Palmy Transport System Improvement Plan

Palmerston North City Council | Waka Kotahi

January 2022

PALMY

WAKA KOTAHI NZ TRANSPORT AGENCY

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Introduction

The Palmy Transport System Improvement Plan (PTSIP) is a journey based blueprint to improve the city's transport system over the short and medium terms. Developing the PTSIP is one of the key recommendations from the approved Palmerston North Integrated Transport Initiative (PNITI) programme which outlines several significant transport improvements for Palmerston North and the wider Manawatū Region.

The PTSIP brings together existing transport plans to form an integrated multi-modal view of place and movement priorities, including key customer destinations and journeys, to best support the city's transport system. In particular when coupled with the One Network Framework (ONF), the PTSIP provides an opportunity to achieve better integration between land use and transport outcomes for Palmerston North City where growth, accessibility, and place are considered and balanced accordingly.

This report is the technical appendix to the PTSIP key journeys map, and records and summarises the overall background and methodology adopted by partners to develop the plan.

Context to the PTSIP

The transport systems contribution to the city's vision and strategic goals

Council's long-term plan[1] 2021-31 has a vision of making the most of Palmy's small city benefits, while offering the region's communities the lifestyle, education, and business opportunities available in much larger metropolitan cities.

Within the plan, Council recognises that relying on typical small city advantages such as quality of life and affordability will not be enough to compete with other cities. Council intends to be ambitious, agile, and innovative in actively promoting and positioning the city to take advantage of opportunities available, while retaining the strengths and values that give Palmerston North its character. Supporting the Council's vision are five strategic goals, as shown in Figure 1, which provide further detail on Council's focus areas.

The transport system in terms of design, accessibility, and the way we travel to and from our destinations, relates directly to Council's ability to achieve the targets supporting these goals. For example, achieving a 30% reduction in CO_2 emissions by 2031 will be challenging and is likely to require a notable change in how people and goods move about the city and their communities.

Council's vision, goals and targets have been considered and incorporated into the key journeys map with a particular focus of supporting low carbon transport, improving access to key destinations including the river, and where possible reducing and/or avoiding severance issues particularly in new growth areas. These outcomes and objectives are well aligned to the transport outcomes the government prioritises and invests for via the National Land Transport Fund and Programme.

Figure 1 | Palmerston North's strategic direction

[1] Available at https://www.pncc.govt.nz/media/3134098/10-year-plan-2021-31.pdf

PNITI and the PTSIP

The recently approved PNITI programme contains eight initiatives (see Figure 2) to be completed over the next 30 years. These initiatives include significant projects such as:

- investigating an outer ring route to improve inter-regional access for people and goods
- improving multi-modal access and choice
- supporting place making through the Enabling Streets for People programme
- better integrating land use and transport planning to improve liveability and transport outcomes.

Much of the PNITI programme has been designed to support the Manawatū/ Whanganui region and government's economic development aspirations and plans which contains a significant investment programme across several sectors.

A sizeable proportion of the investment is not envisaged to be required in the short to medium-term.

Significant state highway investment included in PNITI is not envisaged to be required until the KiwiRail regional freight hub comes online in 10-15 years' time.

Figure 2 | Summary of the PNITI programme

The PTSIP[2] is one of the first initiatives in the PNITI programme and is required to inform and shape short-term investment priorities and projects.

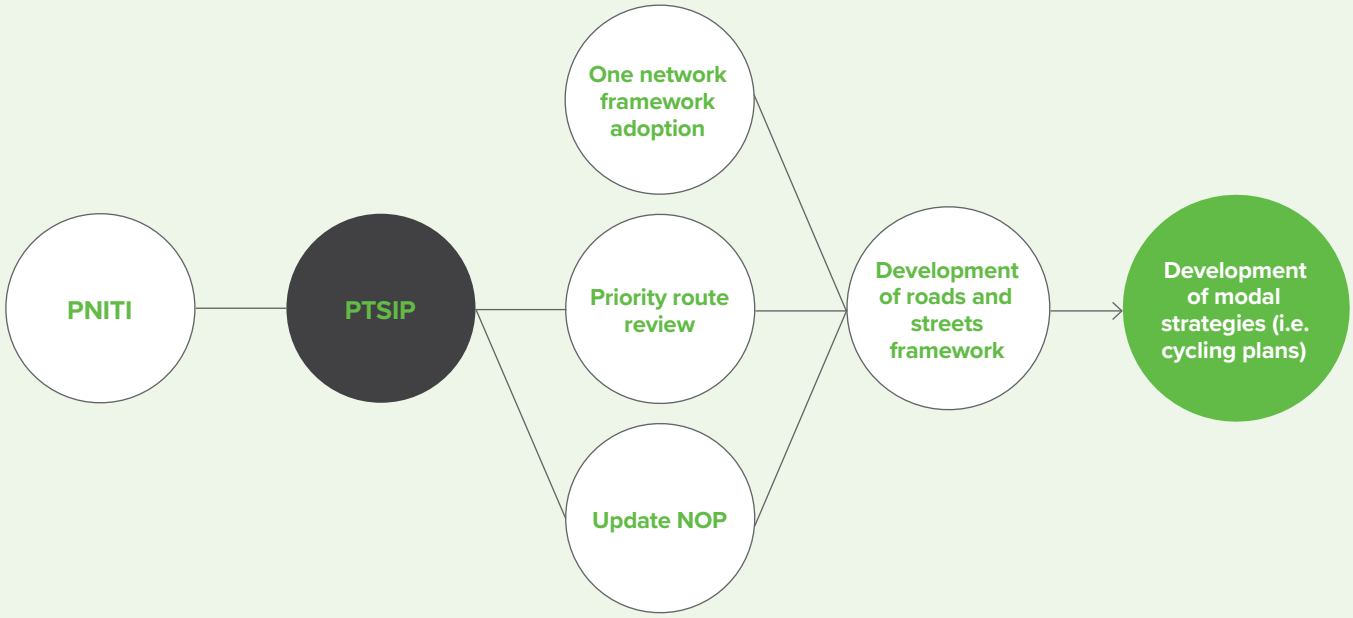
Doing so:

- better integrates the long-term PNITI programme with the more immediate improvements necessary to support key journeys and destinations
- guides the development and delivery of safety improvements and low cost, low risk activities by setting out an agreed template for key journeys within the transport system.

With the PTSIP to help guide and integrate several different programmes, the consequences of the forecast increase in transport movements, such as safety and maintenance, can be better managed. The connections between PNITI, the PTSIP, and other transport related tools and strategies is outlined in as illustrated in Figure 3.

[2] called the Palmerston North Regional Transport system improvement plan (PNRTSIP) in PNITI

Figure 3 | Connection between PNITI, the PTSIP and other key transport frameworks and tools



Palmerston North's transport system supports inter-regional and local journeys

With its central location and connections to several state highways and rail lines, Palmerston North is unique in providing a transition between north-south and east-west road and rail movements for New Zealand (see Figure 4). As such, Palmerston North has a critical function in being a national distribution hub for many freight journeys within the North Island and particularly the lower and central North Island logistic supply chains.

In addition, Palmerston North has a well-defined city and retail centre which is supported by significant primary and educational industries. Palmerston North is an important regional service centre for the wider Manawatū/ Whanganui region with many of the primary industries located within the peri-urban and rural surrounds of Palmerston North, Horowhenua, and Manawatū districts. This means the city's transport system needs to cater for more than just the people who reside and work in Palmerston North.

Combined there are approximately 22,000 traffic movements per day into and through the city.[3] These movements are to access jobs, education facilities, and other social opportunities such as retail, health services, recreation, and community facilities, along with the several industrial areas located within and on the outskirts of the city. All these journeys and different modes need to be considered when planning the transport system.

Based on Council's 2018 freight demand study, heavy vehicles are permeating through the city's urban and rural streets to find the easiest and most convenient route to reach their destinations. This suggests the freight hierarchy is not well defined, and there are opportunities to explore and encourage freight vehicles to use particular routes. The PTSIP help clarify the street hierarchy to better support freight movements and helps to avoid heavy vehicles travelling through residential areas where mode conflicts are more likely.

[3] Horizons 2015-2025 2018 RLTP Section 3.3 - highlights growth is a key issue for the region's transport system, including Palmerston North.

