

*THE CHRISTCHURCH TRAMWAY COMES TO TOWN -
BUILDING A HERITAGE STREET TRAMWAY IN THE 1990s*

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Session Chair: Les Stewart

Session Secretary: Tony Cody

Synopsis

This presentation, to be illustrated with overhead transparencies, looks at the steps taken and the problems overcome in realising the dream of bringing trams back to the streets of Christchurch after a forty year absence.

In the limited time available, it will not be possible to more than briefly touch on the major features and issues of this project as it has developed over the past four years.

The major areas include:

- * The Beginning - the Worcester Boulevard
- * Economic and Marketing Analysis
- * Environmental Issues
- * Finding a Tram Shed Site
- * Safety System
- * The Extension Study - Route selections
- * Political Commitment - Budget
- * The Eastern Extension
- * Detailed Track and Overhead Designs
- * Tram Refurbishment - including vehicle modifications

Background information on a number of the matters listed above are attached and following a general overview presentation by Dave Hinman, Murray Sanders will present a more detailed case study of (a) Electrical Supply System and (b) Electrical Modifications made to the trams to update them for use on city streets for the 1990s, noting the Safety System and Safety Audit provisions and procedures adopted.

Attachments

1. Extracts from "A Tourist Tramway for Christchurch".
2. Route Map.
3. The Economic and Marketing Analysis - Extracts.
4. Extracts from key Council Reports.
5. The Eastern Extension.
6. Track and Overhead Design Details.
7. Tram Shed Information.
8. Safety System - Extracts
9. Tram Vehicle Modifications.
10. Electrical Audit Report.

