

# **Finance and Operational Performance Committee**

**Monday, 9 June 2003  
Commencing at 9.30 am**

**Part IV:      General**

**Item 22:     Whau Crossing**

**SUPPLEMENT TO AGENDA FOR AN ORDINARY MEETING OF THE FINANCE AND OPERATIONAL PERFORMANCE COMMITTEE TO BE HELD IN THE CIVIC CENTRE, 6 WAIPAREIRA AVENUE, LINCOLN, WAITAKERE CITY, ON MONDAY, 9 JUNE 2003 COMMENCING AT 9.30 AM.**

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**PART IV - GENERAL**

**22 WHAU CROSSING**

**PURPOSE OF THE REPORT**

The purpose of this report is to advise the Finance and Operational Performance Committee of actions and outcomes to date, on studies for an extra crossing of the Whau River between Te Atatu / Kelston and Rosebank, and referred to in this report as the 'Whau Crossing'.

The report recommends actions to progress the resolution of related issues, and protect opportunities to realise potential synergistic relationships of the Whau Crossing with State Highways 16 and 20, and between Waitakere and Auckland cities.

**BACKGROUND**

The Whau Crossing was first mooted and its network benefits scoped in the Auckland Regional Council's studies leading to the Auckland Regional Land Transport Strategy (1999).

The strategy includes a policy to investigate options for increasing road capacity for travel between Auckland and Waitakere Cities, and in particular the Whau Crossing option. Responsibility for this was assigned to the Auckland and Waitakere City Councils, and Transit New Zealand, (in consultation with the Auckland Regional Council). This policy is continued in the updated Regional Land Transport Strategy (2003).

A lightly resourced study of options for increased capacity between Auckland and Waitakere Cities was undertaken over 2000/2001 under the name Waitakere and Auckland Road Capacity Study. This study demonstrated that the Whau Crossing option was significantly more effective than alternatives based on widening existing arterial routes. It was agreed among the officer participants in the study, including the Regional Council's Manager of Transport Planning, that a detailed investigation of the Whau Crossing was justified.

Transit New Zealand and Waitakere City officers planned to fund a full study of the Whau Crossing (\$525,000) in a submission to Transfund New Zealand and mistakenly understood that Auckland City had also agreed to participate. The Auckland City Council's officers had actually assigned a low priority to a Study of the Whau Crossing, and this was supported by the Auckland City Council's Transport Committee in March 2002, with the resolution that *'the Waitakere City Council be informed that the Auckland City Council is unable to commit to a separate Whau River Crossing study as a full participant in the current or next financial year'*. The Auckland City Council's officer-recommendation was mainly based on:

- (1) the Officer's programme is committed to other projects for 3 years, eg the Eastern Corridor;
- (2) there is no provision in the Draft 2002/2003 budget;
- (3) Transit's State Highway 20 Extension study should be completed first.

Transit New Zealand officers advised subsequently that they could not recommend Transit New Zealand contribute financially to a Whau Crossing Study mainly because:

- (1) all responsible parties need to be fully committed to ensure outcomes address all relevant concerns avoiding the risk of complicating difficulties;
- (2) Transit New Zealand would participate once an appropriate way forward had been agreed and signed off by all parties, through, for example, a Memorandum of Understanding.

Meanwhile, the Waitakere City Council is undertaking a study of strategic corridor needs within the City taking into account 2 contexts, the road network including and excluding the Whau Crossing, and Transit New Zealand is undertaking a study of the extension of State Highway 20 to join State Highway 16, with and without the inclusion of a Whau Crossing.

Transfund New Zealand is supporting the Waitakere City Council's corridor studies with provision of a 75% subsidy, and is supporting the Transit New Zealand's State Highway 20 Extension study with 100% of the funds required.

Waitakere City Council staff have continued to monitor the progress of the State Highway 20 Extension study, and find that it has now reached a critical stage in regard to future connections among the State Highways and other metropolitan roads including the Whau Crossing.

The Chief Executive Officer has initiated arrangements to undertake a preliminary assessment of the potential for implementation of the Whau Crossing through a Public Private Partnership in accordance with Resolution 706/203 of the City Development Committee, May 2003.

