standard trains system-wide
- Assess the viable routes
- Locate and improve stations
- Integrate passenger rail with other modes
- Operate or contract out passenger rail operations.

The central passenger agency would be required to coordinate and consult closely with regional and local authorities.

The agency could be a new entity. Alternatively, KiwiRail could be split into separate passenger and freight divisions with access to rail infrastructure.

Terms of Reference #4

Gaining insights into the integration of regional rail into existing local public transport networks.

Key points:

- Integration between inter-regional rail services and other public transport is currently weak or non-existent.
- There is a significant opportunity to reignite 'railway towns' around more frequent regional rail connectors, integrated with the local centre.
- Integration could be improved by modest changes, such as altering the location of station stops or creating new services to link stations with the wider network.

Integration between existing inter-regional rail services into other public transport services are few, and where they do exist, they are almost always substandard.

In many of our major cities, railway stations have been shifted out from the city centre, which limits the immediate walking catchment of the station. This makes integration with the local public transport network even more critical to the success of the interregional service.

In contrast to larger cities, most smaller towns have a well-located central train station site. Some remain as functioning railway stations while others have been repurposed and only exist as a legal designation over a landholding. These sites, particularly on existing regional routes, provide a significant opportunity to reignite 'railway towns' around more frequent regional rail connectors, integrated with the local centre.

Integration could be improved by modest changes, such as altering the location of station stops, some of which are already planned (Hamilton, Auckland, Tauranga) or through the creation of new services to link stations with the wider network.

Our response to Terms of Reference 4 covers three key points:

- Why integration is important (proximity, timetable, ticketing)
- Integration issues with current regional rail services
- Future integration possibilities – with current and expanded services

Why Integration is Important (Proximity, Timetable, and Ticketing)

Integration between all transport systems is important. It is pointless having inter-regional rail services if no one can get to or from the station. Imagine if our road network was less well integrated than it is, and instead required you walk between key connections. It would make travelling by road extremely difficult, if not impossible. Our current regional public transport system - where it does exist - is all too often unconnected, or has unreliable or suboptimal connections. This then requires passengers to wait hours or days for the next interconnecting service, to walk across town or buy tickets from different providers, and/or to carry different transport for each stage of their journey.

There are three main aspects to integration:

- **Proximity:** Rail services need to stop at stations that are either accessible to town centres by foot or cycling, and which are directly connected to public transport, ride-share services, and carparking to enable travel to nearby communities.
- **Timetabling:** We need seamless integration between rail services and other forms of public transport (e.g., buses). A key part of this is synchronizing timetables to avoid long waiting times or unnecessary overnight connections.
- **Ticketing:** Integrated nationwide ticketing and app-based technology allows for easy purchasing of tickets on both trains and buses, as well as alerts about service delays.

Integration Issues with Current Regional Rail Services

With a few rare exceptions, regional rail services in Aotearoa New Zealand have poor connections to local public transport and onward regional services.

Our regional or inter-regional rail services fall into two categories:

- Those supported with public funds that cater to domestic travellers.
 - Te Huia (between Auckland and Hamilton with two daily return services)
 - Capital Connection (between Palmerston North and Wellington with one daily return service)
 - Wairarapa Connection (between Masterton and Wellington with five return services Monday to Thursday, six on Friday, and two on Saturday and Sunday)
- Those that currently primarily cater to tourist needs (given the cost of the service and their low frequency).
 - Northern Explorer (Auckland to Wellington - three return services per week)
 - Coastal Pacific (Picton to Christchurch - three return services per week)
 - Trans Alpine (Christchurch to Greymouth - three return services per week)

The Capital connection ends at the Palmerston North Train station outside of Palmerston North City Centre without local and intercity bus services, not to mention a mismatch in train timetables. Musician, Anthoine Tonnon, wrote about how [he gets from Wellington to Wanganui](#) on a Friday night, but how a night in a hotel is otherwise required.

Case study: Te Huia

Te Huia is a new service between Auckland and Hamilton that offers good connections along the service, but poor connections at both ends. At Hamilton, the station at Frankton falls short of the city centre. The central bus terminal is also 1700m away from Frankton station, despite the rail line physically passing close by. Connecting to the central bus terminal would have provided connection to other parts of the city and onward to Tauranga and other locations. While the proceeding station, Rotokauri, has better bus connections, services are split between two bus stations on either side of the tracks. It is not made clear that the best option for many journeys will be to transfer early rather than proceeding to the terminus station.

At Auckland, Te Huia ends at Strand Station - the old train station near Parnell which offers very poor public transport connections. If Britomart's limited capacity means Strand will continue to operate as the primary intercity terminus, then improved connections to Auckland's bus network are required to tie services into the city proper. Te Huia also stops at Papakura and Puhinui metro Train Stations with the latter providing an excellent transfer to regular 12-minute connection to Auckland Airport's International and Domestic Terminals. Te Huia does not integrate with coach services such as Intercity, which is 2.2km from the Strand at SkyCity.

The tourist orientated train stations are usually poorly served by local public transport connections due to the location of the stations in the cities where they operate, except for Wellington.

On the Northern Explorer:

- Auckland's station is at the Strand, as discussed above.
- Hamilton is at Frankton Junction, distant from the city and inconvenient to local transport connections.
- Otorohanga Station is in the town centre.
- National Park Station accessible to the village.
- Ohakune Station is 2.5km from the town centre, a 30-minute walk with no transport.

- Palmerston North Station is 2.4km from the city centre, also a 30-minute walk with limited transport connections.
- Paraparaumu Station is central with good public transport.
- The Wellington Railway Station has a range of connections to the city and region, and Picton ferries that are a short walk or shuttle service away.

On the Coastal Pacific and TranzAlpine:

- Picton, Blenheim, and Kaikoura are centrally located.
- Christchurch's station is at Addington which is without onward public transport connections.
- Greymouth is a rare exception, with an easy link to the Intercity buses that departs soon after the 1pm arrival, and a connection north to Nelson and south to Fox Glacier, albeit on alternating days.

