

This 2<sup>nd</sup> VfM booklet contains  
21 Value for Money Stories  
contributed from across the country in the  
3 months ending February 2012.

Take a look and if you want to learn more, email  
or call the contributor, or just make use of their  
idea!

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If you have a VfM Story that you would like to contribute, please email one of the following for a blank slide.

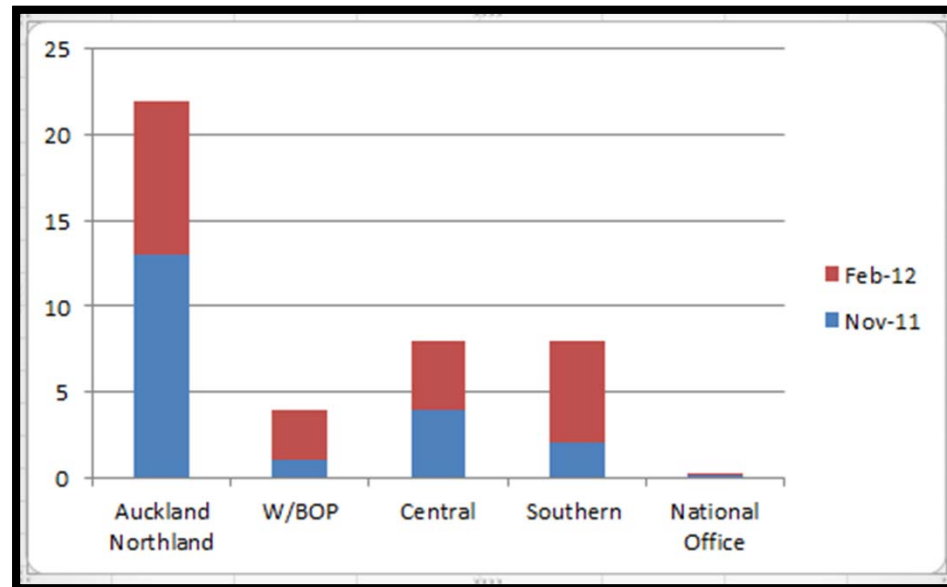
Auckland/Northland [Tony.Fisher@ama.nzta.govt.nz](mailto:Tony.Fisher@ama.nzta.govt.nz)  
W/BOP [michelle.parish@nzta.govt.nz](mailto:michelle.parish@nzta.govt.nz) , or talk to Richard Young

Central - [Andrew.Adams@nzta.govt.nz](mailto:Andrew.Adams@nzta.govt.nz)

Southern – [Roger.Bailey@nzta.govt.nz](mailto:Roger.Bailey@nzta.govt.nz)

National Office – [Barry.Wright@nzta.govt.nz](mailto:Barry.Wright@nzta.govt.nz)

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To date we have received 42 Value for Money slides.

## Value for Money Initiative: S4 Plastic Tubes at Guardrails

### Opportunity

The initiative to use plastic tubes to identify Guardrails on Alpine Passes during winter months to eliminate unnecessary repair or replacement costs to damaged guardrail terminal which were often hit during road clearing.

### Solution

The presence of snow in the alpine passes limits the visibility of guardrail terminal ends, which occasionally results in un-repairable damage to them whilst snow ploughing. The addition of 25mm coloured pipe standing vertically proud at each terminal end ensures that the edge of the barrier is clearly seen above the snow and hence the damage is all but eliminated.

### Estimated Costs & Benefits

- Reduced cost of terminal replacement
- Highly visible guardrail ends

### Contributors

[Mark.pinner@nzta.govt.nz](mailto:Mark.pinner@nzta.govt.nz) or [barry.stratton@nzta.govt.nz](mailto:barry.stratton@nzta.govt.nz) Christchurch



Highways Strategic Priority	Impacts
Safe Journeys	Yes
Efficient & Reliable Journeys	Yes
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: WBOP3 Taupiri Link – involving local community in landscape design

### Opportunity

When tenders were opened for upgrading of the Taupiri Link (part of the Waikato Expressway project), it was found that the specified hard and soft landscaping was inappropriate and expensive. While the design was impressive, it did not reflect local character or culture and had clearly been developed without close consultation with the community.

