

Environmental and urban design solutions

The NZTA has engaged specialist consultants to undertake a range of environmental effects assessments. These assessments will cover such issues as noise, landscape, visual, and traffic related impacts. Where appropriate, measures will be implemented to reduce or avoid environmental effects.

Ultimately, these assessments and investigations will form an integral component of a Notice of Requirement to alter the existing road design which will be lodged with CCC. The Notice of Requirement will follow a public notification process.

While these assessments are yet to be completed, the NZTA welcomes your feedback on the preferred final design option. The ways in which you can do this are outlined below.

What are the roads of national significance?

The government has identified the Christchurch Western Corridor (SH1) as a road of national significance. This highway is critical for supporting economic growth, reducing congestion and improving safety in our region.

The Christchurch roads of national significance are the Northern Corridor, Southern Corridor and Western Corridor. These are shown in the accompanying map.

For more information visit the NZTA website: www.nzta.govt.nz



Greater Christchurch Urban Development Strategy

The Greater Christchurch Urban Development Strategy (UDS) is a 35-year strategy for managing growth in Greater Christchurch. The UDS integrates the planning, funding and implementation of land use, transport and infrastructure.

The UDS partners are the NZTA, Christchurch City Council, Environment Canterbury, Waimakariri District Council and Selwyn District Council. All the roads of national significance projects are included in the UDS and are integral to achieving the UDS vision of a sustainable transport system that supports prosperous communities.

For more information go to: www.greaterchristchurch.org.nz

What do you think?

The NZTA is consulting the community on the preferred design option for the intersection. Please provide your feedback before **Friday 26th of March 2010** by one of the methods below:

- The attached feedback form; or
- The online web feedback form can be downloaded from the project webpage on the NZTA website at: www.nzta.govt.nz/memorialintersection
- Email to: memorialintersection@nzta.govt.nz

Want to know more?

Should you require any additional information, refer to the website above or please contact:

Shelley Perfect
Project Consultant
(For the NZ Transport Agency)
Telephone: (03) 363 5400

Steve Baker
Project Consultant
(For the NZ Transport Agency)
Telephone: (03) 363 5400

Richard Shaw
Project Manager
NZ Transport Agency
Telephone: (03) 963 3200



Russley Road/Memorial Avenue Intersection Improvements

What's inside

Page 2 Interim options
Final design options
Option 1

Page 3 Options 2 and 3

Page 4 Environmental assessments
Urban Development Strategy
What do you think?
Want to know more?



Current project programme

The key project milestones are:

- Public consultation programme commences - March 2010
- Deadline for providing comments/feedback - 26th March 2010
- Lodge application to Christchurch City Council (CCC) for an alteration to the State Highway designation - projected 2010

The NZ Transport Agency (NZTA) is investigating options for improvements to the Russley Road (SH1)/Memorial Avenue intersection. This project consultation brochure outlines and seeks feedback on the potential design options for this intersection.

Project background

Memorial Avenue is the major arterial that links central Christchurch with the airport. It is a key gateway to the city and South Island.

Traffic at the intersection is causing unacceptable delays and queuing during morning and evening peak periods. These delays are expected to increase as traffic volumes continue to increase on both Russley Road (SH1) and Memorial Avenue.

The increasing traffic through the intersection is leading to a reduction in safety, increased travel time to and from the airport, and loss of travel time reliability. Pedestrians and cyclists are poorly catered for through the current intersection. This intersection forms part of the Western Corridor around Christchurch that provides access to the airport from North and South Canterbury.

Improvements to the intersection will link in with other Western Corridor projects to four-lane SH1 from Yaldhurst Road through to Sawyers Arms Road.



MEMORIAL AVENUE

The objective of the current project is to identify a preferred design option for a grade-separated interchange with Memorial Avenue and Russley Road on separate levels. This consultation process will inform the final design solution.



BREVET CLUB MEMORIAL
CHRISTCHURCH INTERNATIONAL
AIRPORT

Interim intersection improvement options

Considerable work has been undertaken to identify an interim low-cost improvement option that could be implemented sooner than the final preferred option.

The NZTA has decided not to proceed with an interim improvement option and to progress towards a final design option.

Of the ten interim options investigated, only one was identified as a possible option. However, this option only provided limited short term benefit.

Final design options

The current preferred design option based on the assessment undertaken to date is for a full grade-separated interchange at the intersection. A grade-separated interchange means one road remains at ground level (ie, 'at grade') while the other road passes over or under, with on and off ramps. In all options, the current roundabout would be removed and replaced with traffic signals.