Figure 4 | Lower North Island strategic transport connections

Port[28] (2018)	Imports (Value $M)	Exports (Value $M)	Imports (Volume Tonne 000)	Exports (Volume Tonne 000)
Eastland Port	0	528	0	2,999
Napier Port	913	3,895	718	3,679
Port Taranaki	271	1,791	855	3,335
CentrePort	2,539	1,435	1,442	1,945

Airport (2018)	Passager (000)
Napier	697[26]
New Plymouth	455[27]
Palmerston North	687[28]
Wellington	6,337[29]

Legend

Connections

- Nationally significant
- Regionally significant

Key Flow

- Freight and tourism
- Freight
- Tourism
- Freight hubs
- International and domestic airport
- Domestic airport Top ten be passenger numbers
- Visitor destinations
- Main sea port
- Cruise ship port only

Population growth

Palmerston North's population has been steadily increasing, with further ongoing growth expected. The effect of growth is starting to be felt across the city's transport system in terms of maintenance and demand, and transport customer levels of service, particularly during peak periods when people travel to and from work and education facilities.[4]

With significant transport investments planned throughout Palmerston North and the Manawatū/ Whanganui region over the next 10 years as part of PNITI, planning for growth is necessary to help maintain reliable and effective transport connections to and within the city. Smart integration between land use and transport planning will be critical to ensure Palmerston North continues to deliver on its vision for the city and aspirations of its communities.

[4] ibid

Community insights about what is valued and why

Great communities have transport systems where the balance between people, place and movement has been successfully achieved. With a growing population, an increased demand for goods and services, and increasing community expectations of government, a transport system must deliver more than just roads and footpaths.

Community feedback

In developing the PTSIP, recent community engagement and consultation processes were reviewed to help inform what the community currently likes and dislikes about Palmerston North. The key themes included below are a collation of the common and recurring messages to the Council from these recent engagements. Appendix A contains a more detailed synopsis.

The comments have been summarised from the following Palmerston North City Council documents and community engagement processes.

Palmerston North annual residents survey 2021/2021

Annual resident's survey undertaken by Palmerston North City Council to ascertain community satisfaction levels across Council's significant infrastructure and regulatory services.

Palmerston North draft Long Term Plan 2021-31 - summary of submissions

Palmerston North City Council's 10-year Plan (long-term plan) outlines how the Council wants the city to develop and sets out the projects and services they will provide over a 10-year period. Public submissions are received on the draft Plan that detail community ideas, insights, concerns, and aspirations.

The key themes and supporting examples identified, outline how important the Palmerston North community views 'transport' in delivering or supporting many of their life values and community aspirations. It outlines the important role transport plays in helping people live, work, learn, play, and move.

The importance of having well maintained public infrastructure, feeling safe no matter how they choose to travel, having good access to key places and centres, ensuring people respect others and 'share' the system, and wanting a reliable and consistent travel experience, were common themes throughout the feedback.

Summary of key themes

The key themes and supporting examples are written as statements of what the community 'would like to see or experience' in their city and neighbourhoods, based off the common messages from the feedback.

1 Well maintained roads, paths, and street lighting

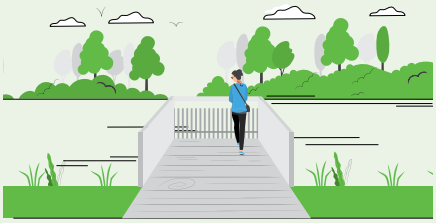
The community would like to have:

- Roads that are well maintained and of good quality, and when issues arise i.e., potholes, these are fixed in a timely manner.
- Shared paths, footpaths and cycleways that are well kept, with the berms mown, rubbish removed, and the surrounding flora pruned and maintained.
- Streetlights that are all working and well-lit to support safe travel whether driving, walking, or cycling at night.

2 High quality travel choices

The community would like to:

- Move freely around their neighbourhood and city centre by having easy access to a range of different travel options for work, study, or leisure.
- Rely on how long each trip will take and how much it will cost, so they can make an informed choice.
- Use a well-connected public transport system to access neighbourhoods, shopping centres, schools, employment, and the city.
- Travel on buses that are comfortable, run frequently, and are a comparative cost to driving their car.
- Have easy access to parking facilities, that are comparatively priced, and are well connected to activity centres and other modes of transport.



3 Strong connections to the river

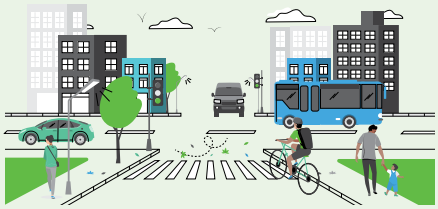
The community would like to:

- Have easy access to the Manawatū River from multiple points across the city and via all modes of travel.
- Use high-quality shared pathways along the river, that are well connected to the city centre, University and surrounding town and neighbourhood centres.
- Have many opportunities to socialise and enjoy the Riverfront including walking their dogs, cycling, running, and playing along the waterway.

4 Shared space where everyone wins

The community would like to see:

- Walking, cycling and shared paths within the city and neighbourhoods that are well used and enjoyed.
- Good signage and road treatments that clearly show and support different transport users.
- People take their time and share the road, lane, or path, so that everyone is safe and enjoys their experience.
- Children cycling safely to school with good choices of using shared paths or dedicated cyclelanes.
- Footpaths, roads, and crossings within the city centre that are well designed to ensure pedestrians feel safe and can move about freely.
- A city centre where cars and bikes take their time, slow down, and give way to people walking and enjoying the inner precinct.



5 The right mode on the right road

The community would like to see:

- Different transport journeys that are well designed to encourage different modes of travel to avoid conflict on main roads and shared pathways, such as for large trucks, cycling or pedestrians.
- Cycleways and shared paths that are clearly marked and signposted, so they are safe to travel on with other traffic.
- Different treatments on different journeys to support cyclists whether they are commuting to work, biking to school, or cycling for recreation.
- Local goods and services have easy access to distribution points around the city, through dedicated journeys, to access business, industry, and neighbouring centres.

6 Future focused infrastructure

The community would like the:

- City to be well planned for growth, including provision for critical infrastructure.
- Planning of the transport system to be aligned with land use development so that new housing and businesses are well integrated and support existing people's lifestyles and livelihoods.
- City's new growth areas to be supported by multi-model transport options, including good public transport, and connected walkways and cycleways, so that people have a choice, rather than just private vehicles.

Developing the PTSIP

The PTSIP defines the transport routes for strategic journeys and key destinations within Palmerston North by mode (passenger transport, active modes, trucks, and cars) and customer (freight, commuter, education, and general public and traffic). The focus of the PTSIP is to define the function of key transport corridors from a mode and customer perspective, rather than technical analysis, to provide a more integrated transport perspective. The strategic journeys and associated routes described are for a future state and assume necessary changes have taken place to support and enable these routes within the city's transport system.

Identifying strategic journeys, key destinations, and places

The strategic journeys, key destinations, and places have been defined primarily through qualitative methods. The starting point for determining Palmerston North's strategic journeys was the:

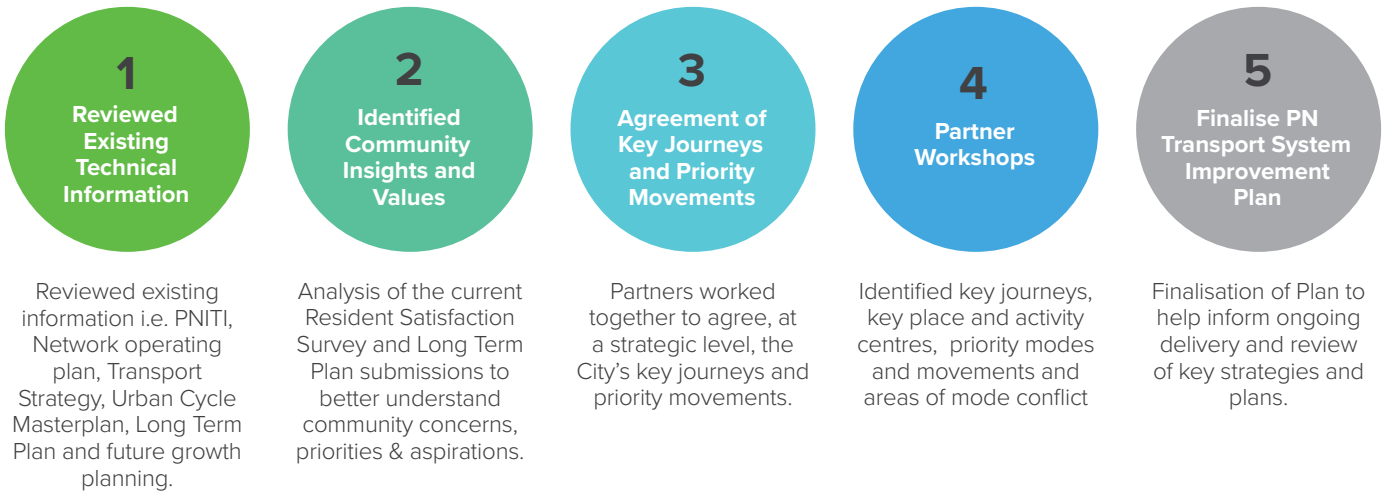
- One Network Framework (ONF)
- Palmerston North Network Operating Plan (NOP)
- Urban Cycle Network Masterplan
- Council's Long Term Plan
- Council's current and future land use plans (particularly future industrial and residential zones) within the city.