### Solution

NZTA invited the local community to suggest alternative concepts for the project team to develop and the outcome has received praise from District Council leaders, the local Member of Parliament, Waikato-Tainui, road users and the residents of Taupiri. The design of the roundabouts and gardens incorporates motifs proposed by the local iwi community, and was finalised in consultation with the District Council. In the paved areas, simple patterns and conventional materials have replaced imported manufactured pavers.

### Estimated Costs & Benefits

The saving to the project between what was specified in the original contract and the revised design is about \$500,000. In addition, the involvement of the local community in the development of the project has raised NZTA's profile and enhanced NZTA's relationships with both Waikato District Council and Waikato-Tainui.

### Contributors

NZTA, Waikato-Tainui, Waikato District Council, Taupiri community



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: C5 Provision of Second Coat Seal

### Opportunity

NZTA pavement design guidelines recommend a three month delay between the first coat seal and second coat seal (asphalt) being laid to allow early rutting to develop, which was included in the Muldoon's contract. There was an opportunity to do the second coat sooner, minimising disruption to traffic.

### Solution

CAPTIF testing in the NZ supplement to APDG 2004 indicates it would take 12 months to fully develop early rutting at this site. Over a 10 year lifespan of the asphalt surface, rutting would not exceed allowable limits even without the delay. Therefore the effects of the three month delay are negligible and the provision was removed from the contract to shorten the works.

### Estimated Costs & Benefits

- Reduced risk of first coat seal failing through winter
- Estimated two months saved on programme – less disruption to customer
- Estimated cost savings \$80-90k in time related costs.

### Contributors

Simon Cribb



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	Yes
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: S3 Lyttelton Road Tunnel Lighting Upgrade

### Opportunity

The existing luminaries were installed in 1995 but were showing signs of early failure causing increased power consumption and maintenance, plus the resulting deterioration in lighting levels within the tunnel adversely affecting vehicle safety. A complete lighting upgrade was therefore urgently required to address these issues.

### Solution

Opus, on behalf of the NZTA, has delivered a lighting solution that has significantly improved the luminance levels and thus the visibility and safety within the tunnel. Substantial energy savings have been realised through the use of the Thorn luminaries that incorporates T5 fluorescent lamps and high performance electronic control gear. The outcome of this project is an outstanding lighting solution that will perform well into the future.

### Estimated Costs & Benefits

Doubled lighting levels. Improved safety and visibility for motorists. Reduced energy consumption by more than 30% with annual energy savings of \$20k. Maintenance savings with the "plug and play" technology as we can replace fittings etc with out a electrician by simply unplugging the failed and replacing with another fitting very quickly. The failed light can then be repaired and tested in bulk over time.

### Contributors

[Barry.stratton@nzta.govt.nz](mailto:Barry.stratton@nzta.govt.nz) Christchurch



Highways Strategic Priority	Impacts
Safe Journeys	Yes
Efficient & Reliable Journeys	Yes
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: WPOP4 Huntly Section – major change of alignment to improve function and save money

### Opportunity

Professional Services contracts for secondary investigation usually require consultants to restrict investigations to the existing designation as far as possible. For the Huntly Section a major shift in the alignment was identified early in the secondary investigation that would provide improved geometrics and save on construction costs. NZTA supported the project team’s proposal to investigate the alternative alignment, as there appeared to be clear advantages over the designated alignment

### Solution

The proposed eastern alignment deviates from the designated alignment by up to 400m in places, but in doing so avoids areas of high ecological value, known sites of geotechnical instability, and reduces the impact on areas of cultural value to local iwi. NZTA agreed to extend investigations well beyond the designation and subsequently approved the scheme design recommended by the project team. While this may increase risks for the designation and consenting processes, there is a high level of support from Councils and the public.

