



Strategic Networks 2023



Council plans and strategies



At the centre of it all

Palmerston North's unique central location and regionally significant road, rail and air connections act as a critical gateway and hub for the wider Horizons Region. The city generates 13.5¹ million tonnes of freight across 8% of New Zealand's total land area. Palmerston North itself contributed around \$5.5bn to the national economy in the year to September 2021¹. With \$8billion of infrastructure investment planned and underway in and around our city, we need to find the right balance between catering for regionally significant freight activities while ensuring Palmerston North is a safe, inviting and accessible place for the 90,500 people that call it home.

Integrating our land use planning and transport planning is critical

Our Long Term Plan 2021-31 seeks to strengthen our existing "small city benefits" like quality of life while simultaneously striving for "big city ambition" such as the education and economic opportunities available in larger cities. How we will do this over the next 10 years is presented across the fifteen Council plans and strategies shown opposite.

The way Palmerston North's transport network is designed, maintained, renewed and managed will be determined by our ability to achieve the targets set in these plans. For example, reducing our city's emissions by 30%² within the next 10 years will require major changes in how people and goods move around our city. Ensuring our community has a range of feasible and safe choices in how they move across the city will require fundamental changes to our city's physical transport network.

¹ Infometrics

² Horizons Regional Council

³ PNCC Long Term Plan 2021-31



Streamlining our approach

Managing Palmerston North's transport system is a complicated process, with many competing demands and users to balance and cater for. As the city's population grows congestion, road safety issues and maintenance deficits will become more significant. To navigate this we'll need to adopt a more proactive and planned approach to managing our transport network.

We need to balance competing demands within the limited available space

While we will always strive to provide high quality roads and enough transport capacity for our city, we'll also need to determine the best use and value for money of our existing assets. Opting to build our way out of our transport issues by only increasing capacity for vehicles would be very expensive. It would also aggravate our current road safety and emissions issues, and with induced demand¹, only provide benefits for a short period of time.

Induced demand¹ is the phenomenon that describes how increasing the supply of an item actually leads to higher demand of said item. In transport terms, providing more capacity than required – either through more lanes, reduced travel time or cheap/free carparking – directly leads to more congestion.

Getting the most out of our transport assets is the only way for our city to grow sustainably and efficiently

In contrast, maximising the use of existing transport infrastructure to provide quality travel options across the city is a cheaper and more effective approach. It's also likely to result in a reduction of maintenance costs, transport emissions, deaths and serious injuries and a higher quality urban environment.

To do this, we need a clear strategy on how the transport network should function. This must include how road space is allocated to prioritise different modes and uses across our transport corridors. The Palmerston North Strategic Networks presents a simple, integrated, evidence-based view of where modes are prioritised across the transport network now and in the future.

The right mode for the right road

The Palmerston North Strategic Networks include immediate planning actions within the Palmerston North Integrated Transport Initiative (PNITI) – endorsed by Palmerston North City Council and the Waka Kotahi board. PNITI is the highest priority project across the Horizons Region as stated in the Regional Land Transport Plan (RLTP) 2021-31².





What are we dealing with?

The effects of our city's growth are starting to be felt across Palmerston North, with more people (1.0% average growth per annum¹) making more trips competing for limited space and capacity across our roads, carparks and public spaces.

The number of crashes involving freight traffic on roads not intended to carry freight increased by nearly 70% between 2015 and 2019². Historically, Palmerston North boasted the highest proportion of trips to work by walking or cycling in the country every census till 1996 but our place has fallen significantly in every subsequent census.

Around 250 people have died or been seriously injured on our roads over the past decade, with the annual rate increasing – particularly at intersections and for those using active modes. Around 65% of our road pavements are more than 40 years old³ compared with a typical design life of 25 years⁴ and the number of customer requests related to potholes has more than doubled across the last 10 years³.

In 2021 41% of our total city-wide carbon emissions were attributed to our transport activities.

PNCC's most recent Freight Demand Study indicated that heavy freight vehicles tend to permeate through Palmerston North's urban streets to find the easiest and most convenient routes across the city. These 'rat-run' routes generally occur on residential streets, past schools and/or recreational facilities. These roads are not designed to carry significant heavy freight traffic.

The high prevalence of these movements on "place" streets indicates the lack of a clear roading hierarchy across our city. This suggests the "movement" routes that should be prioritising the safe and efficient movement of people and goods aren't optimised for their intended function.

