

## 6 Expressway Interchange Options and Local Access in Kapiti

The options for providing an interchange south of Paraparaumu are the same for Options 1, 3 and 4. There are also a number of common issues and themes associated with providing an interchange north of Waikanae for Options 1 and 3. Option 2 and 4 would have the same interchange configuration at their northern interchange. This chapter describes the available options for creating a grade separated interchanges connecting a SH1 expressway with the local road network at each location.

### 6.1 South of Paraparaumu

**Option 1, 3 & 4:** An interchange could be constructed at Poplar Avenue or on land at 200 Main Road (see Figure 6.1). The designated connection between the WLR and SH1 is presently at Poplar Avenue although the land designated would only be sufficient for an at-grade intersection. It is likely that land outside the designation would be needed to allow an interchange to be built. A small area of Queen Elizabeth Park would be needed to provide a northbound exit ramp. This could be avoided by realigning the railway further to the east, closer to the hills or moving the interchange to the north.

**Figure 6.1 – Options for an Interchange South of Paraparaumu**



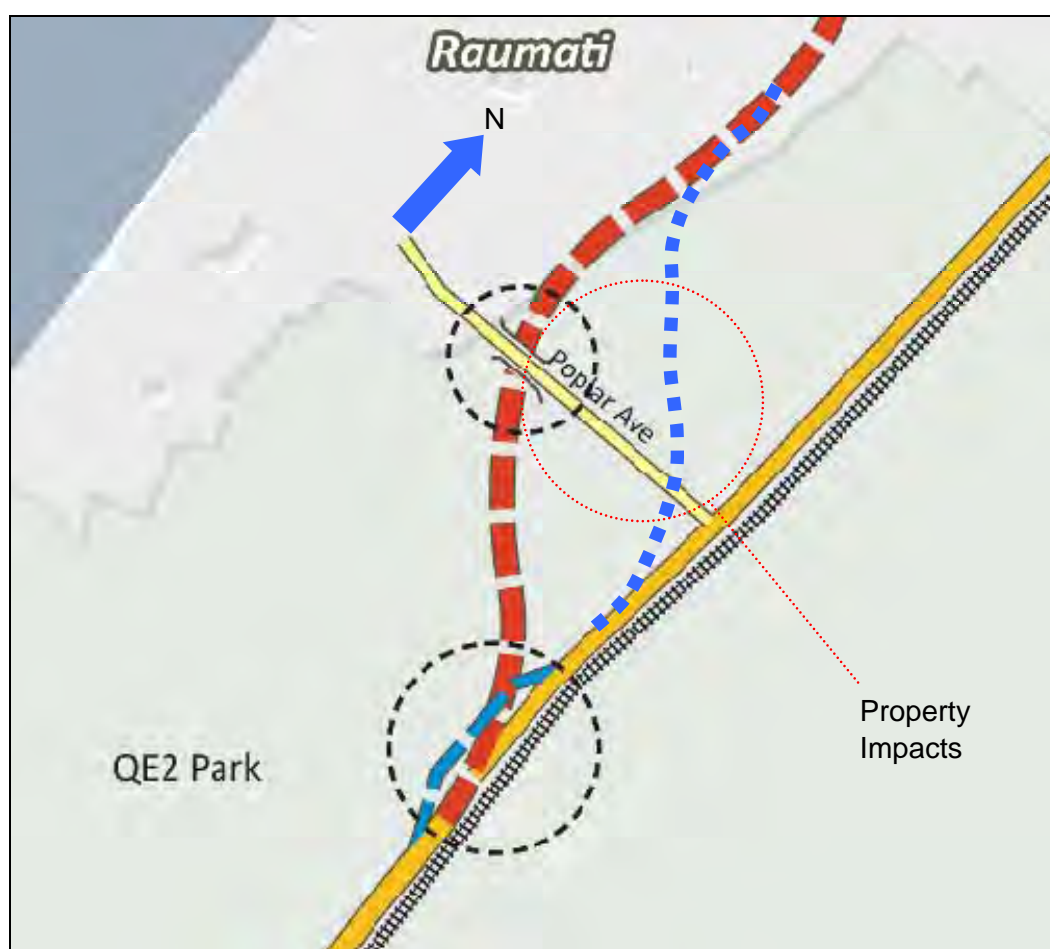
Currently there is no designation for an interchange at 200 Main Road. More private properties would be affected by this option than if the interchange were built at Poplar Avenue.

It is proposed that the interchange south of Paraparaumu have only south facing ramps. This would reinforce the district road hierarchy, making it more attractive for motorists to use local roads for local trips. If the WLR south of Kapiti Road is not built, a full diamond interchange would be required to provide for local trips.

A full diamond interchange with both north and south facing ramps, could be built at either location, increasing the number of affected properties. It would also allow motorists travelling between Raumati Beach and Waikanae to use the SH1 expressway rather than local roads.

