

This 6<sup>th</sup> VfM booklet contains  
11 Value for Money Stories  
contributed from across the country in the  
3 months ending February 2013.

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)

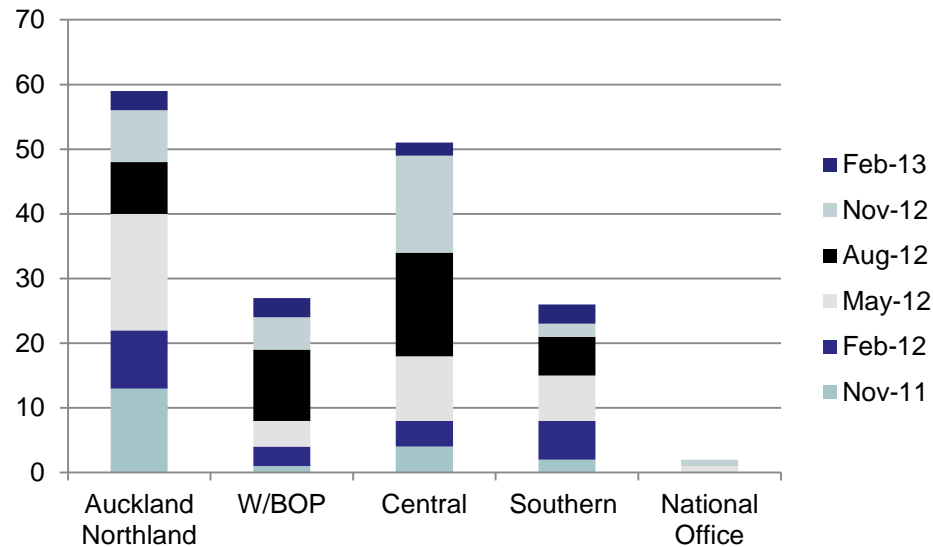
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To date we have received 165 Value for Money slides.

## Value for Money Initiative: WBOP24 Same day sealing – A 2/4/6 outcome

### Opportunity

The Delegated Rotorua Network sealed a number of higher volume sites this sealing season using the “same day sealing’ philosophy. This is where the site is sealed, swept and road marked and open to unrestricted traffic flow within one working day. Aim was to avoid bitumen tracking, complaints, delays and chip loss.

### Solution

A number of sites with two coat (2/4) seals were selected. A dry lock an additional application of small chip at a slightly higher spread rate (with no further bitumen) was applied soon after. This has proved to be highly successful.



### Estimated Costs & Benefits

- Cost of grade 6 chip was 28c/m<sup>2</sup> offset by:
- No complaints, positive PR, no tailbacks
- Sites were swept and marked before 6am the following day
- No tracking or chip carry from the 2 coat seal sites
- Almost nil large chip flying around from vehicles passing through

### Contributors

[Kevin.Thompson@Rdc.govt.nz](mailto:Kevin.Thompson@Rdc.govt.nz) (Rotorua District Council), Fulton Hogan, Opus International

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

## Value for Money Initiative: WBOP25 In Lane Sealing

### Opportunity

To reduce the extent of sealing and associated cost, by not affecting existing line marking, ATP & sealed shoulder.

Photo shows in lane sealing carried out in 2008 on SH 33

### Solution

Sealing between ATP / lane lines was trialed five years ago when an exceptional number of frosts caused chip seal failure. A grade five chip seal was placed to halt the stripping of a grade 2/4. This sealing was carried out between the ATP, which had been placed the year before. The site has performed well and been duplicated on many other locations in the Bay of Plenty.

### Estimated Costs & Benefits

- Evaluation based on alternating small chip in lane and large chip whole width, has an NPV of about \$40,000 per kilometre and up to a 20% saving by treatment length at sealing time:

### Contributors

Terry Boyle, Inroads and Downers



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: WBOP26 Inroads Software Tools

### Opportunity

Software can be a vital tool in the decision making process.