The NZTA recognises the significance of Memorial Avenue and the role the intersection has as a key gateway to the City. Any improvement to the intersection needs to take this into account. Any intersection improvement should also aim to:

- Minimise the land required for the improvements
- Have the least impact on adjacent land owners
- Maintain through flow and a greater speed environment for state highway traffic
- Adequately provide for cyclists, pedestrians and public transport
- Consider environmental issues such as noise, urban design, traffic impacts, groundwater and stormwater.

The various grade-separation options for the intersection are discussed to the right.

Option 1: Memorial Avenue over Russley Road (SH1)

Russley Road (SH1) would remain at grade and all highway traffic would 'free flow' through the intersection. Memorial Avenue would be raised to a height approximately 8m above SH1.

All on/off ramps for SH1 would be raised to connect with a signalised intersection sited on top of the flyover. A total of 6 earth embankments would be required to raise the on/off ramps up to the level of Memorial Avenue.

Advantages

- State highway traffic remains 'free flow' through the intersection

Disadvantages

- Large structure requiring 6 embankments to provide access to Memorial Avenue
- Larger structure required to enable over-dimension heavy vehicles to use SH1
- Disadvantages cyclists and pedestrians to the airport as they will be required to climb over the flyover
- Potential issues with side road connections on Memorial Avenue (west) within the airport
- Potential issues with access for adjacent landowners onto Memorial Avenue (east)
- Greatest land requirement with associated impacts on all adjacent land owners
- Elevated visual clutter of signs, lights etc associated with the elevated intersection
- Would require significant changes to the Wairakei Road intersection
- Elevated structure has greater potential for noise
- Visual impact on sightlines down Memorial Avenue and views of the Southern Alps and Port Hills

Option 2: Russley Road (SH1) passes under Memorial Avenue

Memorial Avenue would remain at grade and SH1 would pass under Memorial Avenue via a trench. SH1 traffic would 'free flow' through the intersection.

All on/off ramps for SH1 would remain at grade to connect with a signalised intersection on Memorial Avenue. SH1 would be lowered by approximately 8m beneath ground level.

Advantages

- Provides for public and cyclist access to the airport via Memorial Avenue
- Provides for public transport and could accommodate bus priority or future light rail
- Reduced land requirement compared to Option 1. Same land requirement as Option 3
- SH1 traffic remains 'free flow' through the intersection with both options
- Better containment of noise from SH1.

Disadvantages

- Requires significant excavation into the unconfined groundwater aquifer
- Requires high ongoing maintenance and operational costs to dispose of stormwater
- Significant resource consenting issues due to excavation and structure within groundwater
- Greater potential for contamination of the aquifer during construction and through stormwater disposal
- Large underground structure required to enable over-dimension heavy vehicles to use the State highway
- Significantly more costly to construct (approx \$10m additional)
- Would require significant changes to the Wairakei Road intersection

Option 3: Russley Road (SH1) over Memorial Avenue

Memorial Avenue would remain at grade. SH1 would be raised to a height approximately 7m above Memorial Avenue. All SH1 traffic would 'free flow' over Memorial Avenue.

All on/off ramps for SH1 would remain at grade to connect with a signalised intersection on Memorial Avenue beneath SH1.

Advantages

- Potential to provide a 'statement' gateway to the City through the design of the over-bridge
- Provides for pedestrian and cyclist access to the airport via Memorial Avenue
- Provides for public transport, and could accommodate bus priority or future light rail
- Reduced land requirement compared to Option 1. Same land requirement as Option 2
- SH1 traffic remains 'free flow' through the intersection
- A lower structure compared to Option 1

Disadvantages

- Would require significant changes to the Wairakei Road intersection
- Elevated visual clutter from lights
- Elevated structure has greater potential for noise
- Visual impact on sightlines down Memorial Avenue and views of the Southern Alps and Port Hills

As a consequence of the three options, significant changes need to be made at the Wairakei Road intersection. The Wairakei Road roundabout would be removed and that intersection would be restricted to 'left-in/left-out' only from SH1 (ie there would be no through traffic across SH1. There would be no right-turn into Wairakei Road from SH1. There would be no right-turn out of Wairakei Road onto SH1).



OPTION 1: ARTIST'S VISUALISATION OF MEMORIAL AVENUE OVER RUSSLEY ROAD (SH1)



OPTION 3: RUSSLEY ROAD (SH1) OVER MEMORIAL AVENUE