**Option 2:** In order to provide a horizontal alignment that is safe for a 110km/h design speed it is necessary to build outside the WLR designation at the southern interchange. An interchange could be constructed immediately south of Poplar Avenue as shown in Figure 6.2, below.

**Figure 6.2 – Interchange South of Paraparaumu - Option 2**



Motorists travelling north from Paekakariki to Paraparaumu would leave the expressway and travel on a bridge over the expressway to the old SH1. Motorists travelling south from Paraparaumu would join the expressway at an at-grade merge.

The interchange configuration shown above would require a significant area of Queen Elizabeth Park. The park could be avoided by moving the whole interchange further to the north closer to Paraparaumu. This would however impact on a far greater number of residential properties on Leinster Avenue and adjacent to SH1.

## **6.2 Otaihanga Road**

All four options include a grade separated intersection at Otaihanga Road. A grade separated roundabout with both north and south facing ramps is proposed. This will provide full connectivity allowing motorists travelling from Levin to leave the expressway and join a local arterial for the final part of a journey to Paraparaumu. Similarly motorists driving from Wellington would be able to leave an expressway at Otaihanga Road before joining the local road network for the final part of their journey to Waikanae. Each option has a different alignment in this part of the study area. A slightly different interchange design would therefore be required for each.

Constructing an interchange on the existing alignment (Option 1) would require a large quantity of earthworks. It is also anticipated that substantial amount of horizontal realignment would be required to enable motorists to travel at speed safely. Motorists driving between the interchange and areas in the west of the district would need to cross the NIMT railway. Currently an Otaihanga Road rail crossing is provided at grade. Following the service frequency increases for services between Paekakariki and Waikanae, it may be necessary to create a grade separated rail crossing.

A grade separated roundabout can be accommodated within the WLR designation at Otaihanga Road for Option 2. The interchange would be built at a similar location for Option 4. A slightly different design would be needed to accommodate the different alignment to bypass the land fill site. Again it may be necessary to build an Otaihanga Road rail overbridge following the service frequency increases.

By constructing a SH1 expressway adjacent to the rail corridor (Option 3) it is possible to incorporate a rail overbridge within the interchange structure. If SH1 follows the western side, the eastern arm of Otaihanga Road would need to be carried over the railway.

## **6.3 North of Waikanae**

A workshop organised by KCDC highlighted desire from some parts of the community for a grade separated intersection in the middle of Waikanae town centre. This would be possible for Options 1 and 3 with some land acquisition and rail re-alignment. Where the expressway follows the WLR designation between Otaihanga Road and Peka Peka (i.e. Options 2 & 4) this is not required as part of an expressway project.

Constructing a grade separated interchange in the heart of a town is likely to result in a number of negative effects. The large land footprint required to build an interchange would be car dominated and would affect the amenity of Waikanae. It would also be difficult to

provide pedestrian or cycle-friendly routes between the east and west sides of Waikanae at such an interchange.

Constructing an interchange outside the Waikanae urban area would reduce the negative effects associated with passing the expressway through the town. Figure 6.3 shows three locations where a grade separated interchange could be constructed for Options 1 and 3.

The KCDC District Plan includes a designation for an intersection between SH1 and the WLR approximately 600m south of Peka Peka Road (Variation 1). A grade separated interchange with north facing ramps could be constructed within the designation. Alternatively the interchange could be located at Peka Peka Road (Variation 2) or further to the south as part of the Waikanae North Development (Variation 3).

