

11 Strategy Development Principles

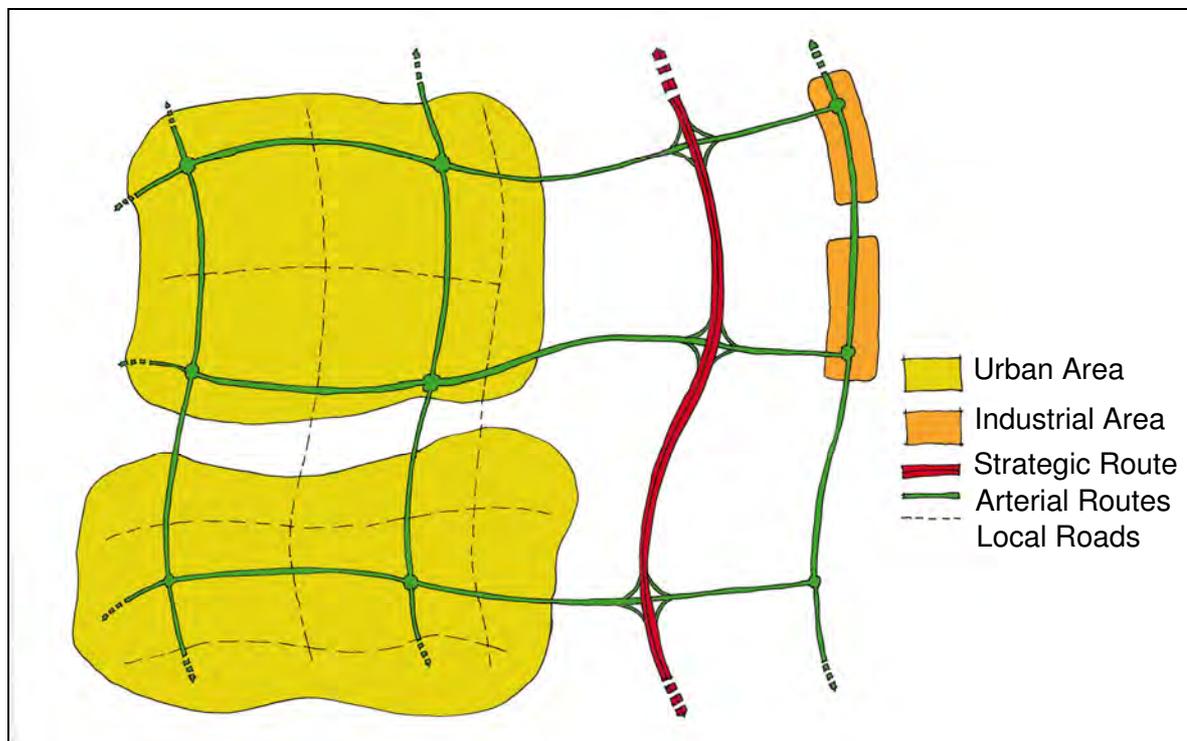
In developing the strategy the study team will build upon the policies and evidence presented in this report. The strategy will aim to achieve the objectives defined in chapter 9 as effectively and as efficiently as possible, given the constraints within the study area and the expected development within the district. This chapter presents some further considerations that will guide the formulation of the strategy.

11.1 Overall Principles

Good transport planning would see state highway developed to serve a strategic function supported by local arterials. A key feature of the existing roading network in Kapiti is that the state highway currently provides for both local and regional connections. This compromises the efficiency and effectiveness of the corridor.

The decision to construct the western link road as a major local arterial will go a long way to address these concerns and significantly improve accessibility and mobility within the District. It is necessary to consider how the state highway can compliment the local road network given the Council's commitment to developing the Western Link Road. Figure 11.1 shows how a road hierarchy should be developed to achieve positive community outcomes in the absence of constraints.

Figure 11.1 – Aspirational Road Hierarchy



Key features of this road hierarchy are:

- 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.

While the high capacity strategic route provides limited access to adjacent properties the arterials and local roads will have active frontages and provide facilities for walking and cycling encouraging movement between spaces on either side of arterials. Ideally arterials will provide numerous connections to the local roading network distributing vehicle traffic along its length with intersections as close as 800m apart. In contrast the strategic route will have limited number of intersections.

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. Urban areas should be located to the side of the strategic route so as to avoid the severance that a strategic route can create. Development of State Highway 1 in Kapiti is compromised given that the existing urban form and infrastructure creates a number of constraints, including:

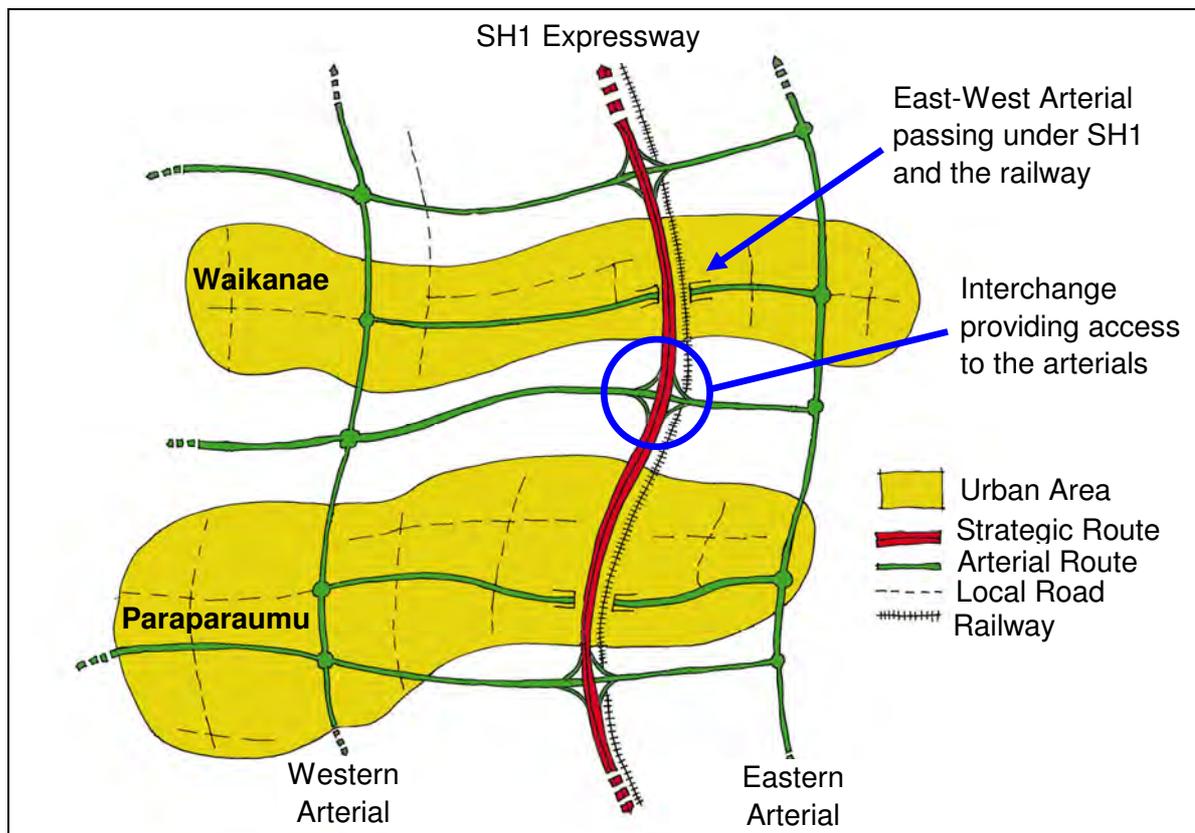
- the existing urban form with development extending between the coast and the hills means that it is not possible to local the strategic route outside of the urban area;
- the location of the NIMT railway relative to the urban areas creates community severance; and
- the current lack of any local arterials within the Kapiti Coast¹³.

There are however a number of opportunities that will assist in the development of State Highway 1 through the District. These are presented Figure 11.2 and listed below:

- accept that the NIMT railway creates severance and co-locate the strategic highway within the same regional corridor to avoid creating additional severance;
- create addition north-south arterials that support the western link road perhaps to the east of the strategic SH route;
- create opportunities for future development of industrial facilities close to key arterials and connections to state highway.

¹³ the Western Link Road will go some way to addressing this

Figure 11.2 – Developing State Highway 1 through the Kapiti Coast



11.2 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 regional travel. Limiting access from local roads will improve the efficiency of SH1 and reduce the likelihood of crashes but could negatively impact upon the accessibility of key community facilities and service centres.

Good expressway design limits the number of high quality connections in order to minimise vehicle interaction and conflict at speed. The number of linkages can be assessed through incremental analysis of the capital costs for various scenarios against the benefits and dis-benefits associated with transport efficiency and accessibility.

In Kapiti Coast, driver legibility is major consideration for deciding the location of interchanges. There is also a need to ensure that large interchanges are located outside urban areas to minimise negative impacts upon amenity and urban form.

It is proposed that the strategy will be developed on the assumption that a minimum spacing of about 5km is provided between interchanges. These interchanges need to be located to provide good connections with the local roading network and the proposed Western Link Road in particular.

11.3 Project Staging

Construction staging is critical for meeting local expectations, achieving integration with other projects, ensuring funding and addressing build-ability issues. All schemes that included in the strategy should bring their own benefits. It is also crucially important that individual schemes are consistent with the long term strategy. Important build-ability issues include maximising construction efficiency, minimising disruption during construction and balancing volumes of cut to fill.

11.4 Traffic Assessment

The Kapiti SATURN model has not been updated to include schemes that have been approved since publication of the last Regional Land Transport Strategy (2001). Although changes have been made to the simulated road network to reflect KCDC's plans, it is likely that committed regional schemes outside the study area will have an influence on the conclusions of this study.

It is proposed that the Kapiti SATURN model is updated to reflect the latest traffic forecasts produced using the 2006 Regional Model (WTSM). Work to update the Kapiti model would also introduce changes reflecting programmed roading improvements so that the Kapiti model corresponds with the WTSM do-minimum scenario (refer to Sinclair Knight Merz Forecasting Report).

The key schemes identified as part of the RLTS in Appendix F. For the Kapiti highway model to be consistent with others in the region, it should be updated to correspond with the assumptions in producing WTSM. Where alternative scenarios are proposed, the do minimum should be discussed and agreed with Transit, KCDC, GWRC before progressing further. Rail improvements and other passenger transport measures are not identified in Appendix F, but will be reflected in the traffic demand matrices exported from WTSM.

The strategic highways model will also need to be updated to test proposed changes to the operation of rail crossing points at Elizabeth Street, Kapiti Road and Waterfall Road. The changes are required to enable the higher train frequencies being introduced on the line. The interaction between road and rail at these points is currently not well reflected in the SATURN model. The assessment will account for:

- The frequency of movements across each crossing point.
- Length of time in which the crossing is closed.
- Operational conditions and queues associated with a closure on the wider network.

The assessment will occur for the AM and PM peaks where train frequencies are as much as 14 per hour and for the interpeak when there are five or less trains per hour.