In confidence

Safety Camera System Detailed Business Case for Stage 1 - NLTF Period FY2021-24

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Whāinga | Purpose: For endorsement

The purpose of this paper is to ask the Waka Kotahi Board to endorse the Safety Camera System (SCS) Detailed Business Case (DBC) Stage 1, covering to the end of the National Land Transport Programme (NLTP) 2021-24.

He kupu whakatau | Recommendations

Management recommends the Board:

- **Endorses** the Tackling Unsafe Speeds – Safety Camera System DBC – Transfer, Operate, Expand Phase 1 Detailed Business Case, subject to condition subsequent that the next Detailed Business Case clarifies the Road to Zero Programme efficiencies, including the programme optimal size, sequencing, staging options and peer reviewed value for money evaluation.
- **Approves** funding to Waka Kotahi NZ Transport Agency for the Safety Camera System – Transfer, Operate, Expand Phase 1 Detailed Business Case with total project costs of $137,582,277 at a FAR of 100% from the Road to Zero Activity Class (noting that $21,600,000 has already been approved by the Board, therefore the total cost to the Road to Zero Activity Class for the period will be $159,182,277).
- **Notes** that on current assumptions, the whole-of-life costs over a 20-year period are s 9(2)(b)(ii) [redacted]
- **Notes** the total funded amount for NLTP 2021-24 is $159.2m, including $21.6m already approved in prior funding requests.
- **Notes** that investment is required because the current safety camera system, including the Police Infringement Processing System (PIPS), is end of life.
- **Notes** s 9(2)(g)(i) [redacted]
- **Notes** that the Master Service Agreements (MSA) have been signed with key vendors for the supply of safety cameras and camera management system (Redflex) and the back-office offence processing system (SICE). s 9(2)(i) [redacted]
- **Notes** that 70 safety cameras have been ordered which amounts to a camera lease value of approximately s 9(2)(b)(ii) s 9(2)(i) [redacted]
- **Notes** the dependency on the Road to Zero (RtZ) portfolio for public education and benefits management at a deaths and serious injuries (DSIs) level.
- **Notes** that a further DBC will be submitted before the end of 2023 s 9(2)(g)(i) [redacted]

- **Notes** that a decision point will be required if enabling legislation is not progressed by the end of 2023, s 9(2)(g)(i)
- **Notes** that the SCS programme will complete a formal review prior to submitting the next DBC.

Take matua | Key points

In August 2021, the Board endorsed the Tackling Unsafe Speeds (TUS) Programme Business Case (PBC) and approved pre-implementation funding of $10.7 million to complete a DBC for Safety Camera Systems by April 2022. In December 2021, the Delegations Committee approved a change to the investment pathway so that an Indicative Business Case (IBC) would be completed by April 2022 and a DBC by September 2022. An IBC was completed and endorsed by the Board in April 2022, along with a further $10.9 million of pre-implementation funding to complete a DBC.

The preferred option from the IBC has been validated and will deliver one main substantial benefit: Road users are safer through lower mean speeds. By 2030, this investment is expected to save 130 lives annually and will contribute 10% of the RtZ target of 40% reduction in DSIs, alongside 14 other RtZ focus areas. Together, these outcomes create a total net present value benefit to society of over $1.5b.

He kōrero mō tēnei kaupapa | Background

In November 2019, the Government announced its new road safety strategy, Road to Zero (RtZ). The strategy's vision is a "New Zealand where no one is killed or seriously injured and where no loss of life is acceptable on roads". RTZ signalled that a new approach to safety cameras would be progressed through the Tackling Unsafe Speeds (TUS) programme.

In December 2019 the TUS Cabinet paper set a new Government policy on safety cameras:

- there should be a significant increased investment in additional safety cameras, funded through the Government Policy Statement on Land Transport
- safety cameras should be located on the highest risk parts of the network
- safety cameras should be clearly signed as part of the investment in additional cameras so as to reduce excessive speeds on high-risk roads
- ownership and operation of the camera network should be transferred from NZ Police to Waka Kotahi.

The rationale for transferring safety cameras was to incorporate safety cameras, along with speed reviews and infrastructure, into Waka Kotahi's broader speed management planning process and to shift the public away from perceptions that safety cameras are an enforcement and a revenue-gathering tool. This enables Waka Kotahi much greater ability to systematically target serious road trauma across the road network.

In March 2021 Cabinet agreed a refinement to point c. above that "a proposed mixed approach to safety cameras including a 'highly visible' approach for certain camera types, as appropriate, and maintaining a general deterrence 'anytime anywhere' component through the use of covert mobile cameras".

