Executive Summary

Nelson is the commercial and social centre to the Te Tāuihu - Top of the South region, with the Port, Airport, Regional Hospital and commercial heart all in the centre of Nelson. Strong residential growth coupled with the region's economy being driven by primary produce and marine research, education and industry is making Nelson an even more important economic centre for New Zealand.

Nelson City is forecast to experience a high level of residential growth with 12,000 new houses in the next 30 years. Freight is also forecast to grow by 53% over the next 15 years. In the absence of significant changes to the transport system, access, safety, travel times and the reliability of the transport system will deteriorate.

To help manage this growth safely whilst reducing carbon emissions and efficiently managing freight movements to and from the Port there is a need to plan for the whole transport system. Having this plan will help maintain access and improve the liveability of residential areas, the waterfront and the city centre. This plan will also need to consider the behavioral change required to manage this growth.

This Business Case responds to the above pressures with a focus on the area shown in red below, noting that the area of influence is a much larger area.

In 2017, the Nelson Southern Link Programme Business Case concluded that a range of activities could be implemented in the short to medium term to optimise Nelson's transport system. The short term recommendations focused on improving traffic performance along with improving amenity and walking and cycling facilities on Rocks Road. In the longer term it recommended that the need for a new road link be monitored, with an indicative implementation timeframe in the 2030's.

The Nelson Future Access Project (NFAP) builds on the Programme Business Case (PBC) and is the next step in the project development process. Key changes since the PBC was published in 2017 that have helped to shape the current business case are:

- The Future Development Strategy which includes areas of growth and intensification of residential housing in Nelson City, supported by the National Policy Statement on Urban Development Capacity (NPS-UD)
- The declaration of a climate emergency by NCC supported by the Government's Zero Carbon Bill
- Change in direction of the Government Policy Statement on Transport to provide for better travel options and transitioning to a low carbon transport system
- This involves a wider transport system approach
- New information on climate change and sea level rise
- Rapidly developing and changing transport technologies

The Case for Change

The two existing arterial corridors, Waimea Road and SH6 have enabled freight, general traffic, bus and active modes to share the same space to access the city and port. As Nelson grows it is becoming increasingly clear that this arrangement is causing community severance, poor amenity outcomes, unreliable travel, reduced livability of the city and low active mode growth.

Key Stakeholders are aligned on the need to address the forecasted problems and the need to capitalise on the opportunities that may be realised by investment as summarised below:

Problems:

The inability of Nelsons transport network to support the increasing movement of people and freight between Stoke and Nelson city centre is constraining economic growth and social well-being of the region

The business case found travel to Nelson City Centre and Nelson South in the morning peak travel is forecast to increase by ~32% to over 7,000 people per hour in the morning peak period and that the existing levels of congestion which result in poor reliability are of similar scale to our large metropolitan centres

Conflicting uses and inappropriate use of the network severs neighbourhoods reducing their amenity and safety

The business case shows that the network caters for private vehicles to reach a wider range of destinations at the expense of other modes and the amenity of the surrounding environment. This impacts the connection between the city and the waterfront along Rocks Road and the residential amenity of the suburban areas due to drivers seeking faster alternative routes to the arterials.

There are a high number of crashes on the two arterials of SH6, Waimea Road, and key roads around the CBD. In particular for SH6 Rocks Road the real and perceived safety issues create severance with the waterfront. This severance significantly decreases the amenity values for this outstanding area.

Amenity values and safety are further compromised within the study area with increasing vehicle trips and conflicts with vulnerable users.

The susceptibility of the arterial network to natural events of increasing severity and a greater number increases the risk of significant economic shock to Nelson and the wider region

The evidence indicates that Rocks Road has a catastrophic risk of being closed for an extended period of time to facilitate its rebuild following a high-impact low probability event such as an earthquake or tsunami. During other events (including storm events), the duration of closure whilst inconvenient is in line with national standards.

