



Creating community connections



Regional Transport Services Review

'Connect the Dots' Outcome Report

December 2023

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Human Transit – Jarrett Walker

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BACKGROUND

1 Introduction

The purpose of the Regional Services Review (Connect the Dots) is to complete a stocktake of all current regional, inter-regional, local and targeted public transport services in operation across the region and identify service gaps within the network. A holistic, big picture view of the region and its connections between cities, towns and villages will be undertaken with a view to identifying areas that currently have none or very few services available. Consideration will be given to:

- a. How current and potential future services could be connected, in the most efficient way;
- b. The timing of current service reviews and contract expiry and any opportunities for alignment or grouping of services;
- c. Consideration of the needs and demands for each area identified as needing a new or additional public transport connection;
- d. Prioritising the identified list of service updates, developments and changes.

This review is **not** a review of individual contracts or services. These are undertaken in line with contract and Public Transport Operating Model (PTOM) requirements. However, this investigation may give rise to recommendations that may lead to changes to existing contracts or services.

This report is the final report in a series of six reports and discusses recommended outcomes from the **Regional Services Review (RSR)** and should be read in conjunction with the following documents:

1. Regional and Inter-regional Public Transport Services Review Scope (March 2023)
2. Regional and Inter-regional Services Review Desktop Analysis (June 2023)
3. Communications Plan for Regional Services Review (August 2023)
4. Communications Review for Regional Services Review (October 2023)
5. Regional Services Review Engagement Report (November 2023)
- 6. Regional Services Review Outcome Report (December 2023)**

It is important to note that while this report is being prepared the **Government Policy Statement (GPS)** on transport is being re-written; with a new GPS impacting regional decisions on future transport service provision. A new draft GPS is expected early in 2024.

STRATEGIC CONTEXT

2 Strategic Context

The Horizons **Regional Public Transport Plan (RPTP)** guides the design and delivery of public transport services.

A well-used public transport system is fundamental to the success of our region. It is critical we have a plan to identify public transport needs and opportunities, and set out the means to deliver these.

The vision is for: *"An attractive, integrated and convenient public transport system that connects us, enhances our wellbeing and environment, and becomes the preferred mode of transport in and between urban areas". (RPTP 2022-2032)*

2.1 Network Strategic Direction

"Ensure geographic improvements are connected and leads towards a simple, connected and convenient regional network. An integrated network that links different layers of services." (RPTP 2022-2032)

2.1.1 Network Vision

"Supplying services at frequencies, hours of operation, journey times, and coverage to offer an attractive and viable alternative to the private car, and provide for multiple destinations, purposes and times of travel." (RPTP 2022-2032)

2.1.2 Network Objectives

How can we create a convenient, attractive, integrated public transport system that connects us, enhances our wellbeing and the environment, and becomes the preferred mode of transport between urban centres, towns and villages?

1. PROBLEM STATEMENT - Public transport is not supplied at a level that is convenient, attractive and viable for everyone, preventing mode shift and inclusive access to social and economic opportunities.

SOLUTION - Provide a simple, connected and convenient public transport network with wide appeal that attracts and retains customers, and encourages mode shift.

STEPS	ACTIONS/RECOMMENDATIONS
Supplying services at frequencies, hours of operation, journey times, and coverage to offer an attractive and viable alternative to the private car, and provide for multiple destinations, purposes and times of travel.	Create services that are fit for purpose to meet demand based on findings from RSR.
Creating public transport lines that are well connected and frequent enough to increase patronage.	Create a transport network with frequent key corridor lines (spine).

An integrated network that links the different layers of services so people can get to where they want to go.	Integrate regional lines with feeder /targeted lines and other modes to allow regional travel.
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2. PROBLEM STATEMENT - A marginal approach to planning and modelling of public transport has led to unequal levels of resourcing and a network that is not as integrated, efficient or as easily understood as it could be.

SOLUTION - A coordinated and evidence-based approach to planning services and taking into account transport corridors and regional transport initiatives, and service goals.