Analysis and modelling data from the recently completed PNITI business case was also used where applicable. These plans and documents provide a framework to identify key destinations within the city and potential strategic journeys and routes to access these by mode and customer.

Council and Waka Kotahi staff input was used to confirm the key destinations and places, including significant employment areas such as Massey, Linton, the Defence Force, and industrial areas, as well as the primary, secondary, and tertiary educational facilities. These destinations are important as they generate peak demand for access during the weekday mornings and evenings peak. Other recreational, industrial, and retail destinations were also identified and included where relevant. These destinations can generate significant traffic movements during the day and on weekends. Finally, future residential and industrial growth areas were identified where known, as these are future destinations people will want and need to access.

Once the key places and strategic journeys and routes were identified, staff input was used to consider which mode and movement should have priority over another in each corridor. Freight, PT, cycling, walking, and general traffic were the key modes considered in terms of prioritisation, including where multiple modes are using the same corridor for particular strategic journeys at the same time. The purpose of this exercise was to identify where current mode conflicts are occurring within the transport system, and whether alternatives could be found. A summary of the process followed is included in Figure 5.

Figure 5 | How the PTSIP was developed



Insights that arose from the workshops

From the discussion and mapping exercises, the following issues and insights were identified, and further explored.

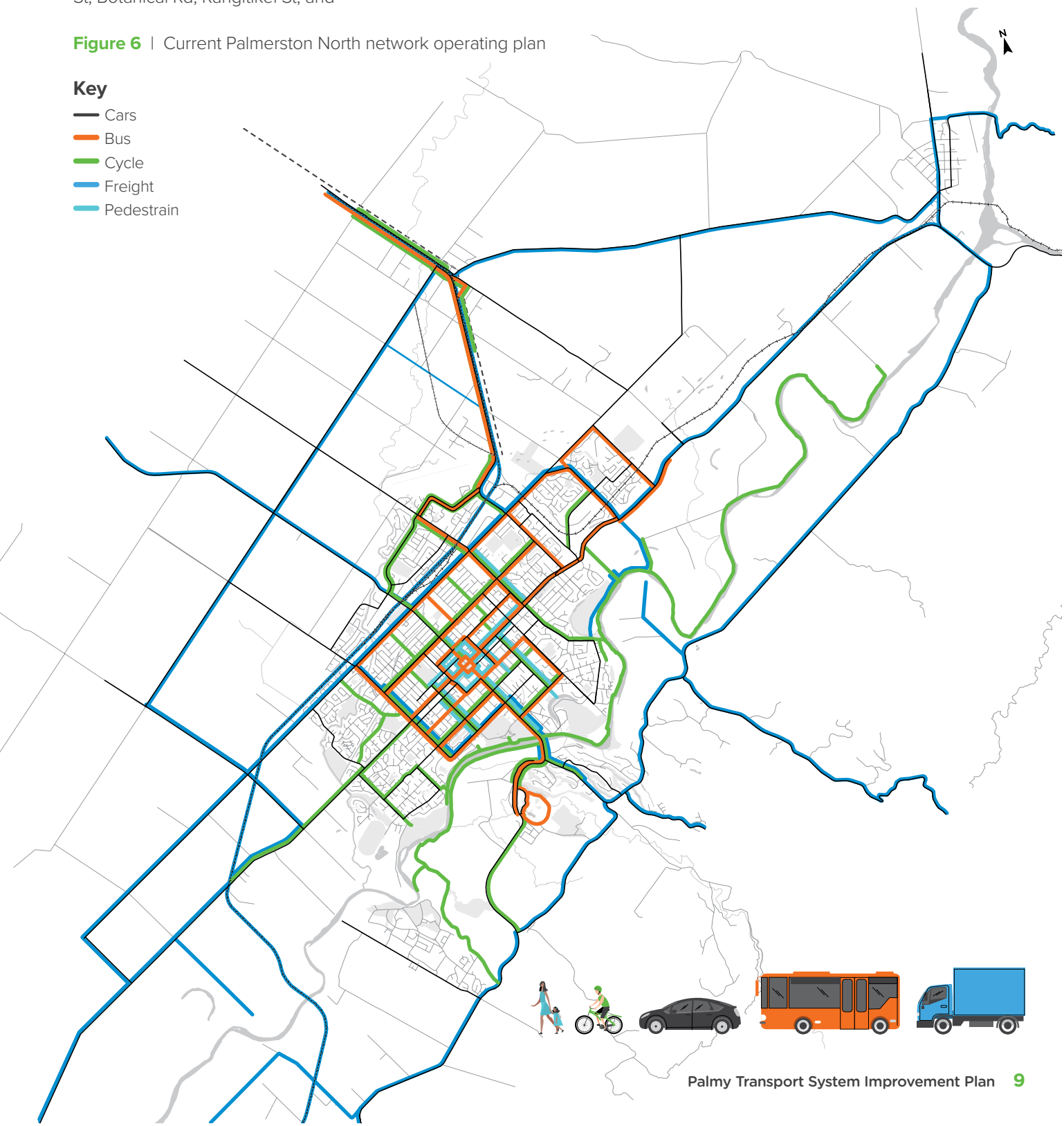
Network operating plan (NOP)

When the modal routes are combined based on the current NOP, it is clear some corridors are catering to multiple modes and are working hard (see Figure 6). In particular, Tremaine Ave, Main St, Fitzherbert St, Botanical Rd, Rangitikei St, and Railway Rd support all modes and carry significant volumes of traffic.

For freight, the NOP outlines preferred freight routes primarily based on accessing and going through the city from SH56, 57, and 3.

Based on traffic data, there are inconsistencies between the nominated freight routes in the NOP and current use that can be addressed and resolved. The most significant is the departure from the NOP preferred freight routes of Fitzherbert/ Park/ Botanical onto Tremaine when coming from SH56/ Tennent Drive. Traffic data suggests freight movements are greater on Te Awe Awe and Albert Streets, which is a shorter and more direct route to Main Street/ SH3, and/or Tremaine Ave, and key freight-based destinations in the north-eastern aspects of the city.

Figure 6 | Current Palmerston North network operating plan



While Te Awe Awe/ Albert Streets are a nominated over-dimension route, it is also a residential area with parking on either side, provides access to multiple schools and sports fields, and are key and popular access points to the river. Additionally, the preferred freight route of Park and Botanical Roads also provides access to multiple schools and recreational areas, and bike access to the recreational route via He Ara Kotahi. These roads currently have bike lane markings and are also used by heavy commercial vehicles (HCVs), which creates potential inconsistencies and unsafe mode conflicts (real and perceived).