A TOURIST TRAMWAY FOR CHRISTCHURCH

A report on proposed extensions to the Worcester Boulevard Tramline

1. Executive Summary

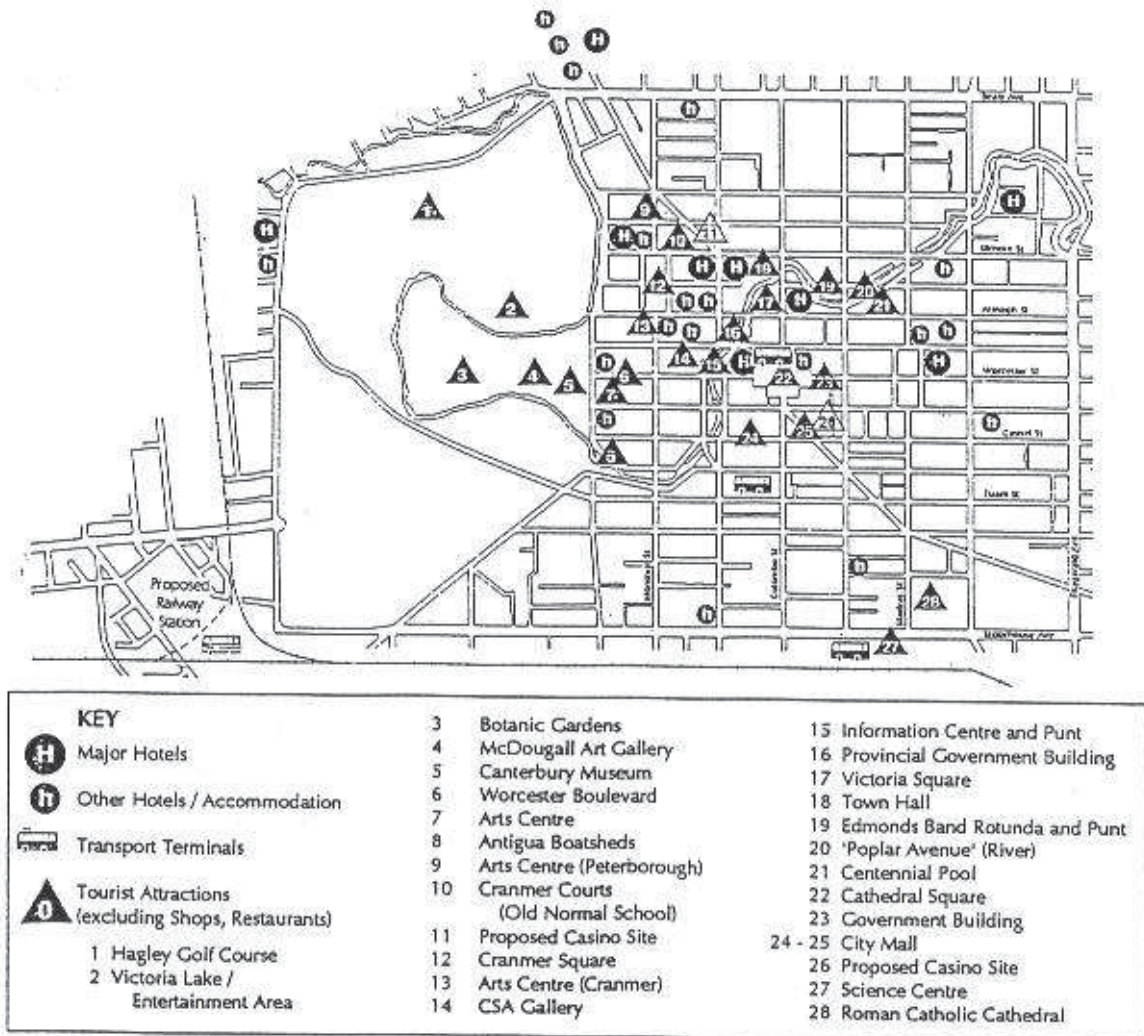
- 1.1 The concept of the Worcester Boulevard from Rolleston Avenue to Cathedral Square including the provisions of an electrified tourist tramway was approved by the Council in 1990. Construction is now proceeding on an annual basis.
- 1.2 It has been apparent that the present tramway proposal is too short to be viable as a tourist tramway and in September 1991 the Council requested a study be undertaken to investigate options for extending and expediting the construction of the tramway.
- 1.3 Consideration was given to the purpose of having a tramway, with some views being expressed that it should form the basis of a future commuter line or light rail system. However the study confirms that a tourist tramway, with an historic emphasis, is the appropriate approach, and that a light rail/commuter tramway option for Christchurch is unlikely at least in the short to medium term.
- 1.4 Some 22 options have been considered with a "short list" investigated in detail by the Tourist Transport Working Party and Officer Project Team. With the focus of tourist activity to the north and west of Cathedral Square, route options in that part of the City were favoured.
- 1.5 A short list of options considered by the Working Party concentrated upon a loop line incorporating Victoria Square and Armagh Street with options extending into Hagley Park, through the Gardens and around Victoria Lake. While the Gardens Loop in particular had many advantages, it was agreed that there could be substantial public opposition to it and that it should not be further pursued in the meantime. A more acceptable medium term option could be an extension into Hagley Park as far as the Gardens carpark and bridge.
- 1.6 The preferred option therefore is the Armagh Loop and the report identifies a number of forms its construction might take. The need for two-way operation as far as Victoria Square is emphasised, but the remainder of the route (ie along Armagh Street and Rolleston Avenue back to Worcester Boulevard), would ultimately be one-way in a clockwise direction.