STEPS	ACTIONS/RECOMMENDATIONS
Analyse the RSR survey and add to previous findings and key transport project information to inform future developments and priorities.	Utilise the information and data collected to shape well informed decisions and set service goals.

SOLUTION - Provide a public transport network that is accessible and safe for all users. Provide a public transport network that caters for school travel where possible and targeted school bus services to supplement the public transport network.

STEPS	ACTIONS/RECOMMENDATIONS
Use best practice when making operational decisions to ensure accessibility and safety is not compromised. Work collaboratively with MoE to get best results and minimise duplication and make sure services are complementary.	Implement accessibility considerations for users. Liaise with MoE school transport staff.

SOLUTION - Investigate and explore public transport need and demand across the region with the option to trial and test viability of new services that increase equity of access in the region.

STEPS	ACTIONS/RECOMMENDATIONS
Work with partner organisations and communities to explore and provide specialist and/or trial services in specific circumstances to improve community access to public transport.	Use trials and innovation to prove demand and create ridership and support a business case.
Investigate opportunities to better serve smaller communities at low cost by incorporating them into viable regional and inter-regional routes that connect multiple urban areas.	Smaller communities can be successfully served when they lie on lines between urban centres.
Support public transport access to events to reduce congestion and ensure the continued operational performance of the transport network at these times.	In times of high need, reduce congestion through extra services and/or connections to rail network.
Consider and include service thresholds in service reviews where appropriate. Work towards a regional service threshold framework prior to the next RPTP.	Develop a work stream for this so the whole network has an agreed level of accessibility, safety and comfort.

SOLUTION - Investigate options for equitable distribution of resourcing into public transport across the region, in consultation with the public, territorial authorities and key stakeholders.	
STEPS	ACTIONS/RECOMMENDATIONS
Consult with communities and work with partner agencies and local businesses to identify and resolve funding and procurement issues or barriers affecting the ability to provide public transport services.	Investigate funding options as part of next process to implement network services.
Work with partner agencies to consider the public transport needs across the region.	Ongoing collaboration.

3. PROBLEM STATEMENT - The public transport system is not set up to help reduce emissions and environmental impacts leading to the inability to deliver on community and government expectations.

SOLUTION - Contribute to reductions in carbon emissions from transport and improved air quality through increased use of public transport and decarbonising the public transport fleet	
STEPS	ACTIONS/RECOMMENDATIONS
Provide services to carry people with different trip origins and destinations in the same vehicle.	Implement services that operate on the key transport spines across the region

2.1.3 Network Goals

The basic idea is to transform a historical public transport system, consisting mainly of low-quality routes, into an integrated network of high-quality services and lines.

2.1.4 Network Planning

The essential purpose of public transport is to carry people with different trip origins and destinations in the same vehicle. These travellers can be transported with lower economic and environmental costs than if they travelled separately.

2.1.5 Design Principles

The line is the basic building element of the network. The ideal line runs between A and B and all departures follow the same route and stopping pattern.

A line may have different frequencies on different sections. This allows for the adjustment of capacity to varying demand along the line, without having to adjust or redesign the line geography.

If the demand base along the route varies considerably. It is better to divide the line into separate lines. Then the lines may be run by different types of vehicles resulting in more efficient use of capacity.

A line should not follow different routes at different times or departures. The line becomes difficult to understand by the public and difficult to communicate. Instead create more lines.

A line should not have different stopping patterns on different departures. The line concept loses its meaning. Instead create a new line such as Line 2 as a full stopping bus serving all stops along the route. Line e2 is an express bus service with limited stops on route.

The challenge of service allocation.

How should a transport network divide up its resources among the communities it serves?

The table below summarises three service models. Each model has its pros and cons. The type of models chosen is dependent on the transport aims. For example a network based only on ridership will have greatest environmental benefits by reducing cars on roads.

Table 1 Philosophy of public transport model concepts

CONCEPTS	DESCRIPTION
Coverage	Apportions service to area regardless of density (i.e. all receive same level of service-funding)
Equity	Apportions service proportional to density (i.e. services-funding are linked to population size)
Ridership	Apportions service in response to observed pattern of demand (i.e. services-funding is linked to demand)

The review feedback received was supportive for Coverage and Ridership Goals as prioritised values for designing a regional public transport network.