There are also signals that Palmerston North's transport deficiencies are beginning to constrain future development, with implications to our city's economic prosperity if the way we manage our transport system isn't significantly overhauled. During engagement with the freight and logistics industry during the development of PNITI, participants highlighted current constraints with transport connectivity to the North East Industrial Zone as a significant factor in why they hadn't relocated or expanded their operations in Palmerston North.

If the city is unable to make the necessary changes across the network to ensure the right modes are prioritised along the right roads, the existing issues around road safety, rat-running, transport emissions and congestion at peak times (i.e. travel time variability) will only compound.

The damage to our roads caused by one pass of a heavy vehicle can be equivalent to 10,000 passes of a typical private car.⁵

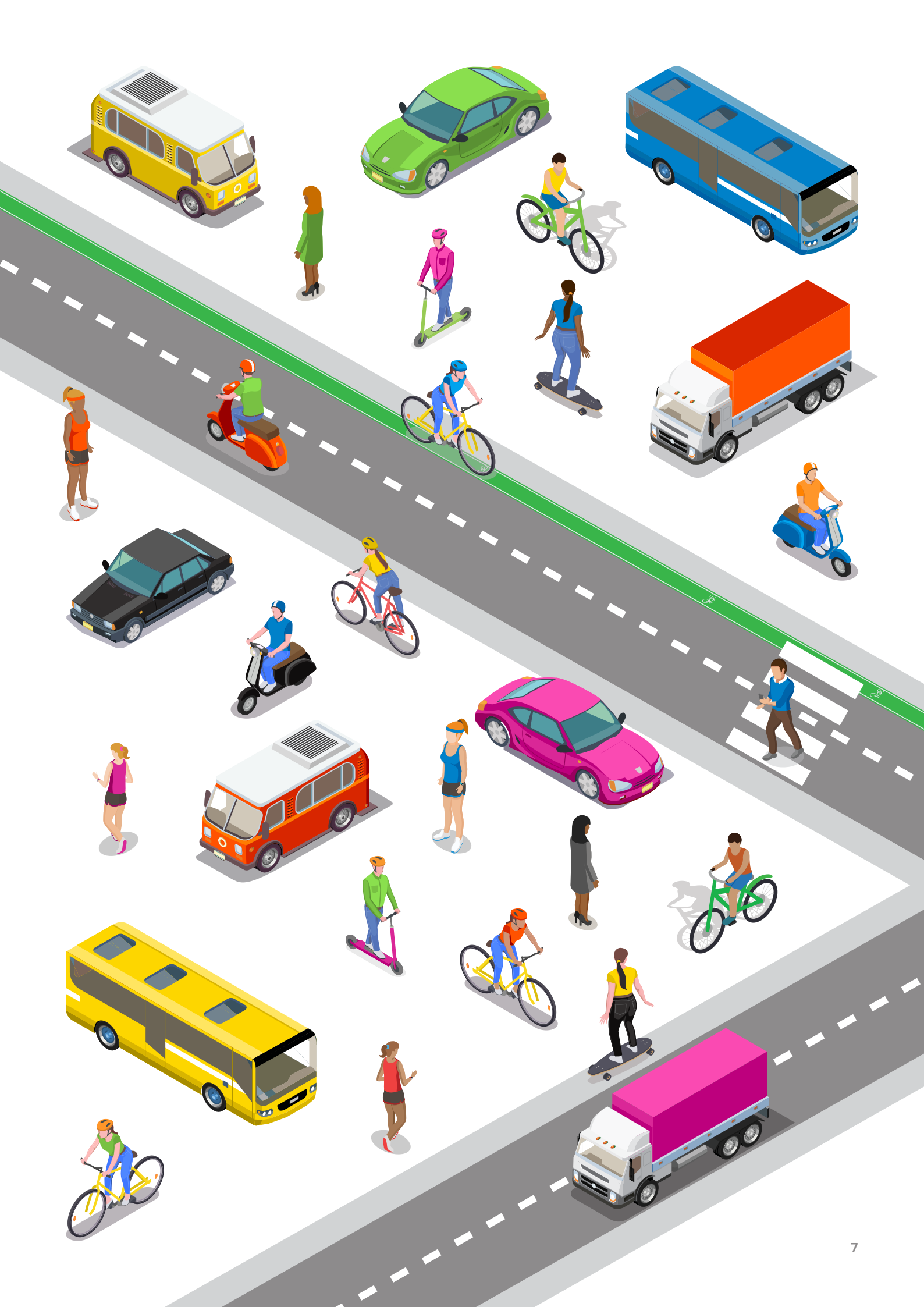
¹ Infometrics

² PNITI

³ PNCC Transport Asset Management Plan 2020

⁴ New Zealand guide to pavement evaluation and treatment design

⁵ Analysis of car and truck pavement impacts, Bradley & Thiam

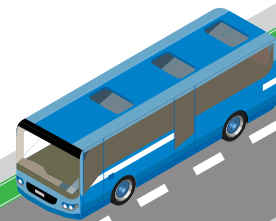


Aiming high, staying grounded

Our vision, goals and targets, along with those from regional and central government, have been strongly reflected across the development of the Strategic Networks with a particular focus on:

1. **Enabling more travel choices** by providing safe, easy to access and well-connected networks for all modes.
2. **Encouraging uptake of sustainable travel options to reduce transport emissions** by making public transport, walking and cycling appealing, safe, accessible and enjoyable.
3. **Developing a transport system where no-one is killed or seriously injured** by prioritising routes on corridors where high-quality infrastructure is in place, and separating priority routes for the highest risk modes to reduce conflicts.
4. **Matching modal priorities with movement/place functions** by prioritising general traffic and freight movements where people are less likely to spend time, while prioritising active modes and public transport in place-based areas.

These objectives are strongly aligned to the central government transport outcomes set out in the Government Policy Statement on Land Transport and the Ministry of Transport Outcomes Framework – both of which set the direction for central government investment prioritisation via the National Land Transport Fund. Aligning our programme of transport activities with the outcomes in these plans puts us in the best possible position of achieving central government co-funding, allowing us to deliver more benefits to our community at lower cost to our ratepayers.



The Strategic Networks

The Palmerston North Strategic Networks combine several existing plans and strategies – at national, regional and local levels – into a single and simple network plan.

They outline the most important (i.e. priority) uses/modes along certain corridors across Palmerston North and inform where and how all five modes are balanced against each other along our movement corridors.

All five modes collectively contribute to the safe and efficient movement of people and goods across our city, so it's essential that the function of each mode is carefully integrated with others in a pragmatic, cohesive and safe manner to unlock their full potential.

If a corridor is identified as a priority route for a certain mode, it doesn't mean the route will exclusively cater for that mode, nor does it mean the selected mode can't use other routes if required. However, it does mean that the priority modes along a route will take precedence over other non-priority modes, and the design/operation of the route will reflect this.

For example, though all modes of transport will likely be able to use a public transport priority route, priority will be given to public transport through specific treatments such as bus lanes, bus priority traffic lights and/or in-lane bus stops. On the other hand, public transport services may also operate on routes prioritised for another mode but will experience a deliberately lower level/quality of service than the mode prioritised along that route.

The Strategic Networks are presented in a web-based platform to outline how the priority routes for each mode may change over time as a result of changing land-use, city growth, policy decisions and the continued implementation of our city's infrastructure programme.



How did we develop our Strategic Networks?

The Palmerston North Strategic Networks are a simplified and more accessible version of our Network Operating Plan 2022 – a Waka Kotahi and AUSTROADS approved methodology to link strategic intent with operational and planning decisions across a city’s transport network. It promotes proactive and objective decision-making on the prioritisation of transport corridors for particular functions and evaluates the trade-offs and opportunity costs of these decisions.

The Network Operating Plan provides an integrated approach to managing congestion, safety and competing demands for limited road space across our city. It also supports future planning and development of transport and travel choices by establishing the future networks with modal priority attached to deliver our agreed strategic goals.



We looked at...