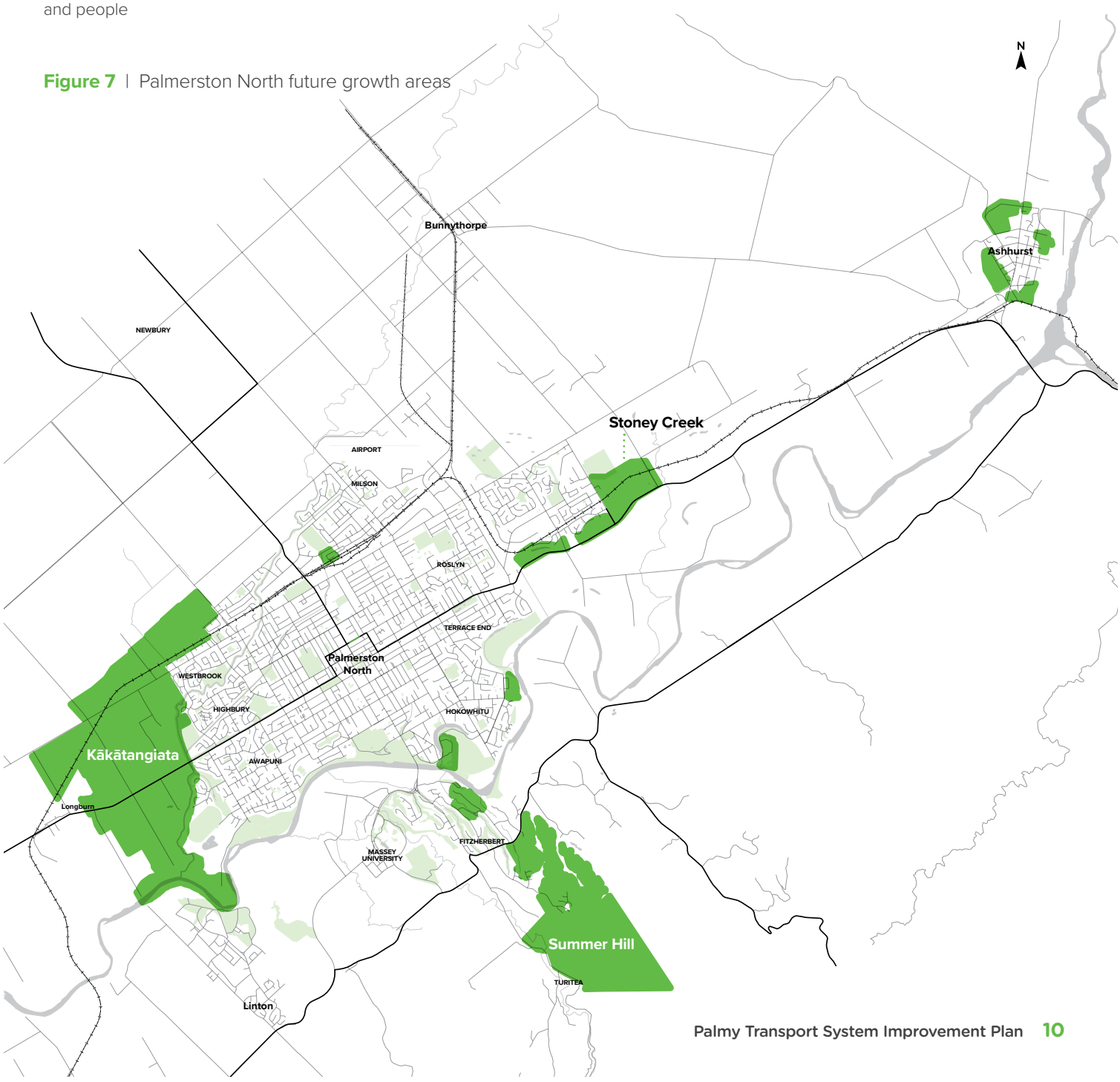
Based on modelling completed through PNITI, freight growth is expected to occur on SH56 and Tremaine Ave. Less freight growth is expected on SH57 and Fitzherbert Ave. It is worth noting that the modelling does not include the KiwiRail regional freight hub nor any additional freight trips that the hub may generate. Addressing the mode conflicts between freight and other modes where practical, and providing greater clarity about the preferred freight route, was identified as a key focus when developing the PTSIP.

Land use and liveability

In discussions with staff, it became apparent achieving liveability outcomes for some of the future growth areas (such as Summer Hill, Kākātangiata, Kelvin Grove, and Stoney Creek) is likely to be reliant on managing the severance and other associated transport impacts of adjacent state highways or key arterials (see Figure 7). While noise and other negative transport impacts can be managed through buffer zones and other mitigations, reducing the community severance impact[5] is often more complex and challenging.

[5] Community severance occurs where transport infrastructure or the volume and/or speed of traffic limit people's access to good, services and people

Figure 7 | Palmerston North future growth areas



These issues are further complicated by the need to balance the Manawatū/ Whanganui's economic development aspirations for Palmerston North to be a premier freight distribution centre servicing New Zealand's logistic supply chains. Both are necessary to support each other.

Maintaining the complementariness between these growth aspirations is necessary to ensure future economic growth and liveability. Considered trade-offs that balance liveability and freight efficiency are likely particularly where future growth areas are adjacent and/or bisected by current and future state highways and arterials.

The final aspect is the strategic function of the proposed new southern river crossing. The crossing is included in PNITI, connecting the north-eastern and southern sides of the proposed ring route. Consideration via future business cases, as to the purpose, function, and use of the ring route and river crossing, will be important particularly in terms of providing inter-regional access.

Given the proximity of the potential route and crossing, land designation is likely to be necessary within the planned Kākātangiata development to help avoid future adverse impacts and community severance issues. The land designation is an aspect to consider through the development and approval of the Kākātangiata structure plan.

Considering planned and future development areas within the city and their accessibility is a core component of the PTSIP, particularly when considering future key journeys within the city.

Accessibility

From an accessibility perspective, the following aspects were identified through the workshop:

- The inner-city route as a concept is not clear or reinforced with signage and/or traffic management initiatives to encourage use of this route. The result is multiple traffic movements coming into or near to the Square and the central business district. As a result, there is a confluence with people accessing the Square and surrounding retail and hospitality outlets, which reduced accessibility for all.
- Access is limited into and from the city's north-eastern quadrant. People living in this quadrant have limited modal choice, likewise for those accessing jobs at the numerous businesses located in adjacent industrial precincts.
- Transport planning and the city's strategic direction are not always well-aligned which causes confusion. For example, access via key routes to the river is identified as being important to the community and is part of the Council's strategy. However, the communities' desire and Council's strategic direction are yet to be reflected in the transport plan and network operating plan (NOP).

These aspects have been considered when developing and prioritising the key journeys by mode and customer.

Key places and movements within the city

As part of the workshop, key places such as employment areas, areas for recreation, schools and education facilities, industrial and commercial areas, retail and so forth were identified and movements mapped. These are summarised in Figure 8, and are based on:

- The most significant freight destinations are in the north-eastern quadrant of the city, which is expected to expand. There are limited direct routes enabling access.
- The Higgins' Hokowhitu site is a significant origin/destination for heavy vehicles. There are future plans for this site to be rezoned and Higgins to move to the north-eastern quadrant of the city.
- The central business district within the inner-city ring route and Rangitikei Street are key areas for employment, retail, and hospitality, and provide a critical sub-regional function.
- Schools are a key destination and generator of trips, particularly in peak times.
- Linton and the Massey Campus are significant employment areas and generator of trips to the south-west quadrant of the city. While access and travel choices to Massey are good, Linton has limited travel choices available.