Coverage versus Ridership Goals

Ridership or coverage? Respond to demand or to individual need?

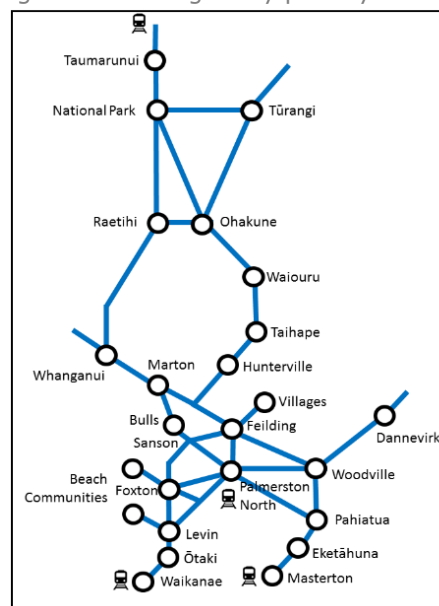
Developing a consensus around service allocation policy between the different goals of ridership and coverage will provide for better designing of services and assessment of services. For example, services justified by the Ridership Goal would be based on their ridership, whereas services justified by the Coverage Goal would be assessed based on the population they cover and the efficiency with which they do that.

Below are examples of the two different models in a regional context.

Figure 1 Ridership only priority network



Figure 2 Coverage only priority network



2.1.6 Discussion

We know current regional services require development. We also know we must be smart as current and future resources for public transport are finite and community support is critical.

To make the most of the available resources we need to be clear on the outcomes we hope to achieve with the services we develop. We cannot supply a level of public transport services across the region that meets all needs.

The review has indicated popular transport patterns; while also reinforcing the diverse nature of the region with many communities spread out and requiring different responses and solutions.

The RPTP outlines a vision of connection. To connect people, places and opportunity throughout the region. Enabling people to use public transport to get where they want to go, when they want to go.

As stated by Jarrett Walker in his book on Human Transit - "One approach to having diverse regional transport, 'anywhere-to-anywhere' travel patterns is to provide 'tailor-made' services for different travel markets: i.e. express buses for peak commuters; regular buses for local trips along busy corridors; and car-like for low-demand corridors and times. The problem with this approach is that the more public transport is tailor-made, the more it surrenders its environmental and economic advantages. A public transport system offering a direct service between every origin and destination would have low frequencies, low occupancies, high costs and high greenhouse gas emissions per passenger. They are not cheap and, without changes to the fuel source, do not reduce greenhouse gas emissions or fossil-fuel consumption."

The alternative is networks. Instead of having tailor-made public transport, the introduction of connections (transfers) enables the provision of a 'ready-made' service. This approach enables 'anywhere-to anywhere' travel, with high occupancy rates, by carrying different kinds of travellers on the same services.

The idea behind the 'ready-made' model is to provide a stable network of routes, or 'lines', that operates consistently and at high standards throughout the day and week, catering for as many different trip types as possible with as few different lines as possible.

The key operational elements of the network approach are:

- integration of all modes with easy and comfortable connections at multiple locations across a region
- a clear and consistent 'line' structure that is easy for users to learn and understand
- direct routes, enabling fast operating speeds and
- higher frequencies where demand is sufficient, and coordinated timetables elsewhere.

This approach relies on the efficiencies created by the 'network effect'. Connections are the key to the network effect.

Connections are integral to a public transport system that offers access to a large number of potential destinations at an affordable cost to the operator. Traditional public transport planning has treated transfers as an inconvenience to be avoided at all costs, but the network approach makes them the building blocks of a multi-destination system.

The recommended model depicted later (3.1.1 Delivery outcomes), uses transfers and different frequency of services to meet coverage and ridership goals.

