

# Post Implementation Review

## Pyes Pa Bypass

### Bay of Plenty Highways and Network Operations



September 2014

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

The Pyes Pa Bypass project constructed a new section of State Highway 36, south of Tauranga City, to bypass its previous route through the residential suburb of Pyes Pa.

It was expected that the bypass would reduce travel times and help facilitate development along a 'southern corridor' to downtown Tauranga and its port. The project was also expected to improve safety around Pyes Pa.

### Summary assessment of project outcomes

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The project has achieved its expected benefits overall. The bypass has improved the southern corridor route to and from downtown Tauranga and its port. It provides good access to local industrial and residential subdivisions which is helping facilitate their development. The economic downturn in recent years slowed the growth of these subdivisions well below what was forecast, but strong signs of renewed construction activity were observed with this review.

Significant travel time savings of up to six minutes to downtown Tauranga have been achieved on the southern corridor as a result of the bypass.

It is too soon since project completion (in mid-2011) to evaluate fully whether the bypass has helped improve safety on the previous state highway route on Pyes Pa Road, but the number of recorded crashes both before and after construction of the bypass has been low. Crash incidence on the bypass itself has been very low, with only two crashes since it opened. Unfortunately, one of the crashes resulted in a fatality. This crash was due to speed and careless driving and no features of the bypass' design were identified as contributing to this tragic fatality.

The bypass was delivered on time in three stages between 2006 and mid-2011. Its estimated total construction cost was \$45.3 million, marginally (-1.4%) below its budgeted cost.

### Lessons learned

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Some examples of good practice and lessons learned with relevance for other future projects were identified with this review. They are summarised here and discussed in more detail in *Section 3: Lessons Learned* of this report:

- The project was an early example of successful collaboration between two road controlling authorities – the Transport Agency's Highways & Network Operations and Tauranga City Council. Collaboration is now more actively promoted and supported by the agency.
- Active consideration should be given, when projects involve third party co-funding, to the possible implications should that funding not eventuate.
- The bypass' embankments have been constructed so the highway can be widened in parts to four lanes if needed. This is an example of sensible long-term planning, but it may be partly undermined by future congestion problems at the bypass' northern two roundabouts. The Transport Agency and Tauranga City Council are both aware of this potential issue and examining ways of addressing it.
- Efficiencies were achieved through smart timing of earthworks, with cost savings achieved from using fill from the adjacent residential subdivision development.