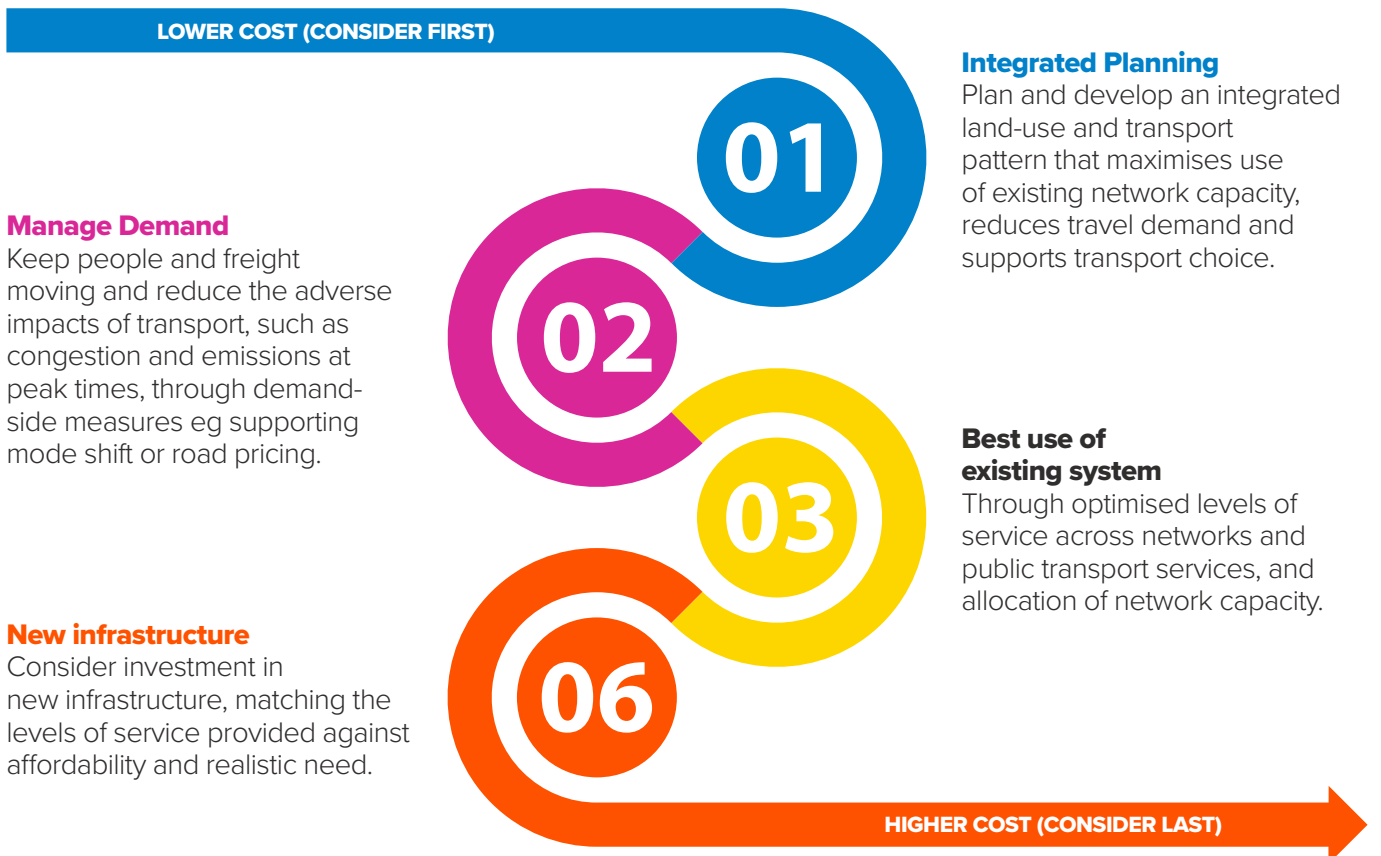
Our national priorities

Central government guidance and direction in this space is clear. Councils are required to clearly demonstrate that their activities align with the Government Policy Statement on Land Transport – prioritising safety, access, value for money and reducing climate change effects.



Making the best of use of what we've got before building more

Building new capital infrastructure to accommodate future transport demand is increasingly seen as the last – and most expensive – resort, only to be chosen when other options like those outlined in Waka Kotahi's Intervention Hierarchy are exhausted. Using Palmerston North Strategic Networks to outline how we prioritise modes and functions across our existing transport network, will ensure more cost-effective, environmentally friendly and adaptable interventions are implemented before the development of new infrastructure.



And we also looked at...

Our local priorities

Locally, PNCC's Transport Asset Management Plan 2020 identifies a critical need to better balance movement and place functions across Palmerston North's roads. This means ensuring corridors prioritised for movement are efficient and reliable while those prioritised for place functions are safe, appealing and serve the needs of people first.