### Estimated Costs & Benefits

The saving in construction cost between the alternative alignment identified by the project team and the designated alignment is estimated at over \$60M. The alternative alignment also has an improved horizontal and vertical geometry, and lower environmental and cultural impacts.

### Contributors

NZTA, BBO, and Tonkin & Taylor



Highways Strategic Priority	Impacts
Safe Journeys	Yes
Efficient & Reliable Journeys	Yes
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes



## Value for Money Initiative: S8 Recycled Crushed Concrete

### Opportunity

To conserve valuable river aggregates and minimise community disturbance by reducing aggregate haulage through residential areas

### Solution

Use waste concrete from Christchurch and crush it for re-use in the Southern Motorway pavement. This initiative was identified some 3 years ago and a lead in period of 3 years was utilised to crush and stockpile the material which is now being compacted as the sub-base layer on the motorway



**Estimated Costs & Benefits** The need to crush and double handle the material (i.e. stockpile for later placement) resulted in a net increase in cost over use of river gravels but this remains a value for money success in terms of reduced environmental damage (noise, vibration and dust) to residential areas and has avoided the need to place this waste concrete into landfill. There are limits to the quantity of river gravels available and those gravels can now be used as high quality concrete aggregates which will be in high demand during the post quake rebuild. This recycled material has now been placed on the motorway and has compacted well. With the abundance of low cost quake demolition concrete now available further opportunities for recycling materials in pavement layers on our RoNS projects is being investigated.

### Contributors

Colin Mackay, Geoff Griffiths and Dave Alabaster

Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: S7 Caversham Footbridge

### Opportunity

The existing bridge (pictured) was too low and short to span across the planned highway formation (ie 2 lanes to 4 lanes)

To add to and re-use the existing superstructure, despite existing approach ramps (1:7) being steeper than current code (1:12); in lieu of constructing a new structure.

### Solution

Scrutiny of the Building Act revealed that maintaining existing standard is permissible, if the alternative is to lose the facility (and we couldn't justify the cost of a new bridge). Also, gradients of the streets to which the bridge links were also measured and shown to be 1:7 (and steeper) in places. Thus there would be no gain in wheelchair accessibility by adopting less steep ramps.

### Estimated Costs & Benefits

We were able to maintain the grade separated link, and avoid an additional cost of \$400k, over the cost of a completely new structure. Note, long term, the signal controlled intersection (background), could be converted to grade separation – and partly why a new bridge couldn't be justified.

### Contributors

[Simon.underwood@nzta.govt.nz](mailto:Simon.underwood@nzta.govt.nz) on behalf of the Caversham ECI team



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

**Value for Money Initiative:** C8The 'delivery chain' gets the message with a  
**Calculated Risk Based Approach:** Case study: SH5 Tarawera Hill  
 Realignment and Passing Lane Founded in Trust – Built on Trust

## Opportunity

Often at the project feasibility report stage the problem that is to be addressed is not fully understood making scoping out a professional services contract difficult, and can often result in an unsatisfactory result at the conclusion of the investigation stage.

## Solution

Through a collaborative arrangement between NZTA and consultant based on trust to find the optimum solution, a consultant was engaged to investigate options/sub-options. Time to delivery was not deemed as important as quality of investigations. NZTA fronted community/iwi engagement as they were best placed to effectively do this work leaving the consultant to concentrate on producing the best technical solution.

## Estimated Costs & Benefits

Though this arrangement only work deemed necessary to develop robust options was undertaken. The team was trusted to work efficiently with no contractual or timing constraints.

The outcome was that a worthwhile and fundable solution was developed with savings on professional services fees of 25% of the budget .

