

542/1358

Bus Exchange Expansion

COSTS (Costs net of thirds-party contributions in brackets)

Total	Renewal	Backlog	Unallocated	Growth
\$57,665,000 (\$27,102,550)	0	\$46,108,763 (\$21,671,119)	0	\$11,556,237 (\$5,431,431)

COST ALLOCATION

Primary Driver:	Passenger congestion on footways and inside the building will worsen. Congestion for the current number of services servicing the central city will worsen and prevent any frequency increases to support growing demand. Diversion to cars will occur, increasing traffic growth in the city and on wider traffic network. This will negatively impact upon the outcomes being sought, as well as the whole viability of the central city.
Secondary Driver:	
Capacity discussion:	
References:	

ATTRIBUTES

Project Manager:	Robert Woods, Paul Roberts
Work Planned:	Development of a larger central city public passenger transport interchange to meet the increasing demands on the public transport system and maintain patronage growth through improved service levels.
Location:	Lichfield Street, Colombo Street
Special features being addressed:	Current passenger and bus congestion, with additional capacity designed in for long term growth in the number of passenger and vehicle movements (at 2041- UDS consolidated scenario).
A statement of the outcomes being addressed (LoS, Community)	Passenger LoS – (larger) airport lounge standard facility akin to the current exchange, with excellent pedestrian linkages to and from the pedestrian centroid of the CBD.

Outcomes):	<p>Vehicle LoS – independent and priority movement (for a desired minimum number of buses) approaching, within and away from the facility.</p> <p>Community Outcomes – An attractive and well designed city, a safe city, a prosperous city.</p>
Options considered:	<p>Variations within the block opposite the current bus exchange, incorporating variously a bus only link between Tuam Street and Lichfield Street. These options have not proved feasible on a number of matters, particularly in terms of bus capacity, passenger environment and linkages and bus routing potential. Further options to be developed and reviewed free from land constraints and in terms of what will work most favourably for the public transport system in the long term, including any options to relocate the facility entirely.</p>
Implications of not doing the project:	<p>Passenger congestion on footways and inside the building will worsen. Congestion for the current number of services servicing the central city will worsen and prevent any frequency increases to support growing demand. Diversion to cars will occur, increasing traffic growth in the city and on wider traffic network. This will negatively impact upon the outcomes being sought, as well as the whole viability of the central city.</p>
Linkages with other projects:	<p>The bus exchange expansion is identified as one of a number of key projects within the central city transport concept plan adopted by Council in November 2005. Depending upon the final location, bus operations will have an impact upon the kinds of street treatments employed on adjacent roads. In the wider sense the project will contribute to central city revitalisation and the projects identified in that strategy.</p>
Location of other relevant supporting information:	<p>Council resolution of September 2004 recognising and supporting the development of budgets and plans for expansion over a 4 to 5 year timeframe. CCC LTCCP 2007/17 identifies budgets for the completion of an expanded bus exchange.</p>

NB Calculations on determination of growth proportion are available on request from Asset and Network Planning Unit

Project Cost Allocation Summary

Background

Project No	542/1358	Activity	Transport and City Streets
Project Name	Bus Exchange Expansion		
Project Manager	Robert Woods, Paul Roberts		
Year first spend on the project	2006	Project Scope	Development of a larger central city public passenger transport interchange to meet the increasing demands on the public transport system and maintain patronage growth through improved service levels.
Year of first cost allocation	2006		
Year of current cost allocation	2006		
Project cost	\$57,665,000		

Level of Service Definitions

Measure	Annual Bus System Patronage	Primary Driver	Passenger congestion on footways and inside the building will worsen. Congestion for the current number of services servicing the central city will worsen and prevent any frequency increases to support growing demand. Diversion to cars will occur, increasing traffic growth in the city and on wider traffic network. This will negatively impact upon the outcomes being sought, as well as the whole viability of the central city.
Existing Capacity	13855600.0		
Existing Demand	16078000.0		
Total Capacity	16635000.0	Secondary Driver	
Design Capacity Year	2041		
End of Life Year	2041		
Backlog Capacity	2222400	Capacity Discussion	
Growth Capacity	557000		
New Work Capacity	2779400		
% Backlog of New Work	80	References	
% Growth of New Work	20		