Figure 1: Location of Pyes Pa Bypass in Tauranga

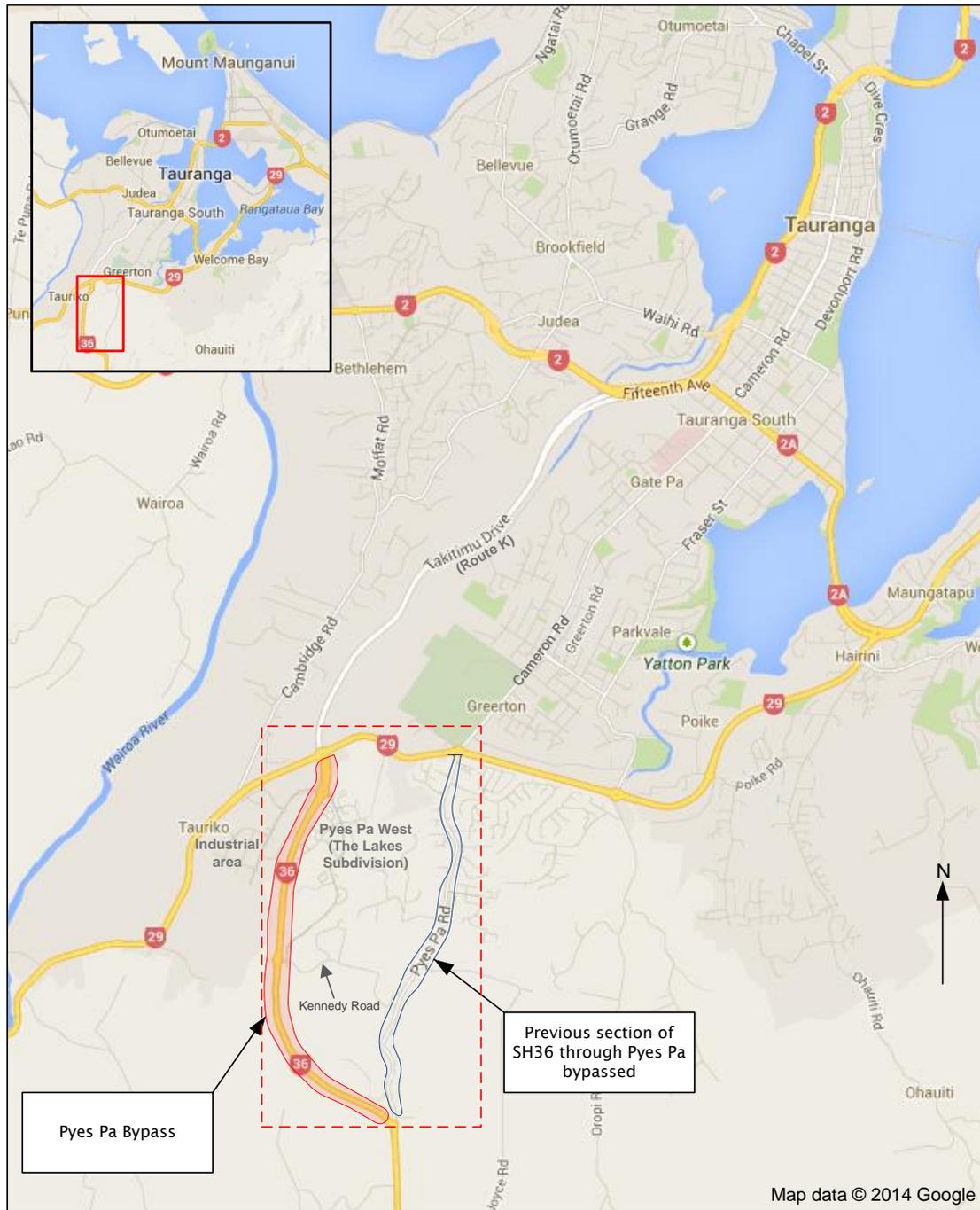
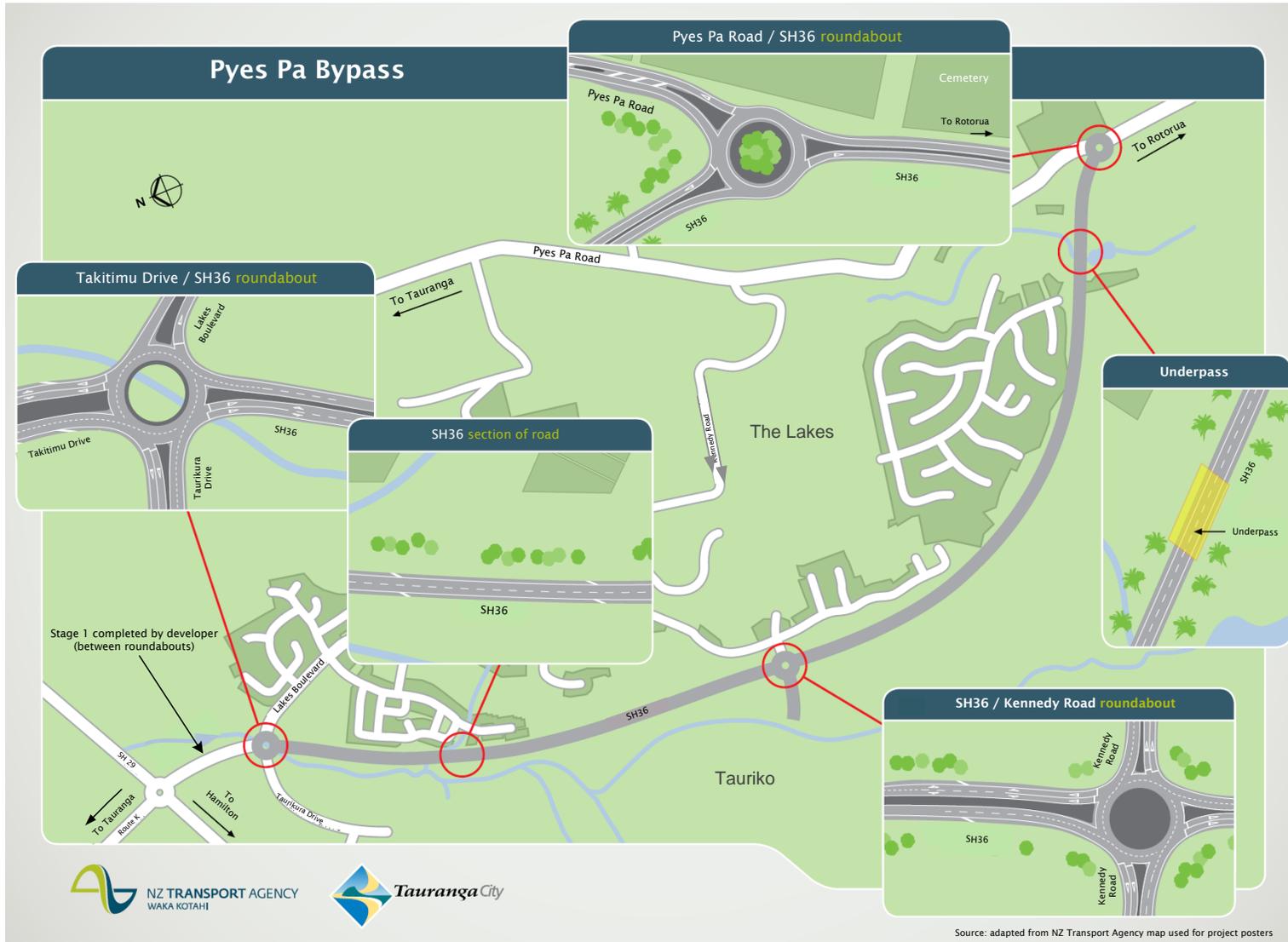


Figure 2: Detailed map of Pyes Pa Bypass location and main features



# 1. Project benefits

## Project description

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The Pyes Pa Bypass project constructed a new 4.6km section of State Highway 36 immediately west of the suburb of Pyes Pa in Tauranga City. The bypass relocated the highway from its previous route through a residential section of Pyes Pa. Figure 1 on page 3 shows the location of the bypass, while figure 2 on page 4 shows its main features in more detail.

