2 Rationale for Strategy Development

This chapter presents the overall principles that have guided development of the strategy. The key assumptions on which much of the technical assessment is founded are also described. The last section highlights the questions that were used to frame the problem and subsequently to inform strategy development.

2.1 Overall Principles

A key feature of the existing road network in Kapiti is that the state highway currently provides for both local and inter-regional movements. This compromises the efficiency and effectiveness of the corridor. Good transport planning would see:

- a single strategic route providing inter-regional connectivity, developed as a high capacity motorway or expressway with only limited access to the local road network;
- a number of arterial routes connecting key trip generators (i.e. places of employment, recreation etc) to the strategic route; and
- local roads linking residential properties with the arterial network.

In such a scenario, access to the strategic route would be limited. The arterials and local roads would, in contrast, have active frontages and provide facilities for walking and cycling. Ideally the arterials would be designed to encourage movement between spaces on either side. They would provide numerous connections to the local roads with intersections as close as 800m apart to maximise traffic dispersal. This is important to prevent key intersections becoming congested.

From an urban design perspective land-uses that generate high numbers of inter-regional trips such as industrial areas should be located on arterials as close as possible to the strategic route. The urban areas should be located to one side of the strategic route so as to avoid the severance that a strategic route can create.

In developing a strategy for creating a SH1 expressway in Kapiti it is necessary to be aware of the constraints arising from the topography, urban form and existing infrastructure. The main findings of the scoping study were that:

- the existing urban form with development extending between the coast and the hills means that it is not possible to locate the strategic route outside of the urban area;
- the location of the NIMT railway relative to the urban areas already results in community severance; and
- there are currently no local arterials that can be used as an alternative to SH1 for north-south travel.

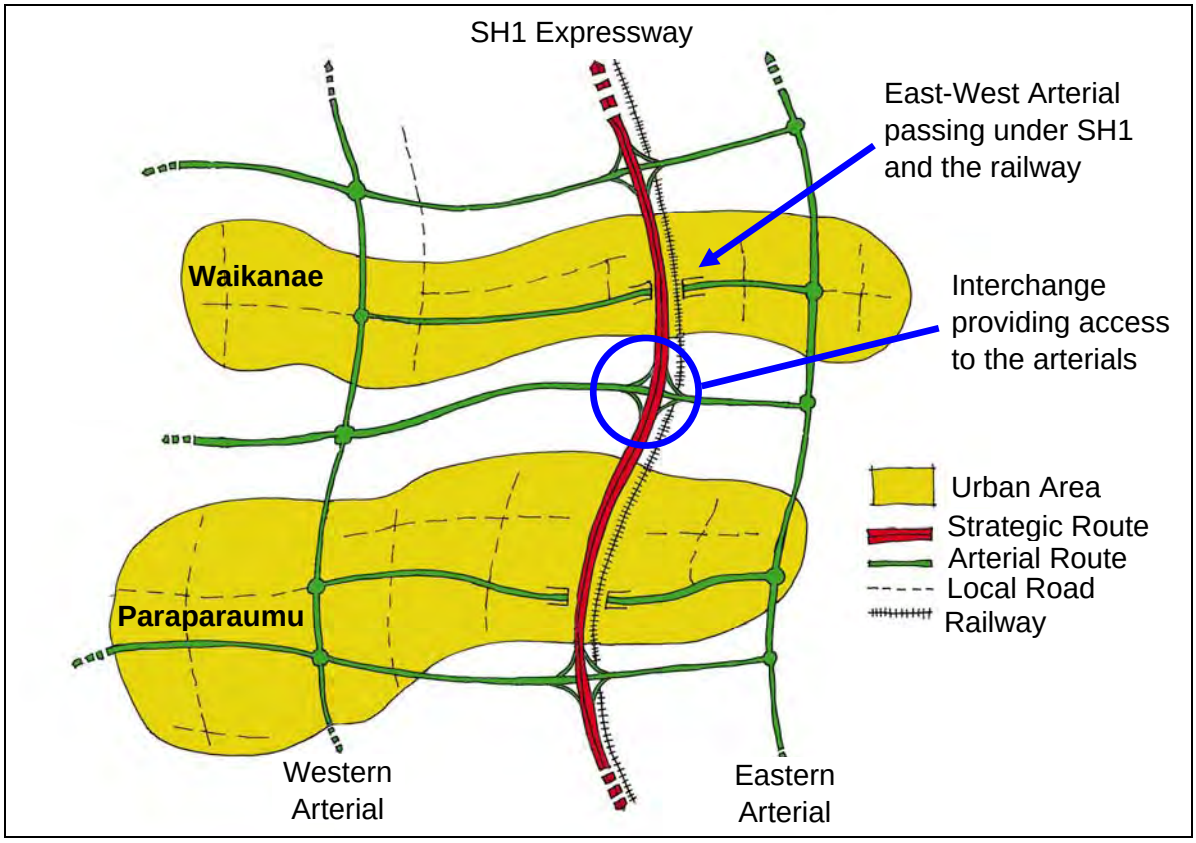
Given the existing urban development, there are a limited number of opportunities for creating a SH1 expressway and supporting infrastructure:

- accept that the NIMT railway creates severance and co-locate the strategic highway within the same corridor to avoid creating additional severance;
- locate the SH1 expressway in land presently designated for the WLR, as this designation has created severance already.

There are a number of principles that the team used in developing the strategy, as shown in Figure 2.1. These were: -

- create a high capacity through route with limited number of connections to the local arterial roading network;
- create additional north-south arterials to the east of the strategic state highway route.

Figure 2.1 – Principles for Developing an Expressway in Kapiti



SH1 in Kapiti currently performs a dual function, acting as both a strategic route but also as the only true arterial route connecting the north and south parts of the district. Motorists travelling between north of the Waikanae River and Paraparaumu have no alternative to SH1. If motorists are prevented from using a SH1 expressway in Kapiti for local trips it will be necessary to create at least one local north-south arterial.

2.2 Accessibility and Intersection Spacing

At present SH1 is the only significant arterial route that passes through the Kapiti Coast along a north-south alignment. This means that the community and visitors travelling to the district using private transport rely heavily on SH1 for access.

At present there are frequent intersections between SH1, adjacent land-use and local distributors. This affects the efficiency of SH1 for national and inter-regional travel. Limiting access from local roads will improve the efficiency of SH1 and reduce the likelihood of crashes but could reduce access to key community facilities and service centres unless alternative, local arterial routes are provided.

Good expressway design limits the number of high quality interchanges in order to minimise vehicle interaction and conflict at speed. There is a need to ensure that large grade-separated interchanges are located outside urban areas to minimise negative impacts upon amenity and urban form. The locations must however be chosen to optimise the use of the local road network.

2.3 Key Assumptions

The success of a future SH1 expressway in Kapiti is reliant on the provision of an adequate local roading network.

There is significant potential for land development within Kapiti Coast district. There are several proposals for residential and / or commercial land developments. Land Developers are working to achieve District Plan changes that will make development possible. Development that is permitted or that is conditional on construction of the WLR is included in the forecast year do-minimum scenarios. Developments that are not currently permitted are not included. The key developments included in the 2016 and 2026 forecast year do-minimum and test scenarios include:

- Paraparaumu Aerodrome (Plan Changes 18 & 73)
- Paraparaumu Town Centre (Plan Changes 72A)
- Waikanae North

2.4 Decision Making Criteria

One of the challenges associated with developing a strategy for creating an expressway in Kapiti is to adequately understand the interaction between SH1 and the WLR. There is potential for the provision of a new arterial road to erode the need and benefits associated with the upgrade of SH1 and vice-versa. This interaction between the two road schemes also adds an additional level of complexity to project staging. It has also been necessary to accommodate uncertainty relating to the form of the WLR.

The approach adopted to deal with this uncertainty has been to clearly identify and state the assumptions used as a basis for progressing the study. The assumptions are then consistently applied to aid option comparison. This approach was considered appropriate for a strategic study intended to provide a direction for development of the district. Future

scheme assessments and localised traffic studies will provide more detailed analysis that will inform NZTA.

The study team determined that answers to three questions were needed in order to formulate a robust strategy. These answers have helped the study team better understand future traffic demand, the interaction of SH1 with the local arterials and the contribution of each element of the future road network to meeting the strategy objectives. The answers may also be used by decision-makers to determine the future. The questions, answers to which are presented in the following chapters, are:

(a) Why are local arterials necessary?

(b) What options are available for providing a SH1 expressway in Kapiti?

(c) In which order should stages of a SH1 expressway and local arterials be constructed?