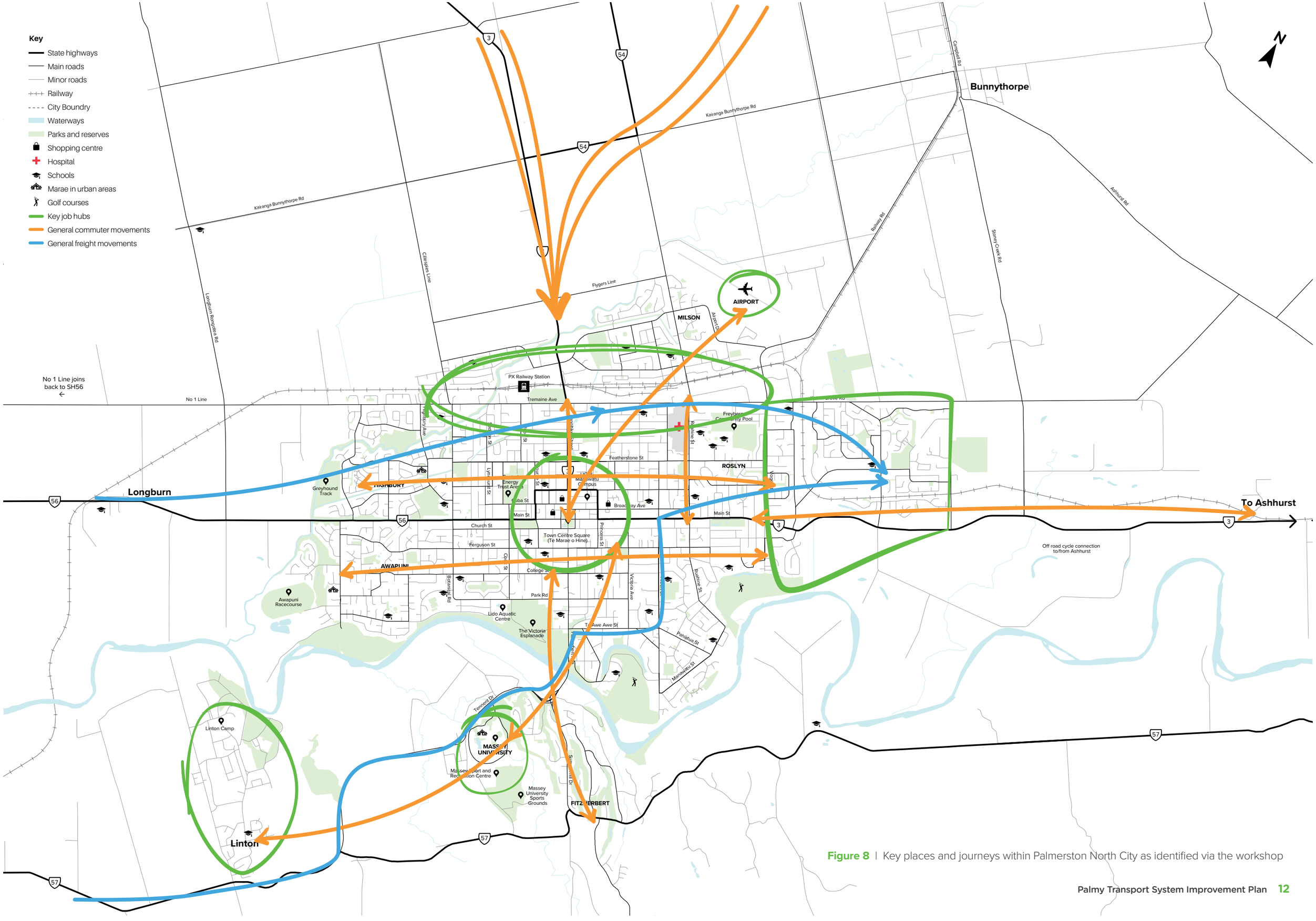


Figure 8 | Key places and journeys within Palmerston North City as identified via the workshop

The PTSIP key journeys and routes

Different transport journeys need to deliver different customer experiences across a city and district's network. The critical journeys need to work as a system to ensure the right mix and balance of modes, time, and place, to move people and goods, is achieved.

Place and movement principles

Within Palmerston North, many transport journeys involve travelling through urban, peri-urban, and rural areas, reflecting the breadth of the city's economic activity and the different key destinations within the city. It is important that the function of these journeys support the adjacent land uses and community expectations for access which means that trade-offs are required to be made at different points of the journey in terms of connectivity, amenity, speed, and priority. For example, town centres are typically designed for people with slower speeds, pedestrian friendly street design that is well integrated with the retail or urban land use. In contrast, journeys that are focused on the efficient movement of people and goods, such as motorways, key arterials, or rail, prioritise regional access over local access and only integrate with land use at managed intersections or key nodes/stations.

In developing the key routes, the following principles were applied:

1. Where possible avoid mode conflicts particularly between active modes (walking, cycling, micro mobility) and trucks and buses by using alternative routes and/or time of day options.
2. Where mode conflicts cannot be avoided, road safety is prioritised first before other outcomes.
3. Different customers have different requirements. Where possible, catering to these requirements, across different journeys, helps influence route choice.
4. The balance between movement and place is necessary particularly for places, centres, and areas that are important to the community such as the Square and having access to the Manawatū River.
5. Using the Waka Kotahi transport intervention hierarchy[6] to maximise and optimise first before considering new infrastructure options.

These principles helped shape the key routes particularly where trade-offs were made between modes.

The Palmy transport system improvement plan - key journeys map

With a predominantly grid-based transport system, several opportunities to improve movements through the city are possible through the implementation of considered interventions to encourage and where necessary disincentivise particular modes and customers.

For example, parking management (pricing, time, turn-over, location and number of available parks) can be used to both encourage and disincentivise movements into the city centre. Likewise, cycling routes that look safe and provide access to schools, help encourage use.

The final *PTSIP Key Journeys Map* (see Figure 9) outlines the key places/ destinations within the city and the future journeys and routes that could be encouraged. The map is based on technical information reviewed, community insights gained, and workshops and discussion with Council and Waka Kotahi staff.

Most key journeys will have both a place and movement function and at least one priority movement/mode. This defines the movement and placemaking focus of the journey and helps to inform decisions on allocating space to the different modes to move people and goods as well as access to adjacent land uses.

Photo credit: ManawatuNZ.co.nz

[6] The Waka Kotahi intervention hierarchy is available at https://invest.nzta.govt.nz/mod/page/view.php?id=329

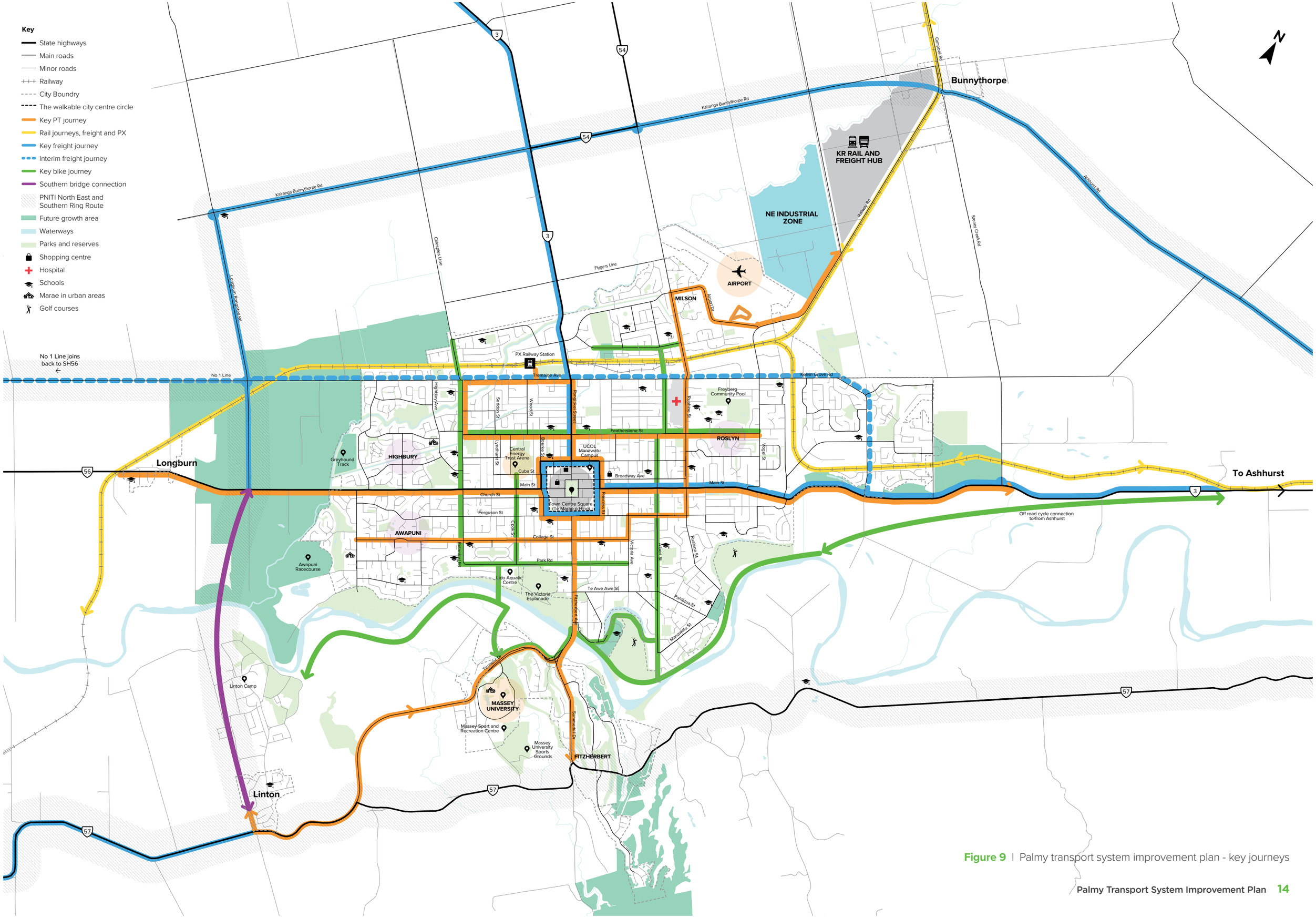


Figure 9 | Palmy transport system improvement plan - key journeys


Photo credit: ManawatuNZ.co.nz

The main changes from the current network operating plan are:

- Using SH56/ No. 1 Line/ Tremaine Ave as an interim freight route to the longer term solution (SH57 with a new bridge and connection to Kairanga Bunnythorpe Rd) to direct freight heading to the north eastern industrial areas away from accessing the city from via Tennent Drive.
- Using the inner-city ring route to support public transport journeys and increase the public transport connections and access to the airport, train station, hospital, Linton, and the industrial areas – current and future.
- Using Park and Botanical Roads for bike journeys to support safe and direct access to the schools and recreational facilities along this journey.
- Extending the public transport journey to improve access to Linton, particularly during peak periods to support commuter demand.