Localities:

locality	percentage	comment
Cathedral Square	100	

Operations and Maintenance

O&M Cost Share	\$0
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Renewal

Stand Alone Renewal Cost	\$0	Renewal Scope	
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New Works

Stand Alone New Works Cost	\$57,665,000	New Works Scope	All new work
Renewal Cost Share	\$0		
New Work Cost Share	\$57,665,000		

Preliminary Cost Shares

Backlog Cost Share	\$46,108,763
Growth Cost Share	\$11,556,237

Growth project

Stand Alone Growth Cost	\$57,665,000	Growth Project Scope	All allocated to Growth
Growth Cap	\$57,665,000		

Unallocated costs

Unallocated Cost Share	\$0
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Project funding

External Funding	\$30,562,450
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Summary of Cost Allocation

	%	Total Cost	Net Cost
O&M		\$0	\$0
Renewal	0%	\$0	\$0
Backlog	80%	\$46,108,763	\$21,671,119
Growth	20%	\$11,556,237	\$5,431,431
Unallocated	0%	\$0	\$0
External Funding			\$30,562,450
Project Total	100%	\$57,665,000	\$27,102,550

Christchurch City Council
Facility Assets Unit

Memorandum

14 June 2004 X

for 16 Nov 2004

From: JUDITH CALLANAN

To: Rob Dally

RE: PROPERTIES AT 72-76 LICHFIELD AND 78 LICHFIELD STREET

The purpose of this report is to update the Executive Team on the progress and issues surrounding the purchase of 4 properties, being 72-78 Lichfield Street, for a future Bus Exchange extension

A report was presented as a supplementary report by the Chair of the Strategy and Finance committee to the Council meeting of 23 September 2004 and the following recommendations were approved.

- 1. That the Council note it is anticipated the existing Central Bus Exchange will be inadequate to meet demands in four to five years time and there is funding available to address this.*
- 2. That the Council note that provision has been made for a new Civic Building.*
- 3. That the Council note the leadership role to which it is committed with regard to the revitalisation of the inner city.*

Scoping study brief for expansion of the Christchurch Bus Exchange Transport and City Streets Unit, Christchurch City Council

Description

Within the context of a recently adopted central city transport concept plan for significant changes to traffic management in the Christchurch CBD (see appendix 1), the Council seeks to expand the current bus exchange site to meet the need for future public transport growth. A multi-disciplinary scoping study is required to identify the constraints in developing the expansion, together with development of a recommended cost effective option. The preferred option will evolve from a consideration of :

- capacity requirements and arrangements for vehicle and passenger movement
- proposed changes to the management of central city traffic
- pedestrian access and circulation from streets and existing exchange building
- availability and alternatives for land parcel groupings
- heritage and architectural constraints and desires
- integration with other public transport (taxi, electric shuttle, shuttles, inter-city)
- ancillary functions (e.g. parking, retail, leisure, community services, etc..)

These are discussed in more detail below, however the key objective of this study is to identify any constraints on the development of a feasible expansion to the existing bus exchange and in so doing identify :

- recommended land parcels to safeguard
- a timeline for development and completion of the expansion, including any interim routing arrangements during construction and phase in of new bus movements.
- preferred draft layout(s) of the expansion, including internal circulation of buses and passengers
- scope for designing-in longer term growth
- cost estimates

To meet programmed public consultation timelines for the central city transport concept plan, a final report is required by 17 December 2004.

Meeting requirements

One initial meeting to confirm study requirements and identify any information gaps. As required thereafter for report back of direction and progress. Presentation of study recommendations at completion.

Fees

To be agreed.

Confidentiality

For reasons of commercial sensitivity, all parties involved in this study should consider all information privileged and not for circulation or communication in any way to any third party. Contact with any third party should be discussed in advance.

Client Contacts

A cross-functional project control group is managing this study, the main contact being Robert Woods, Public Passenger Transport Planner, Transport and City Streets Unit.