2.1.7 Considerations for a line

When designing a layered network it is important to be mindful of user considerations. When planning transport connections and looking into the implementation of new or revised services it is critical to consider the following seven demands and phases of a trip as noted by Jarrett Walker in his book *Human transit – How Clearer thinking about Public Transit Can Enrich Our Communities and Our Lives*:

The seven demands:

1. *It takes me **where** I want to go*
2. *It takes me **when** I want to go*
3. *It is good use of my **time***
4. *It is good use of my **money***
5. *It **respects** me in the level of safety, comfort and amenity*
6. *I can **trust** it*
7. *It gives me **freedom** to change my plan*

The seven phases of a trip:

1. **Understanding** – legibility
2. **Accessing** (origin) – location
3. **Waiting** – frequency/reliability
4. **Paying** - \$/time
5. **Riding** – time/quality
6. **Connecting** – minimising through connectivity
7. **Accessing** (destination) – repeat steps 2-7 on return

2.1.8 Considerations for a network

When implementing a regional network consideration for the following:

1. **Location of stops** – ease of access
Connectivity – links destination and origin
2. **Span** – first and last trip
Frequency – how often
3. **Want short** – think whole trip considerations
Ability to do **other things** i.e. useful internet/reading
4. **Cost** compared with other options
5. **Comfort**, courtesy, safety, security
6. **Reliability** – frequency reduces need
7. **Simplicity**, presentation (is it easy to remember and know)

RECOMMENDATIONS

3 Recommendations

The following recommendations from officers are based from analysis of the RSR and take into account previous engagements and future transport projects planned for the region.

