

Making Rotorua's Bus Network More Efficient



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CURRENT BUS NETWORK OPERATION AND PERFORMANCE

The Rotorua urban network consists of ten routes, as shown in Figure 1.



▲ Figure 1 – Rotorua Urban Bus Network

NETWORK CHANGES FOR THE INNER CITY

Historically Rotorua's bus routes were designed with coverage goals in mind. The network has further potential to increase patronage with more direct, simple services. This is in line with the Bay of Plenty Regional Council's (BOPRC) Regional Public Transport Plan 2013.

Taking into account the inner city bus network requirements, a number of possible options were identified for improved inner city bus facilities for Rotorua, as follows:

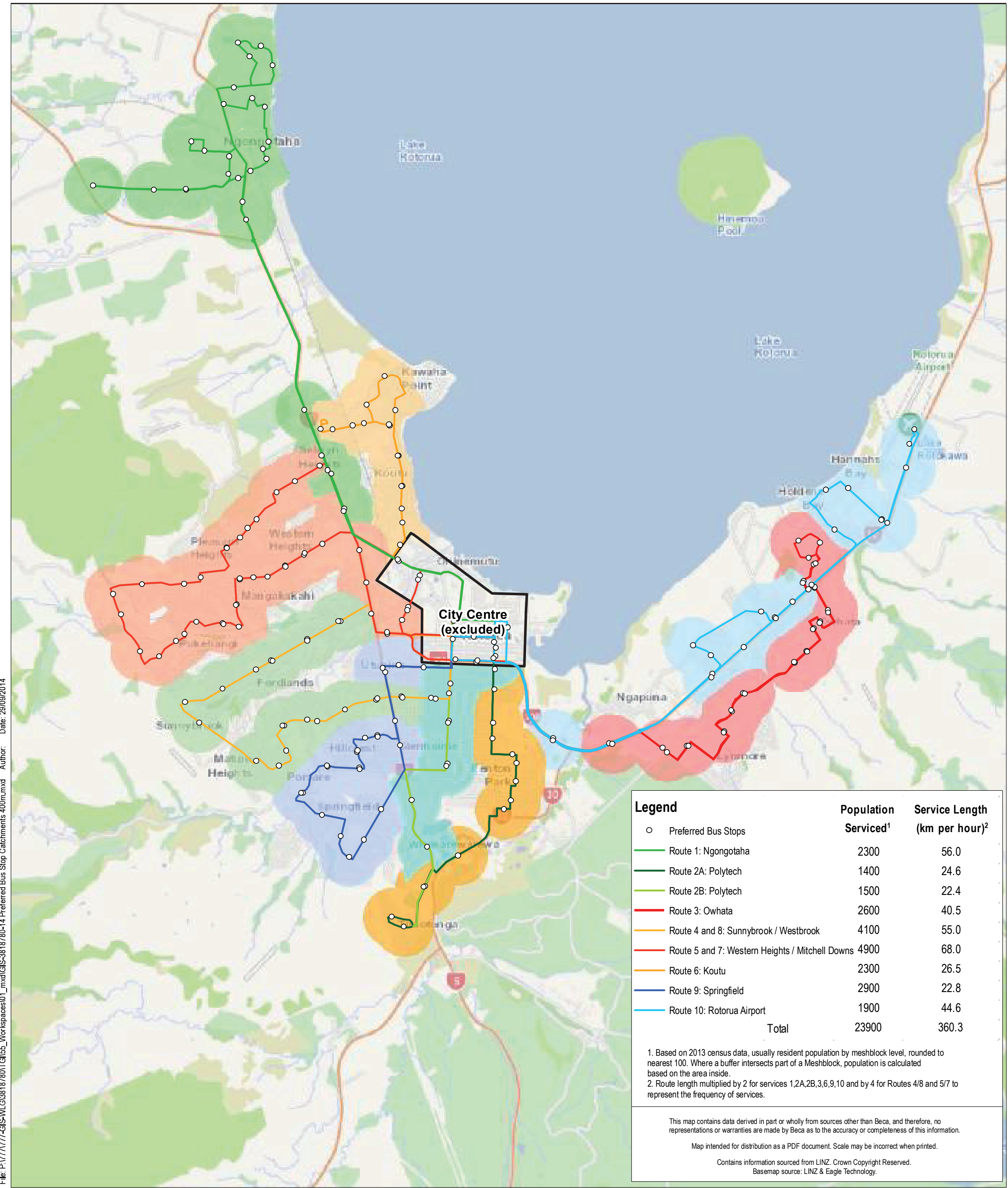
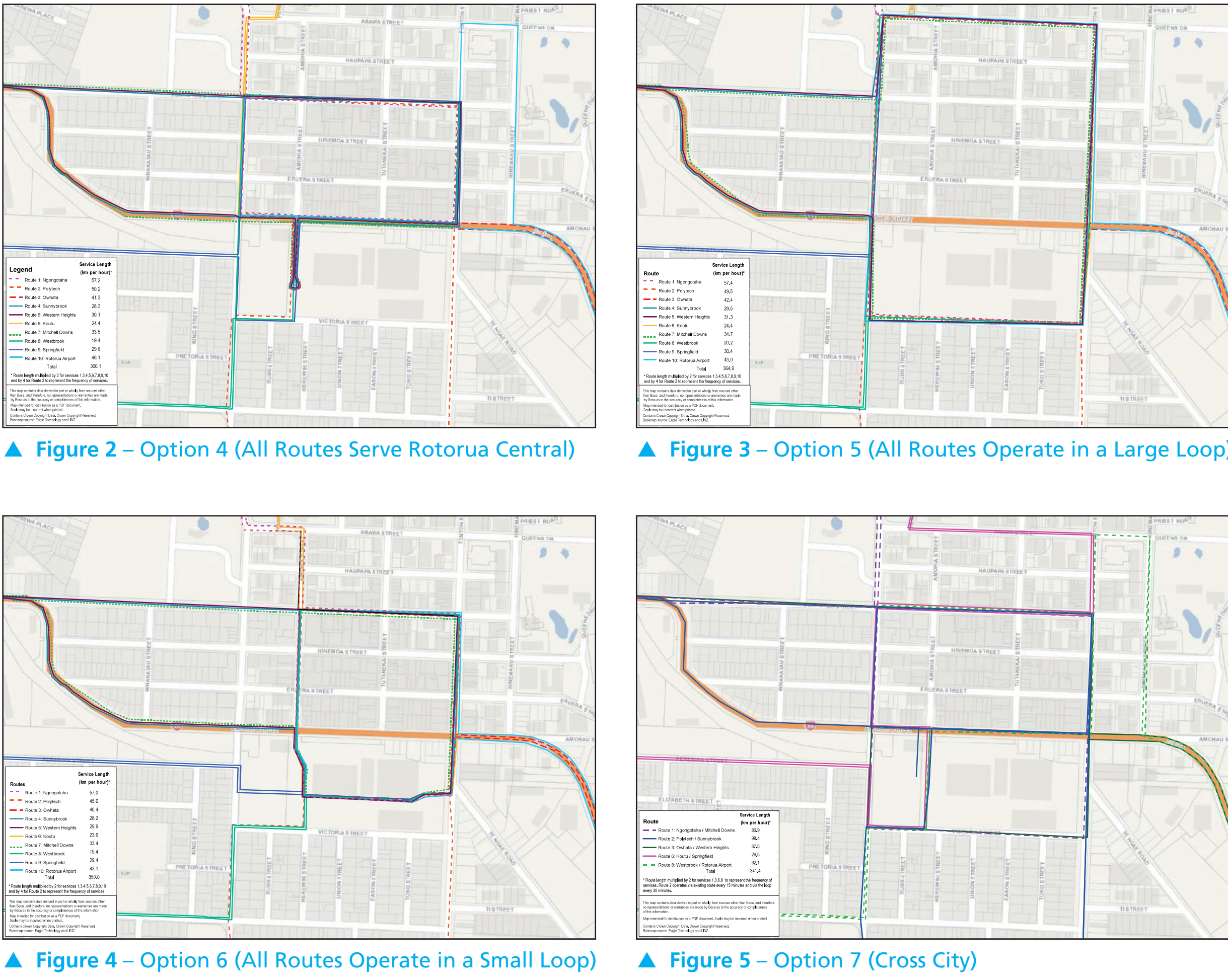
- Option 1 – Continue to use the existing city centre bus stops on Pukuatua Street (do-minimum)
- Option 2 - Improve the amenity and capacity of the existing bus stops on Pukuatua Street
- Option 3 – Reroute all routes to serve Rotorua Central instead of Pukuatua Street
- Option 4 – Revise the routes to serve both Pukuatua Street and Rotorua Central (Figure 2)
- Option 5 – Revise all routes to operate via a large loop around the inner city (Figure 3)
- Option 6 – Revise all routes to operate via a smaller loop around the inner city (Figure 4)
- Option 7 – Switch all routes to a new on-street facility on Haupapa Street
- Option 8 – Switch all routes to a new on-street facility on Arawa Street
- Option 9 – Extend some or all routes to a new layover area to make better use of the existing on-street at Pukuatua Street
- Option 10 – Operate all routes as cross city services using the existing stops on Pukuatua Street (Figure 5).