In August 2021 the Board endorsed the TUS Programme Business Case (PBC) and approved pre-implementation funding of $10.7 million to complete a DBC for SCS by April 2022. In December 2021 the Delegations Committee approved a change to the investment pathway so that an Indicative Business Case (IBC) would be completed by April 2022 and a DBC by September 2022. The cost of running the pre-implementation phase of the programme for a further 6 months was $10.9 million and did not affect the overall cost of the programme. An IBC was completed and approved by the Board in April 2022.

In July 2022 s 9(2)(ba)(i) conducted an external peer review of the DBC and a Gateway review was again conducted in August. s 9(2)(g)(i)

Kia mōhio mai koe | What you need to know

Road to Zero sets a target of a 40% reduction in DSIs by 2030 through 15 priority initiatives, including the new SCS, which is part of the Tackling Unsafe Speeds (TUS) priority initiative expected to contribute a 4% reduction in DSIs (10% of the target).[1]

Road to Zero recognises that we need to strengthen all parts of the system and identifies safety cameras as a key intervention necessary to deliver the 40% DSI reduction target. This is confirmed by the modelling that informed the target as well as highlighting that speed cameras are recognised internationally as a very effective safety intervention and a critical part of taking a systemic approach to reducing road trauma.[2] For example, evaluation of the first 28 speed cameras introduced in the state of New South Wales, Australia, revealed a 71 percent reduction in speeding, which delivered an 89 percent reduction in deaths at the treated locations.[3]

Speeding is proven to be a major contributor to serious crashes, and speed management interventions including speed cameras are shown to reduce speeds, crashes, and trauma. Meta-analysis of the effectiveness of safety cameras has found an overall decrease of 16% in the number of injury crashes and a 39% decrease in fatal crashes, noting that such meta-analyses are likely to under-estimate the potential benefits of well-targeted deployment of speed cameras.[4]

Automated enforcement also eliminates the need for police officers to intercept motorists, which serves to improve overall health and safety across the system. Over time we should be moving to a higher degree of automation across our road network and transport system.

Public education and social license

The SCS programme, in conjunction with the wider speed management planning process and RtZ as a whole, has a strong focus on using public education and engagement, as well as enforcement to achieve a change in driver behaviour.

Safety camera programmes are more effective if preceded by strong communications to ensure that the community knows the change is coming. This increases the efficacy of the enforcement by facilitating general deterrence and the desired behaviour change as well as increasing community acceptance of fairness and openness.[5]

Bringing the public on this journey is recognised as a key risk to achieving benefits from the safety camera system investment. Our Social License Monitor and Ad Diagnostics June 2022 report indicates that 73% of people either support or are neutral about more speed cameras to discourage drivers from exceeding speed limits.[6] Improving public attitudes towards safety cameras is a key and tangible part of the RtZ success.

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[1] Note the Integrated Intervention Logic Model that informed the RTZ target is curren ly being refined and it is expected the necessary contribution from automated enforcement (safety cameras) will increase, as a significant component of speed enforcement was previously attributed to the RSPP in lieu of transfer from Police to Waka Kotahi.

[2] Turner, B., Job, S. and Mitra, S. (2021). Guide for Road Safety Interventions: Evidence of What Works and What Does Not Work. Washington, DC, USA: World Bank.

[3] Job, RFS & Sakashita, S. (2016). Management of speed: The low-cost, rapidly implementable effective road safety action to deliver he 2020 road safety targets. Journal of the Australasian College of Road Safety, May 2016, 65-70.

[4] Job, RFS. (2022). Evaluations of Speed Camera Intervention can deliver a wide range of outcomes: causes and policy implica ions. Sustainability.

[5] Job, RFS. (2022). Evaluations of Speed Camera Intervention can deliver a wide range of outcomes: causes and policy implica ions. Sustainability.

[6] https://fyi.org.nz/request/19685/response/75066/attach/6/Road%20to%20Zero%20Social%20Licence%20Survery%20Report.pdf

The RtZ portfolio has committed to supporting the public education aspects and have sufficient funding to deliver this aspect.

The DBC includes sufficient funding to meet Treaty Partnership obligations inclusion activities, iwi / hapū engagement and general public communications and engagement activities.

Supporting legislation changes

The TUS Cabinet paper approved a "highly visible, no surprises" approach, s 9(2)(f)(iv) Initiatives related to the SCS programme were to be fully funded by the NLTF.