## Contributors

Simon Barnett PTM Napier Region



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: WBOP2 Ngaruawahia Section - acquisition of property for borrow source

### Opportunity

During the investigation phase for the Ngaruawahia Section of the Waikato Expressway, a property on the alignment was identified as a good source of fill material. The project team predicted that a significant saving could be made on the works contract if this source could be used to replace or complement imported fill sources. The property straddles the expressway alignment where the Ngaruawahia Section meets the Hamilton Section and the project team recognised that if the source is large enough it could serve both projects.

### Solution

The project team developed a business case for the acquisition of the whole property and the Board approved the purchase. An alteration to the designation to encompass the property effectively secured the borrow source within the construction site, thus simplifying the consenting process. The borrow source is providing most of the required fill for the Ngaruawahia Section and the balance will be used for the adjacent Hamilton Section when that gets underway in 2015. The severances will be sold after reinstatement and will be suitable for agricultural use.

### Estimated Costs & Benefits

The total cost of the property was \$8.7M including \$3.7M for the severance and \$3M for 'purchase' of the sand source. The saving to the Ngaruawahia Section project is estimated at \$5M and a further saving will accrue to the Hamilton Section project. The severances will be sold off at an estimated value of \$4M. Another significant benefit of this initiative is the substantial reduction in the volume of fill hauled on local roads, with the corresponding safety benefits and reduced risk of damage to local roads.

### Contributors

The project team of NZTA and BBO



Highways Strategic Priority	Impacts
Safe Journeys	Yes
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: C7 Onamalutu Road : more for less

### Opportunity

The Marlborough Roads maintenance team are realising significant savings though the careful packaging of maintenance funded work at AWT sites by completing separately funded maintenance activities at the same time

### Solution

On the local MDC Onamalutu Road where logging is underway an AWT was justified and funded. Prior to this work commencing the team(HEB/Opus/MR) identified any other deficiencies on this 4.5km long section of rural road , sought funding where appropriate and then programmed all work to be undertaken under same Set up and TMP .



### Estimated Costs & Benefits

In addition to achieving 10-12% (50k in this case) cost savings through the more efficient utilisation of plant and resources other benefits included a higher overall quality outcome as a result of been able to include drainage, minor safety improvement, bridge replacement funding and as important using the goodwill of adjacent landowners to enhance roadside drainage which benefits all parties including securing a 50:50 cost share from Marlborough Lines to pay for concrete dish drainage channel laid over electric cables

### Contributors

Marlborough Roads

Highways Strategic Priority	Impacts
Safe Journeys	Yes
Efficient & Reliable Journeys	Yes
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: AN16 – Tracking Customer Issues/requests

### Opportunity

To enhance the AMA's "Vanessa" Customer Relationship Management system to provide greater visibility and tracking of issues/requests/questions logged by stakeholders. Vanessa already records every interaction with a stakeholder, but you have to log in to check status.

### Solution

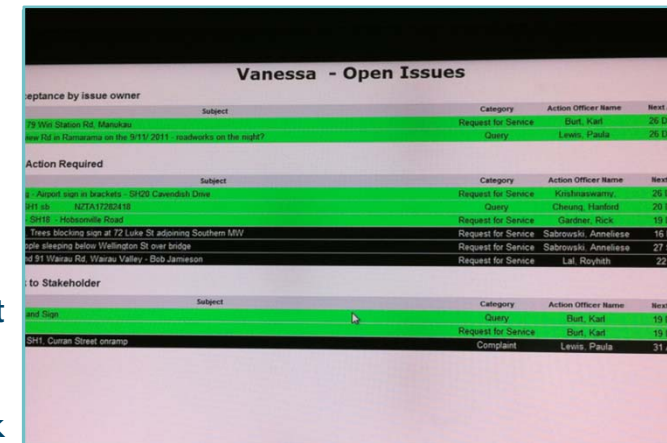
To extract data from Vanessa on an hourly basis and to display it on a flat-screen monitor in a common area in the office,. Issues/requests/questions are coloured green/amber/red/black to reflect jeopardy of missing target response times, and to track status from through various steps in the process

### Estimated Costs & Benefits

Extract report took a couple of days of IT teams time. Monitor was recycled. Benefit is that everybody can clearly see what actions are underway and more particularly if they have any outstanding or are close to becoming overdue.