Future Integration Possibilities

There are opportunities to improve integration of existing and future public transport:

- Hamilton has space and preliminary plans for a station adjacent to the bus terminal.
- Tauranga has a planned rail station as part of its downtown planned upgrades. Services started there would offer great connections. In addition, a station at Mt Maunganui, just a short walk to the shopping areas and holiday hotspot, would also be an attractive option (it was considered before 2002).
- Many stations were once located in the town and city centres where trains served them. A selection of these places includes Whangarei, Whanganui, Oamaru, and Hastings.

We should also plan to connect large neighbouring towns to stations through effective public transport provision, and consider active transport links. Some examples of towns near existing or potential railways stations are:

- Foxton, 16km from Shannon Station
- Raetihi, 13 km from Ohakune Station
- Bulls, 12km from Marton Station
- Renwick, 12km from Blenheim Station
- Geraldine, 17km from Temuka

Integration with non-public transport is also poor to non-existent at many railway stations. Other services that could improve train stations integration for onward travel could include:

- Public bike hire schemes and cycle routes.
- Car rental companies (as found at airports, and Greymouth Railway Station).
- Car share services (i.e., Mevo and City Hop).
- Better pedestrian access and connections.

Terms of Reference #5

Investigating the climate and emissions reductions possibilities of passenger rail, and how this links to VKT (vehicle kilometres travelled) reduction targets in the Emissions Reduction Plan, and including electrification between regions.

Key points:

- Passenger transport, both road and domestic air travel, represent a significant and growing part of our gross emissions in New Zealand.
- New Zealand stands out internationally in terms of car ownership and use, with car ownership rates higher than even the United States and Australia.
- New Zealand also stands out internationally in the per capita use of domestic flight and [ranks in the Top 4](#) in terms of per capita CO2 emission from domestic flights as of 2018.
- All over the world, countries are investing in long distance passenger rail, including night trains. Much of this expansion is to support emission reductions, along with improved public transport access. In contrast, New Zealand has systematically neglected its long-distance passenger network.
- Rail is a very energy efficient form of transport. Steel-wheels upon steel-rails provides low friction and therefore low rolling resistance, resulting in reduced energy usage, and emissions, compared to air and road transport.
- The public sector should take the lead by decarbonising transport.
- We are decades away from reliable aviation alternatives being able to compete with inter-regional passenger rail when it comes to low emissions.
- In contrast to promised innovations within aviation, low emission technology is already in place, in the form of trains.
- Two-thirds of GenZers who say that they [“think about their environmental footprint”](#) would consider taking a train instead of a plane to travel.

We need to reduce emissions quickly and drastically. Passenger transport, both road and domestic air travel, represent a significant and growing part of our gross emissions. New Zealand stands out internationally in terms of per capita car ownership and use, with car ownership rates higher than even the United States and Australia. New Zealand also stands out internationally in the per capita use of domestic flight and [ranks in the Top 4](#) in terms of per capita CO2 emission from domestic flights as of 2018.

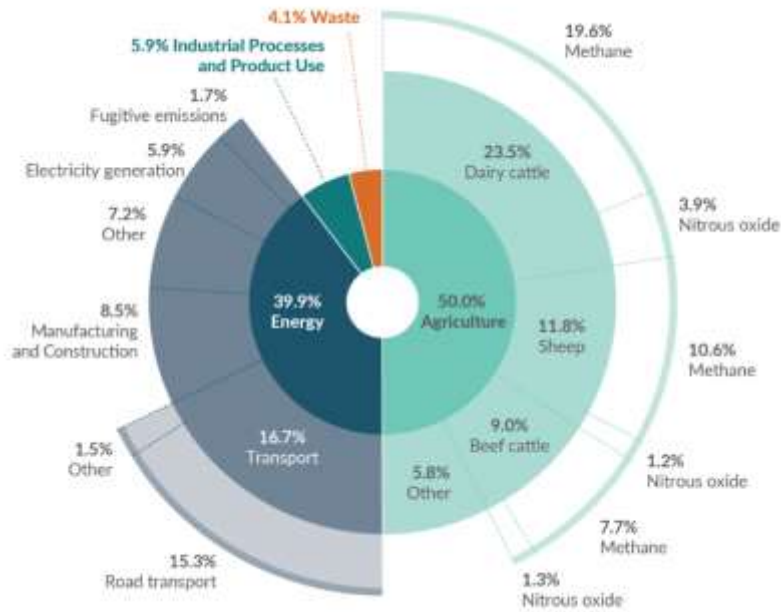
Passenger rail is an extremely low energy and low emissions way of moving people long distances. Our railway emissions could become lower if the rail network was fully electrified.

All over the world, countries are investing in long distance passenger rail, including night trains. Much of this expansion is to support emission reductions, along with improved public transport access. In contrast, New Zealand has systematically neglected its long-distance passenger network. In fact, between 1995 and 2019, New Zealand saw 12% drop in [railway passengers carried](#) (passenger-km), while global total increased by 16%, despite significant growth of commuter rail in Auckland and Wellington. However, the underlying network linking most towns and cities is in place and the passenger network could be rebuilt relatively quickly with strong political will and adequate resources.

NZ's Emissions Landscape

New Zealand's greenhouse gas emissions footprint is currently dominated by the agriculture and energy sectors. In 2020, these two sectors were responsible for (respectively) 50% and 40% of the country's gross total: 78.8 million tonnes of carbon dioxide equivalent (Mt CO2-e).

Our energy sector emissions are in turn mainly contributed by transport; road transport alone represents [15 % of total gross emissions](#) here in Aotearoa.



Much of this is due to the country's reliance on motor vehicles. New Zealand has one of the highest motor vehicle and car ownership rates per capita in the world ([ranked 7th as of 2014](#)), and the number of vehicles in our national fleet continues to rise. According to data from Waka Kotahi, there were almost 700,000 more vehicles on the road in 2022 than in 2017 – that's a 14% increase in just five.

