

Post Implementation Review

Railway Road Improvements

Palmerston North City Council



June 2013

The purpose of NZ Transport Agency Post Implementation Reviews are to:

- assess how well a project (or package) has delivered its expected benefits
- explain any variation between actual results and expected benefits and costs
- identify any lessons learned that can be used to improve future projects

Executive summary

Project description

This project widened and improved the alignment of Railway Road, one of three main routes into Palmerston North city from the Manawatu District. Railway Road is in the north-west of Palmerston North, adjacent to Palmerston North Airport – see Figure 1 on page 4 for a map of the project location.

The improvements were made to cater for projected traffic volume growth resulting from expected development of both the airport and a new commercial and industrial area nearby. There was also an expectation of the future closure of Milson Line, one of the other main routes into Palmerston North west of the airport, to enable the airport runway to be extended. A roundabout was built at the intersection of Railway Road and a new extension of Airport Drive. Airport Drive is the main road servicing the airport.¹

The main benefits sought from this project are strategic in nature, aimed at fostering and supporting local economic development. They include improving access to the airport and commercial and industrial areas being developed in the area. It is also intended to encourage Railway Road to a main road into Palmerston North from the north-west, thereby reducing congestion on other arterial linkages.

Summary assessment of project outcomes

It is too early to fully assess the project's outcomes as its modelling projected full realisation of benefits by 2021. However, the project has put in place roading infrastructure to suitably support development of the local commercial and industrial areas, and improve arterial access into Palmerston North city.

The development of the commercial and industrial areas has been significantly slower than expected to date, and planned airport expansion has stalled. This has been due to factors beyond Palmerston North City Council's control. These factors would have been difficult to realistically predict when the project was formulated. They include the economic slowdown in recent years and the loss of international flights into Palmerston North Airport. Traffic volume growth on Railway Road has been less than what was predicted as a result. The speed limit on the road was under review by the Council at the time of this review. A reduction of the speed limit may affect future travel times compared to what was modelled.

Railway Road's improvements have successfully reduced traffic flows on some alternative arterial routes, improving their levels of service.

The total project cost increased by \$193,000 (7%) from the original cost estimate to \$2,975,000 (excluding third party contributions which the NZ Transport Agency did not contribute funding).² This cost increase was due to the Transport Agency requiring a design change from a planned seagull intersection to a roundabout as a condition of funding. This required the Council to buy more land from the Palmerston North Airport Company.

¹ Airport Drive is owned and maintained by the Palmerston North Airport Company.

² The extension of Airport Drive was funded by the airport company and a developer of an industrial area contributed funding for turning and access lanes.

Lesson learned

Any future planned adjustments to speed limits (if known) should be considered as part of traffic modelling to ensure expected project benefits are accurate, for example travel time savings.

Figure 1: Location of Railway Road, Palmerston North



1. Project benefits

The main benefits sought from this project are strategic in nature. It is aimed at fostering and supporting local economic development by:

- providing better network linkages and more efficient access to both the airport and adjacent new commercial and industrial zones;
- reducing congestion on surrounding arterial linkages;
- improving network-wide travel; and
- reducing local travel times.

Additional health and environmental benefits were supported by the building of cycle ways and pathways for cycling and walking.

In terms of the benefit cost ratio (BCR) that supported the project's approved funding, predicted travel time savings dominated with 84% of the expected benefits. Accident cost savings contributed 10% of expected benefits, reduced vehicle operating costs nearly 6%, and CO2 benefits less than one percent.

Local economic development and its effect on traffic volume growth

The modelling supporting the original project proposal is based on full realisation of benefits by 2021. This is to provide sufficient time for the airport expansion to take place and the commercial/industrial zones to be developed.

It is therefore too early to make a full assessment of the project's outcomes. However, some preliminary observations can be made with this review.

Effects external to the actual project have meant traffic growth on Railway Road has been slower and less than projected. This is apparent from Figure 2, which compares the modelled afternoon peak traffic volumes for Railway Road south of the constructed roundabout. The observed volumes on Railway Road were only around two-thirds in 2010 what had been predicted by the modelling. This gap was narrower in 2012, but the observed volumes were still less than 80% of what was predicted.

Figure 2: Comparison of modelled and observed traffic volumes on Railway Road (south of roundabout intersection with Airport Drive) – 2010 and 2012

	Modelled	Observed	Difference (%)
PM Peak 2010	1,080	668*	-38%
PM Peak 2012	1,233	968	-21%

* This is an estimate based on 10% of observed average daily traffic.