**Figure 6.3 – Options for an Interchange North of Waikanae**

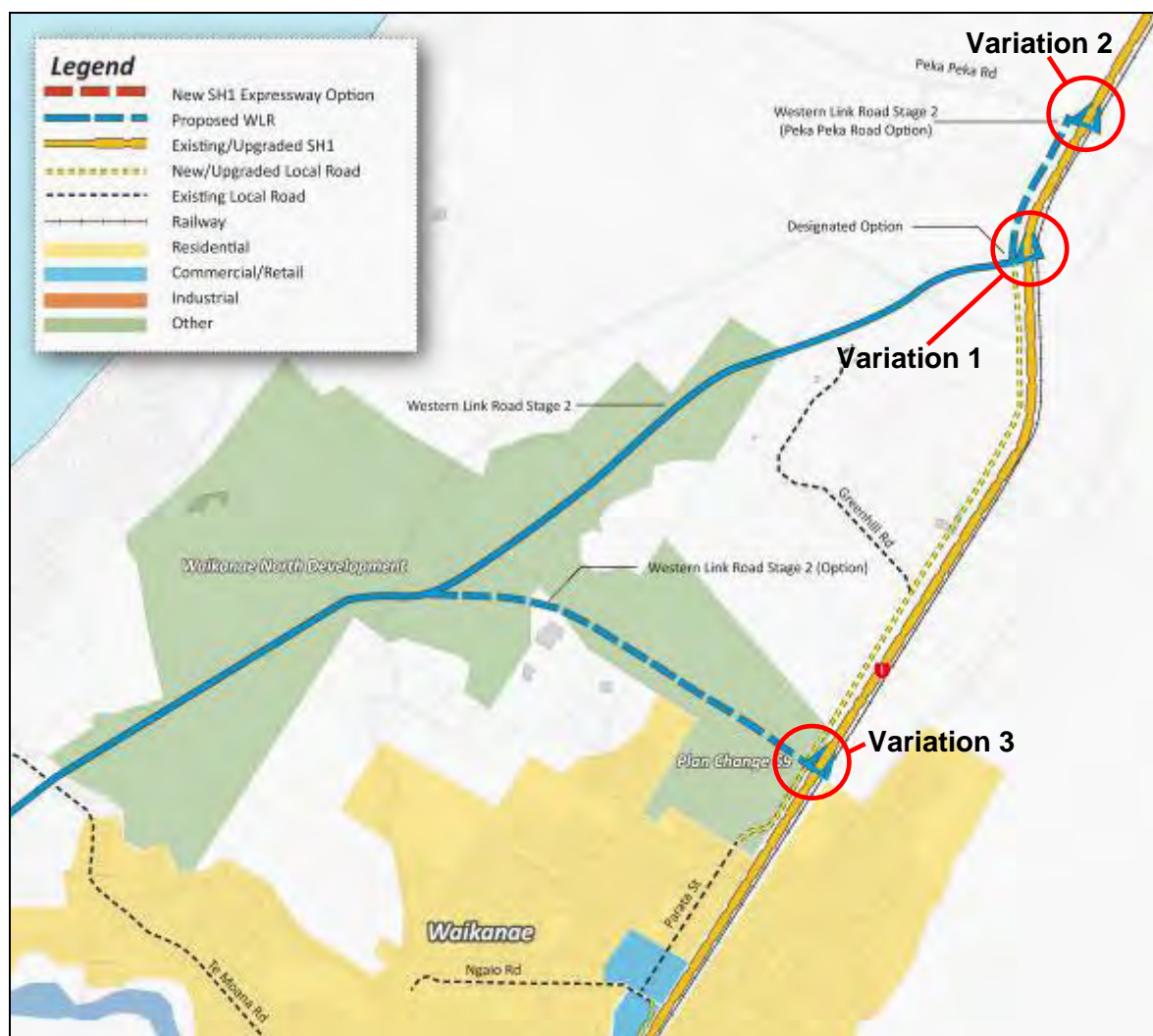


Figure 6.3 shows for Options 1 and 3, how these intersections could connect to the northern part of the WLR. It would still be possible to provide an intersection outside the

Waikanae urban area if this part of the WLR did not progress. Motorists travelling to and from the intersection would instead use the parallel service road that is provided to maintain access to properties already adjacent to SH1.

In options 2 and 4, a grade separated roundabout with north facing ramps and connections to the local road network is required to maintain current levels of access. Motorists travelling between Waikanae and Levin would use this roundabout interchange. The existing designation would need to be extended to allow enable this interchange to be constructed.

If an expressway is constructed between Pukehou Bridge and Peka Peka, it will be necessary to also provide south facing ramps for all options. These will allow people travelling between Peka Peka or Te Horo and Paraparaumu or Wellington to use the SH1 expressway. The Otaki to Peka Peka alignment approved by the Transit NZ board included south facing ramps. If south facing ramps are not provided, the first opportunity motorists driving from the north would have to access the expressway would be at the Otaihanga interchange. South Facing Ramps would also be needed if Option 1 were constructed without the WLR river crossing.

### **WLR River Crossing**

In Options 1 and 3 a new expressway river crossing would be constructed west of the existing bridge (as shown in Figure 6.4). In Option 3 the old SH1 would function as a local arterial connecting Waikanae and Otaihanga (and to the south). In Option 1 however, the old SH1 river crossing would only connect to Kebbel Drive. It would not allow motorists to drive between Waikanae and Otaihanga. Instead vehicles making this movement must make the journey via the WLR crossing over the Waikanae River.

In Options 1 & 3, the WLR river crossing would provide an alternative route for motorists, cyclists and pedestrians to travel between Waikanae and Paraparaumu. Motorists travelling to Wellington from Waikanae would use the WLR river crossing to join the expressway at the Otaihanga interchange. Building the WLR river crossing would avoid the need to provide a grade separated intersection in Waikanae. Instead a grade separated link between Te Moana Road and Elizabeth Street could be provided to connect the east and west sides of the town. Connections to the expressway would be provided at an interchange north of Waikanae, outside the urban area.



Figure 6.4 - Requirement for WLR River Crossing or Town Centre Interchange