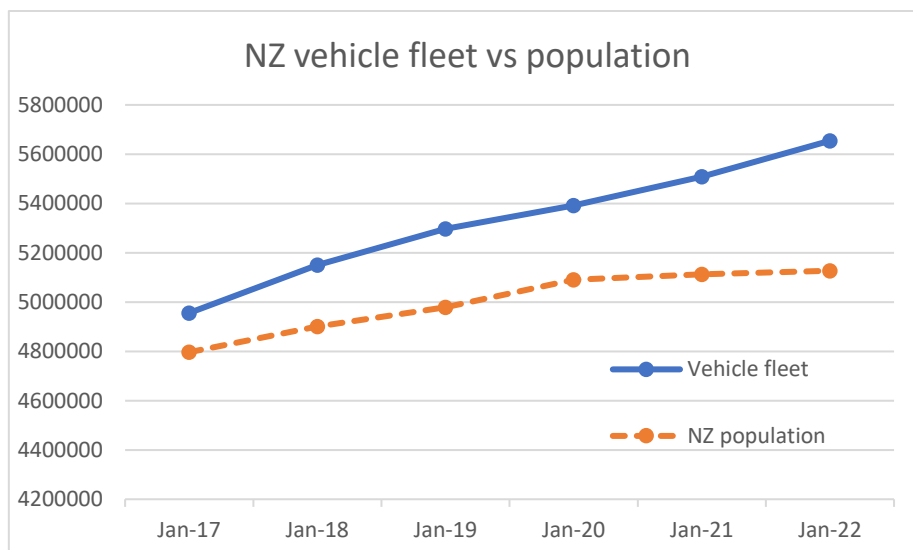


Figure 1: Data taken from [NZTA](#) and [StatsNZ](#)

New Zealanders also take a lot of domestic flights, which has a noticeable impact on our emissions footprint, as data from [Our World in Data](#) demonstrates below:

“We see large differences in emissions from domestic flights across the world. In the United States the average person emits around 386 kilograms of CO₂ each year from internal flights. This is followed by Australia (267 kg); Norway (209 kg); New Zealand (174 kg); and Canada (168 kg). Compare this with countries at the bottom of the table – many across Africa, Asia, and Eastern Europe in particular emit less than one kilogram per person – just 0.8 kilograms; or 0.14 kilograms in Rwanda.”

In May 2022, Auckland Airport reported that [557,617 domestic passengers](#) had passed through its terminal during the month. That's higher than the number of domestic passengers who departed London's Heathrow Airport in the same month: 356,547, according to [data from the Civil Aviation Authority](#).

NZ's population is a tiny fraction of Britain's (~5.1 million vs 64.55 million), but our dispersed urban centres, and a lack of alternative transport options between them mean that too many of us have to resort to flying.

Is there any wonder then, that, on a per capita basis, New Zealanders emit [seven times more than people living in the UK](#) (and nine times that of Germany). Part of the reason for the difference is their extensive rail networks and our lack of them.

How Rail Compares

Rail is a very energy efficient form of transport. Steel-wheels upon steel-rails provides low friction and therefore low rolling resistance, resulting in much reduced energy usage, and emissions, compared to air and road transport.

Globally, an astonishing 74.5% of transport emissions come from road vehicles, with aviation (11.6%), shipping (10.6%), comprising most of the balance. Because of its low energy usage, rail travel and freight emits very little – it [represents only 1% of all transport emissions](#).¹

Figure 2 shows recent trends in gross emissions from New Zealand's domestic transport sector. Cars are the biggest source of emissions, followed by 'light trucks', many of which are SUVs and double cab utes.

Domestic aviation has been relatively steady since 1990. Nevertheless, domestic aviation, which is primarily just moving passengers, has had emissions 5-7 times that of rail, which moves both freight and passengers. Rail's benefits on lower emissions are clear to see.

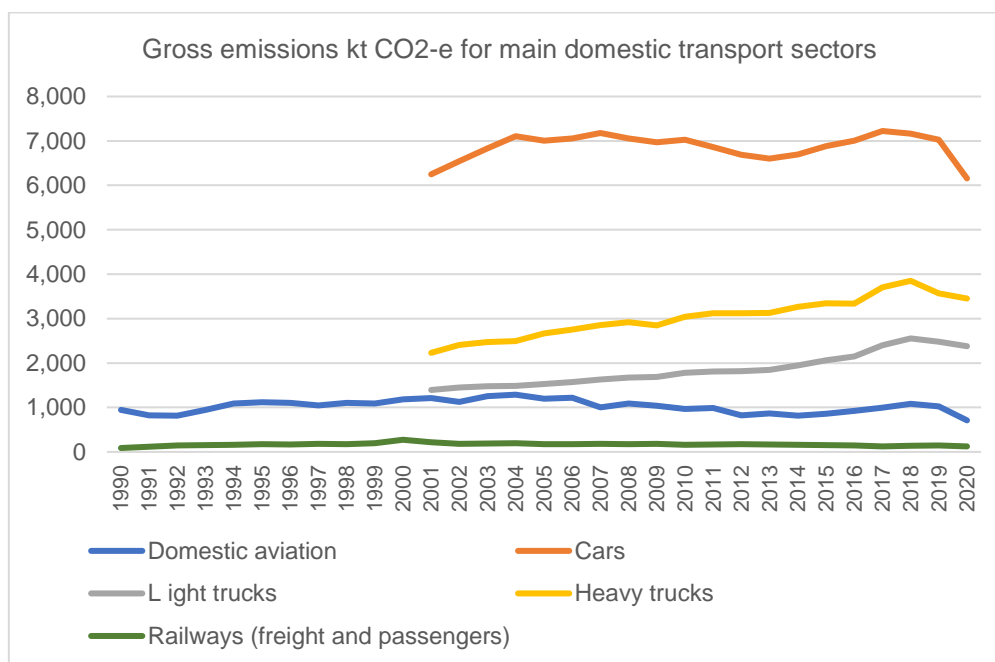


Figure 2: Data sourced from [NZ's emissions tracker](#). Note: The lowered emissions in 2020 reflect the impact of the pandemic