- 1.7 Planning, environmental and traffic issues were identified and the report suggests that the preferred option can satisfactorily fit in with other central city initiatives such as the Cathedral Square redevelopment proposal. Potential environmental effects such as appearance and noise are identified, but the conclusion is reached that these will be acceptable on all parts of the route including residential areas.
- 1.8 The problems of a single line operating in two directions in a traffic street are acknowledged, and various ways of overcoming this, including partial double track, are discussed.
- 1.9 The need for secure covered storage for the trams which will operate the service is confirmed. Various sites have been identified, but at this stage the glass walled pavilion in the Square is favoured. The need to agree on and complete construction of a tram storage building prior to operation commencing is noted.
- 1.10 Details of future tramway operation require more investigation, but the need to confirm arrangements with the Tramway Historical Society for the supply of historic tramcars is recognised. The question of who will operate the tramway is addressed, and it is again noted that private enterprise involvement should be sought. A longer route than the initial Boulevard line is seen as necessary to attract private investment.
- 1.11 A preliminary exercise has been undertaken on patronage based on projected capacity, operating costs and a conservative estimate of likely users. To achieve an operating surplus, the break-even annual ridership for one tram is 90,000 and 97,000 for two trams. It is conservatively estimated that 150,000-250,000 passengers will use the tram per year, and while this preliminary work needs further checking, it does seem that the tramway will be a viable operation.
- 1.12 The various legal requirements are identified, and it is noted that present outdated legislation is due to be replaced by a new Act, currently before a Parliamentary Select Committee. Submissions made to the Committee should ensure that there are no serious legal impediments to the tramway development proceedings.
- 1.13 Depending on the form of construction (ie the amount of double track or passing loops) the initial total cost estimate for the Armagh Loop extension beyond the present approved single line to Cathedral Square is between \$2m and \$2.4m. Further costs which have been identified and not so far budgeted for include a sum of about \$150,000 for further tramcar restoration plus funding for transporting vehicles to and from Ferrymead.
- 1.14 Part of the brief of the Working Party was to find ways of expediting the construction of the tramway and the report suggests that this may be the best achieved by seeking private enterprise involvement in the project. Following the adoption in principle by the Council of the Armagh Loop extension, an active search for investors and sponsors should be undertaken, assisted by an economic and marketing feasibility study. The report argues that the Council should continue to contribute towards the development of the tramway project but seeks the views of the Council on the extent to which it should be self-funded.
- 1.15 The report identified a minimum lead time of two years before operations can commence. In addition to the need to complete the track at least to Cathedral Square and to construct a tram storage building, the obtaining of any necessary legal approvals and the upgrading of the tramcars to street operation standard is expected to take this amount of time.
- 1.16 This report has been examined by the Melbourne based specialist consultants, Melbourne Transport International. The consultants broadly confirm the thrust of the report and its recommendations but have raised a few issues of detail which will require further examination. In particular, they have suggested that the projected tramway construction costs may be excessive.
- 1.17 The report concludes by noting the considerable interest and support of the tramway so far, and its potential to become an important element in the central city and a significant tourist attraction in its own right.
- 1.18 The following specific recommendations are presented for the Council's consideration.
 - (a) That the Council adopts in principle the "Armagh Loop" option of extending the tramway.
 - (b) That the funding of the tramway extensions include private enterprise involvement as well as the Council.

- (c) That a realistic target date for the opening of the first section of the tramway be set as soon as possible.
- (d) That if practicable, following the completion of the tramway to Cathedral Square and the commencement of operation, the complete Armagh Loop be constructed in a single stage. Should funds not permit this however, and in order to improve the viability (and thus attract investment) and public acceptability, the project be constructed and opened in stages. The first stage would be Cathedral Square to Victoria Square, the second stage Victoria Square to Rolleston Avenue/Armagh Street corner and the final stage completion of the loop.
- (e) That an economic and marketing feasibility report be prepared for presentation to potential investors.
- (f) That discussions be held with interested local organisations including retailers, residents groups and other landowners.
- (g) That discussions proceed with the Tramway Historical Society concerning arrangements for the provision of trams for the tramway.
- (h) That the question of further extensions (eg to Hagley Park), be the subject of future study by the Tourist Transport Subcommittee.

4. Tourism Focus

4.2 The following diagram plots the location of central city hotel accommodation, other tourist facilities such as bus terminals, and major tourist and civic attractions. It will be noted that there is a significant concentration to the north and west of Cathedral Square. The present Worcester Boulevard Tramway proposal recognises this and goes some way towards linking the concentration of attractions around Rolleston Avenue with those in the Cathedral Square vicinity. It follows that any extension of the tramway as a tourist line servicing the greatest number of and most significant tourist attractions and facilities, should be to the north and west of the Square.



