Project title: Port and Ferry Access
Strategy area: Transport

1. The Proposal

To develop and implement a plan to improve traffic and freight access to CentrePort and the ferry terminal whilst addressing future traffic growth on the Quays route. This initiative arises from anticipated growth in rail freight volumes across Waterloo Quay and follows from the initial traffic planning developed for the Council's City Gateway concept.

2. Strategic Fit

This priority explicitly contributes to the following Council outcomes:

Outcome 1: More Liveable – by facilitating an integrated transport system that functions effectively for people and freight.
Outcome 7: Better Connected – by enhancing the State Highway system to the port and ferry terminal for freight and other vehicles.
Outcome 8: More Sustainable – by improving traffic flow (and reducing emissions) through improving bottlenecks and improving access to CentrePort, the ferry terminal and the motorway at the Aotea on-ramp.

The priority also contributes to the urban development and economic outcomes. It has been selected as number 4 priority in the Council's Transport Strategy and number 14 overall.

The City Gateway is seen as an important growth area for the city building on the objective of maintaining a compact city. It provides potential for intensifying city living and enable further business and retail opportunities that enhance the existing successful central city area. This iniative will ensure the development of this area becomes an integral part of the central city area by building affordable capacity and ammenity in the transport network in this strategic area of the city

3. Relationship to Existing Activities

The City Gateway Project addresses development of the 105 hectare area of land north of the railway station to balance infrastructure needs, urban development outcomes and the operational needs of port and rail operators.

The original concept was based on the relocation of Aotea Quay to a more central corridor location which improved port operations, increased traffic capacity and provided enhanced access to the port and ferry. This new initiative retains the City Gateway urban development concepts but uses an over bridge and two roundabouts, at a cost of $14 million, to replace the previously proposed longer term $120 million roading development.

This assumes cost sharing between Transit and the Port on the over bridge. The major advantage of this revised concept is that it can be readily staged and constructed in the short to medium term and provides some certainty to allow related projects such as "Greening the Quays" to advance.

4. Proposal Costs

Outline project costs per year

	Operating expenses $000									
Project Component	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Consultants Fees-Traffic Analysis			*50*							
Designation process				*50*						
Total			*50*	*50*						

	Capital expenses $000									
Project Component	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Land Acquisition			*100*		*500*	*500*		*100*		
Upgrade Waterloo Quay			*500*	*500*						
Aotea/Ferry Roundabout				*200*	*2500*					
Upgrade Aotea Quay					*150*	*500*	*500*			
Waterloo Quay Rail Over bridge						*250*	*2500*	*2750*		
Hutt Road Roundabout								*100*	*500*	*2000*
Total			*600*	*700*	*3150*	*1250*	*3000*	*2950*	*500*	*2000*

Note: The above budget represents the Council's costs only and assumes Transit and the Port will contribute 75% of the cost of the over bridge ($22million)

5. Project Outline

The Council has prepared a long term growth concept for the expansion of the CBD northwards in response to development pressures in the core CBD area. This concept, the City Gateway, meshes with the development aspirations of CentrePort and OnTrack for their surplus areas of port and rail land.

The City Gateway concept envisaged the relocation of Aotea Quay to a new position through the freight yard to improve depth of frontage to Aotea Wharf for port activities, to improve the geometry of the Aotea off-ramp which is of marginal standard, and to provide extra capacity on Aotea Quay to meet projected growth.

The rationalisation of New Zealand's ports has led CentrePort to prepare a forward business plan which positions the company as the premier port in the centre of the country. This move will produce a greatly increased volume of container freight and a projected twenty-fold increase in rail freight movements across Waterloo Quay. Construction of a rail over bridge on Waterloo Quay will relieve traffic congestion

caused by the extra rail movements and can be designed to provide improved road freight access to the container terminal. The cost of an over bridge is $22 million dollars for a four lane over bridge (two lanes each way) and $33 million for a six lane over bridge. Land constraints on Aotea Quay adjacent to the stadium suggest that it will only be possible to construct a four lane over bridge without cutting the Aotea Wharf frontage in two.

The over bridge solution was initially proposed as a short term solution which could be constructed within two years and would eventually be replaced by the City Gateway roading layout. However the cost of the structure and the extreme difficulty of integrating the construction of the Gateway roading with an operational over bridge means that once built, the over bridge will be a permanent part of the network. It will constrain Aotea Quay to its present position and may limit the opportunities available to improve access to the ferry terminal and to provide improved access to the motorway.

Investigation of road and rail layouts at Kaiwharawhara suggests that most of the connectivity improvements achieved by the City Gateway layout can be realised by the provision of two roundabouts in addition to the over bridge.