The rationale for the journeys in the PTSIP is to:

- Free up and reduce mode conflicts for most of the city's transport system.
- Enable freight to have more direct access to freight-based destinations, mainly along Tremaine Ave and the Kelvin Grove industrial area. This is supported by modelling completed for PNITI which suggests that future freight movements are likely to be greater on SH56, Tremaine Ave and Railway Rd, and more modest in the southern part of the city such as Fitzherbert Ave.
- Reduce the need for inter-regional freight using Fitzherbert/ Park/ Botanical, Te Awe Awe/Albert, Rangitikei Street, Featherstone or Main to access/leave freight destinations which reduces conflicts.
- Provide increased South/North and West/East access via public transport and active travel modes.
- Enables the 'inner-city loop' to support public transport, general traffic movements and inner-city local freight distribution.
- Support Council's plans to enhance the city centre for safer and friendlier pedestrian and bike access within the Square and inner-city loop precinct.
- Support Food HQ/ Massey's plans for improvements to the university precinct and reduce the severance impacts currently experienced with Tennent Drive.
- Supports future access to the KiwiRail Regional Freight hub and northeast industrial area and the longer-term plan of a ring route as per the PNITI business case.

A summary for each of the priority modes and movements, key journeys and support principles envisaged is outlined in Table 1. For mode priority/ movement, it is important to note that priority can be defined on a time-of-day basis where one mode is prioritised at certain time and a different mode prioritised at other times i.e., during peak periods and outside of the peak periods.

Table 1 | Summary of the Palmy key journeys

Freight

Key journeys	Key principles
Access to industrial areas and distribution centres (current and future) • Interim freight access via SH56/ No. 1 Line – Tremaine Ave – Kelvin Grove Rd/ SH3 • Longer term connecting to the KiwiRail Freight Hub and NE Industrial via PNITI improvement of a SH ring route alignment connecting SH57 via a new bridge crossing to Kairanga Bunnythorpe Rd/ Ashhurst Rd/ SH3 • SH1/ SH3/ Tremaine – Kelvin Grove Rd/ SH3 **Internal city access** Tremaine Ave/ Rangitikei St/ Inner City Loop/ Main St **Rail freight** Freight in, through and out of Palmerston North, via the rail line.	• Freight vehicles can avoid delays and travel at a consistent and safe speed. • The journey is predictable and takes the same amount of time, most of the times travelled. • In urban areas such as the town centre, a level of freight priority is provided for local deliveries through space allocation that may be shared with buses and have appropriate end of trip facilities e.g., loading, parking areas. • Freight and passenger rail services are well planned and integrated, to ensure access and efficiency outcomes are achieved.

Public transport

Key journeys	Key principles
Buses Inner City ring route connecting/ distributing bus journeys **West/East journeys** • Longburn to Ashhurst (anticipating the Kākātangiata, and Stoney Creek developments) via Pioneer Highway – Main Street – around outer city square (Pitt St, Bourke St, Walding St, Princess St, Ferguson St) – Main Street – SH3. • Awapuni via College to Victoria, connecting to Ruahine St • Highbury to Roslyn via Featherstone St • Linton/ Massey to City via Tennent Dr/ Fitzherbert Ave **North/South journeys** • Railway Station via Rangitikei Street, city ring route, Fitzherbert, Massey/ Summerhill **Passenger rail** Passenger rail journey between Palmerston North and Wellington via the 'Capital Connection'.	• Dedicated and consistent priority for passenger transport vehicles through space allocation/ prioritisation and other measures to improve reliability and reduce time delay (e.g., bus lanes and prioritisation at intersections such as priority signals). • Journey times are consistently reliable to aid comparability with other modes. • Good quality facilities to support ease of transition between passenger transport and other modes i.e., covered bus shelters, allocated bus stops, timely services. • Stops and interchanges are functional and provide high amenity and personal security for users. • Transfers between public transport services including passenger rail are integrated and easily accessible i.e., buses arrive and leave in line with other bus service connections or train times.

Table 1 | Summary of the Palmy key journeys continued

Cycling (and micro-mobility)

Key journeys	Key principles
• Gillespies Line/ Botanical Rd – Park Rd to Victoria Ave • Cook St (from Park Rd to Cuba St) • Featherston St (from Botanical Rd to Vogel St) • Langley Ave/ Heretaunga St (across the rail line) to Albert St to river cycle/ shared path • Across river connection to off road cycleway connecting to Linton and existing shared paths • Off road cycle connection along the river connecting Ashhurst – Massey University – Linton and the City	• Dedicated facilities that enable a consistent travel speed in a legible, comfortable, and safe environment. • Mix of on and off-road facilities that encourage safe travel for all ages and abilities. Travel speed may be variable to support mixed modes such as e-bikes. • End of trip facilities are provided as necessary to support active travel and are designed to be safe and secure.

Walkable neighbourhoods

Key journeys	Key principles
• Town centre inner precinct, loosely bounded by the inner-city ring route. • Multiple shared paths, walking tracks and footpaths across the city.	• Urban/ inner centre streets and footpaths encourage pedestrian movement through direct access, prioritisation, and good urban design i.e., place-making, street design treatments, and easy crossing facilities. • Neighbourhood streets and footpaths are well designed (using CPTED[1] and urban design principles) to encourage people to walk safely to key destinations i.e., shops, schools, parks, and the river. • Paths and walkways are interconnected so the entirety of a journey can be undertaken safely by foot.

General traffic

Key journeys	Key principles
• All other routes with differing levels of priority mode and movements.	• Safety for all road users is the highest priority. • Journey times can predictable slow if travelling at peak. • Parking and transport policies encourage parking turn over to support centre city retail/ hospitality sectors

[7] Crime prevention through environmental design (CPTED), see for example https://www.justice.govt.nz/assets/Documents/Publications/cpted-part-1.pdf which contains the National Guidelines

Implementing the PTSIP

There are several interventions that can be implemented over time to encourage the key routes for the different modes and customers as per the PTSIP key journeys map. Many of the transport interventions outlined in Table 2 can be delivered through additions to existing activities such as the Low Cost, Low Risk, Safety Intervention, and Maintenance and Renewals programmes. For these actions a more detailed description of the action is included.

Several interventions that enable the key journeys are already planned for and included in these programmes. Other interventions will need to be investigated further, and upon approval, included into appropriate programmes for implementation. In addition, the PNITI programme includes several initiatives including the Streets for People Project, and the more detailed investigations of the outer ring route connecting the Regional Freight Hub to the state highway network.

The starting point for implementing the PTSIP key journeys is changing the way freight accesses destinations along Tremaine and within the Kelvin Grove industrial area. This change frees up much of the city transport system for other modes and customers to use. Many of the initial actions support the primary freight journey, with support actions to implement other journeys within the PTSIP following.

Table 2 | Initial actions to implement the PTSIP key journeys

What	Why	Existing or new	Who
Immediate actions			
Refine and update the Palmerston North Network Operating Framework,	Quantitatively validate the identified strategic journey routes and mode prioritisation to test the feasibility of the functions. Refine the strategic journeys as required. System will function as intended.	New	PNCC/ Waka Kotahi
Review and refine Council's plan/ strategies (i.e., Urban Cycling Network Masterplan) to reflect the PTSIP key journeys	Ensure consistency across Council's plan and strategies is maintained	New	PNCC
Refine the City's parking strategy to support Council's inner-city development plans	Parking management is an important tool to help influence mode choice	Existing	PNCC/ Waka Kotahi
Develop a M&O funding MOU to support the interim use of No. 1 Line/ Tremaine Ave until the PNITI SH ring route improvements are in place	Helps share the M&O cost associated with No. 1 Line/ Tremaine providing a SH function for inter-regional movements	New	Waka Kotahi/ PNCC
Review and refine the low cost, low risk programme	Include improvements to support the PTSIP key journeys	Existing	PNCC/ Waka Kotahi
Work with Horizons Regional Council to consider bus routes and maximise multi-modal accessibility and choice	Ensure the service review and the identification of bus priority and public transport infrastructure is aligned	Existing	Horizons/ PNCC/ Waka Kotahi