A couple of factors appear to have influenced this weaker-than-predicted traffic volume growth on Railway Road.

First, expansion of the airport has not occurred as projected. The loss of international flight services may have weakened confidence and has stalled plans by the airport company to lengthen the airport runway. This has meant Milson Line, an alternate arterial road into Palmerston North at the western end of the airport has not been closed, as expected, and its traffic diverted onto Railway Road or other arterial roads.³

³ Daily traffic volumes on Milson Line are around 6,000 to 7,000 vehicles per day.

Second, the economic downturn in recent years may have contributed to slower growth of the local commercial and industrial zones than expected. While there are several commercial operations in the new industrial areas linked to Railway Road – including a couple of large regional depots for major New Zealand companies⁴ – most available land is still vacant. This is also the case along Airport Drive, where most commercially-zoned land owned by the airport company has yet to be leased and developed.

While the economic development benefits have not yet been realised, there is still eight years remaining in the traffic model predictions for these to be achieved. The planned commercial and industrial growth can be readily accommodated with the infrastructure already in place.

Other project outcomes

The improvements to Railway Road do appear to have produced a sought-after reduction in traffic flows on some alternative arterial routes into Palmerston North.⁵ For example, before Airport Drive was extended, a popular route for locals between the airport and the city was along McGregor Street onto Milson Line (refer Figure 1). McGregor Street had average daily traffic volumes of around 3,600 vehicles per day in 2012, compared with around 5,000 vehicles per day on Airport Drive. This indicates the Airport Drive extension is feeding traffic flows onto Railway Road has preferred by the Council with this project.

Predicted travel time savings along Railway Road may be adversely affected by a possible future reduction in the speed limit on the road. Railway Road was improved with this project to accommodate a 100kph speed limit, but is currently operating under a temporary 70kph speed limit. The Council is reviewing the speed limit, which could see it reduce to 50kph. Any reduction in the speed limit will affect the travel time benefits compared to what was modelled for this project.

Provision was made in this project for pedestrians and cyclists, with dedicated facilities for these users. This provides an increased level of safety, and also health and environmental benefits.

2. Project implementation (scope, cost, and timeframe)

Project scope

There were no scope changes made to this project after the funding application was approved and contract awarded.

Project cost and timeframe

This project's original total cost estimate was \$2,782,000.⁶ This included cost estimates for constructing a seagull T intersection at Railway Road and the Airport Drive extension. The Transport Agency subsequently directed that a roundabout be built instead as a result of findings of a safety audit, traffic modelling, and strategic considerations. This incurred \$193,000 additional costs for the Council to buy land from the airport company for the

⁴ Foodstuffs New Zealand and EziBUY have large distribution centres in the industrial area.

⁵ Palmerston North's relatively central location on the Manawatu plains means it has multiple access roads into the city. This creates some asset management issues for the city's council to balance road maintenance costs with directing traffic, especially trucks and other heavy vehicles, onto preferred arterial routes.

⁶ The costs presented here only cover project costs which the Transport Agency helped fund. It excludes costs of the extension of Airport Drive, which was funded by the Palmerston North Airport Company, and another third party contribution by a development company for turning and deceleration lanes at the intersection of Railway Road and Setters Line.

roundabout. This resulted in a final construction cost of \$2,975,000, seven percent above the original cost estimate.

The project was completed within its estimated timeframe. Construction started in May 2009 and the project opened in May 2010. Actual final completion was in early June 2010 after some residual work with the foot paths and cycle lanes was completed.

3. Lessons learned

This post implementation review identified an issue for attention that applies both for the Palmerston North City Council and other approved organisations with their own projects: if there is likely to be future adjustments to speed limits then they should be factored into traffic modelling to ensure that the estimation of expected benefits (for example, travel time savings) remain relevant.

4. Approved Organisation/HNO response to findings

Palmerston North City Council was happy that this report reflected the issues that were discussed with the post implementation review team and the comments recorded in it reflect the situation accurately.

The Council commented that the point made regarding speed limits was noted and will be given due regard in future projects. It was noted that there has been strong political support for lower speed limits in the project area despite the relatively slow pace of development, primarily triggered by safety considerations. Those concerns did not become apparent until after construction of the roundabout was well progressed. Different assumptions will be made for a similar situation in future.