The idea for the Pyes Pa bypass originated out of the Western Bay of Plenty sub-region's SmartGrowth Strategy (2004).<sup>1</sup> This spatial plan was set up in response to rapid population growth demands in the sub-region. It focuses on developing several growth corridors, including a southern corridor linking Tauranga to Rotorua. The strategy aims to encourage land use changes. Within the southern corridor, Pyes Pa west was identified as an area for major residential development, while Tauriko was targeted for future industrial and commercial development.

A key objective of the bypass was therefore to support the growth of these new residential and industrial areas. It was also expected to reduce travel times for inter-regional traffic on the southern corridor by providing a more direct route to Tauranga City and the Port of Tauranga. Improved safety on the old highway route was also expected to be an outcome. The road had become quite congested with the combination of state highway and local traffic. Numerous access points onto the state highway and poor road alignment in parts were also identified issues.

The rest of this section discusses the main findings of this review assessing how well the bypass project has achieved its expected benefits.

## Supporting development of the Tauranga southern corridor

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A main objective of the Pyes Pa bypass was to support the growth of new residential subdivisions at Pyes Pa west (known as "The Lakes") and a new commercial and industrial area at Tauriko.

The bypass has achieved this objective by creating a section of State Highway 36 that provides good access to both of these residential and commercial/industrial development areas. The bypass links both development areas directly north to Tauranga City centre and Tauranga Port via Route K, and south to Rotorua on State Highway 36. (See Figure 1 on page 3.)

Growth of both the residential subdivision and industrial has been substantially slower than projected when the bypass project was proposed and approved:

- For the residential development, the SmartGrowth Strategy and Implementation Plan (May 2007) projected that the population of Pyes Pa West would be 2,245 by 2011. Instead, official Census 2013 figures show that the area had a usually resident population of only 492 (nearly 80% less than projected).<sup>2</sup>
- The full development of the Pyes Pa west residential area is a long term project. It is scheduled to take several decades and is still in its early stages. Eventually it will

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<sup>1</sup> This 50 year growth strategy is a collaboration between Bay of Plenty Regional Council, Tauranga City Council, Western Bay of Plenty District Council, and local Tangata Whenua.

<sup>2</sup> The Census 2013 figure is the usually resident population. It is an aggregation of 16 meshblocks that cover the area of the Pyes Pa West residential development.

have up to nearly 3,000 dwellings, but only 271 dwellings had been completed by June 2013.<sup>3</sup>

- Similarly, the Tauriko Business Estate is still in very early stages of development, with the majority of available sections still vacant. As at January 2013, only nine percent (23 hectares) of the available 258 hectares of industrial zoned land was occupied, and all of the nearly 14 hectares of commercial zoned land was still vacant.<sup>4</sup>

A SmartGrowth progress report in August 2012 attributed this slower-than-projected growth of Pyes Pa west and Tauriko to *“the economic downturn and a subsequent slowing of growth in the western Bay of Plenty.”*<sup>5</sup>

A consequence of the slower than projected development of Pyes Pa west and Tauriko has been that traffic volumes on the bypass are also much lower than projected, as shown in Figure 3. This table compares the traffic volumes predicted for 2011 with actual traffic volumes recorded in 2013.

**Figure 3 Predicted and actual traffic volumes on and near Pyes Pa Bypass**

(Vehicles per day – VPD)

	2011 predicted vehicles per day	2013 actual vehicles per day
Northern end of bypass – north of Kennedy Road and south of The Lakes roundabout	12,000	2,590
SH36 south of junction of bypass and previous highway route on Pyes Pa Road	8,100	3,229

### Recent renewed growth in construction activity

More recently, there has been a surge in development activity at both The Lakes residential subdivision and Tauriko industrial estate. The following observations were made with the site visit for this post implementation review in September 2014 (see the Appendix for photos):

- There was a lot of construction activity occurring within The Lakes subdivision, including some streets having several houses under construction,
- Earthworks have started at the southern end of the subdivision for a new stage of housing development, and
- Construction of new industrial buildings was underway at multiple sites at Tauriko, including several large scale buildings.

Construction of a large shopping centre and supermarket is underway and due to open in 2016. Investment in the strategic and local roading networks has significant residential, commercial, and industrial development opportunities to take advantage of the recent economic upturn.

<sup>3</sup> SmartGrowth (2013), *SmartGrowth: Development Trends Technical Report 2013*, Table 8, p.21.

<sup>4</sup> SmartGrowth (2013), *SmartGrowth: Development Trends Technical Report 2013*, Table 21, p.31.

<sup>5</sup> SmartGrowth (August 2012), Report Card, p.11.

## Travel time savings

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The Pyes Pa bypass was expected to reduce travel times for inter-regional traffic using the southern corridor with a more direct route to downtown Tauranga and its port. Travel time savings made up a dominant 87% of the expected benefits in terms of the benefit cost ratio used to support the project's funding.