(t): 00 64 3 941 8060 , (f): 00 64 3 941 8864 , (e): robert.woods@ccc.govt.nz

1. Background

The attached central city transport concept plan (see link in attachment 1) arose from a history of strategising and public consultation to revitalise the central city with the aim of promoting increased economic and commercial viability for the CBD. In 2002 the Lichfield / Tuam Street swap proposal was put forward as a transport project within a central city strategy to revitalise the central city. Following some adverse reaction to the project at that time, the Council resolved to form a cross sector central city transport working party to investigate the wider transport objectives for the central city in the long term. The working party was formed and began work in early 2003, developing what is now a transport concept plan for the central city that has been adopted by the Council for public consultation during November 2004.

Constituent projects identified in the plan include bus exchange expansion and 'pure cross' bus routing. Bus exchange expansion has for some time been seen as a necessary requirement to meet the ongoing growth in the Christchurch Public Passenger Transport system as the current facility approaches capacity. The pure cross bus routing in the central city is considered essential for buses in preference to the present inefficient east/west movements that are subject to the constraints of the one way system. This 'pure cross' in terms of the bus exchange location is defined as north/south movements along Colombo Street and east/west movements for buses along Lichfield Street (which currently only allows one way eastbound flow to all traffic).

2. Aspects of exchange expansion to be considered in the study

2.1 Capacity and arrangements for vehicle and passenger movement

The expanded bus exchange will comprise the current bus exchange site together with expansion into an already identified development footprint (discussed below), within which alternative land purchase groupings (and therefore platform arrangements) exist.

The passenger design capacity to be achieved within this expansion is derived from the public transport system targets for 2018. Based on current patronage of the system, annual passenger numbers are targeted to treble by 2018, to 45 million system trips per year. A simple pro-rata calculation would suggest that in 2018 the expanded exchange will need to cope with the peak flow of passengers generated within a daily volume of 60,000 passengers. With patronage growth likely to take place substantially through more suburban trips not involving movement through the exchange, a more realistic figure would be to design for a peak flow generated within 45,000 daily passenger movements. Depending on any ancillary uses of the building, this figure may need to increase accordingly.

Design capacity for buses coming to and from the expanded exchange should allow for independent and priority movement of each bus within and around the expanded exchange. Allowance should be made for 12-15 new platforms in the expansion whilst retaining the existing 9 within the existing building (note that the central city transport concept plan requires removal of the 6 existing Colombo Street platforms D1-3 and E1-3). Ways to design in additional capacity for the addition of platforms beyond 2018 should also be considered. It is to be assumed in the study that increased through routing will occur, but with some requirement for peripheral termini in the central city to remain.