Central Christchurch Tourist Attractions and Hotels

5. Criteria for route selection and design

- 5.1 The following matters were seen as significant when assessing options for extensions to the Boulevard Tramway:
- (a) Proximity of the line and stopping places to significant tourist attractions, facilities, accommodation and parking.
 - (b) Suitability for continuation of 'historic' theme.
 - (c) Compatibility with local environment.
 - (d) Conformity with Cathedral Square redevelopment proposals.
 - (e) Provision for tram storage building.
 - (f) Separation from other traffic where possible (particularly in heavily trafficked streets and particularly if 'contra flow' is necessary).
 - (g) Ability for streets to incorporate tram line without significant impact on parking or access, and minimal loss of service to regular traffic and street users.
 - (h) Passing or run-around facilities.
 - (i) Ability to operate the tram in either direction (assuming single line). In the case of a circular route which may ultimately be in one direction only, the ability to also operate in the other direction during staged development is desirable unless the whole circuit is to be built before operations commence.
 - (j) Allowance for future line into or around Hagley Park, including a Botanic Gardens link.
 - (k) Compliance with present and possible future legal requirements.
 - (l) Design and operational simplicity, including stopping areas.
 - (m) Reasonable costs.

6. Earlier Investigations

- 6.1 Taking into account ideas expressed from a variety of sources, some 22 options for extending the Worcester Boulevard tramway had already been investigated prior to the appointment of the Working Party. These were reported to earlier meetings of the Tourist Transport Sub-Committee and are summarised in the diagram opposite and in the following Table.

Tram Extension Options

- | | |
|---|---|
| 1. No change. | 2. Extended Square terminus. |
| 3. Victoria Square (Armagh Street). | 4. Victoria Square (Colombo Street). |
| 5. Armagh St Loop. | 6. Kilmore St Loop. |
| 7. Oxford Tce Loop. | 8. High St, Ferry Rd to Ferrymead link |
| 9. New Regent St via Gloucester St Loop. | 10. New Regent St via Worcester St Loop. |
| 11. Worcester - New Regent - Armagh Loop. | 12. Museum to Armagh St (Rolleston Ave). |
| 13. Armagh Bridge to Gardens Bridge. | 14. Museum to Science Centre (via Antigua St and Railway) |
| 15. Colombo St shuttle. | 16. Worcester, Manchester Sts to Science Centre |
| 17. Armagh, Manchester Sts to Science Centre. | 18. Gardens Loop. |
| 19. Victoria Lake Loop. | 20. Mona Vale through the Park |
| 21. Mona Vale around the Park. | 22. New Christchurch Station via Antigua St and Hagley Ave. |

- 6.2 From those studies it became apparent that the most sensible and potentially viable options were those which concentrated on an area to the north and west of Cathedral Square close to major tourist facilities (eg hotels) and attractions. In particular it became apparent that at the very least the line should be extended to Victoria Square, thus linking not only this attractive area with Cathedral Square and the Museum but also the major hotels in the vicinity (Parkroyal, Quality Inn, Hyatt-Kingsgate), and the Christchurch Town Hall.

Editor's Note: Mr Hinman's paper also included a considerable quantity of attachments. It is felt that they cannot be included as part of this publication due to constraints of space reasonably available in this volume. Anyone interested may care to contact the Presenters direct.

Questions

Geoffrey Claydon: Posed the question regarding provision of street lighting on span poles as this would be forbidden in the U.K? For example, there would be problems with people from other authorities maintaining their equipment.

Answer: Advised that there should be no problems.

Carolyn Dean: Asked whether provision existed for turning the tramcars?

Dave Hinman: Replied that there was provision for a triangle in the development at the eastern end of the loop. This could be installed in the future. There could be a problem if open cars are to be turned if one side has to be enclosed for safety reasons.