

MIN-4491 - Tolling Penlink

16 May 2024

Providing information on:

- measures being taken to reduce costs of tolling infrastructure and operations for Penlink
- implications for NZ Transport Agency Waka Kotahi (NZTA) of delaying a decision to toll Penlink
- whether a cheaper tolling technology might offer different approaches to tolling Penlink
- a review we are initiating that focuses on NZTA's costs to collect toll payments and administer our tolling system.

Background

The current proposed Penlink tolling scheme has two toll points, located at:

- **State Highway 1 end** (toll rates are proposed at \$2 during peak hours¹ and \$1 in the off-peak² for light vehicles)
- **Whangaparāoa Road end** (toll rate is proposed to be set at \$1 during both peak and off-peak for light vehicles).³



¹ Weekdays 6am to 9am and 4pm to 7pm.

² Including Saturdays, Sundays and Public Holidays.

³ Heavy vehicles will pay twice the toll charge of light vehicles.

Measures NZTA is taking to reduce costs of tolling infrastructure and operations for Penlink

NZTA is exploring efficiency and cost reduction opportunities for the Penlink tolling scheme. This includes s 9(2)(f)(iv) our procurement approach, technology and supporting infrastructure options.

s 9(2)(f)(iv)

Released under the Official Information Act 1982

s 9(2)(f)(iv)

2. Release an RFP with a broad approach to roadside infrastructure

An RFP has been prepared and is ready for release that seeks proposal from suppliers of tolling roadside infrastructure, appropriate for a range of different road types and conditions (eg multiple lane highway, dual carriageway, low and high speed). s 9(2)(f)(iv)

The RFP will enable NZTA to engage with several solution providers to compare products and prices, as well as evaluate performance and delivery reliability. The Government Procurement Rules are flexible, allowing NZTA to assemble a panel to concurrently deliver one or more solutions that best suit project requirements.

s 9(2)(f)(iv)

The RFP process will take around three months to complete and we will report back with updated and accurate cost estimations for tolling infrastructure to you and the Ministry of Transport. This time is required to assess the responses due to the variety of road types our requirements are based on. s 9(2)(f)(iv)

3. Take a different approach to roadside camera technology and supporting infrastructure (e.g. gantry) to reduce cost

There are differences in performance and cost between using gantry central lane cameras and roadside cameras (ie pole-based cameras). NZTA needs to go to market to accurately assess the differences and determine feasibility of using different roadside equipment for road pricing (such as tolling).

In Table 2, we set out the pros and cons of different roadside camera technology and our experience with central lane cameras (note these relate to a single toll point).

⁵ NZTA would consider the cost and performance results of roadside technology for future tolling proposals.

Table 2: Observations of gantry and roadside camera technology

	Gantry with central lane camera positions (1 or 2 cameras per lane, 2 or 4 cameras in total)	Roadside cameras (4 cameras, 2 for each side of the road)
International experience	Industry best practice for tolling across the world.	Uncommon/rare usage in the jurisdictions we usually compare ourselves to such as Ireland, Australia and USA.
Capital costs for tolling infrastructure ⁶	s 9(2)(j)	
Integration and 'go live' costs	s 9(2)(j)	
Licence plate recognition	<p>Clearest view of front and rear plates, across multiple lanes.</p> <p>Effective in any speed environment.</p> <p>Effective in congestion.</p> <p>Better illumination possible enabling improved plate recognition in low light and adverse weather conditions.</p>	<p>Angle for reading the plates roadside is not optimal during periods of heavy congestion.</p> <p>Not suitable across more than one lane.</p>
Performance and accuracy (e.g. vehicle detection, weather events)	<p>Vehicle detection rate at roadside is 99.9 percent.</p> <p>7-8 percent of trips require manual validation.</p> <p>Ensures continuity of full lane coverage in the event of a camera issue (two cameras per lane).</p>	<p>Higher number of missed vehicles.</p> <p>Higher level of manual validation and processing due to lower rate of licence plate recognition.</p> <p>Reduced accuracy of automation would increase operational costs to maintain acceptable levels of detection through manual validation of images.</p>
Maintenance implications	Safe maintenance without road closures.	Physical barriers will be required for safe maintenance of equipment at the roadside. Without barrier protection, roads closures would be necessary for the maintenance of poles/cameras.

⁶ This covers costs for roadside civils incl. power/fibre, foundations, signage, gantries, roadside buildings, toll point equipment, vendor designs, implementation, testing and spares (back up equipment)

s 9(2)(f)(iv)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Reviewing costs to collect toll payments and administer our tolling system

We are initiating a review of the costs to collect toll payments and administer the tolling system. We will keep you informed of progress and the improvements we are able to implement through this review process.

Noted by Minister ☐