Movement

The function of a road acting as a conduit for the passage of people and goods



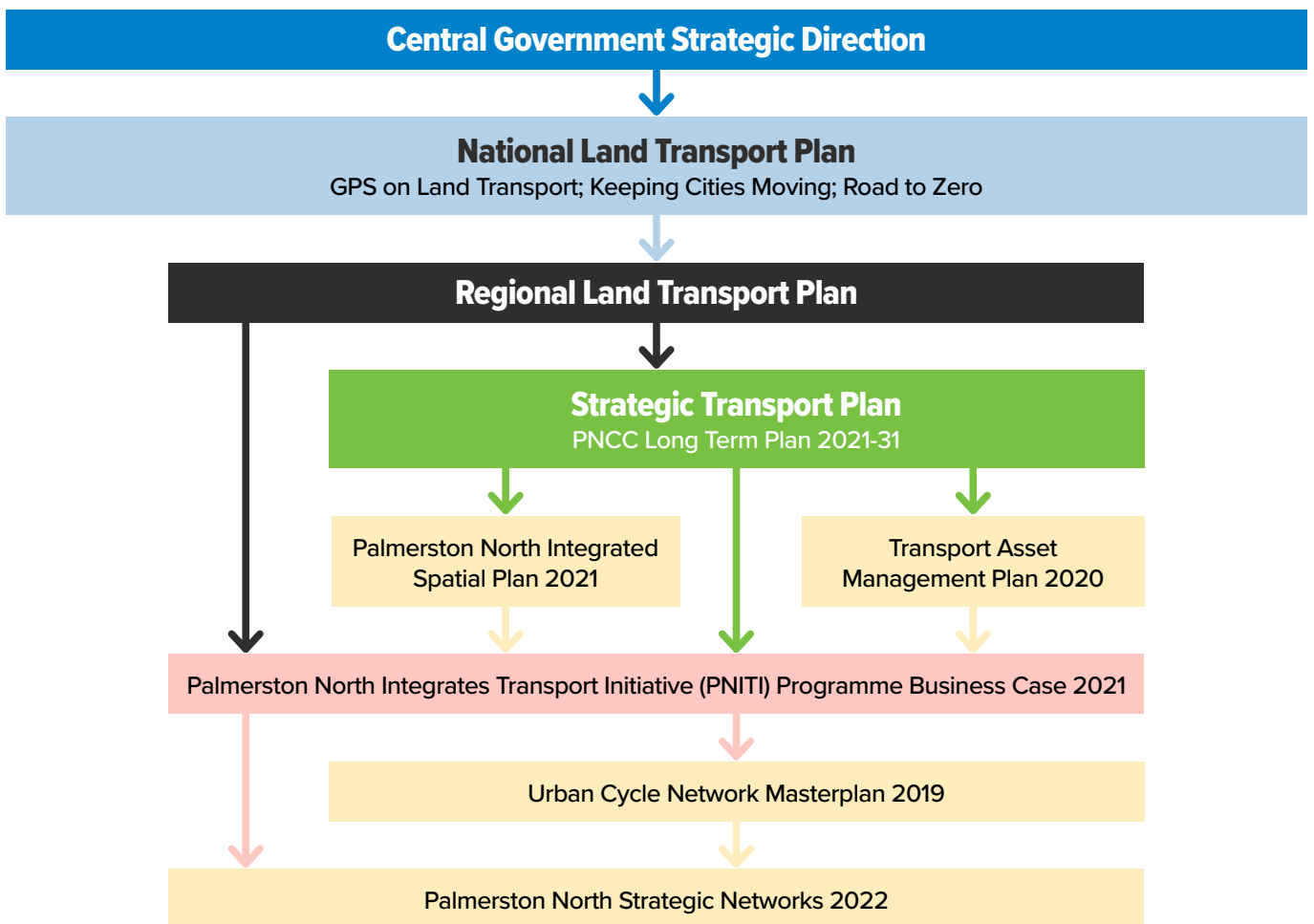
Place

The function of a road and roadside activities acting as a destination in its own right



To make a plan that fits Palmy

The Palmerston North Network Operating Plan 2022 – just like the Strategic Networks 2022 it informs – is a summary and collation of several upstream strategic documents that set out how Palmerston North’s transport system will be designed, managed and operated. Therefore, the outputs of both the Strategic Networks 2022 and the Network Operating Plan 2022 are consistent with the outputs of the plans and strategies further upstream.



The evidence base used to develop the Strategic Networks 2022 is substantial as it includes the evidence used to justify the documents, plans and decisions made further upstream. In addition, we also evaluated the following information to develop the Network Operating Plan 2022:

- Average annual daily traffic (AADT) estimates from RAMM
- Collective and Personal Risk measurements from MegaMaps
- Crash history for cyclists, pedestrians and buses over the five years 2017-2021 from the Crash Analysis System (CAS)
- Level of Service scores for each modes from AUSTROADS
- Waka Kotahi’s Pedestrian Network Guidance (PNG) and Cycling Network Guidance (CNG)





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