## **STRATEGIC CONTEXT**

The regional strategic context is expressed in the Regional Land Transport Strategy (2003), Policies C5.5 and C11.1, as detailed below.

Policy C5.5 is *to provide additional road capacity between Waitakere City and Auckland City*, by investigating (1) an extra lane each way for the North Western Motorway between Hobsonville Road and Waterview (Transit New Zealand in consultation with the Waitakere City Council, the Auckland City Council and the Auckland Regional Council), and (2) options including a new crossing of the Whau River linking Kelston/Te Atatu South with the Rosebank Peninsula (the Waitakere City Council and the Auckland City Council in partnership, and in consultation with Transit New Zealand and the Auckland Regional Council).

Policy C11.1 is *to expedite the investigation of the provision of four lanes of additional capacity linking Waitakere with Auckland City* by (2) determining and protecting the land requirements for the most appropriate way to extend State Highway 20 west from Richardson Road to State Highway 16 (Transit New Zealand in consultation with the Auckland City Council, the Waitakere City Council, and the Auckland Regional Council).

The local strategic context is set through the principle of 'network connectivity' espoused by Waitakere City's new-urban design consultants Morris and Kaufman, of Ecologically Sustainable Design Limited, Melbourne. This principle is that capacity deficiencies are likely to be better redressed by the provision of new connections, rather than by the enlargement of existing connections.

The regional arterial network does not connect well with Waitakere City. There is an excessive separation of 5.5 km between the Te Atatu and Waterview interchanges on State Highway 16. This results in distorted traffic patterns, and excessive traffic loads in Waitakere and Auckland Cities. The Whau crossing would result in a better traffic distribution by giving Waitakere traffic, another access to State Highway 16 through the Patiki interchange, and another access to State Highway 20 should that highway be routed along the Rosebank peninsula. The Whau crossing would also provide for direct travel between community and working environments in Auckland and Waitakere Cities in the vicinities at each end of the crossing. Morris and Kaufman have expressed their concurrence with this application of the connectivity principle.

## ISSUES

### Waitakere and Auckland Road Capacity Study

The Waitakere and Auckland Road Capacity Study was undertaken by staff of the Auckland and Waitakere City Councils with inputs from the staff of Transit New Zealand and the Auckland Regional Council. The resources for this project were sufficient for broad scoping of the issues, and did not provide for mooted stakeholder consultation and communication. Nevertheless, certain issues were clarified through the work carried out.

### Road User Benefits, Capital Costs, Benefit/Cost Ratios

The road user benefits (value of travel time \$15/hour and travel distance \$0.20/km) were estimated using the Waitakere Road Traffic Assignment Model and traffic demands estimated for 2011 by the Auckland Regional Council. Transit New Zealand staff inferred the cost of the Whau Crossing (\$M20) from a knowledge of projects of similar scale. Waitakere staff inferred the cost of other options (\$M2/km) from road widening projects in Waitakere City. Widening was assumed to provide 4-lane roads with flush medians. The results are summarised below:

OPTION	25 Year User Benefits (\$M)	Cost (\$M)	Benefit Cost Ratio (ration)
Widen Clark/Wolverton/Tiverton/Maioro Route	5	10	0.5
Widen Godley/Donovan/White Swan Route	10	7	1.4
Whau Crossing	170	20	8.5
State Highway 20 Extension	200 #	na	na
State Highway 20 Extension and Whau Crossing	360 #	na	na

# Not all State Highway 20 Extension benefits are accounted for in Waitakere and Auckland Road Capacity Study

### Traffic Impact on Communities

The Waitakere Road Traffic Assignment Model was used to estimate the distance travelled and time spent by road traffic within community areas. The results are summarised below:

COMMUNITY AREA	Reduction In Travel Distance (%)	Reduction in Travel Time (%)
<b>AVONDALE</b>		
Widen Clark / Wolverton / Tiverton / Maioro Route	1	2
Widen Godley / Donovan / White Swan Route	0	0
Whau Crossing	7	8
<b>NEW LYNN</b>		
Widen Clark / Wolverton / Tiverton / Maioro Route	-2	-5
Widen Godley / Donovan / White Swan Route	0	2
Whau Crossing	12	20
<b>HENDERSON</b>		
Widen Clark / Wolverton / Tiverton / Maioro Route	0	0
Widen Godley / Donovan / White Swan Route	0	0
Whau Crossing	6	6
<b>HEPBURN</b>		
Widen Clark / Wolverton / Tiverton / Maioro Route	0	0
Widen Godley / Donovan / White Swan Route	0	0
Whau Crossing	-470	-469

This table identifies the Whau crossing as significantly different in a positive sense from the alternatives in regard to the time and distance spent by traffic within Avondale, New Lynn and Henderson. The converse holds for the Hepburn community. Nevertheless, the Whau Crossing does offer net benefits: a reduction of some 3400 kilometres in travel distance, and 400 less hours of travel time, per morning peak hour overall in these areas.

There would be practically no change in traffic volume on the Avondale College frontage to Rosebank Road if the Whau crossing was introduced, but a substantial reduction (some 5000 veh/day) if, in addition, State Highway 20 was extended to Patiki Interchange.

There would be a large increase in traffic (from some 5000 veh/day to some 25,000 veh/day) along Hepburn Road if the Whau Crossing was introduced. The Hepburn Road arterial would then serve a reasonable share of travel between Waitakere and Auckland Cities. As a result, traffic on the existing routes would reduce, the reduction for Rata Street / Ash Street would be some 15,000 veh/day.

The widening of the Donovan and Tiverton routes would not result in large changes in traffic patterns, traffic increases of some 8% would occur on these routes. These projects do not offer route-shortening benefits.

### Social Effects

The social impacts of the options can be inferred from their traffic impacts on communities (see above) and their physical nature.

The Whau Crossing offers a more equitable distribution of traffic with less overall traffic impact on key communities of interest in Waitakere and Auckland Cities. The Whau Crossing would have less physical impact on communities than the alternative of extensive road and intersection widening.

### **Economic Effects**

McDermott Fairgrey were commissioned to report on the economic implications and confined their report to the economic effects of the Whau Crossing and the State Highway 20 Extension. The consultant concluded the economic benefits of the Whau Crossing would be small in comparison with the benefits of the State Highway 20 extension, but that the benefits of the latter for Waitakere City would be confined without the Whau Crossing connection. The consultant also found that a crossing at Hepburn Road would support continued growth of economic activities in areas adjoining the Whau Crossing, and in large employment areas such as Henderson and New Lynn. In contrast a crossing at McLeod Road would be likely to reinforce the dormitory role of Waitakere City.

### **Environmental Effects**

The Whau Crossing would have direct environmental effects on the Whau estuary that would need to be addressed by sustainable planning and design. The study was not resourced to quantify these effects, nor enter into prerequisite design studies more appropriate to a full scale crossing investigation. It was noted that the estuary is already degraded and that the crossing work would present an opportunity to improve the prevailing environmental condition.

### **Connections**

The forgoing results are contingent on the assumed connections for the Whau Crossing and State Highway 16 and the State Highway 20 Extension.

The following connections are considered to be vital:

- (1) South-facing ramps for SH16 at the north end of the Rosebank Peninsula to allow traffic between 'the South' and the Rosebank industrial area, and between the Whau Crossing and SH16 (south).
- (2) North-facing ramps serving SH16 at the north end of the Rosebank Peninsula to allow traffic between 'the North' and the Rosebank industrial area.
- (3) Ramps for traffic between SH16 and SH20 at the north end of the Rosebank Peninsula to allow traffic between SH16 (north) and SH20.
- (4) South-facing ramps for SH20 at the southern end of the Rosebank industrial area to allow traffic between the industrial area and 'the South' and between the Whau Crossing and 'the South'.
- (5) North-facing ramps at Great North Road to allow traffic between 'the North' and Avondale.
- (6) South-facing ramps at Great North Road or New North Road to allow traffic between Avondale and 'the South'.

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Connections (4) and (5) above are crucial to the minimising of traffic on Rosebank Road through the residential part of the road and past the school frontages. The connections above are illustrated at page A60.