Overall, this objective of travel time savings has been achieved:

- Travel times on the bypass are lower than on the previous highway route along Pyes Pa Road, and
- Journey times to and from downtown Tauranga are reduced by four to six minutes by using the southern corridor route along the bypass and Route K toll road.<sup>6</sup>

This was the assumed preferred travel route used with the bypass' benefit predictions. In contrast, travel time savings are eroded or lost if bypass traffic uses the alternative Cameron Road route into downtown Tauranga instead of the toll road. These findings are discussed in more detail below.

### Travel time analysis methodology

The average results of five travel time surveys done on the Tauranga City highway and arterial network between November 2011 and November 2013 were used in this review.<sup>7</sup> These surveys cover a two year period after the bypass was opened. A comparison of travel times before and after bypass construction was not possible as the State Highway 36 route was only added to the surveys in 2011.

The travel time analysis presented in this review therefore focuses on comparison of travel times:

- along the bypass compared with the previous highway route on Pyes Pa Road, and
- on two main alternate routes for traffic travelling to and from Tauranga City from the south.

### Travel times along bypass compared with Pyes Pa Road (previous route)

The bypass has improved travel times on the northern section of State Highway 36 compared with the previous route along Pyes Pa Road. The modelling supporting the bypass project predicted a 3.5 minute travel time on the bypass. This has been achieved according to the average results of travel time surveys conducted between November 2011 and November 2013.

Figures 4 and 5 compare average travel times on the bypass with the previous highway route on Pyes Pa Road. For both routes, the journeys analysed are between the southern junction of State Highway 36 where the bypass and Pyes Pa Road split, and the bypass/State Highway 29/Route K intersection (see Figure 1 on page 3 for these locations). The start of Route K was used for this analysis because that is the route identified for the SmartGrowth southern corridor and used in the bypass project's traffic modelling.

Figures 4 and 5 show that travel times on the bypass compared to Pyes Pa Road:

- are around 1.5 minutes less for southbound traffic at all times of the day, and

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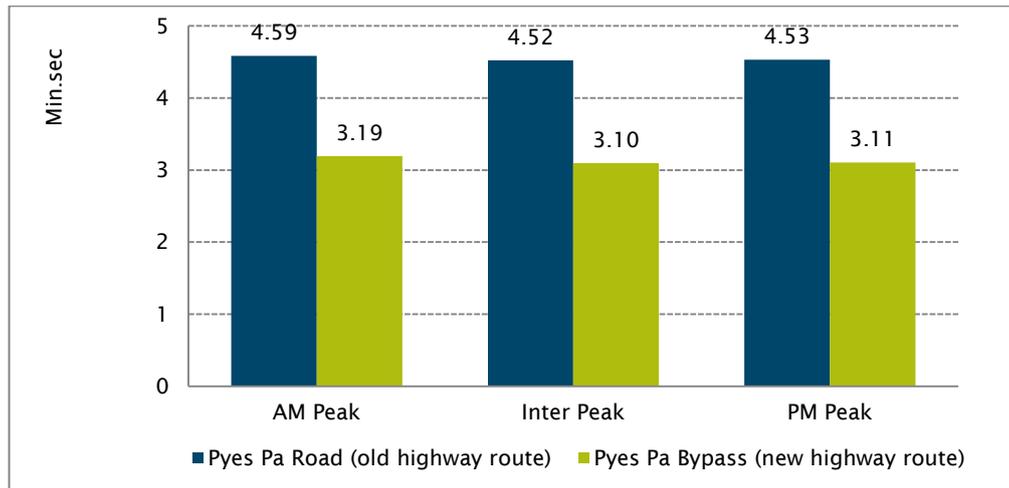
<sup>6</sup> Tauranga City Council expects these journey time savings to improve with the introduction of electronic tolling on Route K in July 2015.

<sup>7</sup> Beca conducts 'floating car' travel time surveys in Tauranga in March and November each year. The surveys involve several survey cars travelling predefined routes at different times of the day to measure travel times and average speeds. The average results of the five surveys were used in this review to reduce the possible effect of one-off factors such as adverse weather, road works, or crashes skewing the observed travel times in individual surveys.

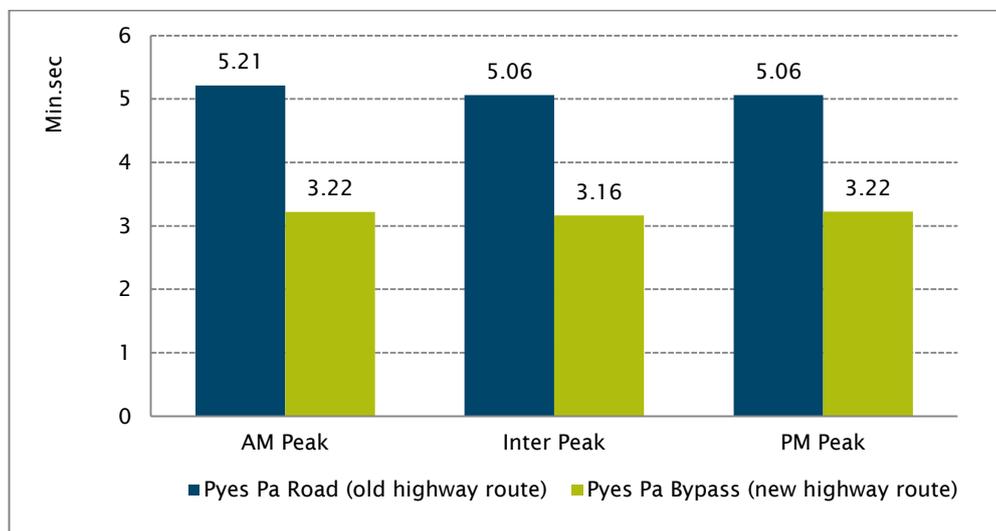
- between 1.5 minutes and two minutes less depending on the time of day for northbound traffic (this is the result of longer travel times on Pyes Pa Road for northbound traffic rather than variation in travel times on the bypass).