### Solution

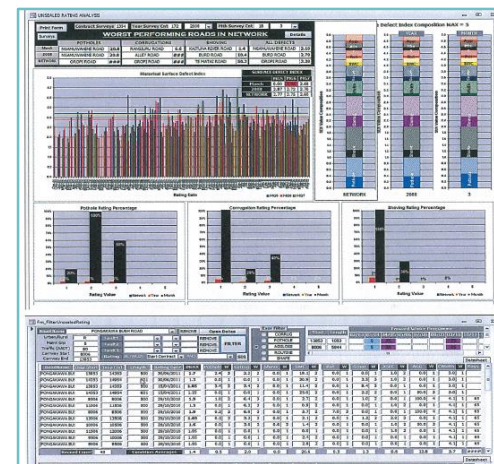
Over the past 7 years Inroads have developed software tools to aid the decision making processes for the Western Bay of Plenty PSMC Contract. They are used to quickly & easily compare data, analyse data, prioritise work, identify trends, calculate KPMs, identify and highlight network exceptions etc. WIPER – Widening Prioritisation, CRITA – Curve Prioritisation, GRUNTA – Graphical Unsealed Threshold Analysis and TiMSal -Traffic Management System Analysis, to name a few.

### Estimated Costs & Benefits

The use of these software tools developed by Inroads has meant deficient sections of the network are easily identified. This enables spending to be more easily prioritised to where it is needed the most.

### Contributors

Reg Gibbs, Inroads : Russell Brandon, NZTA



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: C51 Efficient and Effective Communications

### Opportunity

To use a regionally based, specifically installed, open channel radio mobile telephone network to speed the delivery of accurate and timely maintenance efforts across a widely diverse topography and in situations where the NZ mobile telephone networks has been found wanting.

### Solution

As a result of poor field management during a weather emergency which resulted from impossible communication with the site Marlborough Roads, joined with their Maintenance Contractor HEB and their Engineering Consultant, Opus to investigate options for a field communications arrangement to augment the standard cellular arrangement. The outcome of this deliberation was to revert to an open channel, dedicated R/T system with 6 relay station to cover almost every segment of the network. All the vehicles employed on the network are fitted with an R/T set and each Office has a base set capable of operating as an HQ during an emergency.

### Estimated Costs & Benefits

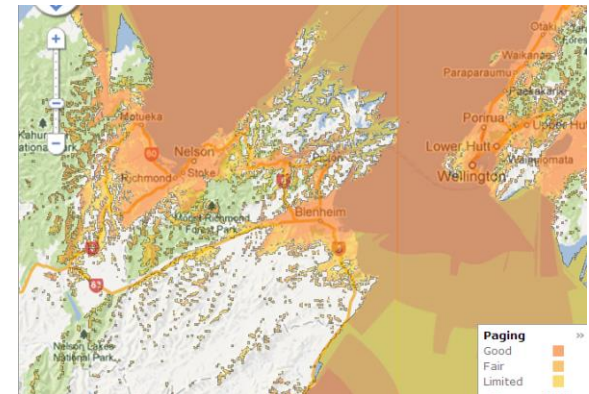
The prime benefit, on a daily basis, is to HEB Contractors in the organisation, relocation and safety for their field staff and as such they absorb the running costs into their operation. The equipment costs to the other parties were dealt with individually and amounted to a few hundred dollars per installation.

To date the returns on safety for the various individuals who travel into the extremes of the network and on timely re-direction of effort would amount to thousands of dollars.

The next stage in the development of the communications network is to add a fully portable set that can be set to the boundary so as to allow the neighbouring supplier to assist with traffic management during road closures.

### Contributors

Wayne Oldfield Marlborough Roads Office 035208330, Opus and HEB



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: C52 Micro (Fine) Milling

### Opportunity

We have several rural intersections on our network, many serve rural industries. High turning movements of HCV and now HPMV's cause traditional chips seals and Open graded AC to fail early. Our solution in Marlborough is to lay Dense AC (nominally 40mm) This strategy solved the early life failures, but Dense AC didn't meet minimum macrotexture requirements (NZTA T10: 2012 - Table 3)

### Solution

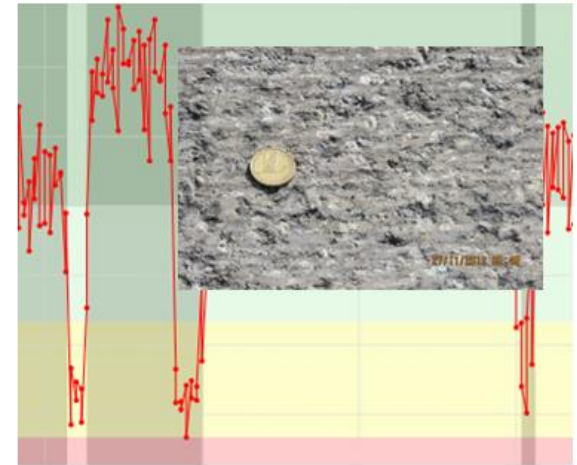
Historically we have used Water Cutting (WC) as our preferred option, but generally this is expensive with varying degrees of success and not environmentally friendly. We recently trailed Micro Milling as a way of re-texturising our Dense AC to meet T10 requirements and a lower cost option to WC. We carried out two site trials both where lower than Intervention Level Measure (ILM) and near to the Threshold Level Measure (TLM). Visual inspections of the trial sites shows a course textured finish