The SCS programme has a dedicated Policy workstream to closely manage the legislation work programme across both Waka Kotahi and Te Manatū Waka – Ministry of Transport, and to monitor and report on progress.

Road to Zero signals expansion of the safety camera network through a range of different types of cameras (e.g. average speed, mobile, red light and fixed cameras). s 9(2)(f)(iv) s 9(2)(f)(iv) Furthermore, it is noted that in Sweden, which has significant safety camera coverage across their network, there is no legislation for average speed cameras. To address this, Sweden replicates the operation and benefits of average speed cameras by installing fixed cameras at regular spacing (generally around 2 to 3km spacing).

In 2020, Sweden added road safety speed cameras to approximately 500 km of road, which is equal to the rate of expansion in recent years. In 2020 there were a total of 2,200 cabinets and 5,400 km of roads monitored by safety cameras.[7]

s 9(2)(f)(iv) The establishment of a new infringement processing system and transfer remains critical to address the current Police system which is at end-of-life as well as enabling Waka Kotahi much greater ability to systematically target serious road trauma across the road network.

Alignment with Waka Kotahi operating model

Since the Board approved the IBC in April 2022 the SCS programme has finalised high-level organisational design (HLOD) and recruited seven core permanent safety camera Establishment Roles into various business functions across Waka Kotahi. These roles will provide critical input into the detailed design phase and lead the effective operation and evolution of the safety camera system into the future.

s 9(2)(g)(i)

[7] Swedish Transport Administration. Analysis of Road Safety Trends 2020 Management by objec ives for road safety work towards the 2020 interim targets

s 9(2)(g)(i)

Update on Acceleration and COVID-19 supply chain impacts

In December 2021, the Minister requested investigation of options to accelerate the expansion of the camera network. As a result, the SCS programme is progressing a partnership in conjunction with Auckland Transport and NZ Police to install 10 additional cameras on high-risk corridors across Tāmaki Makaurau. This work programme is well advanced and forecasting to start delivering benefits in the first half of 2023.

Pre-orders for new generation cameras were made to help mitigate safety camera supply chain delays related to COVID-19 and exacerbated by the war in Ukraine. The programme is expecting delivery of s 9(2)(g) cameras by December 2022 and a further shipment in early 2023.

Investment

The proposed investment takes a measured approach to implementing new technologies (such as average speed cameras) and the capabilities required to support them.

The proposed investment includes implementing an estimated s 9(2)(g)(ii) new safety cameras (s 9(2)(g)(ii) in total) by 2030 and is expected to contribute a 10% of the RtZ target of 40% reduction in DSIs alongside 14 other RtZ focus areas.

Together these outcomes create a total net present value benefit to society of over $1.5b.

Options summary

The options analysis confirmed that “do nothing” is not viable. As noted in the TUS Cabinet paper, investment is required because the current safety camera system, including the Police Infringement Processing System (PIPS), is end of life.

The preferred option endorsed in the IBC has been validated and confirmed as having the best strategic fit, being aligned to Waka Kotahi business needs, having the greatest potential to be achieved, can be delivered by suppliers with capacity and capability, can be delivered in a reasonable timeframe given market constraints and economic conditions, having the social licence to be pursued in society, and creating the greatest financial value for money as evidenced through financial modelling.

The SCS benefits were strengthened from the IBC s 9(2)(g)(i)
s 9(2)(g)(i)

This means that the SCS will monitor a reduction in mean speeds and RtZ will monitor the reduction of DSI, and within the context of the Safer System approach and other RtZ interventions will evaluate the contribution the SCS makes to reducing DSIs. This recommendation has been agreed with the RtZ portfolio team.

Lower mean speeds will primarily be measured through fewer speeding vehicles (including red light running) at treated corridors and intersections, and through reduced mean speeds on roads across the NZ network over the long run.

In contrast with other options examined, the preferred option best ensures continued delivery of the SCS, minimises the risk of service disruption during the function's transfer from NZ Police to Waka Kotahi, creates the greatest feedback loop by installing safety cameras in tranches, and provides greatest basis for implementing safety cameras across the country by 2030.

In addition to the standard Waka Kotahi investment assurance processes, the SCS DBC has also been through an external peer review by s 9(2)(ba)(i) been through the Treasury Gateway Review 2, and undertaken a Quantitative Risk Assessment (QRA).