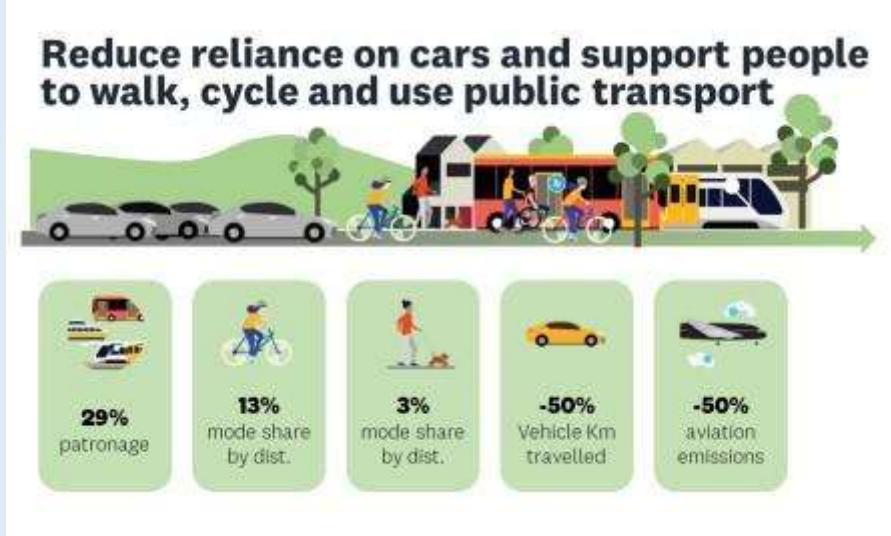
While urban rail in New Zealand is electrified, and part of the main trunk line is also electrified, most freight and the remaining tourist trains are still pulled by diesel locomotives. With NZ's electricity grid powered mostly by low carbon resources ([84% of electricity usage is renewable](#)) investment made to enable full electrification would decrease rail's emission profile even further.

¹ The remaining 2.2% of global transport emissions are classed as 'other'. It represents the transport of oil, water, gas, etc. by pipeline.

NZ's reliance on road transport and aviation is not news – we've been on this pathway for decades. More recently, efforts led by councils (and government) have sought to change that.

Case Study: Auckland's [Transport Emissions Reduction Pathway](#)

In Auckland's recently adopted [Transport Emissions Reduction Pathway](#), there is a target of reducing both domestic aviation emissions and vehicle kilometres travelled by 50% in just eight years through to 2030.



In particular, there are a range of possibilities for reducing aviation emissions. These include:

- Travelling less, both domestically and internationally, and doing business using other forms of communication, such as Zoom rather than in-person meetings
- Adopting aviation decarbonisation using Sustainable Aviation Fuels and electric planes for short journeys.
- Switching to rail for some key routes (e.g., between Wellington and Auckland).
- Travelling less can be done immediately. Alternative fuels are a much longer term (and still uncertain) possibility. But switching to rail is a very attractive option, both on a short and a long term.

The distance between Auckland and Wellington is ~463 km. Taking 2019 [data published by the UK government](#) in 2019, we can directly compare the emissions footprint for flights, cars, coach and rail for a journey of the equivalent distance. Data on Eurostar emissions are [taken from their website](#).

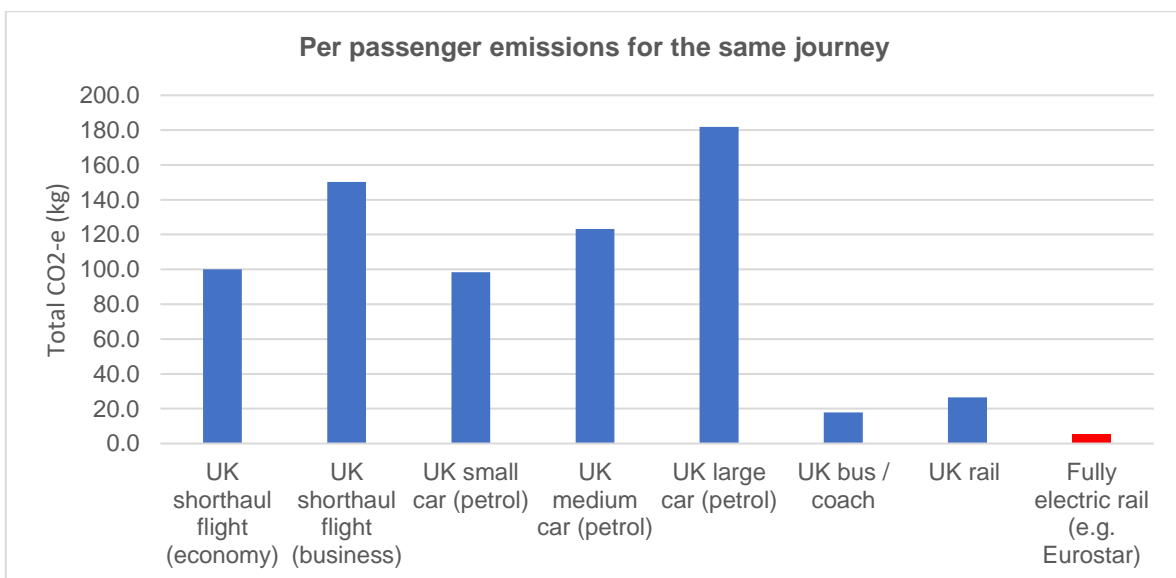


Figure 3: Data taken from UK government statistics, plus Eurostar information (links in the footnotes below)

The estimates for fully electrified rail, based on data from the Eurostar service, suggest that a person travelling between Auckland and Wellington would emit just 5.6kg per person. According to carbon calculator Atmosfair, flying on the lowest emission alternative, a turboprop ATR, [has emissions 11 times higher](#). The Airbus A320 neo – a plane that regularly services the route between the North Island’s two major cities produces 93% higher emissions than an equivalent journey by fully-electric rail. If a sizable number of people could use trains instead of planes, the Auckland targets for domestic aviation reductions would easily be met.

The problem is most people cannot travel between Auckland and Wellington by train due to the current inaccessibility of the service – the ticket price of NZ\$220 and infrequency of the service make it often impractical.