2.2 Proposed changes to the management of central city traffic

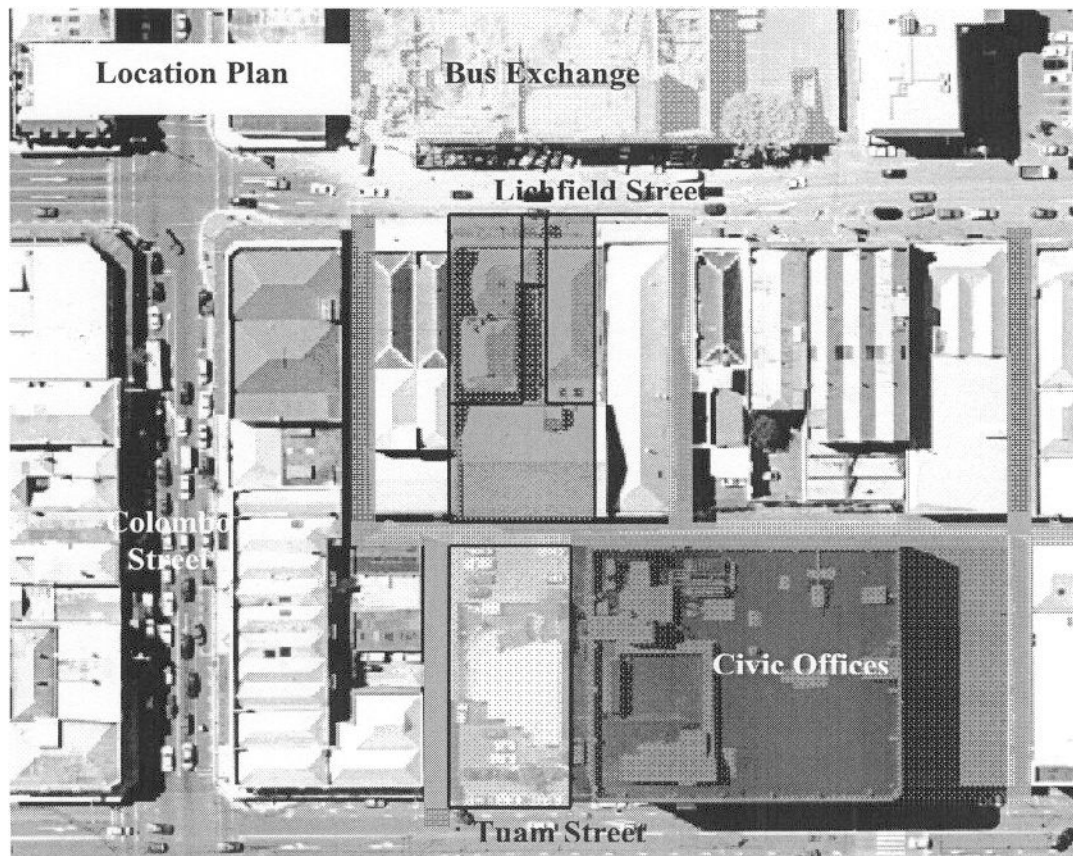
Changes proposed to the management of central city traffic are outlined in attachment 1. The concept plan includes two options to achieve pure cross bus routing which would mean two way bus movement on Lichfield Street and potential routeing through the exchange (see appendix 2). The study should consider each of the two options and how these could most effectively combine with alternative platform arrangements, passenger movements and architectural desires, as well as any heritage and structural constraints.

2.3 Pedestrian access and circulation from streets and existing exchange

Consideration should be given to ways in which passenger perceptions of walking distances from the 'pedestrian heart' of the city can be minimised. For example, by providing above street access to the expansion building from the existing exchange and from Colombo Street. Consideration should also be given to passenger waiting, boarding and alighting behaviour in the development of platform and lounge arrangements that maximise passenger comfort and space during peaks, whilst retaining independent and priority movement for buses to and from platforms.

2.4 Land availability and alternatives for land parcel groupings

A collection of closely associated and potentially purchasable sites forming a feasible development footprint have been identified and have the potential to offer expansion options whilst also being convenient for the two pure cross options. The site is located immediately opposite the existing exchange building frontage on Lichfield Street (shown below in yellow). The potential expansion area is shown below in green and consists of 5 separate lots with vehicular access currently via service lanes shown in blue. The expiry of leases on these properties need to be accounted for in any timeline.



Appendix 1 – central city transport concept plan

see:

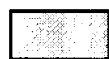
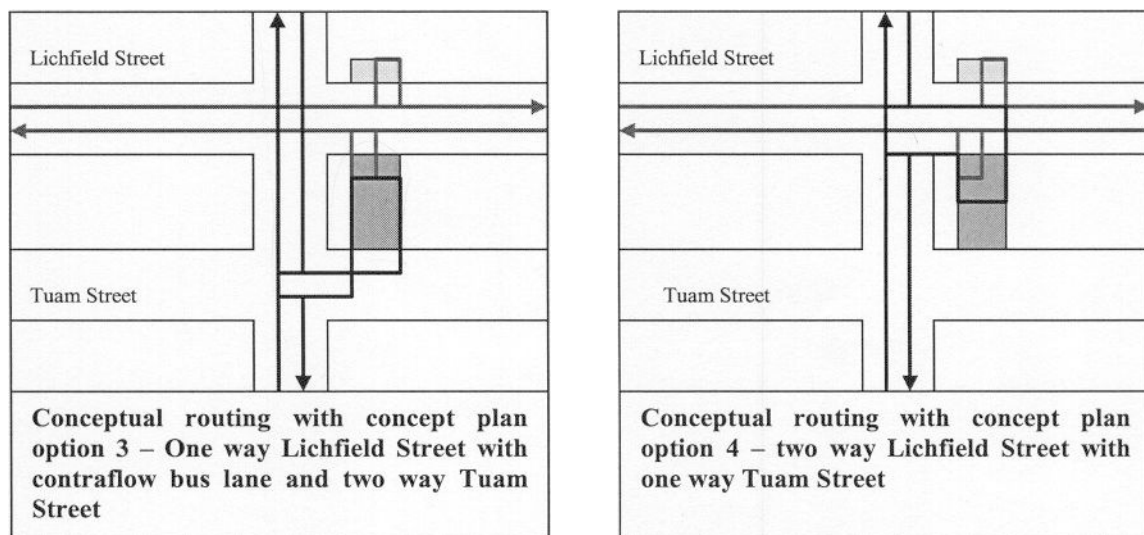
<http://www.ccc.govt.nz/council/agendas/2004/september/sustainabletransport20th/centralcitytransportconceptplan.pdf>