However, most of these improved travel times are actually due to the Pyes Pa Road route requiring an additional 1.7km travel on State Highway 29 between the northern end of Pyes Pa Road and the start of Route K. Removing this factor reduces the average travel time improvement to around half a minute.<sup>8</sup>

**Figure 4: Travel time comparisons – Pyes Pa bypass and Pyes Pa Road (previous SH36 route) for southbound traffic**



**Figure 5: Travel time comparisons – Pyes Pa bypass and Pyes Pa Road (previous SH36 route) for northbound traffic**



### Travel times on the southern corridor to and from Tauranga City

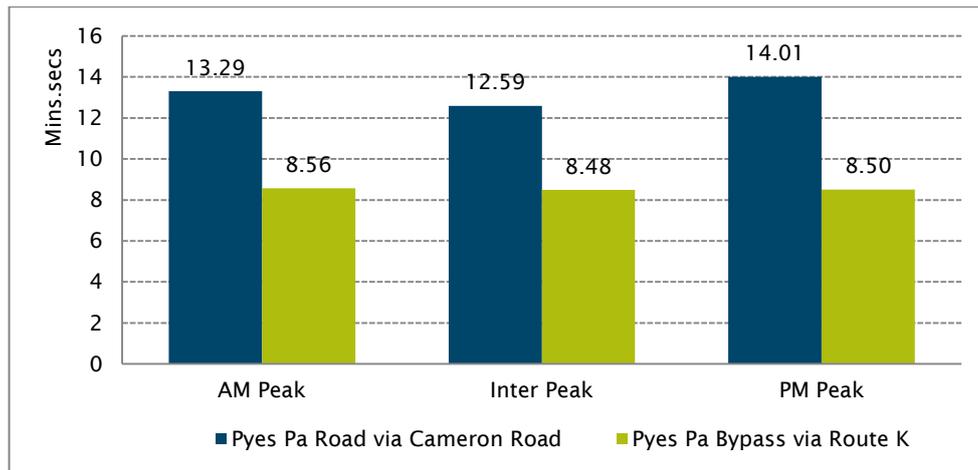
The bypass has helped achieve the objective of a more direct southern corridor for inter-regional traffic to downtown Tauranga and the Port of Tauranga. This is evident from the

<sup>8</sup> This more modest travel time saving is the result of the bypass having a higher speed limit (100km/h) than Pyes Pa Road's mix of 60 km/h and 80km/h zones, and limited access points onto the highway. But these are partly offset by the bypass being 0.5km longer than the previous highway route.

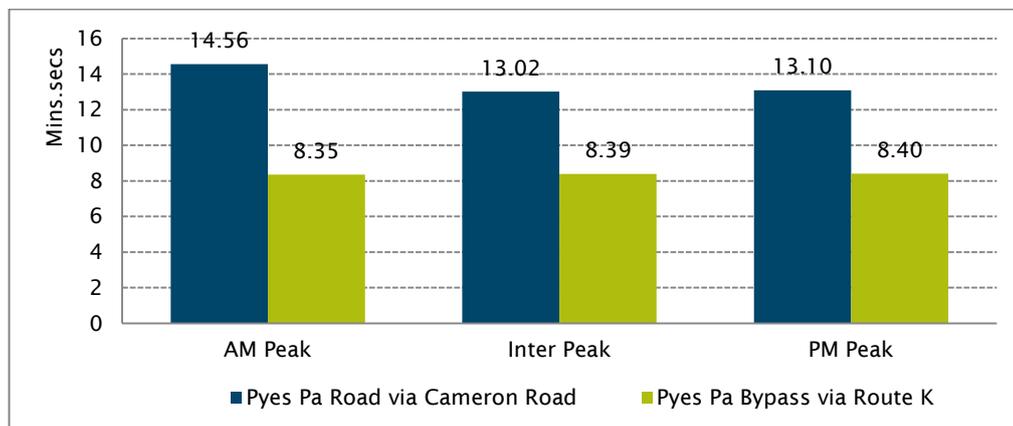
results of travel time surveys summarised in Figures 6 and 7. The surveys compare average travel times at different times of the day for two alternate southern routes to and from downtown Tauranga:

- Pyes Pa Bypass from its southern start on State Highway 36 and then the Route K toll road, and
- The previous route of State Highway 36 through the Pyes Pa residential area on Pyes Pa Road and then Cameron Road.