The Public Sector Must Take the Lead

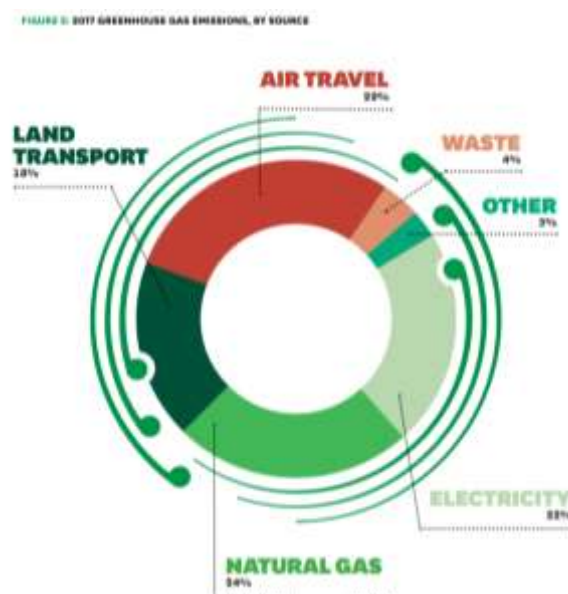
In March 2021 the government released the cabinet paper [Leading the way: Establishing a Carbon Neutral Government Programme](#). This action followed the declaration of a climate emergency in November 2020. The paper states that the government “must show leadership to reduce its own emissions, in order to demonstrate what is possible to other sectors in the New Zealand economy.” One key initiative is to establish *the Carbon Neutral Government Programme* (CNGP).

Case studies published in the cabinet paper showed how, pre covid, aviation was critically important in four diverse organisations.

- For **New Zealand Trade and Enterprise**, air travel represented six of their top ten sources of greenhouse gas emissions; together, they dwarfed other sources, such as electricity, accommodation, and petrol.
- For **Auckland District Health Board** (Including Auckland City Hospital, Greenlane Clinical Centre, and community sites), air travel represented five of their top ten. The largest source of greenhouse gas emissions in their operation was natural gas. Electricity was also a major emissions source.
- For **Massey University**, air travel represented four of their top ten. But operational sources of greenhouse gases were dominated by natural gas, methane from livestock, electricity, and nitrogen from fertilisers.
- The final organisation included in the cabinet paper was the **Energy Efficiency and Conservation Authority**. Air travel represented five out of their top ten. Electricity took the #3 spot.

These examples show emissions from air travel from public organisations are significant and will need to be reduced.

[A study from Victoria University of Wellington - Te Herenga Waka](#), also shows how impactful air travel is when it comes to their emissions.



An OIA request showed that in the 2014-2015 financial year NZTA staff used 23,065 internal flights. By 2018-2019 it had risen to 34,300. Many of those would have been between Auckland to Wellington. Some, perhaps many, of the domestic trips could be replaced by train travel, especially if there was a [night train](#) between Auckland and Wellington.

As part of New Zealand's overall emission footprint, reducing aviation emissions is inevitable in order for our country to meet the goals of the Paris Agreement, i.e., keeping warming below 1.5°C. Based on fossil-fuel powered flying, we'll hit the carbon budgets set by that temperature limit in just 10 years (based on 2019 levels of flying).

To reduce the public sector's reliance on flights, we would need vastly improved regional public transport to support our mobility needs.



Case Study: Will Electric Planes, Hydrogen and Sustainable Aviation Fuels Solve Our Transport Woes.

The efficiency of new planes has been increasing over the long term. However, these improvements aren't happening anywhere fast enough to give us the emission reductions we need. A true transformation of aviation will require development of 'zero emission' planes.

Hydrogen fuelled planes are only in the concept stage. Airbus is aiming for hydrogen-powered flight by 2035. But no such commercial aircraft exist at present, and the [challenges](#) are large.

There is hope that electric planes will soon be flying regional routes. There have been announcements of many start-ups. [Small electric planes](#) are already flying. But there are challenges with the weight of batteries and the amount of energy that can be stored.

A recent [Stuff article](#) investigated the future of electric planes. The author, Nikki Macdonald, wrote that:

"While electric planes might work for short hops within New Zealand, they won't be carrying Kiwis to the world any time soon. Batteries provide about 50 times less energy than jet fuel, for the same weight. They also don't get lighter as you fly.

A July [World Economic Forum report, Target True Zero](#), estimated the maximum range of a lithium ion battery-powered electric aircraft would be 400km by 2035. That's roughly Wellington to Rotorua. By 2050, that could increase to 600km, enough to fly from Wellington to Auckland.

But the battery would need replacing every 500 to 10,000 charging cycles, which could be as often as every few months. There's also the problem of charging infrastructure, and who pays for it. [Sounds Air says its planes will need \\$500,000 chargers, which it can't pay for.](#)"

The much talked about 19 seater electric planes Sounds Air was going to begin using in 2024 have now been abandoned in favour of a hybrid model that still uses fossil fuels and [will not be delivered until 2028](#).

A recent [review](#) of the technology also concluded:

"Electric planes could take to the sky soon, maybe even before the end of the decade. But they probably won't be able to take very many of us very far. For now, unless there's a fjord in the way, you might want to just ride a bike or take the train."

A further report suggests that across the globe, even if such planes are adopted wherever possible, by 2050 such planes will only lead to a reduction of 0.2% of [expected aviation emissions](#).

Then there are Sustainable Aviation Fuels (SAFs). Some SAFs are based on biofuel, some on Power to Fuel (a synthetic process combining carbon with hydrogen). These SAFs can be used in conventional planes. But they are not without their problems.

[Biofuels](#) produced from crops, including palm oil, are a climate and environmental disaster. Biofuel from forestry waste is promoted but it is still just a laboratory process with no plants in the world producing such fuels at scale. Similarly, power-to-fuel (where electricity is used to produce a gaseous fuel) is happening only at limited scale in different parts of the world.

But there is also another challenge with electric planes, hydrogen powered flight or power-to-fuel. That is the ongoing need for vast amounts of renewable electricity.

We need to electrify many parts of our economy. Currently in New Zealand just 28.4% of our total **energy** consumption is renewable and this proportion has barely shifted since 1990. New Zealand has committed to 50% renewable by 2035 which gives us 13 years to do something we've been unable (or perhaps, unwilling) to achieve over the past 32 years).