Appendix 2 - Pure cross bus routing

The concept plan identifies two options to achieve the 'pure cross' two way bus movements on Lichfield Street. Both would include removal of platforms D and E from Colombo Street, with north/south buses picking up and dropping off within the expanded exchange.

The first option is the status quo but with a contraflow bus lane along the south side of Lichfield Street. This option is called option 3.

The second option is a modified version of the Lichfield - Tuam swap proposal of 2002. This would allow two way traffic movements on Lichfield Street but potentially remove private vehicle access restrictions across Colombo Street, whilst making Tuam Street one way eastbound. This option is called modified option 2, or option 4.



existing bus exchange



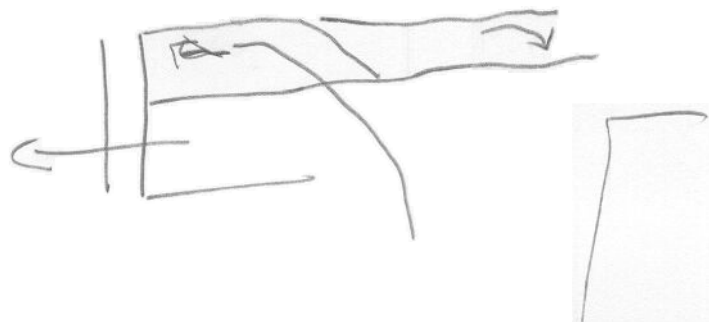
expansion



east / west movements



north / south movements



The Council civic offices are shown in red. These are anticipated to be vacated by the Council mid to late 2007, and therefore should also be considered within the development envelope (note however that heritage issues with this building should be investigated to establish constraints on demolition or modification).

Whilst in the early stages of development, it is a possibility that the Council offices relocation may take place opposite the existing site, on the Tuam Street off street car park. With the removal of this facility similar car parking type and quantity would need to be provided (noting that off street parking demand in the area is growing and already exceeds supply). The study should consider the feasibility of using part or all of this building and / or its land (within the constraints / possibilities of its heritage status) for the dual purpose of exchange expansion and car parking, plus any other ancillary uses.

2.5 Heritage and architectural constraints and desires

Heritage constraints on the demolition or modification of any existing buildings that could be used should be investigated. This will include modifications to the existing exchange building (for example elevated access between buildings).

The external architecture should be developed to ensure the expansion would be consistent with any formal requirements, including building height limitations. Internally it should be consistent with the existing exchange design, accounting in particular for the need to achieve convenient passenger access to platforms and passenger comfort whilst waiting or moving around the building.

2.6 Integration with other public transport services and modes

Consideration should be given to how metro services can be integrated with other public transport modes such as taxis, the Central City shuttle, commercial shuttle services and inter-city coaches. Cyclist access and facilities should also be considered within the overall concept.

2.7 Ancillary functions (e.g. parking, retail, leisure, community services, etc..)

As discussed above car parking seems a promising ancillary use for the expansion. There may also be other functions that could be considered for incorporation within the design such as retail areas or new community services such as child care facilities or even a library. This could make the exchange a destination in itself, and mitigate the bus exchanges' perceived remoteness from the heart of the city (i.e. Cathedral Square).