Opportunities

- In addition to the problems identified above, the NFAP considers how to take advantage of the following opportunities:
- Key opportunities exist to enhance the amenity, heritage and cultural values within the project for the benefit of the city. SH6 Rocks Road is located along the waterfront and adjacent to an outstanding natural rock outcrop as well as significant heritage and cultural values. The community has expressed a strong desire to connect meaningfully with this area.
- Increase walking and cycling as census data and traffic modelling shows 60% of trips in the study area are local, 5km or less.
- Reduce carbon emission and continue to lead the country in active modes and public transport use for a small urban metro.
- Assisting Council's vision of a smart little city by creating liveable places

Interventions

To address the problems and realise the opportunities, the project team considered a wide range of interventions which were collated into themed programmes. In collating the interventions, it was clear that improving walking and cycling on Rocks Road in isolation could restrict the opportunities available for the rest of the transport system. The Rocks Road component was thus considered alongside the broader programmes.

To provide balanced and effective programmes for further assessment, a wide range of interventions including a focus on safety, amenity, access, capacity and resilience using the land use proposed by the 2019 Nelson Tasman Future Development Strategy as a guiding assumption. The interventions and programmes were evaluated against the investment objectives, key principles, implementability, economics, effects and integration criteria to understand their performance and ability to create lasting positive change

Recommended Programme

The Recommended Programme, designed with stakeholders, includes investment in a range of different activities within Nelson City over the next 30 years. The programme increases the availability of attractive walking and cycling paths and public transport options close to areas of planned dense urban living, focuses on reliable journeys to support regional economic development, improves safety for everyone and makes urban neighbourhoods more liveable.

Overall, the programme when compared against the status quo of no NFAP investment will:

- Have a core focus on shifting people to alternative modes to private vehicles by encouraging the uptake of walking, cycling and public transport
- Make it easier for people to choose to ride a bike, walk or catch PT. We estimate we can shift 6-8% from private vehicle trips to other lower carbon and healthier modes by 2048.
- Bring forward the replacement of the seawall along Rocks Road in order to provide for the active mode corridor which has secondary benefits of reducing the risks of climate change sea level rise and improving resilience of this key freight route to the Port.
- Significantly improve the amenity of the waterfront along SH6 Rocks Road by widening for walking and cycling. Heritage and cultural values will also be respected through the design of the upgraded facilities, and the appeal of the waterfront will be enhanced for active mode users recognising its place as an outstanding landscape.
- Reduce greenhouse gas emissions by reducing private vehicle use. Our modelling based on existing behaviours has forecast a 12% daily reduction in CO2 in the first ten years increasing to 16% by 2048. Changing behaviours outside of the modelling provides an opportunity to further achieve a much greater CO2 reduction potential.[1]
- Prioritise buses through the use of priority lanes to maintain a 40 minute journey time between Richmond and Nelson into the future. This builds on the shorter-term investment in Public Transport Services as outlined in the NCC Regional Public Transport Plan. This plan reduces fares, increases frequency and the number of people living within 500 metres of a bus stop.
- Increase the overall accessibility between residential suburbs with the CBD, hospital campus, schools and the waterfront with the completion of the key walking and cycling networks. This includes 12.5km of new cycle paths plus improvements to 6.5km of existing cycle facilities plus many new and improved crossing points using refuges and signals to facilitate easier and safer crossing.
- Increasing CBD amenity and safety by reducing the number of private vehicles entering, moving and parking close to the city centre during the commuter peaks.
- Provide a strong focus on integrating land use and the transport system to provide high-quality transport choices and a liveable city.
- Address safety issues on the network by targeting the high safety risk routes on the two key arterials for all modes to achieve a significant reduction in crashes resulting in death and serious injuries. This includes addressing perceived safety risks as this is just as important as safety performance.
- Make travel times for general traffic on SH6 and Waimea Road slower in the order of 1-3 minutes but more reliable. These increases can be largely attributed to the additional delay incurred by new traffic signals for through traffic, however those signals will enable people to cross and access the arterials easier and safer.

The recommended programme of investment has a BCR of 1.6. The majority of the economic benefits for the recommended programme are derived from vehicle and public transport travel time savings across the network (64%) followed by the health benefits from increased uptake in active mode trips (21%).

Delivered in Stages

Implementation of the programme has been sequenced to match the increasing transport demand and assist with value for money as follows:

- Near-term (Years 0-3) - The near-term programme focusses on optimisation improvements to improve efficiency, connectivity and safety on the network. Near term activities have a high priority with a lower cost and complexity for delivery. Includes the pre-implementation – detailed design and consenting phase for Rocks Road.

