

Reconstruction of Quay Street

Purpose

This paper outlines the drivers and rationale behind the current Quay Street reconstruction project and highlights the benefits derived from inter-agency collaboration.

Executive Summary

Quay Street is a main arterial road in Auckland's lower CBD. It provides a critical link for all forms of traffic within the CBD: commuters, buses, commercial vehicles, ferries and pedestrians. It is adjacent to the central train station and cruise ship terminal. In addition, ducting and pipes under Quay Street provide critical utility services to the CBD. These include; power, telecommunications, gas, water, sewer / storm water lines. It is a legacy project from Auckland City Council.

The Quay Street road pavement was in dire need of replacement; other projects in the lower CBD meant that this work was deferred by six years. As a result the road had become peppered with temporary pothole repairs and was becoming a risk to traffic.

Auckland Transport (AT) inherited this project and was aware of the likely disruption of completing works in this section of the network. To reduce disruption, AT approached this project with the wider needs of the network in mind. As a result, a partnership between Vector and AT was formed in which the power supply and road would be upgraded in a single coordinated project. This gave AT significant benefits: reduced delivery costs, reduced utility damage to the new road and an overall reduction in traffic disruption by 6 – 8 weeks. The sequencing and traffic management were peer reviewed prior to work commencing.

Traffic data indicates that of the 25,000 vehicles per day normally using Quay St, approximately 5,000 (20%) diverted to use Custom St during the project. This a substantial increase in traffic on the diversion route.

The project is now in the final stages, with the traffic islands being replaced in early April.

AT will adopt the learning from Quay Street for similar projects in the future.

Background

Quay Street is a main arterial in the lower CBD of Auckland City. It is a critical link for all forms of traffic within the CBD, being:

- Commuter traffic from the Eastern Bays area.
- Buses – As Britomart is adjacent to Quay Street, buses exit the CBD via Quay Street.
- Commercial vehicles – a significant percentage of the vehicle traffic on Quay Street is commercial, servicing the port and the lower CBD.
- Ferries – The Downtown Ferry Terminal is adjacent to Quay Street.
- Pedestrians – There is significant pedestrian traffic flowing from Britomart, the ferry terminal, cruise ships and general visitors to the area.

In addition, critical utility services are provided to the CBD via ducting and pipes under Quay Street. These include; power, telecommunications, gas, water, sewer / storm water lines.

The road required replacement six years ago; however as a result of other projects in the CBD it was deferred. With its repeated deferral, the road deteriorated and had become peppered with temporary pothole repairs and was becoming a risk to traffic.

In 2008, Vector completed the first stage of an upgrade to its power network under Quay Street. This caused Auckland City Council’s public image to be damaged. There were numerous complaints about noise and disruption to all forms of traffic. As a result, Council insisted these works were curtailed early.

In February 2010, members of Auckland City’s Transport Delivery Group and Operations met to discuss the road renewal of Quay Street. A significant risk to this project was a third party completing significant trenching works after the roading works were completed. To reduce this, the operations team contacted all utility companies, requesting they complete the works in a single trench methodology. This resulted in an agreement between Vector and Transport to align resources to renew the power and road network in a parallel delivery methodⁱ.

Through March and April of 2010, delivery methods with respect to physical operations, traffic control and stakeholder management were discussed by the two parties. In June / August consents were submitted to three agencies: Auckland Council (AC) / ARC / New Zealand Historic Places Trust (NZHPT).

The processing of these consents required detailed methodologies for mitigating traffic impacts, construction noise, environmental risks and works around historic buildings. The following should be noted:

- specific areas had different working times and methods;
- all traffic control was completed in accordance with the Code of Practice for Temporary Traffic Management (COPTTM);
- as the works have been implemented, independent auditors have given Vector and AT top marks for its consent compliance; and
- project leaders have been requested to attend workshops in Australia for advice on traffic management on similar projects.

Eight projects have been enabled (external and internal) under the wider roading works. This has effectively reduced disturbance on the network by a total of 8 weeks.

The project sequencing and traffic management were both peer reviewed prior to work commencing.

The key diversion route that was expected to take additional traffic was Customs Street. The Traffic Operations Centre monitored the traffic signal loop data for a comparison between traffic levels in February 2010 and February 2011. Data was reviewed for normal weekdays on Tuesdays, Wednesdays and Thursdays.

The following table shows increases in daily traffic recorded on Customs Street during February:

Intersection	Daily flow east to west	Daily flow west to east
Customs and Albert	+36%	+14%
Customs and Britomart	+25%	+22%

Therefore, in general 20% of traffic previously using Quay St did re-route to use Custom St. This is a substantial increase in traffic on the diversion route (approximately 5000 vehicle per day).

Key Issues - Benefits

- a) *Alignment of Physical Works.* By aligning the works, savings have been realised for Traffic Control, Stakeholder Management and Consent costs. In addition, compared to traditional delivery, disruption to the network has been reduced by 8 weeks (6 weeks overlap between Vector / Transport, 2 weeks re other projects).
- b) *Transport lead Traffic Control / Stakeholder Management.* By having external parties working under AT site management, the external stakeholders have been well informed and managed. This has resulted in reduced complaints (only 2 per week) and thus protected the public perception of AT and AC.
- c) *'Best for network' decisions.* This project was delivered by AT's Alliance – ARMA. The Alliance led the project and the inter-agency collaboration.
- d) *Future proofing the network.* As key utility services under the road have been upgraded, there is a significantly lower risk of the road being significantly trenched in the next five years. Please note; if there is an unforeseen utility fault, minor trenching will be required.

Learning

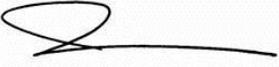
- a) When large renewal works are required on the network, a global network approach should be taken. This needs to include utilities, private developers and Transport's safety and strategic needs. From this cooperative approach, direct and indirect benefits can be achieved.
- b) Stakeholder Management must be delivered to a higher standard so that public perception of AC and AT is protected.
- c) To achieve multi outcome projects similar to Quay Street, considerable planning and willingness by all parties is required in the initial stages.

Attachments

Attachment 1 - Feedback from the Peer Reviewer

Attachment 2 - Environmental Compliance Scores (highest possible score)

Attachment 3 - Historic Places Trust approval

<p>WRITTEN BY</p>	<p>Name - Bob Cook Title - Project Manager</p>	<p>pp. </p>
<p>RECOMMENDED by</p>	<p>Name - Murray Noone / Fergus Gammie Title - Manager RCM / COO</p>	<p></p>
<p>APPROVED FOR SUBMISSION by</p>	<p>Name – David Warburton Title – Chief Executive</p>	<p></p>