The options are either to rapidly build much more renewable energy infrastructure or reduce energy consumption where we can. In an ideal world, we'll do both. Most importantly, the climate goals for 2030 and 2050 mean we can only rely on proven, existing technologies.

Low Emission Rail Technology is Already Here

In contrast to promised innovations or whispered ideas within aviation, low emission technology is already in place, in the form of trains. There are electric trains, using overhead wires, operating all over the world. The whole of Switzerland's extensive passenger rail network is electrified.

[Battery powered](#) trains already exist as do [hydrogen powered](#) trains. A life cycle analysis of different transport modes is needed.

The Link Between Transport Choice and Carbon Emissions

In many cities across the globe, car ownership is low. [In Amsterdam](#), just 37.5% of households own a car. London, it's [just 56%](#) – people instead rely on mass and active transit to get around. In New Zealand ([in 2013](#)), 92.1% of households had at least one vehicle, perhaps reflecting the lack of availability of alternatives. But not everyone wants to – or can – drive. GenZ (aged 16-24) and millennials (aged 25-40) across the US and Europe are [buying fewer cars](#) than they once did. [A study from Pew Research Centre](#) showed that majorities of the same groups (56% of GenZ and 57% of Millennials) are in favour of phasing out new gasoline cars and trucks by the year 2035. A quarter of people aged over 55, and a fifth of those aged between 16 and 24, in the UK say that they have (or will) [reduce plane travel](#), due to environmental concerns. Two-thirds of GenZers who say that they ["think about their environmental footprint"](#) would consider taking a train instead of a plane to travel.

With investment in options for car-free city travel in our larger cities, regional car-free travel will be even more in demand. We must improve regional public transport, and provide a sustainable, reliable and accessible alternatives

In addition, it makes sense to touch on EV adoption in NZ and its limited contribution to decarbonisation NZ's road transport. The goal for the New Zealand Government is to have 35% of the new vehicle registrations be electric vehicles (EVs) by 2035. Currently EVs account for [3% to 4% of new vehicle registrations](#). Passenger trains provide a more immediate way to decarbonise interregional transport.



Terms of Reference #6

Investigating potential rail expansions and investments in specific areas, such as Tauranga and the Lower North Island.

Key points:

- The New Zealand Rail Plan and the Rail Network Investment Plan is focused on the metro networks in Auckland and Wellington and freight, not inter-regional passenger rail.
- Regional boundaries, often reflecting water catchments not always aligned with areas of common interest, determine public transport provision.
- Inter-regional public transport should be on the same legislative basis as intra-regional services and that inter-regional services should be able to be funded by the National Land Transport Fund on the same basis as urban services.
- New Zealand needs a national public transport strategy covering inter-regional journeys so that the nation's public transport network can be planned holistically.
- Progressively rebuild passenger rail as part of a low-carbon Aotearoa providing inclusive access.
- Tourism-oriented services that provide a premium customer experience and highlight Aotearoa's stunning scenery should be on top of, not instead of, providing public transport that meets a wide range of user needs.
- Rail capital costs are sunk and can only be recovered by maximising the use of the capital assets.
- Planning should get underway now for plugging the 76-kilometre gap in electrification that will remain between Pukekohe and Te Rapa in Hamilton.
- We support track work to provide faster speeds between Auckland and Hamilton.
- We support advancing planning work for reopening former stations in North Waikato, namely Te Kauwhata, Pōkeno and Tuakau.
- We note that two million people, or 40% of Aotearoa/ New Zealand's population, lives in the Golden Triangle between Tauranga, Hamilton, and Auckland.
- We support the resumption of passenger rail services to Tauranga and are concerned about the lack of investment in track infrastructure in the Bay of Plenty region that would enable this to happen.
- Our initial recommendation for the central North Island is for more station stops for the existing tourist-oriented Northern Explorer service.
- We also call for affordable fares to be available on existing Great Journeys of New Zealand routes. The current fare for the 26-kilometre journey from National Park to Ohakune, taking just 29 minutes, is \$89. This is clearly not affordable for many people.
- We support the implementation of Lower North Island Integrated Mobility Detailed Business Case recommendations to deliver critical passenger transport services as the aged locomotive-hauled trains of the Wairarapa and Manawatū Lines reach the end of their service lives.
- The Lower North Island business case had a much higher benefit cost ratio than the 0.2 achieved by the \$1.5 billion Ōtaki to North of Levin expressway, yet the expressway is proceeding to construction, but the rail business case was not successful in gaining government funding in the 2022 Budget.
- Key to enabling this growth and the support the planned, but currently delayed, investment in Lower North Island rail is unlocking constraints on the North Island Main Trunk within Wellington.
- We also support the development of rail services connecting Christchurch to Timaru and Rangiora.
- We want to see the Southerner return for the full journey between Christchurch and Invercargill and we believe that this would not only provide a better and more comfortable public transport experience but could help create improved tourism flows on the eastern side of the lower South Island.
- Save Our Trains supports the development and implementation of North Island 'Connector' and 'Integrator' proposals.

As is obvious from our name, we are strongly supportive of a much larger role for regional and long-distance passenger rail in Aotearoa New Zealand.

We are appreciative of heavy investment in starting to bring back the rail network to a state of good repair. And we appreciate that it takes time, money, and political commitment over a sustained period to bring rail back to a quality of service that road users take absolutely granted as a baseline. But much more needs to be done so that Aotearoa New Zealand has a national public transport network that provides access to everyone at reasonable prices, while readily able to accommodate premium visitor-focused experiences for those with the money. But it is clear from the New Zealand Rail Plan and the Rail Network Investment Plan that the focus is on the metro networks in Auckland and Wellington and the freight backbone.