### **Conclusion**

The results from the Waitakere and Auckland Road Capacity Study study are consistent with the earlier work of the Auckland Regional Council that found the Whau Crossing to be a regional project with very high road user benefits. The scoping of its effects relative to alternatives in the Waitakere and Auckland Road Capacity Study Study suggests the Whau Crossing should be studied comprehensively in its own right, as originally intended by Waitakere City and Transit New Zealand staff, and confirmed by Auckland Regional Council staff.

## FUNDING

The Waitakere and Auckland Road Capacity Study Benefit Cost Ratio of order 8 for the Whau crossing suggests that the project has robust potential for support by Transfund New Zealand. There are 3 primary potential stakeholder-funders, Transit New Zealand, the Waitakere City Council and the Auckland City Council. Assuming equal shares for a project cost of \$M30, and 50% Transfund funding-assistance to the territorial authorities, the Waitakere City Council's share is some \$M5. The Waitakere corridor studies indicate that this cost would be offset by the cost of other projects, to in the order of several millions of dollars, and able to be deleted from the Long Term City Community Plan, owing to the improved traffic distribution effected by the Whau Crossing.

The City Development Committee is now interested in scoping the potential for implementing the Whau Crossing through a Public Private Partnership, in which the cost could be met wholly or partially by a fourth party having the right to toll the crossing subject to agreed conditions. This could result in a reduction in the use of the crossing and a loss of network operational benefits. The table below scopes this effect, assuming time is valued at \$15 per hour, using the Waitakere Road Traffic Assignment Model:

Toll (cents/vehicle)	Traffic (vehicle/day)	Annual Toll (\$M)	Road User Benefit (\$M per 25 years)	BCR on \$M30
0	29,000	0	170	5.7
25	26,000	2.4	167	5.6
50	20,000	3.7	162	5.4
100	12,000	4.4	159	5.3

This suggests that a small toll could be sustained without loss of Transfund funding-assistance, but the attractiveness of the project as a toll-supported Private Public Partnership is unknown and remains the subject of investigation for the City Development Committee.

## WHAU CROSSING COMPREHENSIVE INVESTIGATION

The work to properly assess the need for and feasibility of the Whau crossing includes:

- (1) Comprehensive transport modelling for optional crossing locations and configurations;
- (2) Comprehensive assessment of the schemes (designs and costs);
- (3) Comprehensive assessment of the environmental, economic, and social effects of the schemes;
- (4) Comprehensive assessment of the public and private transportation benefits of the schemes;
- (5) Comprehensive assessment of communication and consultation with stakeholders;
- (6) Selection of the preferred scheme;
- (7) Further refinement of the preferred scheme and its characteristics;
- (8) Comprehensive assessment of funding options for the preferred scheme;
- (9) Corridor protection measures.

The work would be carried out by a major consultancy and the cost of the work, in the absence of a detailed estimate, is considered to be in the order of \$600,000.

## TRANSIT NEW ZEALAND STATE HIGHWAY 20 EXTENSION STUDY

Transit New Zealand is continuing with its comprehensive investigation of the possible extension, to State Highway 16, of State Highway 20 from its next termination near the Richardson Road / Stoddard Road intersection. In May 2002 the Waitakere City Council responded through the City Development Committee to Transit New Zealand's request for submissions on the state of the investigation at that time. The Committee submitted:

*"That the Committee indicates that options using the Rosebank Peninsula are preferred over the Waterview options."*

879/2002

A large amount of work has been completed since and the number of Options for further refinement has been reduced to 2:

- (1) 'Waterview': along Oakley Creek to the Waterview Interchange;
- (2) 'Rosebank': along the eastern edge of Rosebank Peninsula to the Patiki Interchange

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These are illustrated at page A61.

The process of refining these Options has begun and is planned for completion in October 2003, when the preferred option will be selected for public comment. Over this period the connections to the local network will be determined.

In regard to the two main options, there is no reason for the Waitakere City Council to change its preference for the Rosebank option expressed in resolution 879/2002, as noted above.