### Contributors

Auckland Motorway Alliance



Vanessa - Open Issues				
Subject	Category	Action Officer Name	Next Action	Due Date
73 Wai Station Rd. Manukau	Request for Service	Burt, Karl	19 Dn	19 Dn
new 73 at Daneratu on the 1st/11/2011 - roadworks on the right	Query	Lewis, Paula	26 Dn	26 Dn
Action Required				
1. Avoid sign in brackets - SH20 Cavendish Drive	Request for Service	Krishnaswamy,	20 Dn	20 Dn
RH 46 - NZTA17282418	Query	Cheung, Harold	20 Dn	20 Dn
SH18 - Hobsonville Road	Request for Service	Gardner, Rick	19 Dn	19 Dn
Times blocking sign at 72 Luke St adjoining Southern MW	Request for Service	Sabrowski, Amelia	19 Dn	19 Dn
cars sleeping below Waiwera St over bridge	Request for Service	Sabrowski, Amelia	27 Dn	27 Dn
at 91 Wairau Rd. Wairau Valley - Bob Jameson	Request for Service	Lal, Roylith	22 Dn	22 Dn
to Stakeholder				
and sign	Query	Burt, Karl	19 Dn	19 Dn
SH1 Curran Street onramp	Complaint	Lewis, Paula	31 Dn	31 Dn

Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: AN18 – Teaming up for the Enabling Works of SH1 Ellerslie – Main Highway Road Widening Project Opportunity

The Ellerslie -Main Highway project involves widening of SH1 northbound into the rail corridor to allow for an future additional lane. Although the project's SAR had been largely completed in 2005 and the benefits of the Project were well acknowledged it was put on hold due to lack of funding. In 2010 KiwiRail advised that they were progressing with electrification of the main trunk line and a "one time only" opportunity arose for NZTA to undertake enabling works for the motorway widening in conjunction with Auckland Electrification Project (AEP) in the rail corridor.

### Solution

NZTA worked in partnership with KiwiRail and Auckland Transport (AT) to design and plan the electrification infrastructure to future proof for motorway widening. Even though the entire motorway widening project could not be completed within the available tight timeframe due to restrictions on track closures and Rugby World Cup, through collaboration and an innovative procurements strategy the key works on the station platform, tracks, footbridges and lifts were undertaken within the required timeframes. Close collaboration and a 'one team' approach with KiwiRail and AT meant that the works were successfully completed.

### Estimated Costs & Benefits

It was a prudent move and best value for money to ensure that the 'Enabling Works' were undertaken prior to the AEP. NZTA saved at least \$50M (compared to the cost of doing the works post AEP). With the 3 agencies working together and doing the works at the same time, this also saved time and money due to using the same designers and contractors. Doing major works over Christmas holidays also minimised disruption to commuters. The Ellerslie Station is now more attractive and has upgraded access not only for pedestrians but also for cyclists and disabled users. This project is an excellent example of how 'teaming up' with our stakeholders can not only provide value for money but also the best outcome for the community.

### Contributors

Sarah Cronwright, Ronnie Salunga



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: AN22 - One Page Management Plans on the front page of Orbit with links

### Opportunity

Utilise the one page management plans developed at Victoria Park Tunnel (VPT) to provide an interactive link to project systems.