The 'Bermuda Triangle' of Transport Investment

Inter-regional public transport languishes in a legislative Bermuda Triangle where current global exemption for inter-regional services is not being reconsidered as part of the Sustainable Public Transport Model. This means that regional boundaries, often reflecting water catchments not always aligned with areas of common interest, determine public transport provision. This impacts on commuters in Pōkeno working in Auckland, students in Richmond studying in Nelson, people in Waihi wishing to shop in the nearest city of Tauranga and people in Taumarunui seeking healthcare in Hamilton and similarly people in Levin seeking healthcare in Wellington. Each of these journeys requires crossing a regional boundary meaning awkward bespoke arrangements and two regions needing to align service specifications, service units and route descriptions in two Regional Public Transport Plans, agree bespoke funding arrangements and then gain Waka Kotahi support to the national share.

Steps to Invest and Expand Inter-regional Rail

Step 1: Legislative and Funding Parity

As a first step, we believe that inter-regional public transport should be on the same legislative basis as intra-regional services and that inter-regional services should be able to be funded by the National Land Transport Fund on the same basis as urban services.

Equity and accessibility issues do not end at city limits, and we know that the quality of life for people with reduced mobility in regional and rural New Zealand is often negatively impacted by the lack of transport choice and the consequent chauffeuring burden this puts on whānau and friends. Aotearoa's Transport Outcomes Framework puts inclusive access front and centre in its outcome, but it is clear that current inter-regional public transport by any mode fails to deliver on the self-same Transport Outcomes Framework. In a country built on a culture of fairness, this is fundamentally unfair.

We believe that there is a bright future for passenger rail, but that current legislative arrangements and delivery mechanisms are simply not fit for purpose and probably never were. KiwiRail has conflicting objectives of being the rail network manager, monopoly freight provider, as well as providing inter island ferries and a small, very expensive and completely international visitor oriented long distance rail network. As an organisation, KiwiRail is moving forward from overseeing so-called "managed decline" of the rail network, basically deferred maintenance, and network operation through speed restriction. It is in rebuild mode and as such appears to struggle with seeing a more ambitious role for passenger rail. And this is in the context of a nation that does not have a national transport strategy, let alone a national public transport strategy.

Step 2: National Public Transport Strategy

Our second step is that Aotearoa/ New Zealand needs a national public transport strategy covering inter-regional journeys so that the nation's public transport network can be planned as a whole as happens as a matter of course with the nation's state highway network.

Step 3: Progressively Rebuild Passenger Rail as Part of a Low-Carbon Aotearoa

Our third step is to progressively rebuild passenger rail as part of a low-carbon Aotearoa providing inclusive access to all, not just those lucky enough to live in the cores of our largest city cities with generally reasonable levels of public transport service. As with healthcare, equitable and dignified access to all of Aotearoa should be a fundamental human right and not a postcode lottery where often the most deprived communities in the nation are the loser.

Step 4: Design for Everyone

Our fourth step is that interregional public transport should be designed for everyone, from affluent international visitors to backpackers on working holiday visas to everyday kiwis of all sorts who just want to get from one place to another without having the choice of car forced on them by the absence of other choices. This means that one service should fit all but does not mean that there needs to be a single level of service. We are supportive of tourism-oriented products that provide a premium customer experience and highlight Aotearoa's stunning scenery, but this should be on top of, not instead of, providing public transport that meets a wide range of user needs for a wide variety of kiwis.

Staged Investment and Expansion

In this section, **we will focus on a range of suggested passenger rail improvements that can be staged and implemented relatively quickly.** We note the significant capital costs for getting Te Huia up and running but see that as a cost of many decades of network neglect and should be treated as such. Like other rail network investment at present, it is simply catch-up expenditure to bring the rail network closer to the quality of service that road users take for granted as a baseline. And must be seen in the context of spending \$2 billion to complete the Waikato Expressway to largely 110km/h standard versus \$65 million for Te Huia operating at an average of half that, 55km/h. The capital costs are sunk and can only be recovered by maximising the use of the capital assets – rolling stock, stations, and other supporting infrastructure.

Auckland Metro

The current Auckland Rail Programme Business Case is likely to suggest that substantial additional investment to create additional trackwork on the North Island Main Trunk line from Westfield Junction southbound which will enable separation of freight and metro services and provides more pathways through the network for regional and long-distance trains. Addressing capacity constraints in the Auckland metro network, itself a by-product of Auckland two-decades of sustained investment in rail, would be strongly supported and is a key enabler of a stronger role for passenger rail in the Upper North Island.

Auckland to Hamilton

There is already a mobilised workforce in place to extend Auckland's rail electrification 18 kilometres from Papakura to Pukekohe. We believe that planning should get underway now for plugging the 76-kilometre gap in electrification that will remain between Pukekohe and Te Rapa in Hamilton. This would provide continuous electrification between Auckland and Palmerston North.

We understand that the Rail Network Investment Programme provides for business case work to get underway in 2023/2024 on duplicating the remaining single-track section of this corridor across the Whangamarino Swamp and at the Ngāruawāhia Bridge. We see this and progressive upgrades of other track sections as relatively low-cost measures to increase line speeds in conjunction with level crossing upgrades.

We note that Te Huia currently has no station stops in the Auckland commuter belt in the North Waikato and support advancing planning work for reopening former stations in Te Kauwhata, Pōkeno and Tuakau. On the face of it, Te Kauwhata appears the most straightforward with an existing platform and pedestrian access, adjacent to the town centre. But the high growth of Pōkeno, effectively in the Auckland commuter belt due to Auckland's well-documented housing affordability challenges, makes this the most urgent issue to address and the station stop with the highest patronage potential. We understand that Waikato District Council owns the land in the station area and that initial concept work has been done on this station location.

We also support the increase in Te Huia's service levels to three return trips on weekdays, two trips on Saturday and a single return trip on Sunday and note with great disappointment Waka Kotahi's refusal to use existing committed funds to enable these service improvements to get underway. It's important to note that rail services are not only for commuters. People take trains for all sorts of reasons. Throughout the Save Our Trains campaign people have spoken of their desire to take trains for health appointment, leisure, shopping, and connecting with friends and family, in addition to work.