**Figure 6: Comparison of travel times to and from Tauranga City using alternate southern routes – southbound traffic**



**Figure 7: Comparison of travel times to and from Tauranga City using alternate southern routes – northbound traffic**



It is clear from Figures 6 and 7 that the ‘southern corridor’ of the Pyes Pa Bypass and Route K toll road provides substantial travel time savings compared to the alternate route of Pyes Pa Road and Cameron Road. On average, the journey between the southern end of the bypass to downtown Tauranga takes around 8.5 minutes when using the bypass and Route K, compared to 13-14 minutes on the alternate route. These more efficient journey times on the southern corridor are the result of travel time savings from both the bypass and Route K.

The efficiency of the southern corridor to reduce travel times between downtown Tauranga is dependent on bypass traffic also using the connecting Route K toll road. But since Route K is a toll road, there is an incentive for some road users to prefer alternative routes to avoid

paying a toll. This preference may change once a more efficient toll collection system is introduced on Route K in July 2015.

The effect for bypass traffic avoiding the Route K toll road for travelling to and from downtown Tauranga is an increase in journey time consistently of more than five minutes (see Figure 8). The widest difference in travel time occurs for northbound traffic in the morning peak, with an increased travel time by avoiding the toll road of more than seven minutes. This is due to increased congestion and delays on State Highway 29 (connecting from the bypass to Cameron Road) and especially along Cameron Road.

**Figure 8: Implications for journey travel times of avoiding Route K toll road**

(minutes:seconds)

	Pyes Pa Bypass via Route K	Pyes Pa Bypass via Cameron Road	Increase in travel time by avoiding Route K
<b>Southbound</b>			
AM Peak	8:56	14:38	5:82
Inter Peak	8:48	13:54	5:05
PM Peak	8:50	14:56	6:06
<b>Northbound</b>			
AM Peak	8:35	15:45	7:10
Inter Peak	8:39	13:49	5:10
PM Peak	8:40	14:04	5:63

#### Potential deterioration in future travel times and congestion problems

While the Pyes Pa Bypass has produced significant travel time benefits, there is the potential for these to be eroded in the future as Tauriko develops. The two roundabouts at the northern end of the bypass are potential congestion choke points as traffic volumes grow.

Tauranga City Council identified this issue in its Tauranga Transport Strategy 2012-2042 (and also has plans for construction of slip lanes on the roundabouts before the planned supermarket at Tauriko opens).<sup>9</sup> The Council forecasts that growth of the Tauriko industrial area and future residential areas south of State Highway 29 will significantly alter traffic flows in the area. This is expected to result in the long term failure of the State Highway 29/State Highway 36 intersection (the northern most roundabout of the bypass).

The Transport Agency has a project under investigation to find a long-term solution for State Highway 29 through Tauriko. The aim of that project will be to balance the need to maintain efficient road freight access to the Port of Tauranga while accommodating local residential and commercial growth.

<sup>9</sup> Tauranga City Council (2012), 'Tauranga Transport Strategy 2012-2042', p17 and Figure 6. This strategy was adopted by the Council in April 2014.

## Safety outcomes

The bypass project was expected to improve safety by:

- Providing a state highway section with higher safety standards and better (straighter) alignment than the previous route, and
- Separating through traffic from local traffic in the residential area of Pyes Pa Road to reduce congestion and provide safer access for residents to their properties.

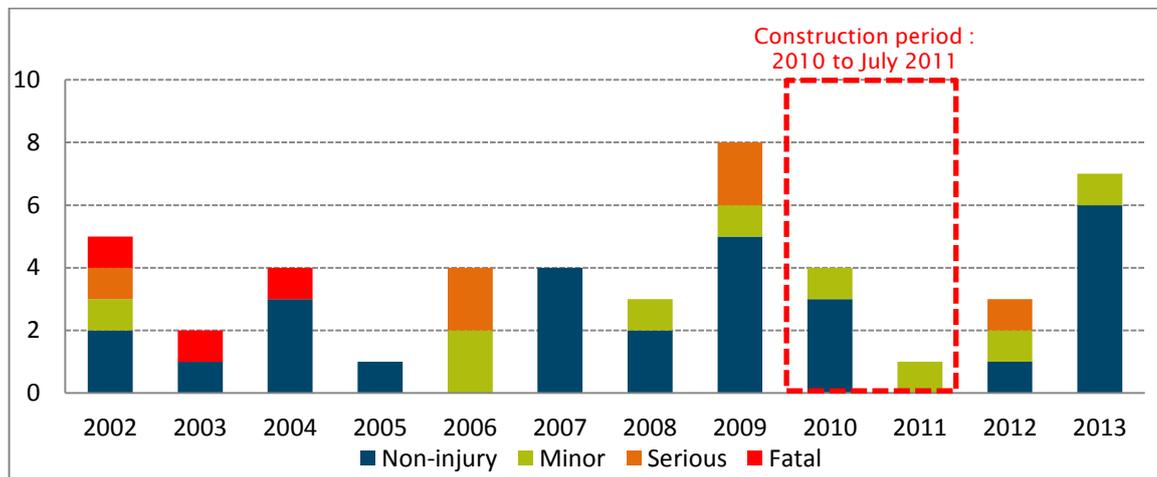
Improved safety was not, however, a major objective in terms of the benefit cost ratio (BCR) used to support the project's approval. Predicted accident cost savings made up only 4.5 percent of the expected benefits in the BCR.