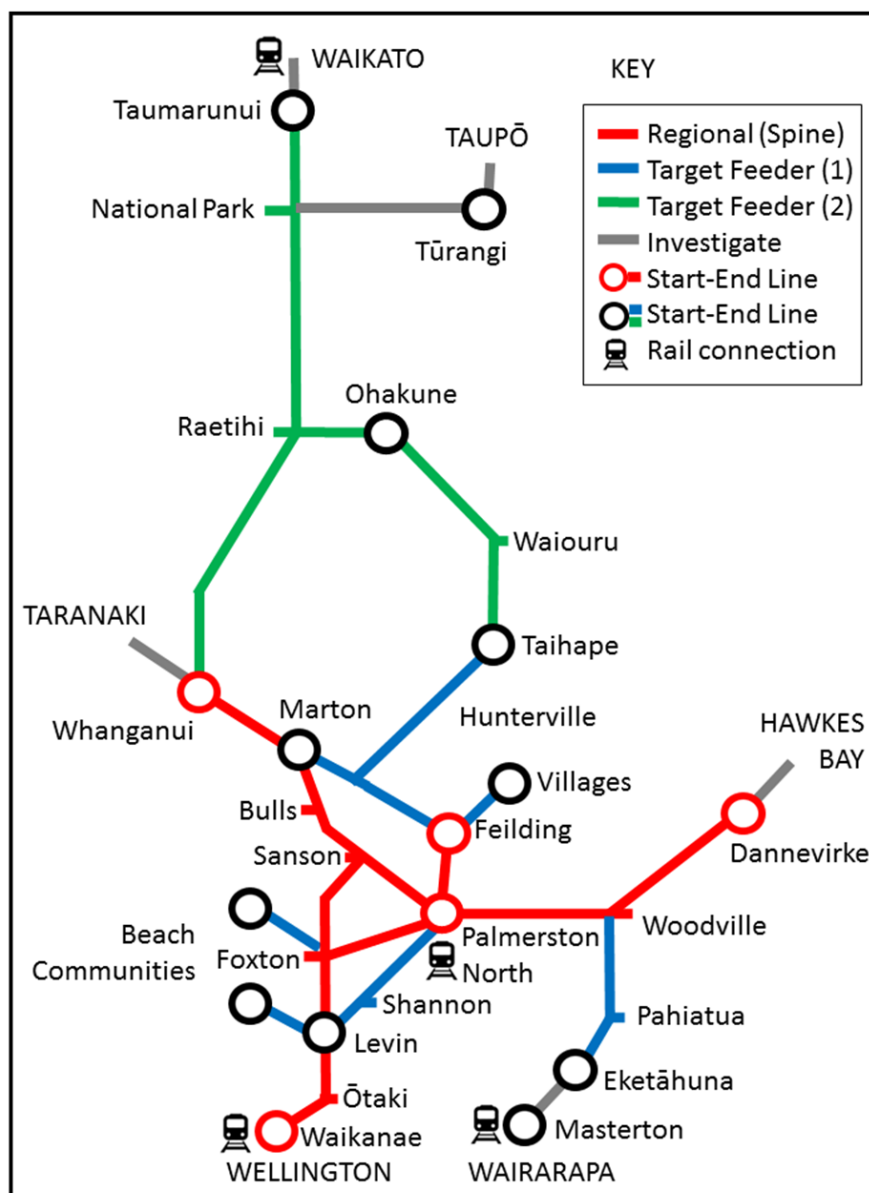
3.1 Network Strategic Outcomes

A connected simple, balanced network that considers ridership and coverage outcomes.

3.1.1 Delivery Outcomes

The diagram below shows officers' line and regional network recommendations.

Figure 3 Diagram of what a potential regional network could look like by 2032



SHORT TERM PRIORITIES

- **Regional services urban to urban (Ridership)**
 1. Palmerston North - Waikanae line (multi-directional) weekdays and weekends with frequency via Longburn -Foxton – Levin – Ōtaki
 2. Palmerston North - Whanganui line (multi-directional) weekdays and weekends with frequency via Bulls, Marton
 3. Dannevirke – Palmerston North line (multi-directional) weekdays and weekends with frequency via Woodville
 4. Feilding – Palmerston North line (multi-directional) weekdays and weekends with frequency
 5. Whanganui – Waikanae line (multi-directional) weekdays and weekends with frequency via Sanson, Foxton, Levin
- **Targeted-feeder services (Coverage)**
 1. Eketāhuna – Woodville/Palmerston North line lower frequency connect to regional services
 2. Manawatū rural connector from villages to Feilding lower frequency
 3. Taihape – Marton line via Hunterville lower frequency

MEDIUM TERM

- **Regional services urban to urban (Ridership)**
- **Targeted-feeder services (Coverage)**
 1. Horowhenua rural connector Foxton Beach to Foxton lower frequency
 2. Horowhenua rural connector to Levin (depending on Levin township service)
 3. Taihape – Feilding line via Hunterville lower frequency
 4. Ohakune – Whanganui line via Raetihi lower frequency
 5. Ohakune – Taihape line via Raetihi lower frequency
 6. Palmerston North - Levin line (multi-directional) weekdays and weekends with lower frequency via Linton – Tokomaru - Shannon – Levin
 7. Other rural connector services

LONGER TERM CONSIDERATIONS

- **Extended services (Investigate further)**
 1. Eketāhuna line to Masterton (in collaboration with Greater Wellington Regional Council)
 2. Dannevirke line to Hastings (in collaboration Hawkes Bay Regional Council)
 3. Whanganui line to New Plymouth (in collaboration with Taranaki Regional Council)
 4. Taumarunui line to Hamilton (in collaboration with Waikato Regional Council)
 5. National Park line to Taupō (in collaboration with Waikato Regional Council)

Implementation timing

The ability to deliver on the short, medium and long term priorities will be dependent on funding allocated to these services through Horizons LTP and nationally through the National Land Transport Programme. The priorities assume that the full regional network will not be able to be delivered at one time.

4 Final steps

4.1 Steps to implementation

Before any improvements, changes and additions can occur with the regional public transport network there are some final steps that need to be completed.

The final steps required to see this review through to a network planning and implementation stage require:

1. Passenger Transport Committee endorsement of the review findings and recommendations.
2. Funding sources from both central (NLTP) and local government (Horizons LTP) are obtained.
3. Future reviews and engagement for individual or groups of services.
4. Passenger Transport Committee endorsement of recommended services for implementation.
5. Horizons Council approval of new contracts & financial commitment.



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