### Estimated Costs & Benefits

- Our current contract rates for Water Cutting are \$9 per/m<sup>2</sup>
- Micro Milling trail rates where \$4.38 per/m<sup>2</sup> (51% per/m<sup>2</sup> saving)
- When the High Speed Data Collection has taken place we can then analysis the data

### Contributors

Wayne Oldfield 035208330 Marlborough Roads, Opus and HEB



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: S26 Tay Street Roundabout Surfacing Design

### Opportunity

The later than planned tendering of the Tay St roundabout construction, prompted an interactive meeting with tenderers, and a review of the pavement design; with a view to minimising cost risk and customer disruption, that can nominally be a consequence of late season pavement works.

### Solution

This was to move away from a full pavement dig-out and re-construction with a granular pavement, to instead mill to lesser depths and then replace with either structural AC (around the circulating way) or a wearing surface AC layer (on the approaches). The shallower milling, would also avoid conflict with those utilities that would likely have otherwise been encountered.

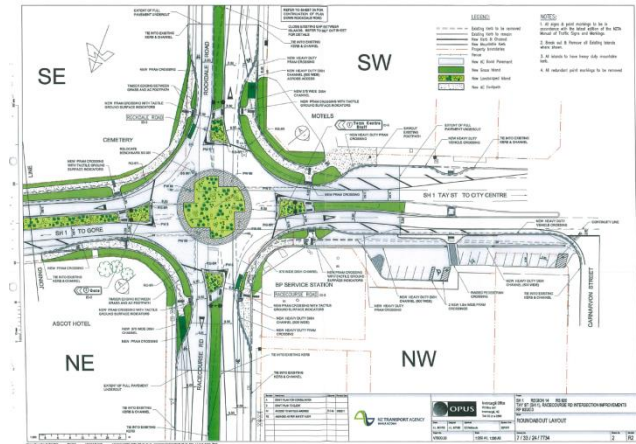
### Estimated Costs & Benefits

This simplified pavement design, avoidance of mid-depth utilities, and ability to mill/fill in quadrants (for traffic management), eased the overall construction methodology and time-frames.

Not only has this largely mitigated the time and cost risks of having to continue construction into/over winter, but this simplified construction was also recognised through the tender box – with a 20% reduction on original design estimates (and that’s allowing for working contingency).

### Contributors

Jason Forbes (NZTA), Design team (OPUS Invercargill)



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: S27 HPMV workload in Dunedin

### Opportunity

Having recently taken over the task of processing HPMV permits for Otago & Southland in late 2010, the Permit Issuing Officer (PIO) struggled to keep on top of them, whilst also trying to clear the backlog left through the transition process.

### Solution

Some short term help was provided, allowing the PIO take a good look at the current processes and find efficiency gains. The PIO sorted through the backlog identifying those that could be worked on immediately, and those that needed to be returned to applicants for further work, and those that were a clear rejection due to variety of reasons. Applicants were updated on changes and processes and most feedback was positive.

### Estimated Costs & Benefits

The cost to the PIO was a very solid few days work to get the backlog prioritised. Cost to NZTA = Nil. The benefit to the applicant was a chance to review their application, get a faster turnaround time on HPMV permits thereby receiving better customer service. The backlog is greatly reduced.

### Contributors

[kathy.mcewan@nzta.govt.nz](mailto:kathy.mcewan@nzta.govt.nz) for HNO Dunedin



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

## Value for Money Initiative: S28 Water Filled Barriers

### Opportunity

Additional Water Filled barriers were required on Russley Rd due to court action delays in shifting transmission towers. Options were to hire barriers or purchase them. It is anticipated that the barriers will be required to be in place for a minimum of 10 months

### Solution

NZTA purchased 168 Water Filled barriers for use on Russley Rd instead of hiring them.