### Crashes on the previous highway route on Pyes Pa Road

It is too soon since completion of the bypass to assess whether the transfer of highway traffic from the Pyes Pa Road residential area has improved safety in the area. At least five years of crash data is generally needed to identify any statistically significant changes in crash rates as the result of a project's interventions. Only two years of post-completion crash data (2012 and 2013) were available at the time of this review.

Figure 7 shows that the overall incidence of crashes on the previous highway route on Pyes Pa Road is low given daily traffic volumes on it had reached more than 10,000 vehicles per day by 2009. Furthermore, there has been no discernible trend with the crash rate over the 12 years to 2013. Two spikes are apparent, one in 2009 before the bypass opened, and another in 2013 after completion. These spikes were the result of an increase in recorded non-injury crashes. But they still represent a low number of crashes for each year (eight in 2009 and seven in 2013) and may reasonably be the result of chance variation in the incidence of crashes.

**Figure 9: Crashes on Pyes Pa Road\* by severity before and after completion of the bypass, 2002-2013**



\* Covering only the section of Pyes Pa Road from its southern junction with the bypass and its northern junction with State Highway 29.

### Crashes on the Pyes Pa Bypass

The incidence of crashes on the bypass since it opened has been very low. No crashes were recorded in 2012, while two crashes – one fatal and one non-injury – were recorded in 2013. The fatality crash involved a car driven at nearly 130 km/h crossing over the bypass cycle

lane killing a cyclist. The driver was subsequently imprisoned for manslaughter by the unlawful act of dangerous driving. No features of the bypass' design were identified that contributed to this tragic fatality.

## 2. Project implementation

The bypass was constructed mostly on time and marginally below its budgeted cost.

### Project scope and timeframe

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The Pyes Pa Bypass project was a collaboration between the Transport Agency, Tauranga City Council, and Grasshopper Farms Ltd – the original developer of 'The Lakes' residential subdivision. Project funding was mostly split between the Transport Agency and the Council, with the developer funding all of the first stage of the project. All of the Transport Agency's funding and a portion (53%) of the Council's funding came from 'R' Funds.<sup>10</sup>

The bypass was constructed in three stages:

- Stage One was the construction in 2006 of the first 400m of the bypass at its northern end. This four lane section of the bypass was funded and constructed by Grasshopper Farms Ltd, the developer of 'The Lakes' to provide access from State Highway 29 to this residential subdivision.
- Stage Two was the completion of earthworks needed for the embankment and platform of the rest of the bypass. The bypass was constructed partly through swamp. It therefore required pre-loading of the embankments and time for their soft soils to settle and compress. Construction for this stage started in 2007 and was completed in April 2009, ahead of its forecast completion date of December 2009.
- Stage Three involved the construction of the bypass' pavement, surfacing, and associated drainage and other associated infrastructure. Work on this stage started in early 2010 and was completed in June 2011, marginally later than the planned completion in April 2011.

### Project cost

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It is estimated that the actual construction cost for the Pyes Pa Bypass was \$45.3 million. This was marginally (-1.4%) below its budgeted cost of \$45.9 million.

Only an estimate of the actual construction cost was possible with this review because actual figures for Stage 1 were unavailable. As noted above, this stage was funded entirely by the original developer of the residential subdivision. An agreement between the project participants set a Guaranteed Maximum Price of \$6.3 million for design and construction of Stage 1. However, the developer later went into receivership and so it was not possible to confirm the actual Stage 1 costs. The collapse of the developer also meant that an agreement for it to contribute \$400,000 to Stage 3 did not go ahead.

Figure 10 below presents a comparison of the budgeted and estimated actual project construction costs using the official Transport Investment Online (TIO) figures. This is also broken down by project stage and the different contributions of the Transport Agency, Tauranga City Council, and the developer.

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<sup>10</sup> R Funds are regional funds, sourced from a five cents per litre fuel excise. These funds were allocated to each region pro-rata based on regional population. R Funds have been used for improvement activities wanted by regions but which have had insufficient priority ratings to be funded from the National Land Transport Programme's national ('N') funds.

The breakdown by project stages misleadingly implies that there was a significant (+18%) cost overrun for the Stage 2 earthworks. In fact, a cash flow advance of \$4 million from Stage 3 into Stage 2 was approved in late 2008. The reason for this was to enable additional earthworks to be done in Stage 2. The use of fill material for the bypass embankments from the adjacent residential subdivision development had reduced construction costs. But more detailed geotechnical investigations as Stage 2 progressed had revealed part of the bypass alignment between two embankments needed additional imported fill material and some cut and fill.

The following advantages were identified in approving this cash flow advance to enable the additional earthworks to take place in Stage 2:

- The embankment earthworks and their settlement could be completed ahead of the 2009/10 construction season, allowing Stage 3 to become predominantly a pavement construction contract, and
- The project could align all its major earthworks with the adjacent residential development work and thereby take advantage of the cheaper option of using its readily available fill material rather than having to import it from further afield.