What	Why	Existing or new	Who
Refine development planning for future residential growth areas	Ensure community, liveability aspirations and transport outcomes are maximised and adverse effects are minimised	New	PNCC
Actions within the 2021/24 National Land Transport Programme			
Change the layout of SH57/SH56 intersection to encourage use of SH56	SH56 flow to get priority, particularly when turning in SH57	New activity	Waka Kotahi
Intersection improvement at Robert Lines	Support safe access and movement onto/ off SH3	Existing – Vision Zero programme	Waka Kotahi
Change the layout of SH57/SH56 intersection to encourage use of SH56	SH56 flow to get priority, particularly when turning in SH57	New activities (?) within the travel demand management programme	PNCC/ Horizons with Waka Kotahi support
Intersection improvement at Robert Lines	Support safe access and movement onto/ off SH3		
Refine the speed management programme to support the PTSIP journeys	Speed management is an important tool to help influence route choices	Existing	PNCC/ Waka Kotahi
Review and refine the safety improvement programme (Vision Zero)	Identify where safety issues are present, and the form required to help support the PTSIP key journeys	Existing	Waka Kotahi/ PNCC
Longer term actions			
Investigate improvement to SH56 and elevate importance of maintenance and renewal where possible	SH56 is prone to slumping due to soil conditions and hydrology	M&O / New activity	Waka Kotahi
Intersection improvements to turn off SH56 onto No. 1 Line before or after Longburn as per PNITI	Support safer access onto No. 1 Line	PNITI / New activity	Waka Kotahi
Intersection improvements along No. 1 Line	Support safer access along No. 1 Line	Vision Zero programme/ PNITI	PNCC/ Waka Kotahi
Investigate bridges upgrades on SH56 where required	Support heavier vehicles	PNITI/ New activity	Waka Kotahi
Complete a SH review including investigation of revocation of the SH status for Rangitikei St (from Tremaine to Square), and Pioneer Highway/ Main St	Support ability and ease to use for PT journeys	New activity	Waka Kotahi/ PNCC

Reviewing and refining existing transport tools and frameworks to help embed the PTSIP and the strategic journeys

Several of the immediate actions are based on reviewing and updating transport based plans and frameworks to help validate the strategic journeys and embed them into PNITI and operation plans. This is important, as many of the interventions and initiatives to enable the strategic journeys can be completed via the low cost, low risk, safety, and maintenance, operations and renewals programme. The key updates and summary of what is necessary is described below.

One network framework (ONF)

The ONF is New Zealand's national transport classification system and has evolved from the One Network Road Classification into a framework that recognises that integrated planning approaches result in better community and transport outcomes. A key feature of the ONF is the tools to help consistently define the road function across New Zealand based on a movement and place matrix. The ONF will be used to determine the function of each road within the City's transport system and is expected to be adopted by Council through a staged approach to inform the 2024-27 Regional Land Transport Plan and the National Land Transport Programme.

Priority route review

Undertaking a review of priority routes used across Council's strategies and plan is necessary to ensure a consistent and coherent approach is applied through operational plans, and which future strategies and plans can build upon. The journeys and mode priorities identified in the PTSIP will be validated through additional analysis including (but not limited to) interfaces between transport and land use, feasibility of routes for each mode, and identification of key technical and operational constraints.

Network operating plan (NOP) update

The Palmerston North Network Operating Plan (NOP) outlines the operational deficiencies across the transport system by comparing existing operational performance (demand across different modes and capacity) against aspirational levels of service. Going forward there is need to use the NOP level of servic comparison tool to help valididate the strategic journeys outlined in the PTSIP. Doing so allows that NOP to be updated and kept relevant for future improvements and maintenance and operation programmes.

Development of the Roads and Streets framework

The Roads and Streets framework defines the function of streets across Palmerston North's transport system according to a move and place matrix. Council will develop a roads and streets framework as part of the 2021-31 Long Term Plan which will supersede the Streets Design Manual which provides design guidance. The roads and streets framework will build upon the ONF adoption and Waka Kotahi's Aotearoa Streets Guide.

Implementing the actions outlined in Table 2 and those described in more detail above over time will help improve the city's transport system and aid the achievement of Council's community outcomes. The PTSIP provides a useful tool for engaging with communities about how individual projects connect together to improve the city's transport system. Updating the PTSIP journey map regularly to reflect progress and refinements will help ensure the PTSIP continues to remain relevant and support the movement of people and goods throughout the city and region.

Photo credit: ManawatuNZ.co.nz

Appendix A – Community insights

Well maintained roads, paths and streetlighting

The community would like to have:

- Roads that are well maintained and of good quality, and when issues arise i.e., potholes, these are fixed in a timely manner.
- Shared paths, footpaths and cycleways that are well kept, with the berms mown, rubbish removed, and the surrounding flora pruned and maintained.
- Streetlights that are all working and well-lit to support safe travel whether driving, walking, or cycling at night.

Summary of the community insights

- Strong support to increase road and footpath maintenance including timely, good quality fixes i.e., "do it once, do it right".
- Strong support to increase and improve connected walkways, cycleways, and shared paths.
- Support for marking of cycleways to be clear and bright to increase use and improve safety.
- Support for improved lighting of streets and footpaths so are well lit to improve safety.

Specific community feedback

- We did a lot of cycling around the streets during lockdown. Found there were a lot of potholes and roads needing repairs.
- Regular checking of potholes and infrastructure would help in avoiding major disruptions to flow of traffic.
- Rough road surfaces, manholes, potholes, slippery footpaths, and water ponding on footpaths.
- Street lighting needs to be improved; the new lighting is terrible in most streets.
- Poor lighting on new cycle track on Massey side means zero visibility at night.
- There needs to be a real look at the state of footpaths around the place, they can be problematic for those with a disability or the elderly.
- The green designated bike tracks to the side of the roads are at times in extremely poor condition.
- I cycle to work every day and often into the city. The bikeway down Summerhill has very uneven pavement and is often full of debris. This is quite dangerous as we get going fast downhill.
- Roads and cycleways on the main roads have too much broken glass on them.

68%

of road related comments in annual resident's survey were on the need to better maintain roads and footpaths.


Photo credit: ManawatuNZ.co.nz

High quality travel choices

The community would like to:

- Move freely around their neighbourhood and city centre by having easy access to a range of different travel options for work, study, or leisure.
- Rely on how long each trip will take and how much it will cost, so they can make an informed choice.
- Use a well-connected public transport system to access neighbourhoods, shopping centres, schools, employment, and the city.
- Travel on buses that are comfortable, run frequently, and are a comparative cost to driving their car.
- Have easy access to parking facilities, that are comparatively priced, and are well connected to activity centres and other modes of transport.

Summary of the community insights

- Walkways, cycleways, and shared paths are seen as significant assets to the community.
- Strong support to create more separated and safer cycle routes.
- Support for more frequent and extended public transport services.
- Support for increased inter-regional rail connectivity, service quality and affordability.

Specific community feedback

- It would be more attractive if there are more walkways in the city,
- Recent changes to bus schedules have been inconvenient. Definitely need better options for the road now that traffic has increased.
- We are lucky to have such easy flat open roads in Palmerston North compared to other New Zealand cities. They allow for much more cycleway development. There is much more potential for cycling which should really be considered.
- I try to avoid riding on the marked bicycle only lanes as much as possible. I'd rather ride the footpath in the areas I consider dangerous or a safety hazard for example the cycle lane on Pioneer Highway.
- Approaching roundabouts when cycling can be dangerous as cycle lanes cease and one has to merge with cars and large vehicles.
- The network of cycle ways is poorly implemented and not well integrated. Pedestrians are poorly served with legally defined pedestrian crossings.
- The development of the cycle lanes throughout the city feels positive and effective.
- Needs to be safer for pedestrians to cross Featherston Street between Russell Street and the PNBHS Crossing. There is no crossing at all between these two.

43%

of residents in the annual survey indicated that they use a walkway or shared path more than once a week.