### Solution

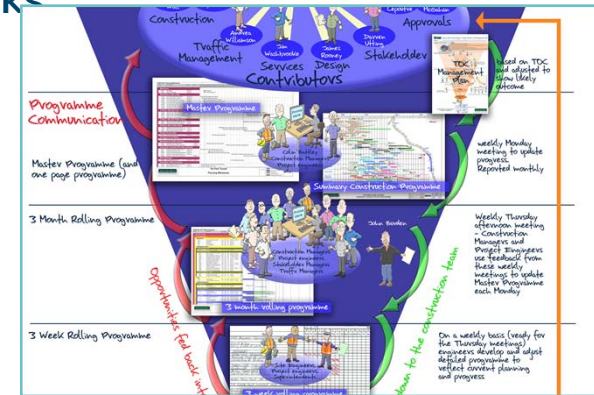
Building on the work that was done at VPT the Well Connected Alliance will take the one page management plans and advance the idea for its own internal systems. The Alliance will use the one page plans on the front page of its central web based system (Orbit) to provide an innovative pictorial guide to the projects internal systems. Images will link through to the relevant system and allow users to find the desired permits, processes, forms, registers and internal monitoring systems more efficiently.

### Estimated Costs & Benefits

\$2,000 TO \$3,000 Dollars to set up each plan offset against time and efficiency savings and also team understanding from simplifying the way to find internal systems.

### Contributors

M Lloyd



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	No
People & Processes	Yes
Efficient Delivery of Works	Yes



## Value for Money Initiative: AN15 - One Network - One Model

### Opportunity

For the future SH1 Southern Corridor Projects (SH20/1 - Papakura) a traffic model is required to test and develop options. Rather than develop the existing model the opportunity arose to work with Auckland Transport in using one model for the network.

### Solution

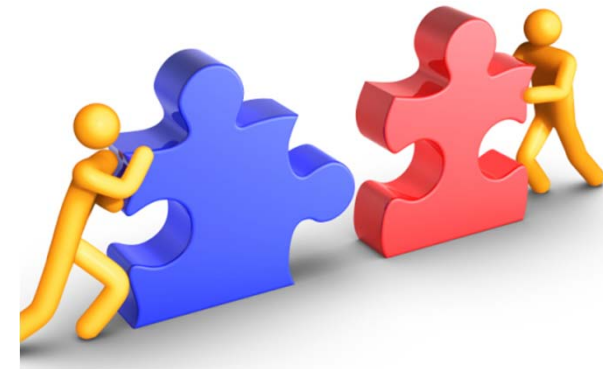
It was agreed that rather than develop two separate models the AT model be used to test options. In working together traffic counts have been provided to AT to avoid doubling costs. Flow Consultants have been hired to do the option testing for the NZTA.

### Estimated Costs & Benefits

The cost of developing and updating the existing SATURN model would have been between 25-50k. Sharing traffic count information is also saving costs which would otherwise be duplicated. More importantly this is demonstrating a network approach to developing transport solutions for Auckland.

### Contributors

Mieszko Iwaskow, Senior Transport Planner, Auckland HNO



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	No
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: AN14 – SH1 Newmarket Viaduct – Expansion Joint

### Opportunity

To reduce the number of expansion joints in the SH1 Newmarket Viaduct.

### Solution

Mechanical bearings were arranged to force the viaduct to move around the 'S' curve without generating excessive forces in the bearings and piers. These bearings enable the viaduct structure to be continuous without the need of intermediate expansion joints

### Estimated Costs & Benefits

- Improved appearance;
- Removing expansion joints which have a high cyclical maintenance requirement;
- Improved road user noise and ride;
- Halving the number of bearings required for the joint
- Removing non-standard construction techniques

### Contributors

NGA Newmarket Design Team, James Kaye



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	No
Efficient Delivery of Works	Yes

## Value for Money Initiative: AN21 – Reduce the Tunnel Segmental lining thickness

### Opportunity

Reducing the thickness of the tunnel segmental lining, while maintaining structural performance requirements.