In regard to the connections of the preferred option: At a recent liaison meeting of Auckland City Council, Waitakere City Council and Transit staffs with the Consultant (BCHF Limited) the consultant suggested that it would not be possible to have north-facing ramps at Great North Road and south-facing ramps at the southern end of the Rosebank industrial area. As indicated, under 'Connections' above, this combination of ramps is important to Waitakere and Auckland Cities. If the Whau Crossing were to proceed, this combination of ramps would better protect the residential part of Rosebank Road and the school frontages from through traffic, and increase the usefulness of the Whau Crossing, by properly serving traffic between middle-Waitakere and 'the South'.

To date, and although the Regional Land Transport Strategy requires Transit to undertake the investigation in consultation with the Waitakere City Council and the Auckland City Council, Transit's Consultation with Waitakere City has been minimal and disproportionate to the economic and road user benefits at stake. Furthermore, a continuation with the dearth of strategic road connections for Waitakere City would work against the potential intensification of activity within the city espoused by the Regional Growth Forum. Little or no information on the modelling of traffic effects in Waitakere, or the effects themselves, have been disclosed. The focus has been on the effects in Auckland City with the assessment of effects in Waitakere City remaining opaque.

Again, in regard to scheme costs it appears that no account is being taken of the large capital costs that would accrue to the Waitakere City Council and Transfund New Zealand, should the Whau Crossing be excluded from Transit New Zealand's preferred option. Although the Waitakere Strategic Corridor Studies are not complete a preliminary indication from these studies is that these capital costs would be substantial and significantly affect the Benefit Cost Ratio for Transit New Zealand's State Highway 20 Extension options.

## CONCLUSION

It is now timely and vital that meaningful communication among Transit New Zealand, the Auckland City Council and the Waitakere City Council take place, to ensure that the planning of the State Highway 20 Extension is completed having full and transparent regard for the effects on and in Waitakere City, and in accordance with the requirements of the Regional Land Transport Strategy.

It is certain that the interrelationship of the Whau Crossing and the State Highway 20 Extension is significant and that the related synergistic connections need to be protected through the final stage of the State Highway 20 Extension Study, especially as the Auckland City Council and Transit New Zealand have deferred the Whau Crossing Study.