EXTRACT FROM REPORT TO COUNCIL 7th SEPTEMBER 2006
ATTACHMENT TO OMNIBUS REPORT: SECTION SIX - BUS EXCHANGE PROJECT UPDATE

General Manager responsible:	General Manager City Environment
Officer responsible:	Transport and Greenspace manager
Author:	Bob Blyth

PURPOSE OF REPORT

6.1 The purpose of this report is to update Council on the current status of the Bus Exchange Project.

EXECUTIVE SUMMARY

6.2 Work is underway to identify the preferred option for the site of the new/expanded bus exchange. The steps that staff are following are:

- Determining the required footprint for the anticipated demands in 2026 with provision to expand to 2041 requirements.
- Determining site selection criteria which based on transportation policies and central city policies and strategies and any other relevant strategic drivers. This will be the subject of a report to Council.
- The options which are currently being considered range from an expansion of the existing site, an additional exchange north of the square, an additional exchange allied to the existing exchange/south of the square, an expanded relocated exchange, and the Moorhouse Avenue option. It is anticipated that the preferred option will be identified by December 2006.
- In working through these options, we are using the historical technical data which was put together for this bus exchange and doing some new research to determine customer requirements in terms of destinations.
- We have also started a dialogue with Land Transport New Zealand as it is critical that they are involved in the project from the beginning to ensure funding applications are successful.
- Similarly, we are working closely with ECan.

FINANCIAL AND LEGAL CONSIDERATIONS

6.3 Page 81 of the LTCCP identifies "New Bus Exchange". The new facility is scheduled to open in late 2010 at a capital cost of \$59.7 million. Capital contributions from Central Government are anticipated to contribute to this project and are estimated at \$32 million. Development contributions will contribute a further \$25 million, leaving \$2.1 million to be rates funded.

STAFF RECOMMENDATIONS

It is recommended that the Council receive this report

BACKGROUND

- 6.4 The purpose of this project is to provide a higher capacity central city bus exchange to meet the passenger demands of Christchurch until 2041.
- 6.5 The current bus exchange was opened progressively between December 2000 and April 2001, replacing Cathedral Square as the main central city public transport hub. The exchange has nine indoor bus stands with two indoor passenger waiting lounges, a staffed passenger information kiosk and passenger shelters. These areas are interconnected with corridors, footways, stairs, lifts and escalators. There are also links to the Crossing food-court (and beyond to Ballantyne's department store), a car park and school situated above the Crossing food-court and to an adjacent retail plaza.
- 6.6 As a result of 65% patronage growth since 2000, the operational capacity of the bus exchange is approaching at a rate unforeseen at its inception. Whilst bus numbers using the exchange are expected to remain fairly constant, until frequencies increase with the next major contract renewal start dates in June 2009, passenger volumes and traffic congestion will continue to rise, reducing the level of service for passengers, businesses and other road users.
- 6.7 Peak daily passenger movements are currently around 20,000 – 25,000 per day with over 2,100 bus movements per day. Footway congestion at the Colombo Street bus stops and passenger congestion at boarding points within the passenger lounges at peak times are already at an undesirable level. Anecdotal evidence suggests that passengers are avoiding the bus exchange at such times. Issues have also arisen around passenger security both real and perceived as a result of the overcrowded and intimidating spaces at these times.
- 6.8 Passengers generally have no option but board at the exchange, and this when combined with growing out of town and central city traffic congestion have detrimental effect on the vehicular capacity within the bus exchange. Buses regularly arrive together as a result of congestion outside the exchange. Their late arrival causes the lounges and stops on Colombo Street to accumulate passengers, making boarding times longer, further compounding the problem of subsequent buses seeking a bus stand to load and unload. The combined effect is frustration and delays to customers utilising the services offered.
- 6.9 A larger facility is required to meet the capacity demands of the future, and ideally this should be provided together with improvements to the surrounding roading infrastructure so that the levels of service to passengers and other road users is improved and remains so for the life of the facility.