### Solution

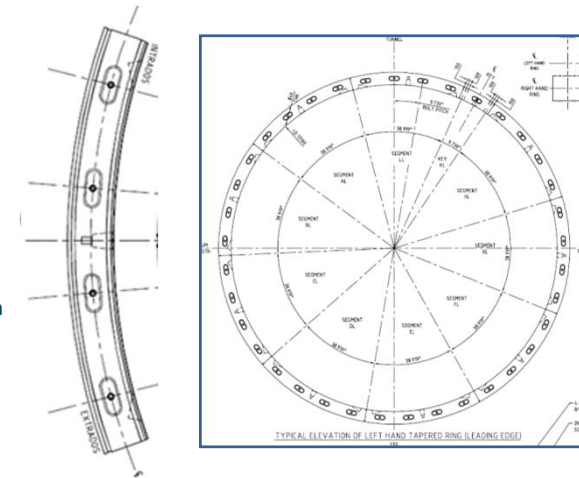
The tunnel segmental lining is composed of discrete precast concrete segments assembled within the TBM (Tunnel Boring Machine) to form a complete ring. During the dedicated design phase the Well Connected Alliance has made significant efforts to find the optimum thickness for the segmental lining while still safely supporting the imposed structural loads. Four different thicknesses were investigated with the reduction from 500mm to 450mm delivering the best functionality. With ten segments in each tunnel ring, and 2500 rings across the 5km long tunnels, this innovation will lead to significant savings for the Alliance in both materials to construct the segments and also haulage as the reduction in thickness will reduce the weight of each segment.

### Estimated Costs & Benefits

Significant cost savings in materials, transport and handling costs

### Contributors

Tunnel Design and Construction Teams



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	No
People & Processes	No
Efficient Delivery of Works	Yes

## Value for Money Initiative: S5 Reduced Costs and Time Risk

### Opportunity

- Reconsider value of progressing the rear service road
- Possibly offer contribution to ECan and they complete in due course; and
  - Do 'nothing' with ECan estate; other than the left in/left out accesses, in accepting full injurious effects, if safety case (U-turns) is economic.
  - Achieve Capital expenditure saving (in balancing injurious effects against progressing the rear service road), in risk assessing injurious effect (construction and business)

### Solution

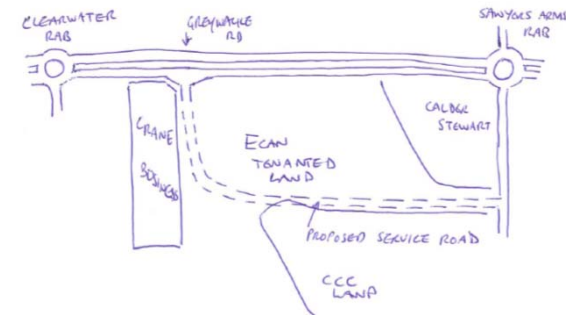
- Adopt 'minimalist' approach to ECan estate, subject to safety case
- Construct 4 laning, unimpeded by constraint to develop rear service road in advance (time critical)
- Assume and encourage that ECan will develop service road in future

### Estimated Costs & Benefits

- Cost saving circa \$1M - \$3M
- Quicker overall delivery of the RoNS section

### Contributors

- Steve Cottrell and Steve Proud / MWH / TPG



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	No
People & Processes	Yes
Efficient Delivery of Works	Yes

## Value for Money Initiative: C6 Collaboration: Local NZTA office/HNO Property/Consultant HNO/Contractor Local

### Opportunity

Professional service contract to design a SH1 realignment requires onsite geotechnical investigations. To undertake this work a Traffic Management set out on SH 1 and excavator hire is required. Marlborough Roads became aware of NZTA's Property division awarding contract to local contractor for removal of large building adjacent to site under investigation.

### Solution

Opportunity to programme building demolition by local contractor with the geotechnical investigations. Working under the demolition contractor's Traffic Management Plan and utilising his excavator/work force the proposed geotechnical investigation can be completed more efficiently with only one set up cost as well as disrupting roadusers at this location once.