### Estimated Costs & Benefits

To hire the barriers for 10 months = \$100,800  
 To buy the barriers = \$161,200  
 If NZTA were to sell barriers after the project at 0.5 original cost = \$ 80,000  
 Saving of \$20,000 by buying and if court delays its decision further the savings increase

### Contributors

Chris Collins

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: AN56 Falls Bridge Safety Improvements

### Opportunity

Falls Bridge in the Dome Valley on SH 1 north of Warkworth has been the historically worst accident blackspot in the region with 1 fatal, 13 injury and 31 non-injury crashes in the last 5 years. Solutions to fix the problem have varied from \$2.3M to \$15.6M

### Solution

By addressing only the most critical elements identified by a detailed geometric check, a low cost shape correction solution was implemented to prevent loss of control and create a self-explaining road rather than dealing with the consequences.

### Estimated Costs & Benefits

The final shape has restored the correct geometry for a cost of \$493K. The adjacent guardrail was being hit on average once a week but has had no hits at all and no reported crashes in the 7 months since completion, also resulting in less maintenance.

### Contributors

Murray Parker



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

## Value for Money Initiative: AN57 Auckland South – Early Input to Capital Works

### Opportunity

To provide better whole of life value for NZTA assets, through ensuring that decisions made in planning, consenting, design, construction and handover of capital works, take into account the effects of operations and maintenance.

### Solution

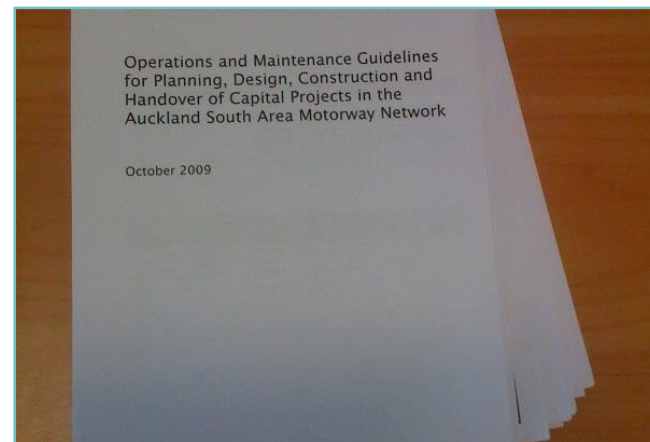
NZTA included in the scope of the Auckland Motorway Alliance the requirement to provide maintenance input into the various stages of Capital works projects. Experienced O&M personnel have made themselves available to assist project managers with timely inputs, and have created an 70plus page document capturing a lot of this knowledge.

### Estimated Costs & Benefits

Can be no cost or a savings to a project, sometimes an increase in capital cost, but always the best Whole of Life Cost. Enhances O&M knowledge of planners, designers, project managers and constructors. Less disruption to customers during operations and maintenance.

### Contributors

Auckland Motorway Alliance Asset Management and Delivery teams



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: AN58 Network Control Mapping (Editable Layer)

### Opportunity

The Network Control team wanted to map and produce a shapefile in GIS to enhance the communication with Auckland Transport (AT) to define control and maintenance of the motorway network.

### Solution

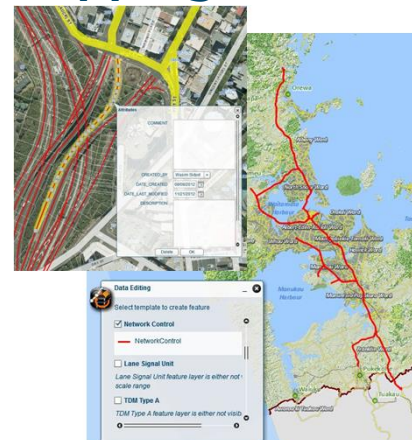
An editable layer was created on the AMA Map Viewer with secured access to relevant team members to map parts of the network under our governance. The data is created and stored in our GIS database, so whenever it is required, a snapshot of this data is exported as a shapefile and delivered to AT to overlay and identify governance and coverage.

### Estimated Costs & Benefits

This has definitely enhanced communication and efficiency between AMA and AT, the network control coverage can be mapped instantly in GIS for AT to view and reduce confusion.

### Contributors

Raven Shih, Tina Fong, Stephen Beynon, Wasim Sidyot (AMA)



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