Hamilton to Tauranga

We note and appreciate that the recently adopted Tauranga City Centre Action and Investment Plan has provided a space for a regional rail station in the north end of the city centre, slightly north of the station that existed until 2001 for the Kaimai Express service. We also understand that master planning for that precinct is actively providing for this station location. We also note past investment by the Waikato Region in providing longer and more frequent passing loops on the East Coast Main Trunk in the Waikato region, but also note the lack of similar investment in the Bay of Plenty region.

The role of rail freight for the Port of Tauranga is both significant and a positive outlier for a strong role for rail. This increasing rail demand together with the opening of a rail connected inland port at Ruakura means that investment is needed urgently to support both the Port of Tauranga's desire for an even stronger role for rail freight and to enable the revival of passenger rail service.

We strongly support Tauranga City Council's support of passenger rail. There is already a platform face on the East Coast Main Trunk section of Hamilton Frankton Station. With a revived station in Tauranga City Centre, the two key destinations on this corridor would be able to support passenger rail operation. In this, we note that two million people, or 40% of Aotearoa/ New Zealand's population, lives in the Golden Triangle between Tauranga, Hamilton and Auckland.

Central North Island

Our initial recommendation for the central North Island is for more station stops for the existing tourist-oriented Northern Explorer service. We believe that it farcical that Taumarunui is the home for Auckland's cast-off SA/SD train but also has a functioning railway station and platform that is **not** used by the only train that passes through town. To add insult to injury, Ruapehu District Council has invested heavily in making the station a tourism hub, but tourists can't get off the train at the station to visit the tourism hub.

Other station stops could readily be open, and often with the infrastructure already in place, at Te Kuiti, Waiouru, Taihape, Marton and Fielding. We note that the Northern Explorer is typically diesel-hauled through the 428-kilometre electrified section from Hamilton to Palmerston North. Our belief is that the superior acceleration of using electric locomotives on this section would compensate for any journey time increase from additional station stops.

Another recommendation is for affordable fares to be available. The current fare for the 26-kilometre journey from National Park to Ohakune, taking just 29 minutes, is \$89. This is clearly not affordable for most people and is far from providing inclusive access for regional New Zealand.

With the lack of snow, Ruapehu District is repositioning to become a biking centre. Trains are ideal to bring visitors and their bikes.

Save Our Trains supports the development and implementation of North Island 'Connector' and 'Integrator' proposals. Central North regional authorities have advanced these proposals with an interest to better connect their communities and reduce carbon emissions along the North Island Main Trunk railway. This project also aligns with the Lower North Island Rail Integrated Mobility business case and has potential to reduce costs for purchasing new rolling stock.

Lower North Island

Our recommendation is to implement the Lower North Island Integrated Mobility Detailed Business Case recommendations to deliver critical passenger transport services as the aged locomotive-hauled trains of the Wairarapa and Manawātū Lines reach the end of their service lives. This business case had a much higher benefit cost ratio than the 0.2 achieved by the \$1.5 billion Ōtaki to North of Levin expressway, yet the expressway is proceeding to construction, but the rail business case was not successful in gaining government funding in the 2022 Budget. This rail investment will maximise the current significant programme of works on the Wairarapa Line, which enables the service frequencies envisaged in the business case.

Wellington Metro

The Wellington Rail Programme Business Case recommends a range of investments to support the capital region's growth, with especially significant growth planned for the Kāpiti Coast and Horowhenua. Key to enabling this growth and the support the planned but currently delayed investment in Lower North Island rail is unlocking constraints on the North Island Main Trunk within Wellington. Key amongst these is the vulnerable single-track section between North and South Junctions which severely constrains passenger and freight rail capacity; the reconfiguration of the Wellington rail yards to minimise conflicts with inter island ferry freight services; the fourth main track into Wellington Station; the third main track in the Tawa Valley and a turnback platform at Waikanae Station. We strongly support early investment in these upgrades which have co-benefits for all urban, regional, long-distance and freight services.

Upper South Island

The Main North Line provides the primary connection between Christchurch and Wellington via the inter-island ferries. The Coastal Pacific Train resumed serving this corridor from late September but only stops at Rangiora, Kaikōura and Blenheim, leaving many communities, such as the Waipara Valley wine region, without passenger rail service, even though the rail line passes through. Fares start at \$159 for the trip from

Christchurch to Picton which puts the service out of reach of many. As with the Northern Explorer, we recommend providing a more affordable travel option on top of the premium tourist-oriented offering.

Canterbury and West Coast

As per other Great Journeys services, we strongly support more affordable travel options on the TranzAlpine, made more important by the low frequency of other public transport options to the West Coast. On a more positive note, we are pleased that the Tranz Alpine does have station stops in small communities such as Darfield, Springfield, Arthurs Pass, Otira and Moana enroute to Greymouth and wish that other Great Journeys of New Zealand services provided similarly good service to smaller communities enroute.

We also support the development of rail services connecting Christchurch to Timaru and Rangiora. Christchurch is our second largest city and the largest city in Australasia without a functioning rail service.

Canterbury and Lower South Island

We believe that the Main South Line between Christchurch and Timaru provides a real opportunity for the first stage of a revived Southerner passenger service between Christchurch, Dunedin, and Invercargill. The travel times achieved by the Southerner are competitive with current non-peak car travel times, and faster than current peak travel times. The Canterbury Plains provides possibly Aotearoa/ New Zealand's best opportunity for higher-speed rail service to be delivered relatively quickly. Christchurch, Rolleston, and Timaru stations are intact and the first two are currently in use and Timaru has a functioning station and platform. But a new station would be required in Ashburton as the previous unused station burned down several years ago.

We would also love to see the Southerner return for the full journey between Christchurch and Invercargill and we believe that this would not only provide a better and more comfortable public transport experience but could help create improved tourism flows on the eastern side of the lower South Island. Stations are in place, or easily able to be restored in Oamaru, Palmerston, Dunedin, Wingatui, Mosgiel and Invercargill. We are aware of slow travel times between Oamaru and Dunedin, partly due to maintenance-based speed restrictions but also note the stunning scenery rarely seen by visitors on this section of track. We believe that modest investment in track upgrades would make the Oamaru to Dunedin section, which current takes twice as long by rail as by road, more time competitive and viable for day-trip journeys.