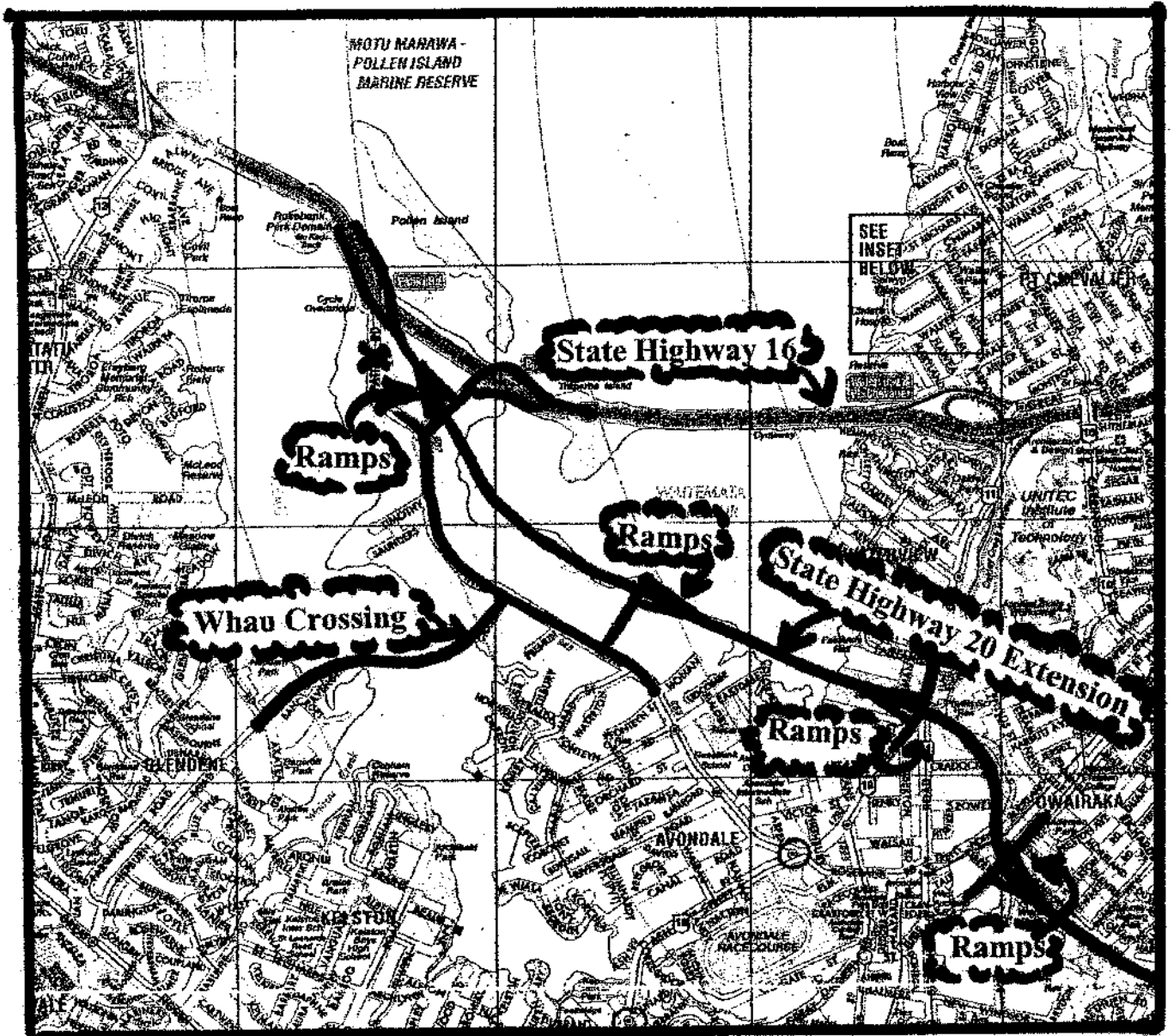
It will be appropriate to initiate detailed assessments of the Whau Crossing options and their effects soon after the State Highway 20 Extension Study has been completed, and the 3 parties proclaimed in the Regional Land Transport Strategy as responsible for this work should immediately plan for the work to be done, since budgets for the 2004/2005 year need to be finalised over the next few months.

## RECOMMENDATIONS

1. That the information be received.
2. That Transit New Zealand be advised in terms of this report and that:
  - (a) the Waitakere City Council strongly prefers the Rosebank option to the Waterview option for the extension of State Highway 20 to State Highway 16.
  - (b) the Waitakere City Council requests full disclosure of the modelling of, and effects of the Rosebank and Waterview Options for the State Highway 20 extension, with and without the Whau Crossing, together with the associated capital costs, that apply to Waitakere City.
  - (c) the Waitakere City Council has a vital interest in the arrangement of interchanges for the State Highway 20 Extension, and wishes to be immediately, fully and directly advised about and involved in, the evolution of this arrangement.
  - (d) the Waitakere City Council requests, for the Rosebank option of the State Highway 20 Extension, that provision be made for north-facing ramps at Patiki and at Great North Road, and that provision be made for south-facing ramps near the southern boundary of the Rosebank industrial area, these latter being positioned and designed in conjunction with the design of north-facing ramps at Great North Road so they can work together.
3. That Transit New Zealand and the Auckland City Council be advised that the Waitakere City Council requests the 3 parties now plan for a full investigation of the Whau Crossing from the beginning of the 2004/2005 financial year.
4. That the Auckland Regional Council be advised that the Waitakere City Council requests facilitation for the initiation of a full investigation of the Whau Crossing from the beginning of the 2004/2005 year.
5. That the Auckland Regional Manager of Transfund be advised in terms of this report.
6. That the Chief Executive Officer continue with arrangements for a preliminary assessment of the potential for the Whau Crossing to be implemented through a Public Private Partnership.

Report prepared by: Ross Hill Service Manager: Transport Assets.