[1] The reduction in GHG emissions has been calculated against the reduction in vehicle emissions based on the current fleet and forecast mode shift away from private vehicles. The overall reduction in GHG emissions calculated is conservative as further reductions can be expected through the adoption of new technologies such as EV's, and social changes such as technology that promotes remote working reducing travel demand.

- Short-term (Years 4-10) - The short-term activities further embed optimisation improvements on the network with a focus on active mode provision to capitalise on the significant number of short journeys within the study area that could be shifted to alternative modes. SH6 Rocks Road is the significant project in this period with a focus on improving the connectivity and amenity of the waterfront.
- Medium to Long-term (Years 11-30) - The medium to long term programme focuses on improving the efficiency of public transport journeys across the network including the provision of priority lanes in select locations on the two arterial routes, and continued investment to provide for active mode trips.

The network will be monitored, and the programme has flexibility to be sequenced overtime should the growth assumptions, transport demand or funding constraints or opportunities change significantly.

In refining the proposal significant risks posed by consenting in the coastal marine area, the degree of uncertainty in relation to sea level rise and earthquakes in the long term (beyond 2050) were considered. The project scope excluded considerations beyond 2050 for the current State Highway 6 corridor between Tāhunanui and QEII Drive. These three risks support the retention of the Inland Route as a ‘Transport Corridor’ in the long term. Accordingly, included in the Recommended Programme is retention of the Inland Route. The Inland Route is the future long term resilience option. It would be considered only after the network is optimised and the priority lane work is completed, and associated land use, parking and transport price tension has been applied. The programme is shown graphically on the following maps:

Figure 1: Recommended Programme excluding Rocks Road and Priority Lanes

Figure 2: Rocks Road Walking and Cycling Detail

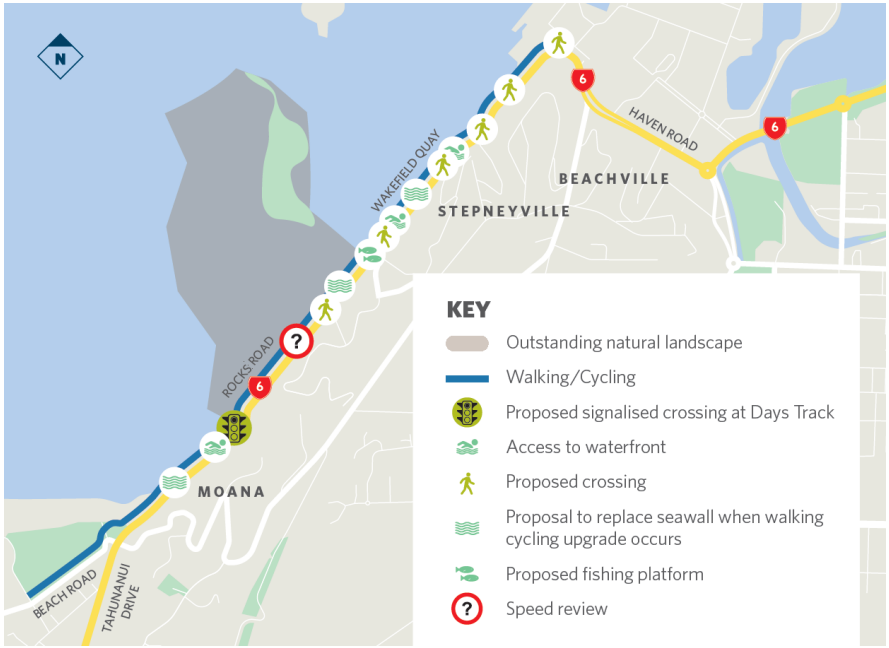

Figure 3: Priority Lanes Detail

Partner, Public, and Stakeholder Engagement

Key stakeholders have been engaged through the development of this business case through their participation as part of the Project Working Group. This group includes our Iwi partners from Te Tauihu.

Two rounds of public engagement were undertaken to obtain feedback from the community.. The public engagement showed a high level of engagement in the proposal and broad support for the recommended programme with the exception of the priority lanes and clearways through Tāhunanui. The public engagement has also informed changes to the recommended programme, such as adding preferred crossing points for pedestrians and an extension to the Rocks Road walk cycle facility to connect it to the recently completed Muritai Street cycle path.