Aotea/Ferry Roundabout

The first roundabout will be located on the Aotea Quay side of the existing Hutt Road over bridge and would provide improved access to the motorway on-ramp and ferry terminal. This section of the network is heavily built-up with existing structures and access to and from the ferry is poor. Traffic volumes at this point will grow because of the abandonment of the Lynx service and the berthing of the higher capacity Kaitaki at Kaiwharawhara. This roundabout can be expanded if a two lane on-ramp is required in the future at this point.
The estimated cost of the first roundabout is $2.5 million (2005 dollars). A small amount of land may need to be acquired from the adjacent courier operation to achieve the optimum roundabout geometry.

Waterloo Quay Over bridge

The major beneficiary of the relocation of Aotea Quay is CentrePort who gain increased depth off the Aotea Wharf berthage thereby permitting operational efficiencies. It was initially thought that the container terminal might one day relocate to a position north of the stadium to take advantage of this depth but this has now been ruled out because of the increasing size of container vessels, ground conditions in the area, and the cost of relocating the terminal. It is now accepted that the container terminal will remain in its current location and CentrePort have given no indication that they value the operating efficiencies north of the stadium highly enough to contribute to the significant costs of relocating Aotea Quay. It therefore seems probable that the Waterloo Quay over bridge will be a permanent part of the network and that Aotea Quay will remain in its present position with two lanes in each direction. The Council now needs to ensure that this capacity is reflected in the CBD Corridor modelling and to address any congestion that appears at other parts of the network as a result of capping the capacity on Aotea Quay.

It is assumed that traffic delays from the extra rail movements will be sufficiently onerous to produce full Transit subsidy and that the remaining costs will be shared between CentrePort and the Council. The funding issues surrounding the over bridge have yet to be addressed and will be dependant on the robustness of future rail freight predictions. It is therefore assumed that the Council's share of funding will be $5.5 million being 25% of the total cost.

Hutt Road Roundabout

At present there is no provision for ferry traffic heading north on the Hutt Road from Thorndon to access either the ferry or Aotea Quay. Similarly traffic heading north over from Aotea Quay cannot head towards Thorndon without undertaking a difficult U-turn on the Hutt Road. Construction of a new roundabout on Hutt Road immediately north of the existing over bridge will restore these movement options to the network. Surplus OnTrack land will accommodate this roading option. As well as providing improved access to the ferry, port and stadium, the new roundabout would introduce the possibility of a continuous bus link from the railway station servicing Thorndon Quay, the ferry, the stadium and the new Harbour Quays development on port land. The estimated cost of this second roundabout is $2.5 million including land acquisition.

Summary Implementation Plan

Although the initiative highlights three significant elements of the project there are also improvements to be made along the route between the Hutt Rd and Bunny St to link the elements together and integrate them with the city roading network. The following gives an overall summary of the expected implementation programme.

- 06-07 Develop detailed schemes drawings for the corridor between Hutt Rd and Bunny St. Carry out consultation, start land designation and acquisition process. Start road improvements between Bunny Street and Hinemoa St including tree planting.
- 07-08 Continue with road improvements including new intersection at Kings Wharf. Start detailed design on Ferry Terminal roundabout. Complete planning and negotiations with Transit and Transfund. Continue with land acquisitions. Complete detailed documentation ready for tender.
- 08-09 Construct Ferry Terminal roundabout. Start detailed design work for Waterloo over bridge and Aotea Quay widening
- 09-10 Widen Aotea Quay in advance of constructing over bridge.
- 10-11 Construct Waterloo Quay over bridge. Start detailed design work for Hutt Rd roundabout.
- 11-12 Complete Waterloo over bridge. Complete documentation for Hutt Rd roundabout ready for tender.
- 12-13 Construct Hutt Rd roundabout.
- 13-14 Complete works on route.

The above sequence of work has been set out as an achievable programme for implementing this project. If there was a desire to achieve elements of the programme on a shorter time frame then certain activities could be run concurrently. However the lead time for land acquisition and consents is a limiting factoring in most instances.

6. Conclusion

Management of traffic on the Quays Route has been addressed through modification of the Council's City Gateway Concept to reflect the resurgence of port and rail commercial activities. The current proposal for an over bridge and two roundabouts provides much of the connectivity benefits of the initial City Gateway roading options but at the cost of capping the capacity of Aotea Quay.

The major advantage of the current proposals is the ability to stage the works to match capital expenditure to traffic demand and the considerably reduced cost. This initiative assumes that the Aotea/Ferry roundabout will be built while the design and consent process for the over bridge is being undertaken. The Hutt Road roundabout will be built once the over bridge is complete to finish a ten year programme of work which will substantially improve the network in the constricted Kaiwharawhara area at an affordable cost.