### Estimated Costs & Benefits

Reduction in cost of \$4,000 (13% reduction in tendered price) for the geotechnical work achieved through willingness of all parties to undertake quite separate work activities at the same time and pass the savings unto NZTA

### Contributors

Marlborough Roads

Highways Strategic Priority	Impacts
Safe Journeys	-
Efficient & Reliable Journeys	-
Social & Environmental Responsibility	✓
People & Processes	✓
Efficient Delivery of Works	✓

## Value for Money Initiative: AN17 Recycling and reuse of Wood from site clearance for WCA

### Opportunity

During tree clearance for the new Waterview Connection project site establishment a surplus of wood was created. The wood had no direct use on site so was able to be offered up to the community.

### Solution

At the regular Community Liaison Group (CLG) meetings the Alliance offered the surplus wood out to anyone in the local community who could make a use for it. Alliance staff were then approached by Unitec lecturers in furniture making and joinery who were interested in using the spare wood for their classes. This result not only means that the Alliance is providing resources to the community most affected by the project, but is also helping to educate the next generation of carpenters who could come through into the industry.

### Estimated Costs & Benefits

No additional costs were incurred in this opportunity. However, significant savings and benefits were provided to the community strengthening relationships with a major local stakeholder and recycling material generated by the project.

### Contributors

Alan Hughes, Simon Butler



Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	Yes
People & Processes	No
Efficient Delivery of Works	No

## Value for Money Initiative: AN19 – Mower Access on SH18 William Pickering Dr

### Opportunity

A section of grass, in between concrete barrier and chain link fence, stretching from SH18 Albany Highway eastbound on ramp to Paul Matthew Dr had to be weedeated in the past. It required 4 labourers spending 3 hours to complete the job. The ground is flat enough for a mower to mow the area but there wasn't any mower access.

### Solution

A section of fence was reported to be damaged at the end of William Pickering Dr. It was a good opportunity to install a gate for the mower access.



### Estimated Costs & Benefits

After a simple economic analysis, it was concluded that the cost of installing the gate is equivalent to the cost of 2 visits from the weed eaters. From now on, it will only be a labourer with a mower spending an hour mowing the area, saving of 11 labour hours per visit. In addition, the weed eaters are able to improve their level of service on the network.

### Contributors

Neil Cullum, Chee Khiong Chang, Dale Logan, Anneliese Sabrowski

Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	No
People & Processes	No
Efficient Delivery of Works	Yes

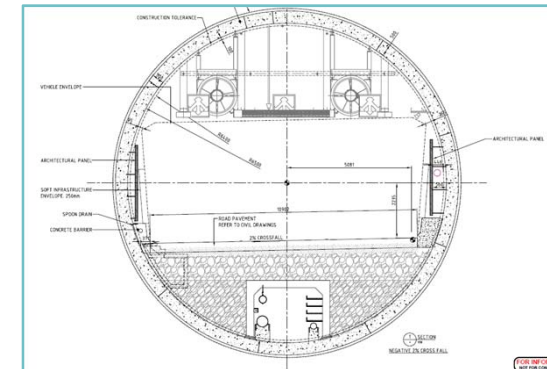
## Value for Money Initiative: AN20- Reduction in Tunnel Diameter

### Opportunity

Reducing the tunnel diameter, while maintaining functional requirements

### Solution

By rationalising the functional requirements inside the tunnel, the Well Connected Alliance has been able to reduce the internal diameter from 13.1 to 13m, while still delivering all functional requirements. While this change may seem small, when considered over the entire length of the 5km length of the northbound and southbound tunnels it will yield considerable savings in the excavation for the tunnels, in materials to be brought in for the tunnel lining and invert, and the transportation for both.



### Estimated Costs & Benefits

The total cost saving for the innovation are in the order of \$10 million in the costs of materials, transportation, labour and overheads.

### Contributors

Tunnel Design and Construction Teams

Highways Strategic Priority	Impacts
Safe Journeys	No
Efficient & Reliable Journeys	No
Social & Environmental Responsibility	No
People & Processes	No
Efficient Delivery of Works	Yes