Preferred option

The NLTP 2021-24 investment of $159.2m to deliver SCS Stage 1 comprises of:

- A new approach to safety cameras in Aotearoa, including a new operating model encompassing people, processes and technology.
- A new Camera Management System to capture and process images from new cameras across high to medium risk corridors.
- A new Offence Processing System for processing infringements at Waka Kotahi, making financial savings by optimising the Waka Kotahi Tolling System (SICE). The SICE MSA has been signed for a period s 9(2)(i)
- Up to an estimated 160 trained and operationally ready full-time equivalent (FTE) staff to run the SCS at the point of transfer to operate the new system through to the end of the current funding period.
- Transfer of the existing SCS function from NZ Police to Waka Kotahi of approximately 100 NZ Police cameras and supporting 42 Auckland Transport cameras.
- Installation of up to s 9(2)(g)(i) new generation Safety Cameras on high to medium risk corridors (approx. target is s 9(2)(g)(i) by FY29/30), starting with 10 re-purposed cameras being installed in partnership with Auckland Transport as part of the Tāmaki Makaurau Expansion Project due for delivery in early 2023. s 9(2)(i)
  s 9(2)(i)
  s 9(2)(j)
  - s 9(2)(j)
- Integration with RtZ education programme and the other 14 focus areas, and continuous improvement cycles established.

The DBC now estimates the total cost for NLTP 2021-24 at $159.2m.

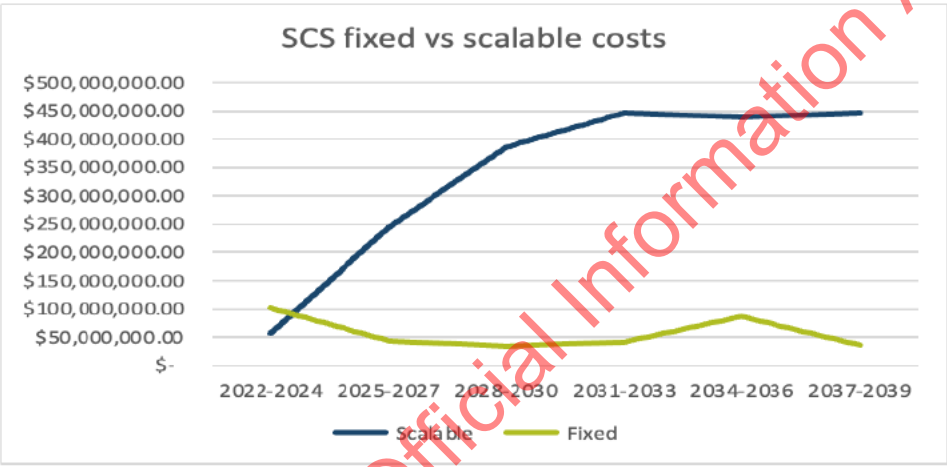
On this basis it is requested that the Board endorse the SCS DBC. It is requested that the Board approves s 9(2)(b)(ii) funding to deliver Stage 1 of the safety camera system that aligns with NLTP 2021-24. Noting that the total funded amount is s 9(2)(b)(ii) and that s 9(2)(b)(ii) of this total has already been approved in prior funding requests.

As foreshadowed in the IBC, the DBC provides decision makers with greater assurance of:

- Delivery timeframes – key ranges for transfer of functions, rollout of safety cameras in Stage 1 (NLTP 2021-24).

- Implementation approach – how the transfer of the Police functions, the Tāmaki Makaurau Expansion cameras and the initial expansion of s 9(2)(g) new cameras will be managed for this period.
- Mix of camera types and site selection – safety cameras will be integrated into interim Speed Management Plans for state highways and local roads.
- Contractual arrangements with preferred technology suppliers – Master Services Agreements (MSAs) have been signed and Statements of Works with key vendors are well advanced.
- Detailed costing – an updated financial model based on the Waka Kotahi operating model and confirmed prices from preferred suppliers, resolving the affordability risk.
- Measuring and tracking of benefits – quantify and outline key measures used to track and manage them, aligned to wider RtZ outcomes.

A high-level review of the indicative costs has been undertaken and characterised these as either fixed or scalable. The below graph shows the proportion of fixed vs. scalable costs over the course of the program split into the three-year NLTF periods.



Ā muri ake nei | Next steps

If the Waka Kotahi Board approves the SCS DBC Stage 1, then the preferred option (Option 4) will be progressed through draw down of s 9(2)(b)(ii) to fund activities for the remainder of NLTP 2021–24.

A further SCS DBC will be submitted before the end of 2023 requesting funding for NLTP 2024-27 of approximately s 9(2)(b)(ii)

Resource Centre (Diligent)

Document 1	Safety Camera System Detailed Business Case 15 Nov
Document 2	Safety Camera System Detailed Business Case Appendices 15 Nov