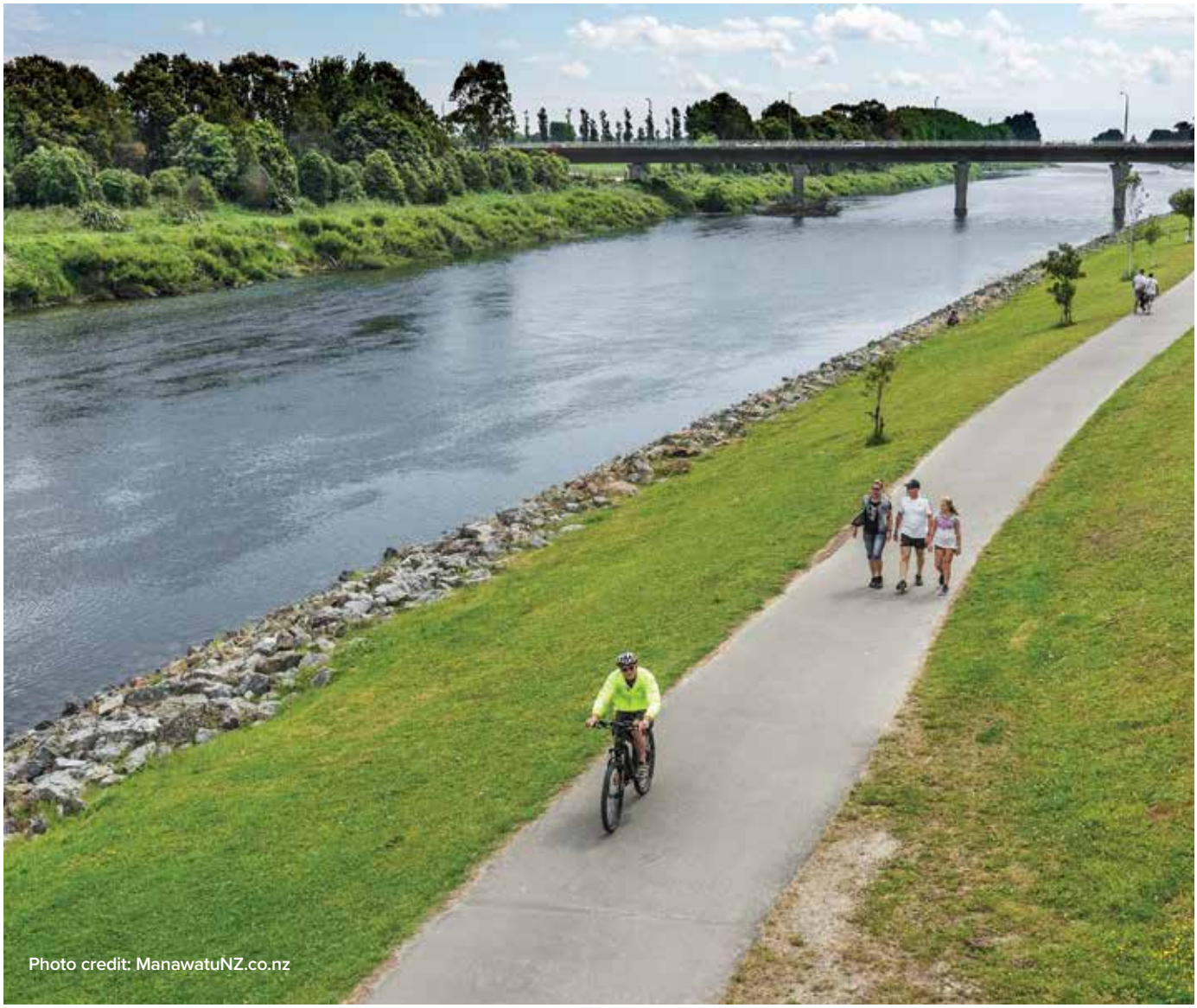


Photo credit: ManawatuNZ.co.nz

Strong connections to the Manawatū River

The community would like to:

- Have easy access to the Manawatū River from multiple points across the city and via all modes of travel.
- Use high-quality shared pathways along the river, that are well connected to the city centre, University and surrounding town and neighbourhood centres.
- Have many opportunities to socialise and enjoy the Riverfront including walking their dogs, cycling, running, and playing along the waterway.

Summary of the community insights

- Strong support for the many connected walkways, shared paths, and pedestrian bridge to and along the river. Support for increased access including additional walkways, shared paths connecting to the river.
- Strong support for the Manawatū River Plan.
- Highly valued community asset that sees extensive public use.

Specific community feedback

- The Riverside walkway is fantastic. Looking forward to the extension to Ashurst. Love the Esplanade, the bush and fern walks are beautiful.
- The esplanade is the jewel in Palmerston North's crown and much love for the new pedestrian bridge over the river.
- Love the walking bridge.
- My children and I love going to the various parks, playgrounds and walking along the walkways and river.
- Excellent to keep improving the walkways by the river.
- The new cycle track to Linton and the bridge over the river are fantastic

Shared spaces where everyone wins

The community would like to see:

- Walking, cycling and shared paths within the city and neighbourhoods that are well used and enjoyed.
- Good signage and road treatments that clearly show and support different transport users.
- People take their time and share the road, lane, or path, so that everyone is safe and enjoys their experience.
- Children cycling safely to school with good choices of using shared paths or dedicated cyclelanes.
- Footpaths, roads, and crossings within the city centre that are well designed to ensure pedestrians feel safe and can move about freely.
- A city centre where cars and bikes take their time, slow down, and give way to people walking and enjoying the inner precinct.

Summary of the community insights

- Strong desire to have 'users' safely sharing the paths and roads i.e., walkers and cyclists on shared paths, and cyclists and cars/trucks on roads.
- Strong support for city centre streets to be more pedestrianised and become brighter, and more interesting and engaging for people i.e., activation designs and events.
- Desire for an 'Eat Street' experience in city centre streets.
- Support for low-speed neighbourhoods (including around school zones).
- Support for removal of trucks off urban roads.

Specific community feedback

- The bikers on the shared walkways seem to think they own them, and the walkers are just a pain.
- Walkways need to be made wider for people and bikes.
- The general attitude of road users are not overly respectful of cyclists.
- It would be good to see the cycleways prominent like in Hawkes Bay, the whole lane is painted not just sections of the lane.
- Broadway, Main St East, and George St should be pedestrianised and covered.
- I totally agree with Palmerston North City Councils vision of reducing traffic and parking in the central city to make it a more pedestrian and bike-friendly area.
- I am permanently in a wheelchair. A lot of kerbside gutter crossings are very difficult.
- Improve city centre streetscape, Broadway, Square etc, to be more people friendly (or pedestrianised) and to provide a better outdoor shopping experience.

The right mode on the right road

The community would like to see:

- Different transport journeys that are well designed to encourage different modes of travel to avoid conflict on main roads and shared pathways, such as for large trucks, cycling or pedestrians.
- Cycleways and shared paths that are clearly marked and signposted, so they are safe to travel on with other traffic.
- Different treatments on different journeys to support cyclists whether they are commuting to work, biking to school, or cycling for recreation.
- Local goods and services have easy access to distribution points around the city, through dedicated journeys, to access business, industry and neighbouring centres."

Summary of the community insights

- Concerns about freight vehicles frequently being in urban areas and on urban streets.
- Strong support for safe, and where appropriate separated, cycle lanes on roads.
- Strong support for enabling higher use and access to public transport i.e., clearer timetables and routes, higher frequencies.
- Support for spending less on public transport and active modes and putting higher emphasis on general traffic and parking.
- Support for the 'Streets for People' programme.
- Concern that existing parking will be removed.

Specific community feedback

- I would feel safer biking if there were dedicated cycleways along the street, physically separated from traffic.
- Too many heavy trucks move through inner-city streets, tearing up sealing and creating potholes.
- Very scary as a cyclist coming from the Square on Main Street with free turn on Pitt Street traffic block. Get caught between merging trucks and cars behind.
- There is no coherent signage to avoid the square and consequently lots of traffic jams up the Square.
- It would be good if traffic lights along stretches of road such as Main Street could be synchronised so that a vehicle travelling at the speed limit doesn't get a red light. Currently you encounter several red lights with some drivers speeding to avoid the next one.


Photo credit: ManawatuNZ.co.nz

Future focused infrastructure

The community would like the:

- City to be well planned for growth, including provision for critical infrastructure.
- Planning of the transport system to be aligned with land use development so that new housing and businesses are well integrated and support existing people's lifestyles and livelihoods.
- City's new growth areas to be supported by multi-model transport options, including good public transport, and connected walkways and cycleways, so that people have a choice, rather than just private vehicles.

Summary of the community insights

- Good support for how the city is developing.
- Support for more medium and high-density housing to attract and drive new opportunities.
- Desire for city zoning to plan for development clusters around active and public transport.
- Desire for Council to ensure basic infrastructure is in place to support growth i.e., water, transport, pipes, footpaths, and parks.
- Concerns that new greenfield expansion will increase car dependency.
- Requests for mitigation from increased noise, pollution and freight movements perceived by the new regional freight hub.
- Support for a new river crossing/ bridge to accommodate growth.

Specific community feedback

- Make sure that all infrastructure is keeping up and is considered with all the increased in and out build of Palmerston North.
- The roading seems to be slowing at peak times moving forward the city should not look at expanding its size till the road infrastructure improves.
- Traffic tends to really block up at main arterial routes, for example Tremaine and Featherston at rush hours. The intersection of Featherston and Rangitikei is particularly bad. Traffic seems to have got worse over the past couple of years, don't know if this is population growth or what, but it seems noticeable.
- The Railway Land could be developed to encourage walking and socialising.
- Zone key parts of the city centre to ensure mixed use outcomes.
- Motor vehicles need to be the last priority for transport to enable places where people want to be.