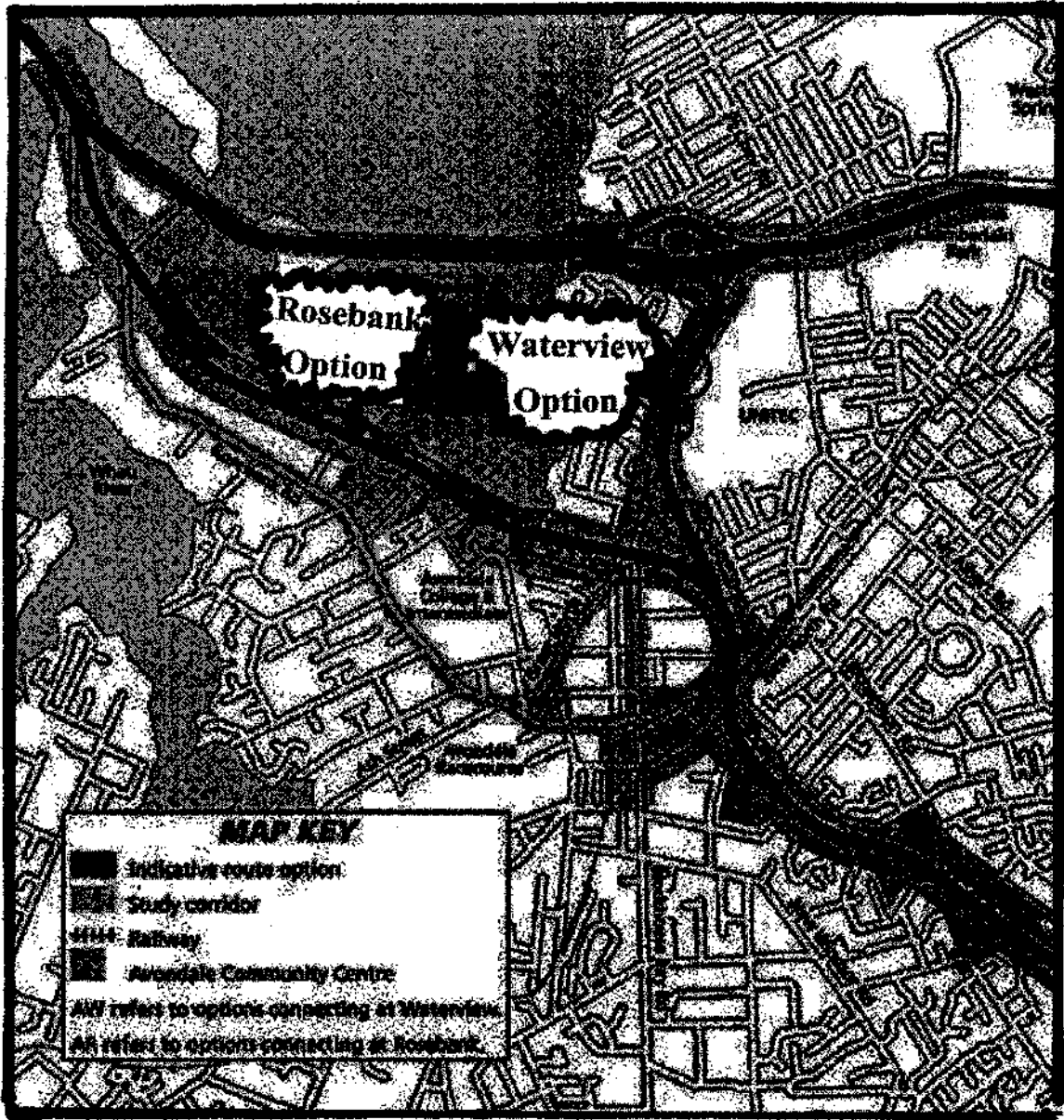
**STATE HIGHWAY 20 EXTENSION  
TO STATE HIGHWAY 16**

**WAITAKERE CITY COUNCIL'S PREFERRED OPTION  
WITH DESIRED CONNECTIONS**

**MAY 2003**

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**STATE HIGHWAY 20 EXTENSION  
 TO STATE HIGHWAY 16**

**TRANSIT NEW ZEALAND'S FINAL OPTIONS  
 FOR FURTHER INVESTIGATION**

**MAY 2003**

21/5/03  
 WCC