A third advantage predicted at the time the cash flow advance was approved did not eventuate. It was predicted that completing the earthworks in the 2008/09 season and thereby reducing the scope of work required in Stage 3 would allow the project to be completed nearly a year earlier than its target completion date of June 2011. As noted above, Stage 3 ended up being completed broadly as planned in mid-2011.

**Figure 10: Budgeted and actual construction cost comparisons**

	Budgeted	Actual	Variance
<b>Stage 1 – 400m section completed and funded by developer (Grasshopper Farms)*</b>	\$6,300,000	\$6,300,00	\$0 (0%)
<b>Stage 2 – Earthworks/enabling works</b>			
NZ Transport Agency share	\$11,600,000	\$13,764,900	+\$2,164,900
Tauranga City Council share	\$11,600,000	\$13,600,000	+\$2,000,000
<b>Stage 2 – Total</b>	<b>\$23,200,000</b>	<b>\$13,764,900</b>	<b>+\$4,164,900</b> <b>(+18%)</b>
<b>Stage 3 – Pavement and related infrastructure</b>			
NZ Transport Agency share	\$8,000,000	\$5,958,100	-\$2,041,900
Tauranga City Council share	\$8,000,000	-\$5,635,961	-\$2,364,039
Developer contribution	\$400,000	\$0	-\$400,000
<b>Stage 3 – Total</b>	<b>\$16,400,000</b>	<b>\$11,594,061</b>	<b>\$4,805,93</b> <b>(-29%)</b>
<b>TOTAL CONSTRUCTION COST</b>	<b>\$45,900,000</b>	<b>\$45,258,961</b>	<b>-\$641,039</b> <b>(-1.4%)</b>

\* Stage 1 was funded and constructed by the developer for a guaranteed maximum price of \$6.3m, as agreed in a signed agreement between the parties involved with the project. No further information was available to confirm Stage 1's actual construction cost so this maximum is used here.

### 3. Lessons learned

The post implementation review identified some good practice and lessons learned which have relevance for other projects.

#### **Collaborative approach to project implementation**

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The bypass project was a collaboration between the Transport Agency and Tauranga City Council. It is an early example of a "one network" approach now being promoted by the agency. Involved parties interviewed as part of this review felt the collaboration worked well. This is reinforced by the project being delivered mostly on time and budget, and with no significant identified problems.

One minor complication with the collaboration was that it initially involved the original developer of 'The Lakes' subdivision. However, this company went into receivership and so did not contribute funding towards the project's Stage 3 as planned. Although this planned contribution was only a very small proportion (2.4% or \$400,000) of the stage's total budgeted cost, it was unclear with this review how this funding shortfall was covered by the other parties.

Other projects involving third party funding should consider the potential implications of the funding not eventuating. This is especially important if planned third party funding contributes a larger proportion of construction cost than was the case with the bypass project.

#### **Mixed approach to long term traffic planning and future proofing**

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Up to 1.7km of the bypass embankments have been designed and constructed to enable future widening of the road from two to four lanes. This is sensible long term planning. It helps future proof the route if local growth and traffic volumes require increased capacity on the bypass. The northern 2.6km section of the bypass has been built over swamp and therefore the staged approach to the project was used to enable time for preloading and settling of the embankments. Future widening of the highway would be difficult if the embankments had not been built to accommodate four lanes.

Partially offsetting this effective planning, however, is the potential issue of the congestion choke points at the two northern roundabouts of the bypass noted in Section 1. This part of the bypass was built by the developer to provide access to its new residential subdivision. Its design is arguably not ideal to handle future traffic growth on both the highway and Tauriko industrial area as it grows. A wider "journey" approach taking account of predicted traffic growth scenarios in the wider area might have resulted in a more effective design of the northern end of the bypass. Both Tauranga City Council and the Bay of Plenty Highways & Network Operations are now actively examining ways to address this potential future problem.

## 4. Responses to review findings

(from Bay of Plenty Highways & Network Operations and Tauranga City Council)

### Bay of Plenty Highways & Network Operations

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Bay of Plenty Highways & Network Operations indicated they were comfortable with the findings of this review. Specific comments were received from the Project Manager for the bypass project and minor amendments were made to the report where relevant.

### Tauranga City Council

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Tauranga City Council provided the following comments about the findings of this post implementation review – minor amendments were also made to the report based on Council feedback:

*Council acknowledges the collaborative manner in which this project has been delivered. Major infrastructure projects can benefit from this approach, as is the case here. However, one of the lessons learned from this project is to consider carefully the involvement of private sector third parties, especially in challenging economic times. However, the need to use both public and private finance to deliver transport infrastructure remains, but the associated risks need to be clearly signalled as part of the project business case.*

*The project has delivered significant economic benefits and development opportunities to Tauranga and the wider Bay of Plenty and Waikato regions. Improved planning and delivery of infrastructure also contributes to improving the resilience of the transport system. We believe this project has helped achieved this .*

## Appendix

1. Strong renewed construction activity of new houses was observed in 'The Lakes' residential subdivision.



2. New parts of 'The Lakes' subdivision were being prepared for residential development at the time of the post implementation review (September 2014).



3. Construction activity was observed in Tauriko, including some large-scale developments.