Recommended Programme Costs

The total recommended programme cost is estimated between **$309M and $510M, with an expected cost of $426M.** The range reflects the risks and uncertainties that exist at this early stage of project development.

Phase	Expected Base Estimate ($M)	Contingency ($M)	Funding Risk ($M)
Nett Project Property Cost	$ 12.692	$ 3.917	$ 3.407
Project Development	$ 11.521	$ 3.456	$ 2.304
Pre-Implementation	$ 26.424	$ 7.927	$ 5.574
Implementation	$ 258.545	$ 101.209	$ 72.866
Total Base Estimate	$ **309.182**	$ 116.510	$ 84.151
		Total Expected Estimate	$ **425.692**	
		$95%ile estimate	$ **509.843**

The likely cost by each organisation for the Near-term (0-3 years), Short-term (4-10) years, and Medium to Long-term periods (11-30 years) are detailed below.

Period	Organisation	Base estimate ($M)	Project estimate ($M)	95th percentile estimate ($M)
Near-term	**NCC – Local Road 49%**	$ 8.641	$ 11.556	$ 14.275
	Waka Kotahi – Local Road 51%	$ 8.994	$ 12.028	$ 14.856
	Waka Kotahi – State Highway	$ 3.897	$ 4.639	$ 5.759
Short	**NCC – Local Road 49%**	$ 21.315	$ 27.735	$ 33.139
	Waka Kotahi – Local Road 51%	$ 22.184	$ 28.868	$ 33.709
	Waka Kotahi – State Highway	$ 90.510	$ 140.345	$ 166.482
Medium-Long	**NCC – Local Road 49%**	$ 55.751	$ 72.458	$ 86.325
	Waka Kotahi – Local Road 51%	$ 57.563	$ 74.952	$ 88.643
	Waka Kotahi – State Highway	$ 40.516	$ 53.111	$ 66.654
	Total	**$ 309.182**	**$ 425.692**	**$ 509.843**

The estimates **exclude** Waka Kotahi indirect and admin costs of 8%. All cost estimates quoted exclude GST and escalation.

Next Steps

In order to progress funding opportunities it is critical to have an approved business case.

The near term activities and the Rocks Road walk and cycle boulevard have been developed to a higher level of detail than the remainder of the programme and are able to now be progressed, subject to funding, to pre implementation and delivery.

Funding of the recommended programme is still to be determined but will likely include the National Land Transport Fund, Nelson City Council local share, and potential funding opportunities through alternative crown funding sources as they arise over time.

Monitoring of the transport network should be undertaken in order to understand the actual effectiveness of the activities delivered and inform and refine the interventions. Modifications to the sequencing of the activities to match actual funding availability and growth demands could become very relevant if large residential developments to meet the housing affordability crisis are brought forward in time.

Risks

The key programme risks have been identified as follows:

- That the funding available to implement business case recommendations, and the recommendations, do not align.

  Mitigation of this risk has been through developing a programme that aligns with the current GPS and sets a clear direction for future investment in the Nelson transport network. For example, there are low cost optimisation activities which is in line with the Waka Kotahi intervention hierarchy through the focus on integrated planning interventions and making best use of the existing transport system first. The business case has been developed to take advantage of future funding opportunities outside the NLTF as well.

- That the heritage, cultural, visual and ecological values associated with the Rocks Road walking and cycling component of the programme requires considerably more time and cost to resolve than allowed for.

  The cost estimate for Rocks Rd provides a range which covers the most challenging options from a cost perspective. The programme identifies that the detailed design and consenting work for Rocks Rd should start in the 2021-24 NLTP as it is recognised this work may take some time given the risk identified above.

- That the programme needs to be accelerated to meet increased transport demand from significant residential development in response to the housing crisis.

  The programme is structured so elements can be accelerated in response to triggers that create increased transport demand.

- Poor transport outcomes could result if complimentary activities across the whole Nelson Richmond urban area are not progressed.

  A shared oversight across both projects will ensure complimentary activities across both Richmond and Nelson are progressed so maximum benefits from both programmes can be generated. This will form the strategic leadership of the programme for the future and will retain focus on the agreed outcomes.