- All bus routes converge on the main inner city bus facility on Pukuatua Street.
- Buses are timed to maximise interchange opportunities in the city centre.
- All but one of the ten routes operates every 30 minutes (Mondays to Saturdays).
- Route 2 (Polytech) operates every 15 minutes (Mondays to Fridays).
- A flat fare system is used. Free transfer tickets are issued on request.
- A fully accessible fleet has recently been introduced.
- Bus patronage has risen from 119,000 trips in 2001/2 to approximately one million trips in 2012/13.
- Increasing patronage is resulting in reduced on-time performance.
- The bus fleet operating Rotorua's bus services is currently utilised intensively. Only one route is scheduled to have more than five minutes layover between trips.
- Customer feedback suggests the main concerns in Rotorua are the late running of services, and user safety and security at the main bus stop in the Central Business District.

These options were subjected to a multi-criteria evaluation. Based on the evaluation findings, the option of continuing to serve the existing inner city terminus on Pukuatua Street, and making improvements are made to the passenger amenity facilities and to the infrastructure to provide additional capacity and operational flexibility scored well (i.e. Option 2).

The evaluation also identified that modifying routes in the inner city to serve the Rotorua Central retail area as well as the Pukuatua Street facility scored well (i.e. Option 4), though the patronage benefits are likely to outweigh the additional operating costs.

The option of operating all services via a one-way loop around the inner city (i.e. Options 5 and 6) scored well on a number of criteria, but it was concluded that the additional costs and time incurred by buses may result in this solution being unsuitable.



▲ Figure 6 – Recommended Future Bus Network

NETWORK CHANGES IN THE OUTER URBAN AREA

A number of options to revise the bus network in the outer urban area of Rotorua were considered.

Revising Service Frequencies

Reducing the frequencies of some of the less busy routes on the network, such as Route 9 (Springfield), was found to allow the frequency of some of the busier parts of the network, such as Route 2 (Polytech), to be increased. Experience from elsewhere in New Zealand, and from overseas, suggests that a half hourly frequency is the minimum service level required for urban public transport to attract and retain customers. Reducing the frequency of other routes was therefore not recommended.

Splitting Routes

Splitting the existing Route 2 (Polytech) into two separate routes operating with a 30 minute frequency was recommended. This would enable Fenton Street and Ranolf Street to be served in both directions, rather than one-way only at present. It would also enable one of the two new routes to terminate at the Polytechnic, instead of continuing to the present Tihi-O-Tonga terminus.

No other service were recommended to be split, as this would result in services operating with a frequency that is less than the desirable minimum.

Minor Changes to Individual Routes

A number of options to refine individual routes were considered, with the aim of omitting sections of route which serve areas of low catchment, or areas where the catchment is located in close proximity to other roads which are, or could be served by buses. The main changes recommended were (see Figure 6):

- Route 1 (Ngongotaha) to operate via Rotorua Hospital instead of via Ranolf Street
- Split Route 2 (Polytech) into two separate half hourly services, one operating to the Polytechnic via Fenton Street and one operating via Ranolf Street
- Link Route 4 (Sunnybrook) and Route 8 (Westbrook) into a new combined service, operating in both a clockwise and anticlockwise direction
- Link Route 5 (Western Heights) and Route 7 (Mitchell Downs) into a new combined service, operating in both a clockwise and anticlockwise direction
- Route 6 (Koutu) to be revised to include an additional one-way loop serving Kawaha Point
- Revise Route 9 (Springfield) to operate as a large one-way loop by omitting the current end of route loop via Jackson Street and Nikau Street, and continuing along Otonga Road and Old Taupo Road to rejoin the existing route north of Hillcrest Avenue.

NEXT STEPS

The bus network efficiency changes recommended have been considered by the Council and incorporated into the future bus contracts which are currently being negotiated.

Further discussion is taking place with Rotorua District Council (RDC) to provide additional bus stops on roads that the proposed routes will serve which are not currently served.

It will also be important to monitor and evaluate the impact of these changes as they are implemented.